# **SAN DIEGO GAS and ELECTRIC**

# **CORRECTIVE MAINTENANCE PROGRAM**

**REPORT FOR** 

1998

#### INTRODUCTION

The Corrective Maintenance Program (CMP) is managed through San Diego Gas and Electric's (SDG&E) Distribution Management and Strategies Department. By coordinating with the Construction & Operations (C&O) Centers, General Foremen, Inspectors and other personnel, the inspections required by the CMP are performed and follow-up work to correct deficiencies is completed. Corrective action, for items other than those rated as needing immediate attention, is handled on a 12 months cycle.

A listing of inspection schedules is included as Attachment "A" in accordance with General Order 165.

The individual segments for 1998 are as follows:

#### **Patrols**

A simple visual inspection of applicable utility equipment and structures, that is designed to identify obvious structural problems and hazards. The patrols were performed using a "drive by" concept.

# **Detailed overhead visual inspection**

A walking program of visual inspection of overhead facilities and primarily pole mounted equipment.

# **Detailed underground external inspection**

An inspection cycle in which the cabinet exterior and supporting structure of each qualifying piece of equipment is inspected. This inspection includes such items as corrosion, identification and warning signage, wire entry and intrusion by dirt and surrounding vegetation. This inspection will be altered to include an internal inspection segment during 1999.

# **Detailed underground internal inspection**

An inspection cycle in which each qualifying piece of equipment is opened for an inspection of the cabinet interior and all components as well as an inspection of the cabinet exterior and supporting structure. An internal inspection incorporates an external inspection and is a superset of the external inspection activities.

# Underground oil and gas switch inspection

This is a specialized internal inspection of oil and gas filled switches found in or on underground structures (vaults, manholes, etc.). Oil samples and pressure readings are obtained and recorded, laboratory analysis of oil samples is performed.

# **INTRODUCTION (Cont.)**

Intrusive wood pole reinforcement inspection

Wood pole inspections are performed by a contractor who performs routine inspections for integrity as well as wood preservative treatments and pole reinforcements.

# **1998 ANNUAL REPORT**

# **PATROLS**

Following is the percentage of SDG&E's system in urban and rural areas that was patrolled during 1998:

- Urban Area
  - % Of system patrolled during year 100 %.
- Rural Area
  - % Of system patrolled during year 65%.

Following are the number of problems identified by overhead and underground patrols:

# **Overhead Patrol**

•	Broken hardware 9	
•	Poles leaning badly /	
	Damaged 8	
•	Broken Crossarms8	
•	Foreign Objects 1	
•	Conductors 0	
•	Street lights broken0	
•	Critical Repair2	
	====	==
•	Total 28	

# **Underground Patrol**

•	Off Pad	0
•	Cabinet and / or cover or door damaged	25
•	Street Lights broken	33
•	Total	123

### **DETAILED INSPECTIONS**

#### Overhead

- Detailed inspections of all poles in the overhead system will be performed on a 5-year cycle. Approximately 20% of SDG&E's total pole population will be inspected annually. Small variations in inspected percentages may occur yearly, but 100% will be completed every 5 years. Pole mounted equipment and conductors supported by the poles are inspected at the same time. As with the poles the annual percentage may vary but 100% will be completed every 5 years. This is the 1<sup>st</sup> year of the cycle.
- The detailed overhead inspection requires that each pole position be visited and the pole and the equipment supported by the pole be carefully examined visually for conformance to CPUC General Order 95 requirements. By systematically inspecting all poles and the equipment they support, required equipment inspections will be completed within the time frames prescribed by General Order 165.
- Corrective action, for items other than those needing immediate attention, is handled on a 12 months cycle. Equipment and spans of conductor needing corrective action are managed by the structure that supports them.

#### DETAILED OVERHEAD INSPECTIONS

### • Beach Cities District

- Poles
- Number of poles in District 23,965.
- Number of poles inspected during reporting year 4,941. Inspected poles as a % of poles in District 20.6%.
- Number of poles inspected during current inspection cycle 4,941. Inspected poles as a % of poles in district 20.6%.
- Number of poles, including pole mounted equipment and spans of conductor, inspected during current inspection cycle coded as needing maintenance activity 2,353. Poles, including pole mounted equipment and spans of conductor, needing maintenance as a % of poles inspected during current inspection cycle 47.6%.
- % Of needed corrective actions, including pole mounted equipment and spans of conductor, completed during 12 month cycle 100%.
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

### Overhead Transformer Stations

- Number of overhead transformer stations in District 5,861.
- Number of overhead transformer stations inspected during reporting year 1,165. Inspected overhead transformer stations as a % of overhead transformer stations in District 19.9%.
- Number of overhead transformer stations inspected during current inspection cycle 1,165. Inspected poles as a % of poles in district 19.9%.

### Overhead Switching / Protective Devices

- Number of overhead switching / protective devices in District 2,203.
- Number of overhead switching / protective devices inspected during reporting year 439. Inspected switching / protective devices as a % of switching / protective devices in District 19.9%.
- Number of switching / protective devices inspected during current inspection cycle 439. Inspected switching / protective devices as a % of switching / protective devices in district 19.9%.

# Overhead Regulator / Capacitor Stations

- Number of overhead regulator / capacitor stations in District 175.
- Number of overhead regulator / capacitor stations inspected during reporting year 36. Inspected regulator / capacitor stations as a % of regulator / capacitor stations in District 20.6%.

 Number of regulator / capacitor stations inspected during current inspection cycle 36. Inspected regulator / capacitor stations as a % of regulator / capacitor stations in district 20.6%.

# DETAILED OVERHEAD INSPECTIONS (Cont.)

# Beach Cities District (Cont.)

- Overhead Conductors and Cables
- Number of spans of overhead conductors and cables in District 23,965
- Number of spans of overhead conductors and cables inspected during reporting year 4,941. Inspected spans of overhead conductors and cables as a % of spans of overhead conductors and cables in District 20.6%.
- Number of spans of overhead conductors and cables inspected during current inspection cycle 4,941. Inspected spans of overhead conductors and cables as a % of spans of overhead conductors and cables in district 20.6%.

