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Witness: Weim

PREPARED DIRECT TESTIMONY OF

DARREN WEIM

ON BEHALF OF

SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

SEPTEMBER 25, 2015

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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Darren Weim. My business address is 571 Enterprise Street, Escondido, California 92029.

Q. What is your current position?

A. I currently manage the largest Construction & Operating ("C & O") Center, or District, at San Diego Gas & Electric Company ("SDG&E"), called "Northeast." In this role, I manage approximately 120 employees. A large percentage of our activities at the Northeast C & O Center relate to the inspection and maintenance of the electric distribution system.

I have held a variety of other positions at SDG&E during my 15 year tenure with the company. I have designed overhead electric facilities, observed construction activities, and responded to standards-related questions during construction. I have also written or approved standards and policies, managed the distribution Corrective Maintenance Program; trained field employees on inspections and patrols; met with other utilities to discuss best practices; participated in Commission rule change proceedings; and participated in internal and external audits of SDG&E's electric system involving third parties, such as the Safety and Enforcement Division ("SED") of the Commission and the California Independent System Operator ("CAISO"). I currently manage employees responsible for the construction, maintenance and inspection, and outage response and restoration activities on the electric distribution system. Prior to working at SDG&E, I worked on land survey crews tasked with surveying electric transmission and distribution facilities. My qualifications are set forth in Appendix 1.

Q. Have you previously prepared testimony in Commission proceedings?

A. Yes, I prepared direct testimony in the Commission's "Order Instituting Investigation, Notice of Hearing, and Order to Show Cause" regarding the Guejito Fire (I.08-11-007).

II. PURPOSE OF TESTIMONY

Q. What is the purpose of your testimony?

A. The purpose of my testimony is two-fold. First, I am testifying regarding SDG&E's rigorous and comprehensive Corrective Maintenance Program for electric distribution facilities.[1] In that regard, I describe SDG&E's inspections of the span between SDG&E poles P196394 and P196387 prior to the 2007 wildfires. According to the California Department of Forestry and Fire Protection ("Cal Fire"), the October 2007 Guejito Fire started when a Cox Communications lashing wire came into contact with SDG&E's 12 kV conductor in this span. My testimony is intended to show that SDG&E complied with applicable maintenance and inspection guidelines prior to the Guejito Fire, and that it had no basis to know of the issues that Cal Fire alleged to have caused that fire.

Second, I describe the rigorous and comprehensive standards and procedures for construction, inspection and maintenance of the SDG&E transmission system (facilities with a voltage of 69 kV and above). In that regard, I discuss SDG&E's inspections of the span between SDG&E poles Z416675 and Z416676 prior to the 2007 wildfires. According to Cal Fire, the October 2007 Witch Fire resulted from conductors in that span contacting one another, creating hot particles that landed in grassy fuels. My testimony is intended to show that SDG&E complied with construction, inspection and maintenance standards prior to the Witch Fire, and

[1] SDG&E's distribution facilities operate at predominately 12 kilovolts ("kV"), with some large areas of 4 kV, which are currently being converted through attrition and as maintenance conditions warrant. SDG&E's transmission facilities include overhead and underground lines operating at 69 kV, 138 kV, 230 kV and 500 kV.

that it had no basis to know of the issues Cal Fire alleged to have caused that fire.

III. SDG&E'S INSPECTIONS OF ELECTRIC DISTRIBUTION FACILITIES

A. The Corrective Maintenance Program

Q. How does your testimony regarding the inspection program for distribution facilities relate to the testimony of other SDG&E witnesses in this proceeding?

A. Both Mr. Greg Walters and I testify regarding the distribution facilities that were linked to the Guejito Fire. Mr. Walters describes the Corrective Maintenance Program in place prior to the 2007 wildfires, as well as SDG&E's efforts to comply with General Order ("GO") requirements, among other subjects. Mr. Walters' testimony is based on his experience as the Team Leader for Compliance Management, and the processes and procedures SDG&E had developed for compliance purposes. I discuss these subjects based on my experience managing the Corrective Maintenance Program Management Team from August 2005 - August 2007, in developing the standards and standard practices related to inspection and maintenance activities, and in dealing directly with field personnel tasked with inspection and maintenance activities.

Q. What were your responsibilities on the Management Team for the Corrective Maintenance Program?

A. The Program Management Team administered the Corrective Maintenance Program by providing guidance and support with respect to the overall program. I oversaw weekly, monthly, and annual internal reporting of Corrective Maintenance Program inspections, repairs, and budget matters. I also oversaw updates to the Corrective Maintenance Program Manual and relevant Electric Standard Practices. Lastly, I oversaw the training of District personnel for Corrective Maintenance Program inspections and repairs.

Q. How are the inspection and maintenance activities under the Corrective Maintenance

Program implemented?

A. The Corrective Maintenance Program was originally implemented to comply with GO 95, GO 128 and GO 165. As discussed by Mr. Walters, GO 95 and GO 128 are rules established for overhead and underground electric design, safety and maintenance. GO 165 established inspection cycles for electric distribution facilities intended to assure reliable, high-quality and safe operation of the electric system through ongoing compliance with GO 95 and GO 128.

The Corrective Maintenance Program Manual describes in detail SDG&E's corrective maintenance activities and provides direction to individuals in the field that undertake this work. I have attached the Corrective Maintenance Program Manual that was in effect prior to the 2007 wildfires as Appendix 2. The Corrective Maintenance Program Manual explains which facilities (*e.g.*, overhead, underground, pad-mounted) are subjected to each type of inspection, and specifies inspection cycles for each.

Under SDG&E's Corrective Maintenance Program, SDG&E conducts three basic types of inspections of distribution electrical facilities:

(1) Patrol inspections;

(2) Detailed inspections; and

(3) Intrusive inspections.

Q. Can you describe how a typical inspection occurs?

A. Yes. There are three types of inspections, but for purposes of this discussion, I will focus on patrol inspections and detailed inspections. Intrusive inspections relate to ensuring poles do not fail structurally, and are irrelevant here because there has been no allegation of pole failure in connection with any of the 2007 wildfires.

Patrol inspections are simple visual inspections, designed to identify obvious structural

problems and hazards.[2] Patrol inspections can be drive-by, fly-by, or walk-by patrols of SDG&E facilities. In the case of a patrol inspection, a Troubleshooter is assigned an area of electric facilities to inspect. The Troubleshooter examines those facilities looking for apparent structural problems and hazards, such as damaged cross-arms and badly leaning poles. Any potential infractions or conditions are recorded for follow-up.

GO 165 defines a "detailed" inspection as "one where individual pieces of equipment and structures are carefully examined, visually and through use of routine diagnostic tests, as appropriate, and (if practical and if useful information can be gathered) opened, and the condition of each rated and recorded."[3] In SDG&E's detailed overhead inspections, Line Checkers or Journeyman Lineman perform thorough inspections from the ground of distribution poles and all attached facilities, including guy wires, phase conductors, and third-party facilities (*e.g.*, third-party conduits passing through climbing space on a pole). In the case of a detailed inspection, a Line Checker or Journeyman Lineman is again assigned a group of facilities to inspect. During these inspections, the inspectors perform a thorough check of all facilities to identify GO 95 infractions and conditions that do not comply with SDG&E's overhead distribution construction standards. They also identify reliability and discretionary conditions that can affect system reliability. For instance, during an overhead detailed distribution pole inspection, inspectors would look for issues such as a broken cross-arm, idle hardware, broken or damaged insulators, conductor clearance issues, corroded or damaged transformers, a loose guy wire, or missing visibility strips.