# DETAILED OVERHEAD INSPECTIONS (Cont.)

### • Eastern District

- Number of poles in District 57,880.
- Number of poles inspected during reporting year 11,947. Inspected poles as a % of poles in District 20.6%.
- Number of poles inspected during current inspection cycle 11,947. Inspected poles as a % of poles in district 20.6%.
- Number of poles, including pole mounted equipment and spans of conductor, inspected during current inspection cycle coded as needing maintenance activity 3,680. Poles, including pole mounted equipment and spans of conductor, needing maintenance as a % of poles inspected during current inspection cycle 30.8%.
- % Of needed corrective actions, including pole mounted equipment and spans of conductor, completed during 12 month cycle 99.9%.
  - If this answer is not 100% explain and provide date corrective actions to be completed by:
    - P130442 Climbing space problem. Pole is scheduled to be removed as part of a conversion to underground.
    - P171251 Clearance problem. Pole is scheduled to be removed as part of a conversion to underground.
    - P72561 Damaged crossarm. Pole is scheduled to be removed as part of a conversion to underground.
    - P72563 Damaged pole hardware. Pole is scheduled to be removed as part of a conversion to underground.
    - P775430 Climbing space problem. Pole is scheduled to be removed as part of a conversion to underground.

# Overhead Transformer Stations

- Number of overhead transformer stations in District 17,855.
- Number of overhead transformer stations inspected during reporting year 3.647.
- Inspected overhead transformer stations as a % of overhead transformer stations in District 20.4%.
- Number of overhead transformer stations inspected during current inspection cycle 3,647. Inspected poles as a % of poles in district 20.4%.

### Overhead Switching / Protective Devices

- Number of overhead switching / protective devices in District 5,035.
- Number of overhead switching / protective devices inspected during reporting year 1,269. Inspected switching / protective devices as a % of switching / protective devices in District 25.2%.

 Number of switching / protective devices inspected during current inspection cycle 1,269. Inspected switching / protective devices as a % of switching / protective devices in district 25.2%.

# • Eastern District (Cont.)

- Overhead Regulator / Capacitor Stations
- Number of overhead regulator / capacitor stations in District 306.
- Number of overhead regulator / capacitor stations inspected during reporting year 81. Inspected regulator / capacitor stations as a % of regulator / capacitor stations in District 26.5%.
- Number of regulator / capacitor stations inspected during current inspection cycle 81. Inspected regulator / capacitor stations as a % of regulator / capacitor stations in district 26.5%.
- Overhead Conductors and Cables
- Number of spans of overhead conductors and cables in District 57,880.
- Number of spans of overhead conductors and cables inspected during reporting year 11,947. Inspected spans of overhead conductors and cables as a % of spans of overhead conductors and cables in District 20.6%.
- Number of spans of overhead conductors and cables inspected during current inspection cycle 11,947. Inspected spans of overhead conductors and cables as a % of spans of overhead conductors and cables in district 20.6%.

# DETAILED OVERHEAD INSPECTIONS (Cont.)

#### Metro District

- Poles
- Number of poles in District 45,172.
- Number of poles inspected during reporting year 8,974. Inspected poles as a % of poles in District 19.9%.
- Number of poles inspected during current inspection cycle 8,974. Inspected poles as a % of poles in district 19.9%.
- Number of poles, including pole mounted equipment and spans of conductor, inspected during current inspection cycle coded as needing maintenance activity 4,628. Poles, including pole mounted equipment and spans of conductor, needing maintenance as a % of poles inspected during current inspection cycle 51.6%.
- % Of needed corrective actions, including pole mounted equipment and spans of conductor, completed during 12 month cycle 100%.
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

### Overhead Transformer Stations

- Number of overhead transformer stations in District 11,064.
- Number of overhead transformer stations inspected during reporting year 2,090.
- Inspected overhead transformer stations as a % of overhead transformer stations in District 18.9%.
- Number of overhead transformer stations inspected during current inspection cycle 2,090. Inspected poles as a % of poles in district 18.9%.

# Overhead Switching / Protective Devices

- Number of overhead switching / protective devices in District 3,618.
- Number of overhead switching / protective devices inspected during reporting year 744. Inspected switching / protective devices as a % of switching / protective devices in District 20.6%.
- Number of switching / protective devices inspected during current inspection cycle 744. Inspected switching / protective devices as a % of switching / protective devices in district 20.6%.

### Overhead Regulator / Capacitor Stations

- Number of overhead regulator / capacitor stations in District 264.
- Number of overhead regulator / capacitor stations inspected during reporting year 58. Inspected regulator / capacitor stations as a % of regulator / capacitor stations in District 22%.

 Number of regulator / capacitor stations inspected during current inspection cycle 58. Inspected regulator / capacitor stations as a % of regulator / capacitor stations in district 22%.

# • Metro District (Cont.)

- Overhead Conductors and Cables
- Number of spans of overhead conductors and cables in District 45,172.
- Number of spans of overhead conductors and cables inspected during reporting year 8,974. Inspected spans of overhead conductors and cables as a % of spans of overhead conductors and cables in District 19.9%.
- Number of spans of overhead conductors and cables inspected during current inspection cycle 8,974. Inspected spans of overhead conductors and cables as a % of spans of overhead conductors and cables in district 19.9%.

# DETAILED OVERHEAD INSPECTIONS (Cont.)

#### North Coast District

- Poles
- Number of poles in District 24,692.
- Number of poles inspected during reporting year 4,534. Inspected poles as a % of poles in District 18.4%.
- Number of poles inspected during current inspection cycle 4,534. Inspected poles as a % of poles in district 18.4%.
- Number of poles, including pole mounted equipment and spans of conductor, inspected during current inspection cycle coded as needing maintenance activity 1,167. Poles, including pole mounted equipment and spans of conductor, needing maintenance as a % of poles inspected during current inspection cycle 25.7%.
- % Of needed corrective actions, including pole mounted equipment and spans of conductor, completed during 12 month cycle 100%.
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

### Overhead Transformer Stations

- Number of overhead transformer stations in District 7,234.
- Number of overhead transformer stations inspected during reporting year 1,349.
- Inspected overhead transformer stations as a % of overhead transformer stations in District 18.6%.
- Number of overhead transformer stations inspected during current inspection cycle 1,349. Inspected poles as a % of poles in district 18.6%.

# Overhead Switching / Protective Devices

- Number of overhead switching / protective devices in District 3,047.
- Number of overhead switching / protective devices inspected during reporting year 568. Inspected switching / protective devices as a % of switching / protective devices in District 18.6%.
- Number of switching / protective devices inspected during current inspection cycle 568. Inspected switching / protective devices as a % of switching / protective devices in district 18.6%.

### Overhead Regulator / Capacitor Stations

- Number of overhead regulator / capacitor stations in District 125.
- Number of overhead regulator / capacitor stations inspected during reporting year 20. Inspected regulator / capacitor stations as a % of regulator / capacitor stations in District 16%.

 Number of regulator / capacitor stations inspected during current inspection cycle 20. Inspected regulator / capacitor stations as a % of regulator / capacitor stations in district 16%.

# • North Coast District (Cont.)

- Overhead Conductors and Cables
- Number of spans of overhead conductors and cables in District 24,692.
- Number of spans of overhead conductors and cables inspected during reporting year 4,534. Inspected spans of overhead conductors and cables as a % of spans of overhead conductors and cables in District 18.4%.
- Number of spans of overhead conductors and cables inspected during current inspection cycle 4,534. Inspected spans of overhead conductors and cables as a % of spans of overhead conductors and cables in district 18.4%.

# DETAILED OVERHEAD INSPECTIONS (Cont.)

#### Northeast District

- Poles
- Number of poles in District 63,791.
- Number of poles inspected during reporting year 13,917. Inspected poles as a % of poles in District 21.8%.
- Number of poles inspected during current inspection cycle 13,917. Inspected poles as a % of poles in district 21.8%.
- Number of poles, including pole mounted equipment and spans of conductor, inspected during current inspection cycle coded as needing maintenance activity 1,722. Poles, including pole mounted equipment and spans of conductor, needing maintenance as a % of poles inspected during current inspection cycle 12.4%.
- % Of needed corrective actions, including pole mounted equipment and spans of conductor, completed during 12 month cycle 99.8%.
  - If this answer is not 100% explain and provide date corrective actions to be completed by:
    - P119688 Customer owned light attached to pole. Customer has been requested to remove. Estimated date of completion is 12/31/99.
    - P111206 Customer has built a livestock cover around pole.
       Customer has been requested to remove or relocate. Estimated date of completion is 12/31/99.
    - P111207 Customer has installed a basketball hoop on pole.
       Customer has been requested to remove. Estimated date of completion is 12/31/99.
    - P613714 Ground molding damaged. Pole is scheduled for replacement. Estimated date of completion is 6/30/99.
- Overhead Transformer Stations
- Number of overhead transformer stations in District 20,920.
- Number of overhead transformer stations inspected during reporting year 3.975.
- Inspected overhead transformer stations as a % of overhead transformer stations in District 19%.
- Number of overhead transformer stations inspected during current inspection cycle 3,975. Inspected poles as a % of poles in district 19%.
- Overhead Switching / Protective Devices
- Number of overhead switching / protective devices in District 4,582.
- Number of overhead switching / protective devices inspected during reporting year 1,343. Inspected switching / protective devices as a % of switching / protective devices in District 29.3%.

 Number of switching / protective devices inspected during current inspection cycle 1,343. Inspected switching / protective devices as a % of switching / protective devices in district 29.3%.

# Northeast District (Cont.)

- Overhead Regulator / Capacitor Stations
- Number of overhead regulator / capacitor stations in District 243.
- Number of overhead regulator / capacitor stations inspected during reporting year 84. Inspected regulator / capacitor stations as a % of regulator / capacitor stations in District 34.6%.
- Number of regulator / capacitor stations inspected during current inspection cycle 84. Inspected regulator / capacitor stations as a % of regulator / capacitor stations in district 34.6%.
- Overhead Conductors and Cables
- Number of spans of overhead conductors and cables in District 63,791.
- Number of spans of overhead conductors and cables inspected during reporting year 13,917. Inspected spans of overhead conductors and cables as a % of spans of overhead conductors and cables in District 21.8%.
- Number of spans of overhead conductors and cables inspected during current inspection cycle 13,917. Inspected spans of overhead conductors and cables as a % of spans of overhead conductors and cables in district 21.8%.

# DETAILED OVERHEAD INSPECTIONS (Cont.)

# Orange County District

- Poles
- Number of poles in District 5,867.
- Number of poles inspected during reporting year 1,187. Inspected poles as a % of poles in District 20.2%.
- Number of poles inspected during current inspection cycle 1,187. Inspected poles as a % of poles in district 20.2%.
- Number of poles, including pole mounted equipment and spans of conductor, inspected during current inspection cycle coded as needing maintenance activity 326. Poles, including pole mounted equipment and spans of conductor, needing maintenance as a % of poles inspected during current inspection cycle 27.5%.
- % Of needed corrective actions, including pole mounted equipment and spans of conductor, completed during 12 month cycle 100%.
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

### Overhead Transformer Stations

- Number of overhead transformer stations in District 1,379.
- Number of overhead transformer stations inspected during reporting year 258.
- Inspected overhead transformer stations as a % of overhead transformer stations in District 18.7%.
- Number of overhead transformer stations inspected during current inspection cycle 258. Inspected poles as a % of poles in district 18.7%.

## Overhead Switching / Protective Devices

- Number of overhead switching / protective devices in District 786.
- Number of overhead switching / protective devices inspected during reporting year 184. Inspected switching / protective devices as a % of switching / protective devices in District 23.4%.
- Number of switching / protective devices inspected during current inspection cycle 184. Inspected switching / protective devices as a % of switching / protective devices in district 23.4%.
- Overhead Regulator / Capacitor Stations
- Number of overhead regulator / capacitor stations in District 60.

- Number of overhead regulator / capacitor stations inspected during reporting year 15. Inspected regulator / capacitor stations as a % of regulator / capacitor stations in District 25%.
- Number of regulator / capacitor stations inspected during current inspection cycle 15. Inspected regulator / capacitor stations as a % of regulator / capacitor stations in district 25%.

# Orange County District (Cont.)

- Overhead Conductors and Cables
- Number of spans of overhead conductors and cables in District 5,867.
- Number of spans of overhead conductors and cables inspected during reporting year 1,187. Inspected spans of overhead conductors and cables as a % of spans of overhead conductors and cables in District 20.2%.
- Number of spans of overhead conductors and cables inspected during current inspection cycle 1,187. Inspected spans of overhead conductors and cables as a % of spans of overhead conductors and cables in district 20.2%.

# **UNDERGROUND (Pad mounted) INSPECTIONS**

The underground pad mounted inspection consists of two separate inspection types:

- Dead Front Equipment
- Live Front Equipment

# **Dead Front Equipment**

Detailed inspections of all dead front, pad-mounted equipment, in the underground system is performed on a 5-year cycle. Approximately 20% of SDG&E's total pad mounted dead front equipment is inspected annually. Small variations in inspected percentages may occur yearly, but 100% will be completed every 5 years. This is the 1<sup>st</sup> year of the cycle. This inspection will be altered to include an internal inspection segment during 1999.

A detailed inspection of dead front, pad mounted equipment requires that each dead front, pad mounted piece of equipment be visited and the equipment be carefully examined externally by visual methods for conformance to CPUC General Order 128 requirements. This inspection will be altered to include an internal inspection segment during 1999.