Q. In your previous answer, you mentioned Troubleshooters and Line Checkers. Could you briefly describe the function of each, and the training they receive?

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[2] *See* GO 165, Appendix A at page A-1.

[3] *See* GO 165, Appendix A at page A-1.

A. Yes. Troubleshooters are journeymen linemen and are among the company's most highly skilled employees. In addition to performing patrol inspections, Troubleshooters are first responders and are trained to recognize and resolve safety hazards. Line Checkers are based out of Districts, and their primary function is to inspect overhead distribution conductors. They receive training in SDG&E's Corrective Maintenance Program Manual, GO 95, relevant Electric Standard Practices and Construction Standards, inspection codes, equipment, as well as on the job training with experienced Line Checkers. Troubleshooters receive this training too, and they also have an extensive amount of additional classroom, skills and on the job training.

Q. What happens if a problem or infraction is detected during an inspection?

A. Once a problem is identified and recorded to our database, software is used to schedule, dispatch, track and record the necessary repair work. Our goal is to complete such repairs within 12 months from the time of inspection, and often they are completed sooner. But, if a particular condition requires immediate attention because it poses a public safety hazard – such as a broken cross-arm or downed pole – SDG&E will expedite the process to complete the repair as soon as possible. For problems posing immediate safety concerns, the repairs are normally completed that same day. To this end, inspectors are trained to contact supervisors immediately when such a problem is detected. An inspector will stay on site until an electric crew can arrive to make the situation safe.

Q. How would you describe the quality of the Corrective Maintenance Program?

A. I believe that the quality of this program has been very high since its creation in 1998, including in the years prior to the 2007 wildfires. The CPUC annually reviews SDG&E's distribution Corrective Maintenance Program through a compliance audit process conducted by the SED. This audit process involves document reviews of records from each of the SDG&E six

District offices and two satellite operating centers; and a physical inspection in the field of the facilities selected as part of the audit sample. The results of these audits pre-October 2007 were consistently favorable.

Second, the accuracy of our program is constantly verified and maintained through regular internal audits. For example, field audits are performed every quarter by the District Construction Supervisors. During those audits, a percentage of all inspected and repaired facilities are re-inspected and the findings documented. These audits find discrepancies and the few findings are used as learning opportunities for the inspectors and crews.

Similarly, the Compliance Management Group performs District audits periodically, where they analyze the maintenance and inspection data and review subsets of recently inspected, repaired, and new construction work. Findings are reported back to the Districts and the appropriate follow-up is documented. We perform very well in these audits.

These audits show the effectiveness of SDG&E's inspection and maintenance program and are used to look for opportunities for enhancing the Corrective Maintenance Program inspector training where necessary.

Q. How does SDG&E's program compare to that of other utilities?

A. Our program is more stringent. Prior to October 2007, while I was managing the Corrective Maintenance Program, I had the opportunity to meet on several occasions with representatives from other utilities to discuss the possibility of a Common Platform – or practices and procedures that could be put in place for all of the California investor owned utilities. Through this process, I realized that SDG&E's program was "stricter" in that it: (1) was more conservative on substructure (or below surface) inspections and wood pole intrusive inspections; and (2) had a faster time frame for resolving issues identified in inspections (12 months vs. 3-5

years). Indeed, our 12 month time frame is even faster than that proposed in a 2007 Memorandum of Understanding proposed by the Consumer Protection and Safety Division (now SED), in which it recommended follow-up timeframes going up to 35 and 59 months.

Q. Aside from using the results of audits as an ongoing training tool, how does SDG&E make sure that its Corrective Maintenance Program stays up to date?

A. We continually strive to adopt any new "best practices" used in the utility industry. SDG&E has participated in industry work groups where inspection and maintenance best practices are discussed, including, the Centre for Energy Advancement through Technological Innovation ("CEATI"), National Electric Energy Testing Research and Application Center ("NEETRAC"), Electric Power Research Institute, Western Underground Committee, and Transmission and Distribution Maintenance Management Association. Between 2012 and 2014, I personally attended ten different meetings, workshops, and conferences where industry practices were discussed. For example, I attended a NEETRAC Management Board meeting, a Modern Solutions conference, a Marcus Evans T&D Summit, the IEEE T&D Expo, two CEATI Transmission Line Asset Management group meetings, and a DistribuTech meeting, all of which involved discussion of utility "best practices." I have also met with other utilities to share best practices related to proactive pole loading assessment programs. In 2013, I traveled to Washington DC to meet with the Department of Energy, Homeland Security, and other utility representatives across the United States to discuss the topic of Grid Resiliency. SDG&E has been participating in such industry groups and events since prior to the 2007 wildfires, and through this ongoing participation, SDG&E stays current with industry best practices, shares lessons learned, learns about successes at other utilities, and shares our successes with other utilities. New "best practices" learned are incorporated into our program.

Q. Has the quality of SDG&E's maintenance and inspection activities been recognized?

A. SDG&E has repeatedly received recognition from PA Consulting Group for outstanding reliability. Reliability is a byproduct of many things, but having a quality inspection and maintenance program is a key factor. When the maintenance program works reliably so does the system.

PA Consulting is an independent employee-owned firm with over 30 years' experience with specific expertise energy, among other areas. It works with business and governments worldwide. Over time, PA Consulting has awarded SDG&E three separate awards. First, SDG&E has been awarded the "Best in the West" award for electric reliability every year since 2006 (for 2005 performance). Second, SDG&E was awarded the national ReliabilityOne award for outstanding reliability performance for calendar years 2009 and again in 2014. Third, SDG&E was awarded for calendar year 2007, PA Consulting's Outstanding Response to a Major Outage Event.

SDG&E has also received the "Top Ten Best North American Utilities" award for smart grid development from Greentech Media, SDG&E was named "Most Intelligent Utility" for three years in a row by Intelligent Utility magazine, and received POWER Magazine's prestigious "2012 Smart Grid Award" for the nation's most advanced smart grid.[4] From SDG&E's perspective, these awards are the result of a comprehensive approach to improving the quality of the electric system through a myriad of activities, including inspection and maintenance.

SDG&E's Corrective Maintenance Program has also drawn the attention the Korea Electric Association ("KEA"). On July 10, 2007, SDG&E met with KEA representatives at

[4] http://www.sdge.com/newsroom/press-releases/2013-04-10/sdge-receives-smart-grid-award-praised-using-technology-promote

KEA's invitation to discuss SDG&E's program. KEA was tasked with revising Korea Electric Power Company ("KEPCO") distribution management standards, and the KEA representatives indicated that they would be using information gained from the meeting to enhance KEPCO's inspection and maintenance program. The topics discussed that day included regulatory requirements in California, SDG&E's Corrective Maintenance Program, hardware and software used by field employees, and SDG&E's approach to dealing with aging facilities.

B. SDG&E's Inspections of Distribution Facilities Linked to the Guejito Fire

Q. Please describe the facilities that Cal Fire linked to the origin of the Guejito Fire.

A. According to Cal Fire, the Guejito Fire originated in the Guejito Creek drainage on the south side of State Route 78 in the San Pasqual Valley in San Diego County. Cal Fire's Investigation Report concluded that the fire started when a lashing wire from a Cox Communications cable blew up into energized power conductors in high winds. The SDG&E power line, or circuit, consisted of three 12 kV conductors spanning between Poles P196387 and P196394.

Q. What inspections had SDG&E done of those facilities prior to the Guejito Fire?

A. Under GO 165, Poles P196394 and P196387 are located in an area defined as rural, which means patrol inspections were performed every two years in accordance with GO165 requirements in effect at that time.[5] In the case of P196394 and P196387, the most recent SDG&E patrol inspection prior to the Guejito Fire was done on August 30, 2007, and no areas for follow- up or hazards were identified. Also in accordance with GO 165, SDG&E conducted detailed overhead visual inspections of its facilities (OHVI or "detailed overhead inspections") every five years. The most recent detailed overhead inspections prior to the Guejito Fire were

[5] GO 165 has since been modified to increase patrol frequency within Extreme and Very High Fire Threat Zones.

conducted on June 22, 2007 (for Pole P196394) and April 8, 2005 (for Pole P196387). Other than missing or damaged high voltage or warning signs (which were repaired), no conditions were noted in these inspections.

Q. Do you believe that any design or construction issues with respect to these facilities may have contributed to the Guejito Fire?

A. No. I have examined the historical design and construction documents pertaining to this span, and I have spoken with the Project Management and Standards groups at SDG&E regarding these facilities. Based on that information, I have concluded that the facilities were designed and constructed in compliance with the applicable standards in place at the time. More importantly, the SDG&E span was designed and constructed before Cox installed its facilities (which were attached to the pre-existing SDG&E poles), and it appears to have been problems with Cox facilities, not SDG&E facilities, that led to ignition of the Guejito fire.

IV. SDG&E'S STANDARDS FOR TRANSMISSION FACILITIES

Q. What experience do you have with respect to SDG&E's standards and procedures in place for design, inspection and maintenance for transmission lines?

A. For most of my career at SDG&E, I have been involved in the design, development of standards and specifications, capital improvements, and maintenance on the electric transmission and distribution system. While in transmission-related positions (Civil Structural Engineering and Transmission Engineering & Design), I worked closely with the Transmission Construction & Maintenance ("TCM") group to execute capital maintenance projects resulting from TCM patrols and to enhance maintenance related procedures. I also worked with TCM skilled personnel for design review of facilities, and collaborated with TCM on overall transmission system improvement efforts. I also collaborated with TCM during my time on the Program

Management Team on issues such as inspection and maintenance of facilities. As a result of this experience, I am very familiar with SDG&E's standards and procedures in place today and prior to the October 2007 wildfires for design, construction, inspection, and maintenance of the transmission system.

A. Electric Transmission Design and Construction Standards

Q. Please describe SDG&E's design and construction standards for electric transmission facilities.

A. Electric transmission design and construction standards are created and maintained by the Transmission Engineering and Design Group, which is a group I managed for approximately three years.

SDG&E designs the structures that support and carry transmission conductors, and we specify the conductors and all the hardware that will be used in the construction of the facilities. This design work is performed according to standards that SDG&E has developed. New transmission facilities are typically designed by a Transmission Designer, reviewed by a Transmission Engineer, reviewed by a Principal Engineer, and then reviewed and approved by the Transmission Engineering & Design Manager. These multi-layer reviews provide a high level of quality assurance for transmission designs.

Construction is also performed according to SDG&E's standards. SDG&E employs crews made up of experienced foremen, linemen, equipment operators and line assistants. Working foremen and linemen are responsible for the construction. In addition, SDG&E's standard drawings are distributed to the construction crews with each job. SDG&E's crew foreman carry copies of SDG&E's construction standards and are responsible and trained to follow the construction standards and standard practices. As standards are created or updated, training is conducted and notifications are today sent to appropriate personnel.

Q. How do SDG&E's transmission design and construction standards relate to the Commission's General Order requirements?

A. GO 95 and GO 128 contain extensive requirements for the design, construction and maintenance of overhead and underground lines, including with respect to issues such as strength of materials to be used; construction of poles, cross-arms and conductors; conductor sags; joint poles; communications lines; clearances; and many others. SDG&E's standards are intended to comply with GO 95 and GO 128, and SDG&E ensures that the standards meet or exceed GO requirements in all respects.

Q. Does SDG&E ever modify or update its transmission design and construction standards?

A. Yes. Since before the 2007 wildfires, SDG&E has periodically modified the transmission construction standards based on new information, including a more thorough understanding of local conditions, updated system knowledge, design criteria changes, and benchmarking with other utilities, engineering consulting companies, or industry workgroups. For example, after the 2007 wildfires, SDG&E developed wood-to-steel construction standards to further reduce fire risk on the transmission system. Going beyond GO 95 requirements, SDG&E also substantially increased conductor clearances for the 69 kV system and adjusted pole loading requirements to line up with the Extreme Wind loading case in the National Electric Safety Code.

Q. How would you describe the quality of SDG&E's transmission design and construction standards?

A. I believe that the quality of the Electric Transmission Standards is very high. SDG&E's published standards meet or exceed GO 95 (rules for overhead electric line construction) and GO 128 (rules for construction of underground electric supply and communication systems) requirements. Some examples of where we exceeded applicable regulations prior to October 21,

2007 (and today) include vegetation and line clearances, embedment depth of poles, and loading conditions.

B. Transmission Inspection and Maintenance Standards

Q. Please describe SDG&E's inspection and maintenance program for transmission lines.

A. SDG&E has a comprehensive inspection and maintenance program, called the Transmission Line Maintenance Practice. The Transmission Line Practice is intended to promote safety and reliability through timely inspection and maintenance of the transmission facilities.

SDG&E's Transmission Line Maintenance Practice program utilizes aerial patrols performed by SDG&E annually, annual infrared patrols, and detailed ground inspections every three years to ensure GO compliance and the general safety of SDG&E facilities. Similar to the distribution Corrective Maintenance Program I discussed earlier, conditions found during inspections are generally remedied within 12 months. Under the Transmission Line Maintenance Practice, if any safety or reliability hazard is identified, it is remedied expeditiously.

Q. Who performs inspections of transmission facilities?

A. Transmission patrolman. The Transmission Patrolmen have extensive training and experience (generally having spent years working with journeymen linemen on SDG&E crews), and are very familiar with SDG&E and GO 95 standards and requirements, with transmission construction, and with inspection and maintenance requirements set forth in the Transmission Line Maintenance Practice.

Q. Can you describe what the transmission patrolmen are looking for in the course of their inspections?

A. The patrolmen look for hazards, signs of deterioration on line elements, missing signage

and GO 95 non-conformances, including insufficient clearance. If conditions of concern, deterioration or non-conformances are identified, the Patrolman enters the data into SDG&E's inspection tracking system. They also assign a severity code to the condition. If something is potentially an immediate safety concern, the Patrolman notifies his Supervisor or Grid Operations and makes sure the area is made safe. The procedures mirror what is done for distribution patrols, which I described above.