### PAD-MOUNTED DEAD FRONT EQUIPMENT

#### Beach Cities District

- Transformers
- Number of pad mounted dead front transformers in District 9,629.
- Number of pad mounted dead front transformers inspected during reporting year 2,018. Inspected pad mounted dead front transformers as a % of pad mounted dead front transformers in District 21%.
- Number of pad mounted dead front transformers inspected during current inspection cycle 2,018. Inspected pad mounted dead front transformers as a % of pad mounted dead front transformers in District 21%.
- Number of dead front, pad mounted transformers inspected during current inspection cycle coded as needing maintenance activity 393. Dead front, pad mounted transformers needing maintenance as a % of dead front, pad mounted transformers inspected during current inspection cycle 19.5%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:
- Regulators / Capacitors
- Number of pad mounted dead front regulators / capacitors in District 0.
- Number of pad mounted dead front regulators / capacitors inspected during reporting year 0. Inspected pad mounted dead front regulators / capacitors as a % of pad mounted dead front regulators / capacitors in District 0.
- Number of pad mounted dead front regulators / capacitors inspected during current inspection cycle 0. Inspected pad mounted dead front regulators / capacitors as a % of pad mounted dead front regulators / capacitors in District 0.
- Number of dead front, pad mounted regulators / capacitors inspected during current inspection cycle coded as needing maintenance activity 0. Dead front, pad mounted regulators / capacitors needing maintenance as a % of dead front, pad mounted regulators / capacitors inspected during current inspection cycle 0%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

#### • Eastern District

- Transformers
- Number of pad mounted dead front transformers in District 8,874.
- Number of pad mounted dead front transformers inspected during reporting year 1,989. Inspected pad mounted dead front transformers as a % of pad mounted dead front transformers in District 22.4%.
- Number of pad mounted dead front transformers inspected during current inspection cycle 1,989. Inspected pad mounted dead front transformers as a % of pad mounted dead front transformers in District 22.4%.
- Number of dead front, pad mounted transformers inspected during current inspection cycle coded as needing maintenance activity 793. Dead front, pad mounted transformers needing maintenance as a % of dead front, pad mounted transformers inspected during current inspection cycle 39.9%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:
- Regulators / Capacitors
- Number of pad mounted dead front regulators / capacitors in District 0.
- Number of pad mounted dead front regulators / capacitors inspected during reporting year 0. Inspected pad mounted dead front regulators / capacitors as a % of pad mounted dead front regulators / capacitors in District 0.
- Number of pad mounted dead front regulators / capacitors inspected during current inspection cycle 0. Inspected pad mounted dead front regulators / capacitors as a % of pad mounted dead front regulators / capacitors in District 0.
- Number of dead front, pad mounted regulators / capacitors inspected during current inspection cycle coded as needing maintenance activity 0. Dead front, pad mounted regulators / capacitors needing maintenance as a % of dead front, pad mounted regulators / capacitors inspected during current inspection cycle 0%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

#### Metro District

- Transformers
- Number of pad mounted dead front transformers in District 8,593.
- Number of pad mounted dead front transformers inspected during reporting year 1,527. Inspected pad mounted dead front transformers as a % of pad mounted dead front transformers in District 17.8%.
- Number of pad mounted dead front transformers inspected during current inspection cycle 1,527. Inspected pad mounted dead front transformers as a % of pad mounted dead front transformers in District 17.8%.
- Number of dead front, pad mounted transformers inspected during current inspection cycle coded as needing maintenance activity 674. Dead front, pad mounted transformers needing maintenance as a % of dead front, pad mounted transformers inspected during current inspection cycle 44.1%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:
- Regulators / Capacitors
- Number of pad mounted dead front regulators / capacitors in District 0.
- Number of pad mounted dead front regulators / capacitors inspected during reporting year 0. Inspected pad mounted dead front regulators / capacitors as a % of pad mounted dead front regulators / capacitors in District 0.
- Number of pad mounted dead front regulators / capacitors inspected during current inspection cycle 0. Inspected pad mounted dead front regulators / capacitors as a % of pad mounted dead front regulators / capacitors in District 0.
- Number of dead front, pad mounted regulators / capacitors inspected during current inspection cycle coded as needing maintenance activity 0. Dead front, pad mounted regulators / capacitors needing maintenance as a % of dead front, pad mounted regulators / capacitors inspected during current inspection cycle 0%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

#### North Coast District

- Transformers
- Number of pad mounted dead front transformers in District 14,872.
- Number of pad mounted dead front transformers inspected during reporting year 2,473. Inspected pad mounted dead front transformers as a % of pad mounted dead front transformers in District 16.6%.
- Number of pad mounted dead front transformers inspected during current inspection cycle 2,473. Inspected pad mounted dead front transformers as a % of pad mounted dead front transformers in District 16.6%.
- Number of dead front, pad mounted transformers inspected during current inspection cycle coded as needing maintenance activity 1,973. Dead front, pad mounted transformers needing maintenance as a % of dead front, pad mounted transformers inspected during current inspection cycle 79.8%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:
- Regulators / Capacitors
- Number of pad mounted dead front regulators / capacitors in District 0.
- Number of pad mounted dead front regulators / capacitors inspected during reporting year 0. Inspected pad mounted dead front regulators / capacitors as a % of pad mounted dead front regulators / capacitors in District 0.
- Number of pad mounted dead front regulators / capacitors inspected during current inspection cycle 0. Inspected pad mounted dead front regulators / capacitors as a % of pad mounted dead front regulators / capacitors in District 0.
- Number of dead front, pad mounted regulators / capacitors inspected during current inspection cycle coded as needing maintenance activity 0. Dead front, pad mounted regulators / capacitors needing maintenance as a % of dead front, pad mounted regulators / capacitors inspected during current inspection cycle 0%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

### Northeast District

- Transformers
- Number of pad mounted dead front transformers in District 15,995.
- Number of pad mounted dead front transformers inspected during reporting year 2,646. Inspected pad mounted dead front transformers as a % of pad mounted dead front transformers in District 16.5%.
- Number of pad mounted dead front transformers inspected during current inspection cycle 2,646. Inspected pad mounted dead front transformers as a % of pad mounted dead front transformers in District 16.5%.
- Number of dead front, pad mounted transformers inspected during current inspection cycle coded as needing maintenance activity 1,039. Dead front, pad mounted transformers needing maintenance as a % of dead front, pad mounted transformers inspected during current inspection cycle 39.3%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:
- Regulators / Capacitors
- Number of pad mounted dead front regulators / capacitors in District 0.
- Number of pad mounted dead front regulators / capacitors inspected during reporting year 0. Inspected pad mounted dead front regulators / capacitors as a % of pad mounted dead front regulators / capacitors in District 0.
- Number of pad mounted dead front regulators / capacitors inspected during current inspection cycle 0. Inspected pad mounted dead front regulators / capacitors as a % of pad mounted dead front regulators / capacitors in District 0.
- Number of dead front, pad mounted regulators / capacitors inspected during current inspection cycle coded as needing maintenance activity 0. Dead front, pad mounted regulators / capacitors needing maintenance as a % of dead front, pad mounted regulators / capacitors inspected during current inspection cycle 0%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

# • Orange County District

- Transformers
- Number of pad mounted dead front transformers in District 7,872.
- Number of pad mounted dead front transformers inspected during reporting year 1,416. Inspected pad mounted dead front transformers as a % of pad mounted dead front transformers in District 18%.
- Number of pad mounted dead front transformers inspected during current inspection cycle 1,416. Inspected pad mounted dead front transformers as a % of pad mounted dead front transformers in District 18%.
- Number of dead front, pad mounted transformers inspected during current inspection cycle coded as needing maintenance activity 438. Dead front, pad mounted transformers needing maintenance as a % of dead front, pad mounted transformers inspected during current inspection cycle 30.9%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:
- Regulators / Capacitors
- Number of pad mounted dead front regulators / capacitors in District 0.
- Number of pad mounted dead front regulators / capacitors inspected during reporting year 0. Inspected pad mounted dead front regulators / capacitors as a % of pad mounted dead front regulators / capacitors in District 0.
- Number of pad mounted dead front regulators / capacitors inspected during current inspection cycle 0. Inspected pad mounted dead front regulators / capacitors as a % of pad mounted dead front regulators / capacitors in District 0.
- Number of dead front, pad mounted regulators / capacitors inspected during current inspection cycle coded as needing maintenance activity 0. Dead front, pad mounted regulators / capacitors needing maintenance as a % of dead front, pad mounted regulators / capacitors inspected during current inspection cycle 0%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

# **Live Front Equipment**

- Detailed inspections of all live front, pad mounted equipment, in the underground system will be performed on a 5-year cycle. Approximately 20% of SDG&E's total pad mounted live front equipment will be inspected annually. Small variations in inspected percentages may occur yearly, but 100% will be completed every 5 years. This is the 1<sup>st</sup> year of the cycle.
- A detailed inspection of live front, pad mounted, equipment requires that each live front, pad mounted, piece of equipment be visited and the equipment be opened and carefully examined externally and internally, by visual methods, for conformance to CPUC General Order 128 requirements.

### PAD-MOUNTED LIVE FRONT EQUIPMENT

### • Beach Cities District

- Transformers
- Number of pad mounted live front transformers in District 1,809.
- Number of pad mounted live front transformers inspected during reporting year 290. Inspected pad mounted live front transformers as a % of pad mounted live front transformers in District 16%.
- Number of pad mounted live front transformers inspected during current inspection cycle 290. Inspected pad mounted live front transformers as a % of pad mounted live front transformers in District 16%.
- Number of live front, pad mounted transformers inspected during current inspection cycle coded as needing maintenance activity 69. Live front, padmounted transformers needing maintenance as a % of live front, pad mounted transformers inspected during current inspection cycle 23.8%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:
- Regulators / Capacitors
- Number of pad mounted live front regulators / capacitors in District 67.
- Number of pad mounted live front regulators / capacitors inspected during reporting year 17. Inspected pad mounted live front regulators / capacitors as a % of pad mounted live front regulators / capacitors in District 25.4%.
- Number of pad mounted live front regulators / capacitors inspected during current inspection cycle 17. Inspected pad mounted live front regulators / capacitors as a % of pad mounted live front regulators / capacitors in District 25.4%.
- Number of live front, pad mounted regulators / capacitors inspected during current inspection cycle coded as needing maintenance activity 0. Live front, pad mounted regulators / capacitors needing maintenance as a % of live front, pad mounted regulators / capacitors inspected during current inspection cycle 0%.
- % Of needed corrective actions completed during 12 month cycle 100%.
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

#### • Eastern District

- Transformers
- Number of pad mounted live front transformers in District 1,822.
- Number of pad mounted live front transformers inspected during reporting year 424. Inspected pad mounted live front transformers as a % of pad mounted live front transformers in District 23.3%.
- Number of pad mounted live front transformers inspected during current inspection cycle 424. Inspected pad mounted live front transformers as a % of pad mounted live front transformers in District 23.3%.
- Number of live front, pad mounted transformers inspected during current inspection cycle coded as needing maintenance activity 212. Live front, padmounted transformers needing maintenance as a % of live front, pad mounted transformers inspected during current inspection cycle 50%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:
- Regulators / Capacitors
- Number of pad mounted live front regulators / capacitors in District 18.
- Number of pad mounted live front regulators / capacitors inspected during reporting year 4. Inspected pad mounted live front regulators / capacitors as a % of pad mounted live front regulators / capacitors in District 22.2%.
- Number of pad mounted live front regulators / capacitors inspected during current inspection cycle 4. Inspected pad mounted live front regulators / capacitors as a % of pad mounted live front regulators / capacitors in District 22.2%.
- Number of live front, pad mounted regulators / capacitors inspected during current inspection cycle coded as needing maintenance activity 3. Live front, pad mounted regulators / capacitors needing maintenance as a % of live front, pad mounted regulators / capacitors inspected during current inspection cycle 75%.
- % Of needed corrective actions completed during 12 month cycle 100%.
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

#### Metro District

- Transformers
- Number of pad mounted live front transformers in District 1,592.
- Number of pad mounted live front transformers inspected during reporting year 366. Inspected pad mounted live front transformers as a % of pad mounted live front transformers in District 23%.
- Number of pad mounted live front transformers inspected during current inspection cycle 366. Inspected pad mounted live front transformers as a % of pad mounted live front transformers in District 23%.
- Number of live front, pad mounted transformers inspected during current inspection cycle coded as needing maintenance activity 257. Live front, padmounted transformers needing maintenance as a % of live front, pad mounted transformers inspected during current inspection cycle 70.2%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:
- Regulators / Capacitors
- Number of pad mounted live front regulators / capacitors in District 20.
- Number of pad mounted live front regulators / capacitors inspected during reporting year 6. Inspected pad mounted live front regulators / capacitors as a % of pad mounted live front regulators / capacitors in District 30%.
- Number of pad mounted live front regulators / capacitors inspected during current inspection cycle 6. Inspected pad mounted live front regulators / capacitors as a % of pad mounted live front regulators / capacitors in District 30%.
- Number of live front, pad mounted regulators / capacitors inspected during current inspection cycle coded as needing maintenance activity 1. Live front, pad mounted regulators / capacitors needing maintenance as a % of live front, pad mounted regulators / capacitors inspected during current inspection cycle 16.7%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