Q. How would you describe the quality of SDG&E's transmission inspection and maintenance activities?

A. I believe the quality is very high. The quality of our program today and in years pre-dating the 2007 wildfires has been verified through several quality assurance mechanisms. The Transmission Construction & Maintenance group has monthly meetings with the Patrolmen and the Operations & Engineering Manager where possible field conditions are reviewed, as well as inspection procedures. Transmission Construction & Maintenance Supervisors occasionally audit inspections as well as construction activities, to ensure compliance with the Transmission Line Maintenance Practice and SDG&E's standards. Transmission Construction & Maintenance Managers also occasionally perform ride-alongs with the Patrolmen as an added quality assurance measure. On occasion, internal audits are done to confirm compliance with the General Orders as well as other State and Federal regulatory requirements.

Q. Have third parties audited or reviewed SDG&E's transmission inspection and maintenance practices and activities?

A. Yes. SDG&E's Transmission Line Maintenance Practice was originally submitted to the CAISO on January 1, 1998, and was subsequently reviewed and adopted by the CAISO. The CAISO and CPUC review SDG&E's adherence to the Transmission Line Maintenance Practice

on an annual basis. The CAISO's annual review sample includes 10% of SDG&E's transmission system. The CAISO's annual reports for maintenance reviews for the periods 2002 through 2008 letters were consistently favorable. Beginning in 2013, the SED began auditing the Transmission Line Maintenance Practice in addition to the Corrective Maintenance Program.

Due to SDG&E's high performance, the CAISO determined that its annual review of SDG&E in 2011 was not necessary. Similarly, the SED found that it did not need to undertake it audit review of SDG&E for 2015. As with the distribution system, the transmission system reliability has been remarkable. Excellent reliability is not only a result of capital enhancements, it is the direct result of having a quality maintenance program in place, as well as high-quality design and construction standards.

In addition, since 2008, the Western Electric Coordinating Council ("WECC"), the jurisdictional authority for NERC in California, has reviewed SDG&E's adherence to these maintenance practices every three years, including other mandatory reliability requirements. As a result of these periodic post-2007 reviews, WECC has determined that SDG&E has been in compliance with these mandatory reliability requirements. Prior to 2008, WECC's compliance reviews pertained to compliance with voluntary or non-mandatory reliability requirements, including these transmission and substation maintenance practices. These reviews found that SDG&E was compliant with these voluntary standards, including SDG&E's maintenance practices.

C. SDG&E's Transmission Construction, Inspection and Maintenance Standards and Practices With Respect to the Facilities Linked to the Witch Fire

Q. Please describe the facilities that Cal Fire linked to the Witch Fire.

A. According to Cal Fire's Investigation Report, the Witch Fire began adjacent to Tie Line 637, between poles Z416675 and Z416676. Tie Line 637 and these poles are located near State

Route 78, west of Santa Ysabel in San Diego County. Cal Fire concluded that conductors in this span had come into contact with one another in extreme winds, causing hot particles that became wind-borne and landed in light grassy fuels beneath the conductors.

Q. Have you reviewed design and construction records dating back to the original construction of these facilities?

A. Yes, I have reviewed those records dating back to 1959.

Q. What have you concluded based on that review?

A. The historical design and construction documents indicate that the facilities were designed and constructed in compliance with SDG&E standards in place at the time, and that they were in compliance with GO 95.

Q. What inspections had SDG&E done of those facilities prior to the Witch Fire?

A. Over the prior ten years (from July 1996 through March 2007), SDG&E had inspected the facilities 34 times. No safety issues were noted during any of these inspections.

Q. Did these inspections turn up any issues relating to the clearance between conductors on Tie Line 637?

A. No. Prior to October 21, 2007, no clearance issues were identified through the detailed inspections or patrols listed above.

Q. What maintenance was done on these facilities prior to the Witch Fire?

A. Table 1 below sets forth the maintenance that was done on these facilities back to 1959-1960, which was of a routine nature and confirms that the facilities were safe.

TABLE 1

YEAR	WORK DONE	PROBLEMS OBSERVED
1959-1960	Original Construction	NONE
Early 1990s	Pole 76 replaced	NONE
1992	Pole 77 replaced	NONE
1996	Pole 74 cross-arms replaced	NONE
2000	Pole 75 cross-arms replaced	NONE
2007	Pole 74 replaced	NONE

Every time maintenance is done on the lines, they are checked to make sure there are no problems. Over a dozen different expert linemen worked on and checked these lines over time, and none saw any problems. Thus, SDG&E had no basis to know of the issues that were alleged to have caused the Witch Fire.

V. CONCLUSION

Q. Does this conclude your direct testimony?

A. Yes, it does.

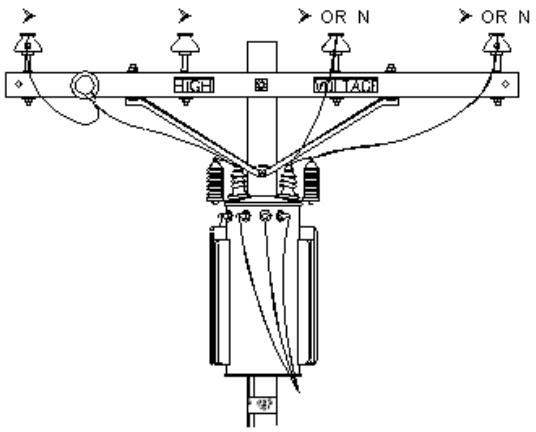
APPENDIX 1

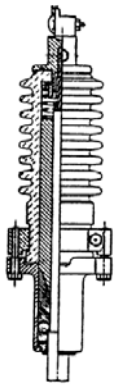
STATEMENT OF QUALIFICATIONS OF DARREN WEIM

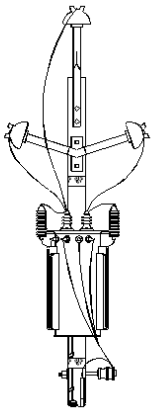
My name is Darren Weim. I received a Bachelor of Science degree in Civil Engineering, from California Polytechnic State University, San Luis Obispo, in June 2000. In July 2000, I began full-time employment with San Diego Gas & Electric Company. From July 2000 through January 2002, I took part in an engineering rotation program working in several locations around the company. From January 2002 through January 2004, I worked in the Civil/Structural Engineering group. In June 2003, I received my Professional Engineering certification in Civil Engineering. From January 2004 through August 2005, I worked in the Electric Transmission Engineering and Design group. From August 2005 through August 2007, I supervised the Corrective Maintenance Program team, or Program Management team. From August 2007 through June 2009, I was a Project Manager in the Major Projects group. From June 2009 through January 2013, I managed the Transmission Engineering & Design group. From January 2013 through December 2014, I managed the Electric Distribution Engineering group. In December 2014, I was promoted to the Manager of the Northeast Construction & Operations Center, which is my present role at SDG&E.

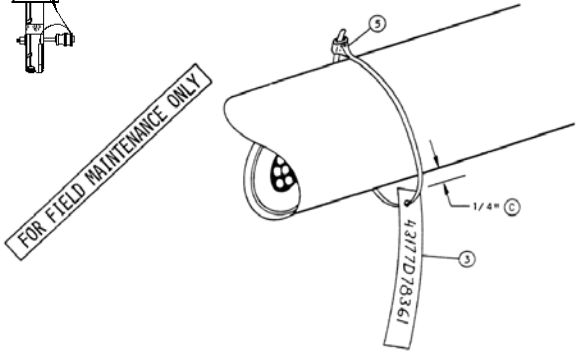
APPENDIX 2

Corrective Maintenance Manual









Prepared 6/6/2005

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I. CMP PROGRAM

A. GENERAL DESCRIPTION

SDG&E's electric distribution system consists of 12 kV, 4 kV, some 2.4 kV circuits, and 0-750V secondary and service systems. Electric Distribution Engineering through a centralized Corrective Maintenance Program (CMP) administers compliance and program oversight of maintenance of electrical distribution facilities. Inspection and follow-up repairs are performed by qualified inspectors and follow-up crews located in the six Construction and Operating centers (Districts). Follow-up repairs are also performed by Construction Services.