### North Coast District

- Transformers
- Number of pad mounted live front transformers in District 1,220.
- Number of pad mounted live front transformers inspected during reporting year 267. Inspected pad mounted live front transformers as a % of pad mounted live front transformers in District 21.9%.
- Number of pad mounted live front transformers inspected during current inspection cycle 267. Inspected pad mounted live front transformers as a % of pad mounted live front transformers in District 21.9%.
- Number of live front, pad mounted transformers inspected during current inspection cycle coded as needing maintenance activity 243. Live front, padmounted transformers needing maintenance as a % of live front, pad mounted transformers inspected during current inspection cycle 91%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:
- Regulators / Capacitors
- Number of pad mounted live front regulators / capacitors in District 28.
- Number of pad mounted live front regulators / capacitors inspected during reporting year 3. Inspected pad mounted live front regulators / capacitors as a % of pad mounted live front regulators / capacitors in District 10.7%.
- Number of pad mounted live front regulators / capacitors inspected during current inspection cycle 3. Inspected pad mounted live front regulators / capacitors as a % of pad mounted live front regulators / capacitors in District 10.7%.
- Number of live front, pad mounted regulators / capacitors inspected during current inspection cycle coded as needing maintenance activity 3. Live front, pad mounted regulators / capacitors needing maintenance as a % of live front, pad mounted regulators / capacitors inspected during current inspection cycle 100%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

### Northeast District

- Transformers
- Number of pad mounted live front transformers in District 1,703.
- Number of pad mounted live front transformers inspected during reporting year 217. Inspected pad mounted live front transformers as a % of pad mounted live front transformers in District 12.7%.
- Number of pad mounted live front transformers inspected during current inspection cycle 217. Inspected pad mounted live front transformers as a % of pad mounted live front transformers in District 12.7%.
- Number of live front, pad mounted transformers inspected during current inspection cycle coded as needing maintenance activity 181. Live front, padmounted transformers needing maintenance as a % of live front, pad mounted transformers inspected during current inspection cycle 83.4%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:
- Regulators / Capacitors
- Number of pad mounted live front regulators / capacitors in District 51.
- Number of pad mounted live front regulators / capacitors inspected during reporting year 14. Inspected pad mounted live front regulators / capacitors as a % of pad mounted live front regulators / capacitors in District 27.5%.
- Number of pad mounted live front regulators / capacitors inspected during current inspection cycle 14. Inspected pad mounted live front regulators / capacitors as a % of pad mounted live front regulators / capacitors in District 27.5%.
- Number of live front, pad mounted regulators / capacitors inspected during current inspection cycle coded as needing maintenance activity 9. Live front, pad mounted regulators / capacitors needing maintenance as a % of live front, pad mounted regulators / capacitors inspected during current inspection cycle 64.3%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

# Orange County District

- Transformers
- Number of pad mounted live front transformers in District 785.
- Number of pad mounted live front transformers inspected during reporting year 153. Inspected pad mounted live front transformers as a % of pad mounted live front transformers in District 19.5%.
- Number of pad mounted live front transformers inspected during current inspection cycle 153. Inspected pad mounted live front transformers as a % of pad mounted live front transformers in District 19.5%.
- Number of live front, pad mounted transformers inspected during current inspection cycle coded as needing maintenance activity 76. Live front, padmounted transformers needing maintenance as a % of live front, pad mounted transformers inspected during current inspection cycle 49.7%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:
- Regulators / Capacitors
- Number of pad mounted live front regulators / capacitors in District 39.
- Number of pad mounted live front regulators / capacitors inspected during reporting year 5. Inspected pad mounted live front regulators / capacitors as a % of pad mounted live front regulators / capacitors in District 12.8%.
- Number of pad mounted live front regulators / capacitors inspected during current inspection cycle 5. Inspected pad mounted live front regulators / capacitors as a % of pad mounted live front regulators / capacitors in District 12.8%.
- Number of live front, pad mounted regulators / capacitors inspected during current inspection cycle coded as needing maintenance activity 4. Live front, pad mounted regulators / capacitors needing maintenance as a % of live front, pad mounted regulators / capacitors inspected during current inspection cycle 80%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

# **UNDERGROUND (Sub-surface) INSPECTIONS**

• Detailed inspections of all underground subsurface transformers, protective devices, and regulators/capacitors, in the underground system will be performed on a 3-year cycle. Approximately 33% of SDG&E's total population of these pieces of equipment will be inspected annually. Small variations in inspected percentages may occur yearly, but 100% will be completed every 3 years. This is the 1<sup>st</sup> year of the cycle. A detailed inspection of underground subsurface equipment requires that each subsurface enclosure be visited and opened so that the equipment within can be carefully examined visually for conformance to CPUC General Order 128 requirements.

### UNDERGROUND SUBSURFACE EQUIPMENT INSPECTIONS

### • Beach Cities District

- Transformers
- Number of subsurface transformers in District 358.
- Number of subsurface transformers inspected during reporting year 105.
   Inspected subsurface transformers as a % of subsurface transformers in District 29.3%.
- Number of subsurface transformers inspected during current inspection cycle 105. Inspected subsurface transformers as a % of subsurface transformers in District 29.3%.
- Number of subsurface transformers inspected during current inspection cycle coded as needing maintenance activity 3. Subsurface transformers needing maintenance as a % of subsurface transformers inspected during current inspection cycle 2.9%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:
- Regulators / Capacitors
- Number of subsurface regulators / capacitors in District 1.
- Number of subsurface regulators / capacitors inspected during reporting year
   Inspected subsurface regulators / capacitors as a % of subsurface regulators / capacitors in District 0.
- Number of subsurface regulators / capacitors inspected during current inspection cycle 0. Inspected subsurface regulators / capacitors as a % of subsurface regulators / capacitors in District 0.
- Number of subsurface regulators / capacitors inspected during current inspection cycle coded as needing maintenance activity 0. Subsurface regulators / capacitors needing maintenance as a % of subsurface regulators / capacitors inspected during current inspection cycle 0%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

# UNDERGROUND SUBSURFACE EQUIPMENT INSPECTIONS (Cont.)

### • Eastern District

- Transformers
- Number of subsurface transformers in District 157.
- Number of subsurface transformers inspected during reporting year 33.
   Inspected subsurface transformers as a % of subsurface transformers in District 21%.
- Number of subsurface transformers inspected during current inspection cycle
   33. Inspected subsurface transformers as a % of subsurface transformers in District 21%.
- Number of subsurface transformers inspected during current inspection cycle coded as needing maintenance activity 1. Subsurface transformers needing maintenance as a % of subsurface transformers inspected during current inspection cycle 3%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:
- Regulators / Capacitors
- Number of subsurface regulators / capacitors in District 0.
- Number of subsurface regulators / capacitors inspected during reporting year
   Inspected subsurface regulators / capacitors as a % of subsurface regulators / capacitors in District 0.
- Number of subsurface regulators / capacitors inspected during current inspection cycle 0. Inspected subsurface regulators / capacitors as a % of subsurface regulators / capacitors in District 0.
- Number of subsurface regulators / capacitors inspected during current inspection cycle coded as needing maintenance activity 0. Subsurface regulators / capacitors needing maintenance as a % of subsurface regulators / capacitors inspected during current inspection cycle 0%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

# UNDERGROUND SUBSURFACE EQUIPMENT INSPECTIONS (Cont.)

### Metro District

- Transformers
- Number of subsurface transformers in District 710.
- Number of subsurface transformers inspected during reporting year 254.
   Inspected subsurface transformers as a % of subsurface transformers in District 35.8%.
- Number of subsurface transformers inspected during current inspection cycle 254. Inspected subsurface transformers as a % of subsurface transformers in District 35.8%.
- Number of subsurface transformers inspected during current inspection cycle coded as needing maintenance activity 11. Subsurface transformers needing maintenance as a % of subsurface transformers inspected during current inspection cycle 4.3%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:
- Regulators / Capacitors
- Number of subsurface regulators / capacitors in District 29.
- Number of subsurface regulators / capacitors inspected during reporting year 20. Inspected subsurface regulators / capacitors as a % of subsurface regulators / capacitors in District 69%.
- Number of subsurface regulators / capacitors inspected during current inspection cycle 20. Inspected subsurface regulators / capacitors as a % of subsurface regulators / capacitors in District 69%.
- Number of subsurface regulators / capacitors inspected during current inspection cycle coded as needing maintenance activity 0. Subsurface regulators / capacitors needing maintenance as a % of subsurface regulators / capacitors inspected during current inspection cycle 0%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

# UNDERGROUND SUBSURFACE EQUIPMENT INSPECTIONS (Cont.)

### North Coast District

- Transformers
- Number of subsurface transformers in District 149.
- Number of subsurface transformers inspected during reporting year 33.
   Inspected subsurface transformers as a % of subsurface transformers in District 22.1%.
- Number of subsurface transformers inspected during current inspection cycle
   33. Inspected subsurface transformers as a % of subsurface transformers in District 22.1%.
- Number of subsurface transformers inspected during current inspection cycle coded as needing maintenance activity 3. Subsurface transformers needing maintenance as a % of subsurface transformers inspected during current inspection cycle 9.1%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

# Regulators / Capacitors

- Number of subsurface regulators / capacitors in District 0.
- Number of subsurface regulators / capacitors inspected during reporting year
   Inspected subsurface regulators / capacitors as a % of subsurface regulators / capacitors in District 0.
- Number of subsurface regulators / capacitors inspected during current inspection cycle 0. Inspected subsurface regulators / capacitors as a % of subsurface regulators / capacitors in District 0.
- Number of subsurface regulators / capacitors inspected during current inspection cycle coded as needing maintenance activity 0. Subsurface regulators / capacitors needing maintenance as a % of subsurface regulators / capacitors inspected during current inspection cycle 0%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

#### UNDERGROUND SUBSURFACE EQUIPMENT INSPECTIONS (Cont.)

#### Northeast District

- Transformers
- Number of subsurface transformers in District 192.
- Number of subsurface transformers inspected during reporting year 4.
   Inspected subsurface transformers as a % of subsurface transformers in District 2.1%.
- Number of subsurface transformers inspected during current inspection cycle
   Inspected subsurface transformers as a % of subsurface transformers in District 2.1%.
- Number of subsurface transformers inspected during current inspection cycle coded as needing maintenance activity 3. Subsurface transformers needing maintenance as a % of subsurface transformers inspected during current inspection cycle 75%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:
- Regulators / Capacitors
- Number of subsurface regulators / capacitors in District 0.
- Number of subsurface regulators / capacitors inspected during reporting year
   Inspected subsurface regulators / capacitors as a % of subsurface regulators / capacitors in District 0.
- Number of subsurface regulators / capacitors inspected during current inspection cycle 0. Inspected subsurface regulators / capacitors as a % of subsurface regulators / capacitors in District 0.
- Number of subsurface regulators / capacitors inspected during current inspection cycle coded as needing maintenance activity 0. Subsurface regulators / capacitors needing maintenance as a % of subsurface regulators / capacitors inspected during current inspection cycle 0%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

#### UNDERGROUND SUBSURFACE EQUIPMENT INSPECTIONS (Cont.)

# Orange County District

- Transformers
- Number of subsurface transformers in District 322.
- Number of subsurface transformers inspected during reporting year 97.
   Inspected subsurface transformers as a % of subsurface transformers in District 30.1%.
- Number of subsurface transformers inspected during current inspection cycle
   97. Inspected subsurface transformers as a % of subsurface transformers in District 30.1%.
- Number of subsurface transformers inspected during current inspection cycle coded as needing maintenance activity 1. Subsurface transformers needing maintenance as a % of subsurface transformers inspected during current inspection cycle 1%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:
- Regulators / Capacitors
- Number of subsurface regulators / capacitors in District 0.
- Number of subsurface regulators / capacitors inspected during reporting year
   Inspected subsurface regulators / capacitors as a % of subsurface regulators / capacitors in District 0.
- Number of subsurface regulators / capacitors inspected during current inspection cycle 0. Inspected subsurface regulators / capacitors as a % of subsurface regulators / capacitors in District 0.
- Number of subsurface regulators / capacitors inspected during current inspection cycle coded as needing maintenance activity 0. Subsurface regulators / capacitors needing maintenance as a % of subsurface regulators / capacitors inspected during current inspection cycle 0%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

### Underground Switch (Pad mounted and sub-surface) INSPECTIONS

- Detailed inspections of all underground switches, both pad mounted and subsurface, in the underground system are performed on a 3-year cycle. Approximately 33% of SDG&E's total population of these pieces of equipment are inspected annually. Small variations in inspected percentages may occur yearly, but 100% will be completed every 3 years. This is the 1<sup>st</sup> year of the cycle.
- A detailed inspection of underground switches requires that each equipment location, pad mount or subsurface enclosure be visited and opened so that the equipment within can be carefully examined visually for conformance to CPUC General Order 128 requirements. In addition, oil filed switches will have the oil sampled and processed by the lab for conformance with SDG&E standards.