The CMP inspection program consists of nine different inspection categories:

- **Overhead Visual Inspections**
- **Underground Above Ground Deadfront (AGE) Internal and External Inspections**
- **Underground Above Ground Livefront (AGI) Internal and External Inspections**
- **Underground Subsurface Internal 3 year Inspections**
- **Underground Subsurface Internal 10 year Inspections**
- **Underground Oil and Gas Switch Inspections**
- **Intrusive Wood Pole Inspections**
- **Urban Patrol**
- **Rural Patrol**

For a detailed description of these cycles, refer to the SDG&E CMP INSPECTION CYCLES section of this manual.

B. GO165 REVIEW

SDG&E is required to inspect their electric distribution system according to the California Public Utilities Commission (CPUC) General Order 165 (GO165). GO 165 establishes inspection cycles and record-keeping requirements for utility distribution equipment. In general, utilities must patrol (walk, drive, or fly by) their systems once a year in urban areas and once every two years in rural areas. Utilities must conduct detailed inspections every 3-5 years, depending on the type of equipment. For detailed inspections, utilities' records must specify the condition of inspected equipment, any problems found, and a scheduled date for corrective action. Utilities are required to make intrusive inspections of distribution wood poles depending on the age and condition of the pole.

General Order 165 states "the purpose of this General Order is to establish minimum requirements for electric distribution facilities, regarding inspection…condition rating, scheduling and performance of corrective action, record keeping, and reporting, in order to ensure safe and high quality electric service…". Furthermore, GO 165 states "the requirements of this order are in addition to the requirements imposed upon utilities under GO 95 and GO 128 to maintain a safe and reliable electric system. Nothing in this General Order relieves any utility from any requirements or obligations that it has under General Orders 95 and 128."

SDG&E CMP cycles are designed according to match General Order 165 requirements. The following section describes SDG&E's CMP cycles by equipment.

C. SDG&E CMP INSPECTION CYCLES

1. CYCLES FROM SDGE'S FILED COMPLIANCE PLAN

SDG&E System Inspection Cycles
(Maximum intervals in years)
(from SDG&E's filed compliance plan)

	PATROL		DETAILED	INTRUSIVE
	Urban	Rural		
Transformers				
Overhead	Patrol1	Patrol2	OHVI 5	
Underground (Subsurface)	Patrol1	Patrol2	SS 3	
Pad Mounted (live front)	Patrol1	Patrol2	AGI 5	
Pad Mounted (dead front)	Patrol1	Patrol2	AGE 5	
Switching/Protective Devices				
Overhead	Patrol1	Patrol2	OHVI 5	
Underground (Subsurface)	Patrol1	Patrol2	SS 3	
Pad Mounted (live front)	Patrol1	Patrol2	AGI 5	
Pad Mounted (dead front)	Patrol1	Patrol2	AGI 5	
Oil & Gas switches (above or below surface)	Patrol1	Patrol2	SW 3	
Regulators/Capacitors				
Overhead	Patrol1	Patrol2	OHVI 5	
Underground (Subsurface)	Patrol1	Patrol2	SS 3	
Pad Mounted (live front)	Patrol1	Patrol2	AGI 5	
Pad Mounted (dead front)	Patrol1	Patrol2	AGE 5	
Overhead Conductors and Cables	Patrol1	Patrol2	OHVI 5	
Streetlighting	Patrol1	Patrol2	x	
Wood Poles under 15 years	Patrol1	Patrol2	x	x
Wood Poles over 15 years which have not been subject to intrusive inspection	Patrol1	Patrol2	x	Wood Pole Intrusive 10
Wood Poles which passed intrusive inspection				Wood Pole Intrusive 20

Where the cycles are:

Patrol1 Patrol cycle- one-year
Patrol2 Patrol cycle- two year
OHVI 5 Overhead five-year detail inspection
AGE 5 Above Ground Deadfront external and internal five-year detail inspection
AGI 5 Above Ground Livefront external and internal five-year detail inspection
SS 3 Subsurface internal three-year detail inspection
SW 3 Switch internal three-year inspection
POLE 10 Wood pole intrusive ten-year inspection

2. PROGRAM CYCLE SUMMARY

Program Cycle	Cycle Interval	Start Year
Overhead Visual	5	1998
Above Ground Deadfront (AGE)	5	1998
Above Ground Livefront (AGI)	5	1998
Subsurface 3 year	3	1998
Subsurface 10 year	10	1998
Wood Pole Intrusive	10	1998
Oil and Gas Switch	3	1998

3. DESCRIPTION OF MAJOR SDG&E CMP CYCLES

OVERHEAD VISUAL

- **OHVI (Overhead Visual, 5-year)**

  This cycle consists of a detailed walk-around inspection of all pole mounted facilities on distribution poles with primary and secondary conductors and distribution equipment on transmission poles. These inspections identify conditions out of compliance with GO165, GO95 or SDG&E's Construction Standards. This is a five-year cycle. For overhead condition codes identified during inspection, refer to the OVERHEAD CONDITION CODE DETAIL section of this manual.

ABOVE GROUND 5 (INTERNAL AND EXTERNAL INSPECTIONS)

This cycle consists of AGE (Above Ground Deadfront) and AGI (Above Ground Livefront) detailed external and internal inspections of deadfront and livefront padmounted facilities to identify conditions out of compliance with GO165, GO 128 or SDG&E's Construction Standards.

- **AGE (Above Ground Deadfront, 5- year)**
  This cycle consists of a detailed external and internal inspection of deadfront padmounted facilities to identify conditions out of compliance with GO165, GO128 or SDG&E's Construction Standards. This is a five-year inspection cycle. The AGE cycle originated to accommodate those structures which were 'deadfront', and required only an external inspection. This changed in 1999, such that all deadfront padmount equipment requires an external and internal inspection. The cycle is still named AGE to separate the deadfront equipment data from livefront equipment data.

- **AGI (Above Ground Livefront, 5- year)**

  This cycle consists of a detailed external and internal inspection of livefront padmounted facilities to identify conditions out of compliance with GO165, GO128 or SDG&E's Construction Standards. This is a five-year inspection cycle.

  For underground condition codes identified during inspection, refer to the UNDERGROUND CONDITION CODE DETAIL section of this manual.

Background: there are two Above Ground 5 cycles (AGE and AGI). There are two cycles because effective 7/1/1999, SDG&E agreed to open deadfront padmounted equipment as part of its Above Ground 5 inspection cycle. This change resulted because the CPUC USB interpreted the GO 128 (referenced in GO 165) such that internal inspection of these structures is required. SDG&E interpretation in the filed compliance plan of 7/1/97 was that only external inspections were required on deadfront equipment. This was under the reliance that no high voltage components were exposed. Between 1/1/1998 and 6/30/1999, SDG&E inspected AGE (deadfront) equipment externally only. There was no requirement to go back and inspect these facilities internally. It was agreed that all above ground padmounted equipment inspected after 7/1/999 would be inspected externally and internally. Therefore, the current inspection requirement is that all AGE and AGI facilities be inspected externally and internally. As a result of the original two inspection cycles (AGE and AGI), there exists two data fields, AGE for deadfront equipment and AGI for livefront equipment. SDG&E's plans to keep the data fields separate for the following three main reasons 1) to be able to evaluate deadfront equipment independently from livefront equipment 2) since some district's AGE and AGI initial paths were so different, they cannot be combined without a large impact on costs and resources 3) deadfront equipment may be inspected by one person.