#### UNDERGROUND SWITCH INSPECTIONS

#### • Beach Cities District

- Number of underground switches in District 1,109.
- Number of underground switches inspected during reporting year 516.
   Inspected underground switches as a % of equipment in sub-surface enclosures in District 46.5%.
- Number of underground switches inspected during current inspection cycle
   516. Inspected underground switches as a % of equipment in sub-surface enclosures in District 46.5%.
- Number of underground switches inspected during current inspection cycle coded as needing maintenance activity 72. Number of underground switches needing maintenance as a % of the number of underground switches inspected during current inspection cycle 14.1%.
- % Of needed corrective actions completed during 12 month cycle 95.8%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:
    - Location D2593169526 Severe corrosion. Change out to be coordinated with other pending work. Estimated date of completion is 8/31/99.
    - Location M2152070230 Oil leak. Waiting for right-of-way acquisition. Estimated date of completion is 8/31/99.
    - Location M2694370369 Switch legs corroded. Waiting for right-ofway acquisition. Estimated date of completion is 8/31/99.

#### • Eastern District

- Number of underground switches in District 241.
- Number of underground switches inspected during reporting year 206.
   Inspected underground switches as a % of equipment in sub-surface enclosures in District 85.5%.
- Number of underground switches inspected during current inspection cycle 206. Inspected underground switches as a % of equipment in sub-surface enclosures in District 85.5%.
- Number of underground switches inspected during current inspection cycle coded as needing maintenance activity 59. Number of underground switches needing maintenance as a % of the number of underground switches inspected during current inspection cycle 28.6%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

#### Metro District

- Number of underground switches in District 1,018.
- Number of underground switches inspected during reporting year 503.
   Inspected underground switches as a % of equipment in sub-surface enclosures in District 49.4%.
- Number of underground switches inspected during current inspection cycle 503. Inspected underground switches as a % of equipment in sub-surface enclosures in District 49.4%.
- Number of underground switches inspected during current inspection cycle coded as needing maintenance activity 86. Number of underground switches needing maintenance as a % of the number of underground switches inspected during current inspection cycle 17.1%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

#### North Coast District

- Number of underground switches in District 437.
- Number of underground switches inspected during reporting year 256.
   Inspected underground switches as a % of equipment in sub-surface enclosures in District 58.6%.
- Number of underground switches inspected during current inspection cycle 256. Inspected underground switches as a % of equipment in sub-surface enclosures in District 58.6%.
- Number of underground switches inspected during current inspection cycle coded as needing maintenance activity 143. Number of underground switches needing maintenance as a % of the number of underground switches inspected during current inspection cycle 55.9%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

#### Northeast District

- Number of underground switches in District 444.
- Number of underground switches inspected during reporting year 433.
   Inspected underground switches as a % of equipment in sub-surface enclosures in District 97.5%.
- Number of underground switches inspected during current inspection cycle 433. Inspected underground switches as a % of equipment in sub-surface enclosures in District 97.5%.
- Number of underground switches inspected during current inspection cycle coded as needing maintenance activity 294. Number of underground switches needing maintenance as a % of the number of underground switches inspected during current inspection cycle 67.9%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:

#### Orange County District

- Number of underground switches in District 265.
- Number of underground switches inspected during reporting year 259.
   Inspected underground switches as a % of equipment in sub-surface enclosures in District 97.7%.
- Number of underground switches inspected during current inspection cycle 259. Inspected underground switches as a % of equipment in sub-surface enclosures in District 97.7%.
- Number of underground switches inspected during current inspection cycle coded as needing maintenance activity 100. Number of underground switches needing maintenance as a % of the number of underground switches inspected during current inspection cycle 38.6%.
- % Of needed corrective actions completed during 12 month cycle 97%. \*
  - If this answer is not 100% explain and provide date corrective actions to be completed by:
    - Location M4796555885. Critical repair needed. Change out to be coordinated with other pending work. Estimated date of completion is 8/10/99.
    - Location M4955356304. Critical repair needed. Change out to be coordinated with other pending work. Estimated date of completion is 8/03/99.
    - Location M5082759379. Switch legs corroded. Change out to be coordinated with other pending work. Estimated date of completion is 6/30/99.

#### INTRUSIVE POLE INSPECTION

#### Wood Pole

- Intrusive inspections of all poles in the overhead system are performed in conformance with CPUC General Order 165 requirements. Approximately 10% of SDG&E's poles over 15 years of age, that have not had a previous intrusive inspection, will be inspected annually, creating a 10 year inspection cycle. This is the 1<sup>st</sup> year of the cycle. SDG&E poles that are older than 15 years and have had a previous intrusive inspection will be inspected on a 20-year cycle with approximately 5% of these poles being inspected annually. This is the 1<sup>st</sup> year of the cycle.
- Small variations in inspected percentages may occur yearly, but 100% will be completed in conformance with CPUC General Order 165 requirements.
- The intrusive pole testing program at SDG&E is a centralized program that systematically addresses all SDG&E poles on a system wide basis and not on a district by district process. Program direction and records are handled on a centralized basis.
- Intrusive testing of wood poles is normally accomplished by excavating about the pole base and/or a sound and bore of the pole about the groundline area for conformance to CPUC General Order 95 requirements.

### 10 Year Inspection Cycle

- Number of poles in Company 221,367.
- Number of poles inspected during reporting year 23,614. Inspected poles as a % of poles in Company 10.7%.
- Number of poles inspected during current inspection cycle 23,614. Inspected poles as a % of poles in Company 10.7%.
- Number of poles inspected during current inspection cycle coded as needing maintenance activity 851. Number of poles needing maintenance as a % of the number of poles inspected during current inspection cycle 3.6%.
- % Of needed corrective actions completed during 12 month cycle 100%. \*
- If this answer is not 100% explain and provide date corrective actions to be completed by:

<b>20-Year Inspection Cycle</b> - SDG&E is inspecting all wood poles on a 10-year of at this time.	ycle
<ul> <li>Number of poles in CompanyNA</li> <li>Number of poles inspected during reporting yearNA Inspecte poles as a % of poles in CompanyNA</li> <li>Number of poles inspected during current inspection cycleNA Inspected poles as a % of poles in Company.</li> </ul>	d

# INTRUSIVE POLE INSPECTION (Cont.)

•	Number of poles inspected during current inspection cycle coded as needing maintenance activityNA Number of poles needing maintenance as a % of the number of poles inspected during current inspection cycleNA %.
•	% Of needed corrective actions completed during 12 month cycleNA *
	his answer is not 100% explain and provide date corrective actions to be mpleted by:

# **ATTACHMENT**

<u>"A"</u>