In 1999, a subset population of primary handholes with tees (PHH) was moved to the SS10 cycle (with the companion population of PHH with taps). Only deadfront equipment (mostly transformers) remains in the AGE cycle.

SUBSURFACE, WITH EQUIPMENT

- **SS3 (Subsurface, 3-year)**
  This cycle consists of a detailed inspection of subsurface structures (manholes, vaults, primary handholes and subsurface enclosures) containing distribution equipment. (Thus structures with cable taps only or pass throughs only are in the SS10 cycle.) The SS3 cycle consists of a detailed inspection of these facilities to identify conditions out of compliance with GO165, GO128 or SDG&E's Construction Standards. This is a three-year inspection cycle. For underground condition codes identified during inspection, refer to the UNDERGROUND CONDITION CODE DETAIL section of this manual.

SUBSURFACE, NO EQUIPMENT

- **SS10 (Subsurface, 10-year)**
  Subsurface enclosures, vaults, handholes and manholes without equipment are not required to be inspected under GO 165. However, GO128, does require that all equipment be in safe condition. Therefore, SDG&E has implemented a 10-year inspection cycle to address these facilities. This cycle consists of a detailed inspection of these facilities to identify conditions out of compliance with GO128 or SDG&E's Construction Standards. For underground condition codes identified during inspection, refer to the UNDERGROUND CONDITION CODE DETAIL section of this manual.

SWITCH

- **SW3 (Oil and Gas Switch, 3-year)**
  This cycle consists of a specialized inspection of all subsurface and padmounted oil and gas switches, including Vista switches. This is a three-year cycle. There are approximately 2,000 switches in this cycle. The inspections were performed by Kearny Electric Construction and Maintenance prior to 2002. In 2002, the Districts began performing switch inspections. Oil samples and gas pressure readings are obtained and recorded in the Distribution Inspection and Maintenance System (DIMS). The laboratory performs analysis

of oil samples for low dielectric strength and high water content. Since the laboratory can analyze the samples in several days, field dielectric tests have been eliminated. Elimination of the field dielectric test minimizes tagging and retagging of switches if the field and lab results do not agree. DIMS stores these results with the inspection record. DIMS also tracks the status of "Do Not Operate Energized" (DOE) switches for prioritizing replacements. Other conditions out of compliance with GO128 or SDG&E's Construction Standards are identified. For underground condition codes identified during inspection, refer to the UNDERGROUND CONDITION CODE DETAIL section of this manual.

WOOD POLE INTEGRITY

- **Pole (10/20 year)**
  This inspection is performed on a 10 year cycle. Each pole is inspected visually and if conditions warrant, intrusively. Any pole 15 years of age or older is inspected intrusively. The form of the intrusive inspection is normally an excavation about the pole base and/or a sound and bore of the pole at groundline. Treatment is applied at this time in the form of groundline pastes and/or internal pastes. The 10 year cycle fulfills the requirements of GO165: 1) all poles over 15 years of age are intrusively inspected within 10 years and 2) all poles which previously passed intrusive inspection are to be inspected intrusively again on a 20 year cycle. The 10-year cycle requirements result in approximately 23,200 poles to be inspected each year.

  The wood pole integrity inspections are currently performed by SDG&E's contractor who performs routine inspections for wood pole integrity, applies wood preservative treatments and installs reinforcements (C-truss or Fiberwrap). The type of treatment is dependent upon the age of the pole, the individual inspection history and the condition. Vegetation Management administers the program.

  If a pole that appears to need replacement is found on a CMP inspection, SDG&E's contractor for wood pole integrity inspections or the Districts may bore the pole to determine if it needs reinforcement or replacement based on the remaining shell thickness.

  The choice to restore a pole rather than replace the pole is based on the strength of the pole which is measured by remaining shell thickness. SDG&E's Transmission Engineering and Electric Distribution Standards Specification for Inspection, Treatment and Reinforcement of In-Service Wood Poles (Specification NO. TE-0108 and Specification NO. 337) specifies the criteria for the rejection of a pole. It also addresses a pole's suitability for C-truss or Fiber-wrap based on the remaining shell thickness for various lengths of pole. If a pole does not have sufficient shell thickness for C-truss or Fiber-wrap, it is rejected and recommended for replacement.

PATROL, URBAN

- **Patrol 1 (urban patrol, 1 year)**
  The purpose of the urban patrol is to identify obvious structural problems and hazards. This cycle consists of drive by, fly by, or walk-by patrol of every overhead, underground and streetlight facility in urban areas. Under agreement of interpretation with the CPUC, 'urban' is defined as incorporated areas. (GO165 calls for 'urban' as those areas with 1000 persons or more per square mile). The General Order defines a patrol as a "simple visual inspection, of applicable utility equipment and structures, that is designed to identify obvious structural problems and hazards." Patrol Inspection Record forms are

used to identify obvious structural problems and hazards. Refer to the Patrol Section of this report for more details on Patrols.

PATROL, RURAL

- **Patrol 2 (rural patrol, 2 year)**
  The purpose of the rural patrol is to identify obvious structural problems and hazards. This cycle consists of drive by, fly by, or walk-by inspections of every overhead, underground and streetlight facilities in rural areas. Under agreement of interpretation with the CPUC, 'rural' is defined as unincorporated areas. (GO165 calls for 'rural' as those areas with less than 1000 persons per square mile). The General Order defines a patrol as a "simple visual inspection, of applicable utility equipment and structures, that is designed to identify obvious structural problems and hazards." Patrol Inspection Record forms are used to identify obvious structural problems and hazards. Rural patrol maps must be patrolled during the 2-year anniversary year; all even-year rural patrols repeated on even years and odd-year rural patrols repeated on odd years. Refer to the Patrol Section of this report for more details on Patrols.

4. EQUIPMENT DETAIL

EQUIPMENT DETAIL OVERHEAD

Overhead Distribution System:

Overhead Visual

Distribution Poles & Distribution Equipment	Inspection Program (in years)			
	Urban	Rural	Detailed	Intrusive
Pole	1	2	5	10, 20
Double Pole	1	2	5	10, 20
Pole Stub	1	2	5	10, 20
Crossarm	1	2	5	
Anchor/Guy	1	2	5	
Conductor	1	2	5	
Connector/Splice	1	2	5	
Transformer	1	2	5	
Switch	1	2	5	
Lightning Arrestor	1	2	5	
Fuse Holder	1	2	5	
Cutout	1	2	5	
Fixed Capacitor	1	2	5	
Switched Capacitor	1	2	5	
Riser	1	2	5	
Cable Terminal/Pothead	1	2	5	
Insulator	1	2	5	
Auto Throw Over	1	2	5	
Service Restorer	1	2	5	
Pole Hardware	1	2	5	

- **Distribution equipment on transmission poles shall be inspected and its condition recorded via DIMS/MDT.**
- **Damaged transmission poles or transmission equipment found via a CMP inspection shall be reported to Electric Const & Maintenance (Kearny) on an IO and should not be recorded via DIMS/MDT.**
- **Distribution equipment on foreign utility poles shall be inspected and its condition recorded via DIMS/MDT. If a damaged foreign utility pole is encountered with SDG&E equipment on it, send an IO to Distribution Asset Management, Joint Facilities via the Electric Supervisor and do not record the pole condition in the DIMS MDT.**
- **Hazardous tree contacts with primary level distribution or open wire secondary shall be recorded in the MDT and reported to Vegetation Management via an investigation order (I/O).**
- **Periodic testing and operation verification of capacitor controls is not performed under the CMP.**
- **Periodic testing, operation verification, and internal maintenance of service restorer and auto throw over equipment are not performed under the CMP.**

EQUIPMENT DETAIL ABOVE GROUND DEADFRONT (AGE)

Underground Distribution System:

Above Ground Deadfront (AGE)

UG Distribution Structure & Distribution Equipment	Inspection Program (in years)		
	Urban Patrol	Rural Patrol	Detailed
Pad Structure - D Facility ID			
• Pad with no Equip.	1	2	5
• Pad with following Equip.	1	2	5
• 1 Phase Xfmr (Dead)	1	2	5
• 3 Phase Xfmr (Dead)	1	2	5
• Auto Throw Over	1	2	5
• Service Restorer	1	2	5
• Boost/Buck Station (Dead)	1	2	5
• Step Up/Dwn Station (Dead)	1	2	5
• Regulator (Dead)	1	2	5
Manhole - W or Y Facility ID			
• Manhole with following Equip.	1	2	5
• 1 Phase Xfmr (Dead)	1	2	5
• 3 Phase Xfmr (Dead)	1	2	5
Prim. HH - B or W Facility ID			
• Prim. HH with no Equip.	1	2	5
• Prim. HH w/following Equip.	1	2	5
• 1 Phase Xfmr (Dead)	1	2	5
• 3 Phase Xfmr (Dead)	1	2	5
• Auto Throw Over	1	2	5
Subsurface Encl.- S Facility ID			
• Subsurface Encl. w/no Equip.	1	2	5

All AGE facilities require an internal AND external inspection.

Per Underground Standards 3211.1, W and Y facility identifiers are reserved as follows:

- **W Facility ID - Pad with 3315 or 3316 primary handhole and a pad mounted switch**
- **Y Facility ID - Pad with a complete primary manhole and a pad mounted switch**
- **B Facility ID - Handhole with pad mounted equipment (for field maintenance only)**

EQUIPMENT DETAIL ABOVE GROUND LIVEFRONT (AGI)

Above Ground Livefront (AGI)

UG Distribution Structure & Distribution Equipment	Inspection Program (in years)		
	Urban Patrol	Rural Patrol	Detailed
Pad Structure - D Facility ID			
• Pad with following Equip.	1	2	5
• Non-Oil/Gas Switch	1	2	5
• Non-Oil/Gas Group Switch	1	2	5
• 1 Phase Xfmr (Live)	1	2	5
• 3 Phase Xfmr (Live)	1	2	5
• Fixed Capacitor	1	2	5
• Switched Capacitor	1	2	5
• Fuse Cabinet	1	2	5
• Fused Switch Cabinet	1	2	5
• Terminator	1	2	5
• Boost/Buck Station (Live)	1	2	5
• Step Up/Dwn Station (Live)	1	2	5
• Regulator (Live)	1	2	5
Manhole - W or Y Facility ID			
• Manhole with following Equip.	1	2	5
• Non-Oil/Gas Switch	1	2	5
• Non-Oil/Gas Group Switch	1	2	5
• 1 Phase Xfmr (Live)	1	2	5
• 3 Phase Xfmr (Live)	1	2	5
• Fuse Cabinet	1	2	5
• Fused Switch Cabinet	1	2	5
• Terminator	1	2	5
Manhole - M Facility ID			
• Manhole with following Equip.	1	2	5
• Terminator	1	2	5
Prim. HH - B or W Facility ID			
• Prim. HH w/following Equip	1	2	5
• Non-Oil/Gas Switch	1	2	5
• Non-Oil/Gas Group Switch	1	2	5
• 1 Phase Xfmr (Live)	1	2	5
• 3 Phase Xfmr (Live)	1	2	5
• Fuse Cabinet	1	2	5

EQUIPMENT DETAIL ABOVE GROUND LIVEFRONT (AGI) (CONTINUED)

Above Ground Livefront (AGI) (Continued)

UG Distribution Structure & Distribution Equipment	Inspection Program (in years)		
	Urban Patrol	Rural Patrol	Detailed
Prim. HH - B or W Facility ID			
• Fused Switch Cabinet	1	2	5
• Terminator	1	2	5
• Auto Throw Over	1	2	5
Enclosure - E Facility ID			
• Enclosure with following Equip.	1	2	5
• 1 Phase Xfmr (Dead or Live)	1	2	5
• 3 Phase Xfmr (Dead or Live)	1	2	5
• Terminator	1	2	5
• Cable Tap with AGI Equipment	1	2	5
• Step Up/Dwn Station	1	2	5

All AGI facilities require an internal AND external inspection.

Per Underground Standards 3211.1, W and Y facility identifiers are reserved as follows:

- **W Facility ID - Pad with 3315 or 3316 primary handhole and a pad mounted switch**
- **Y Facility ID - Pad with a complete primary manhole and a pad mounted switch**
- **B Facility ID - Handhole with pad mounted equipment (for field maintenance only)**

EQUIPMENT DETAIL SUBSURFACE 3

Subsurface 3

UG Distribution Structure & Distribution Equipment	Inspection Program (in years)		
	Urban Patrol	Rural Patrol	Detailed
Manhole - M Facility ID			
Manhole with following Equip.	1	2	3
• Non-Oil/Gas Switch			3
• Non-Oil/Gas Group Switch			3
• 1 Phase Xfmr (Dead or Live)			3
• 3 Phase Xfmr (Dead or Live)			3
• Fuse Cabinet			3
• Auto Throw Over			3
• Cable Tap with SS3 equipment			3
Primary Handhole - H Facility ID			
Prim HH with following Equip.	1	2	3
• Non-Oil/Gas Switch			3
• Non-Oil/Gas Group Switch			3
• 1 Phase Xfmr (Dead or Live)			3
• 3 Phase Xfmr (Dead or Live)			3
• Terminator			3
• Step Up/Dwn Station			3
• Service Restorer			3
• Cable Tap with Subsurface 3 Equipment			3
Vault - U Vault – U Facility ID			
Vault with following Equip.	1	2	3
• Non-Oil/Gas Switch			3
• Non-Oil/Gas Group Switch			3
• 1 Phase Xfmr (Dead or Live)			3
• 3 Phase Xfmr (Dead or Live)			3
• Fixed Capacitor			3
• Switched Capacitor			3
• Fuse Cabinet			3
• Step Up/Dwn Station			3
• Auto Throw Over			3
Subsurface Encl.- S Facility ID			
Subsurf. Encl containing	1	2	3
• Non-Oil/Gas Switch			3
• Non-Oil/Gas Group Switch			3
• 1 Phase Xfmr (Dead or Live)			3
• 3 Phase Xfmr (Dead or Live)			3

EQUIPMENT DETAIL SUBSURFACE 10

Subsurface 10

UG Distribution Structure & Distribution Equipment	Inspection Program (in years)		
	Urban Patrol	Rural Patrol	Detailed
Manhole - W or Y Facility ID			
Manhole with no Equipment	**1**	**2**	**10**
Manhole - M Facility ID			
• **Manhole with no Equip.**	**1**	**2**	**10**
• **Manhole with following Equip.**	**1**	**2**	**10**
• **Cable Tap with no Equipment**			**10**
Primary Handhole - H Facility ID			
• **Prim. HH with following Equip.**	**1**	**2**	**10**
• **Cable Tap with no Equipment**			**10**
Vault - U Facility ID			
• **Vault with following Equip.**	**1**	**2**	**10**
• **Cable Tap with no Equipment**			**10**
Subsurface Encl.- S Facility ID			
• **Subsurf. Encl w/following Equip.**	**1**	**2**	**10**
• **Cable Tap with no Equipment**			**10**

EQUIPMENT DETAIL OIL & GAS SWITCHES

Oil and Gas Switches

UG Distribution Structure & Distribution Equipment	Inspection Program (in years)		
	Urban Patrol	Rural Patrol	Detailed
Manhole - W or Y Facility ID			
Manhole with following Equip	1	2	3
• Oil/Gas Switch	1	2	3
• Oil/Gas Group Switch	1	2	3
Manhole - M Facility ID			
Manhole with following Equip	1	2	3
• Oil/Gas Switch			3
• Oil/Gas Group Switch			3
Prim. HH - B or W Facility ID			
Prim HH with following Equip	1	2	3
• Oil/Gas Switch	1	2	3
• Oil/Gas Group Switch	1	2	3
Primary Handhole - H Facility ID			
Prim. HH with following Equip.	1	2	3
• Oil/Gas Switch			3
• Oil/Gas Group Switch			3
Vault - U Facility ID			
Vault with following Equip.	1	2	3
• Oil/Gas Switch			3
• Oil/Gas Group Switch			3
Subsurface Encl.- S Facility ID			
Subsurf. Encl w/following Equip.	1	2	3
• Oil/Gas Switch			3
• Oil/Gas Group Switch			3

D. SDG&E CMP GOALS

SDG&E's CMP has two internal goals: 1) inspection goals and 2) follow-up goals. The goals are outlined as follows:

CMP INSPECTION AND FOLLOW-UP GOALS

ANNUAL GOAL	"BELOW (CB)" RANGE	"MEETS (CM)" RANGE	"EXCEEDS (FE)" RANGE
1) Annual Inspections	<90%	>105.0% and 98-100%	>100 -105%
2) Follow-up A. Cumulative backlog > 10 months B. No infractions over 12 months*	<95% 0	>95.0 and <98.5% 0	>98.5% 0

***Needs to be 0 infractions over 12 months to achieve any inspection or follow-up goal. Follow up repairs should not be completed sooner than 8 months by year-end.**

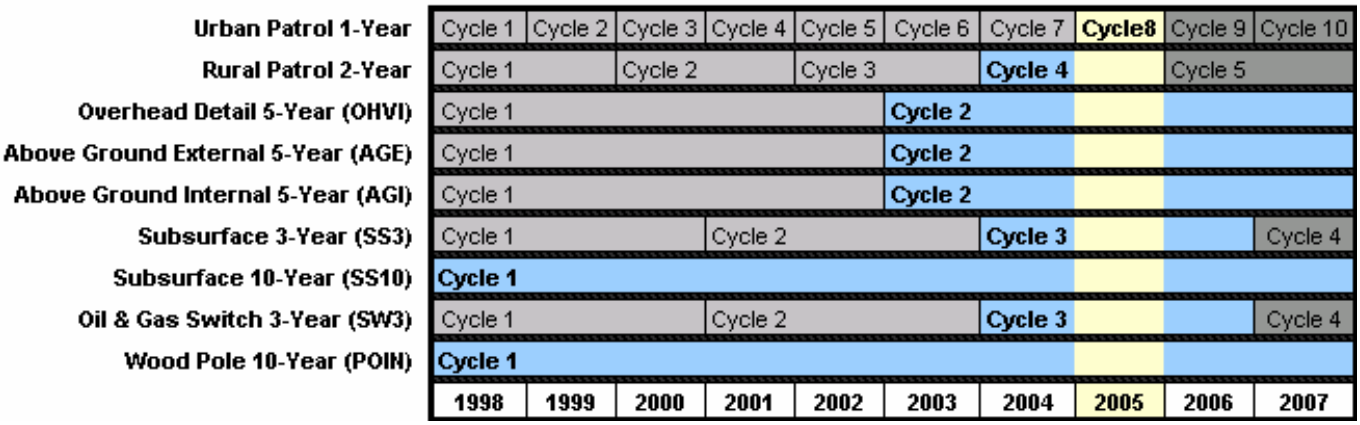
1. INSPECTION GOALS:

SDG&E has had annual inspection goals on a District/cycle basis since the beginning of GO165 inspections in 1998 established by taking the number of facilities in a cycle and dividing by the cycle length. When the second inspection cycle began, a slightly different method of establishing annual inspection goals was used. Reports are generated which indicate what facilities were inspected in the previous cycle for a corresponding year. This is the base number for establishing the goal. Additional inspections may be scheduled through the DIMS Planning tab to improve the previous path. The following table is an example of inspection goals.

EXAMPLE OF INSPECTION GOALS

	CYCLE	CM	BC	EA	NC	NE	OC	Total
PATROLS, URBAN MAPS	1	611	639	428	792	782	380	3,632
PATROLS, RURAL MAPS	2	53	-	850	62	1,284	65	2,312
OH5 FACILITIES	5	9,098	4,559	11,403	4,991	11,967	1,171	43,189
AGE FACILITIES	5	2,015	2,122	1,771	3,415	3,700	1,794	14,817
AGI FACILITIES	5	655	913	609	648	763	406	3,993
SS3 FACILITIES	3	72	58	15	30	7	54	236
SS10 FACILITIES	10	656	560	402	827	867	524	3,837
SW3 FACILITIES	3	35	171	9	96	107	54	472
Total w/o Patrols		12,531	8,383	14,208	10,007	17,412	4,003	66,544
Total w/ Patrols		13,195	9,022	15,486	10,861	19,477	4,447	72,488

The following chart shows the number of times a particular cycle has repeated



2. CMP FOLLOW-UP REPAIR BACKLOG GOALS:

SDG&E's GO 165 filing requires all infractions to be corrected within 12 months of the date encountered (the inspection date). In order not to exceed this deadline, SDG&E has an internal goal in which all infractions must be corrected within 10 months from when they are encountered. To achieve this, a 10 month cumulative backlog is monitored and it must not be less than 98.5 % to remain in the far exceeds performance category. In addition, if any infraction is not corrected within 12 months without an approved deferral, no CMP inspection or follow-up goal will have been met. Follow up repairs should not be completed sooner than 8 months by year-end. The graph on the next page depicts the follow-up repair backlog requirements.

There are six reasons that could permit deferral of an infraction under special circumstance. Refer to "SP 607, Deferring CMP Facility and Equipment Repairs" for additional information regarding deferrals.

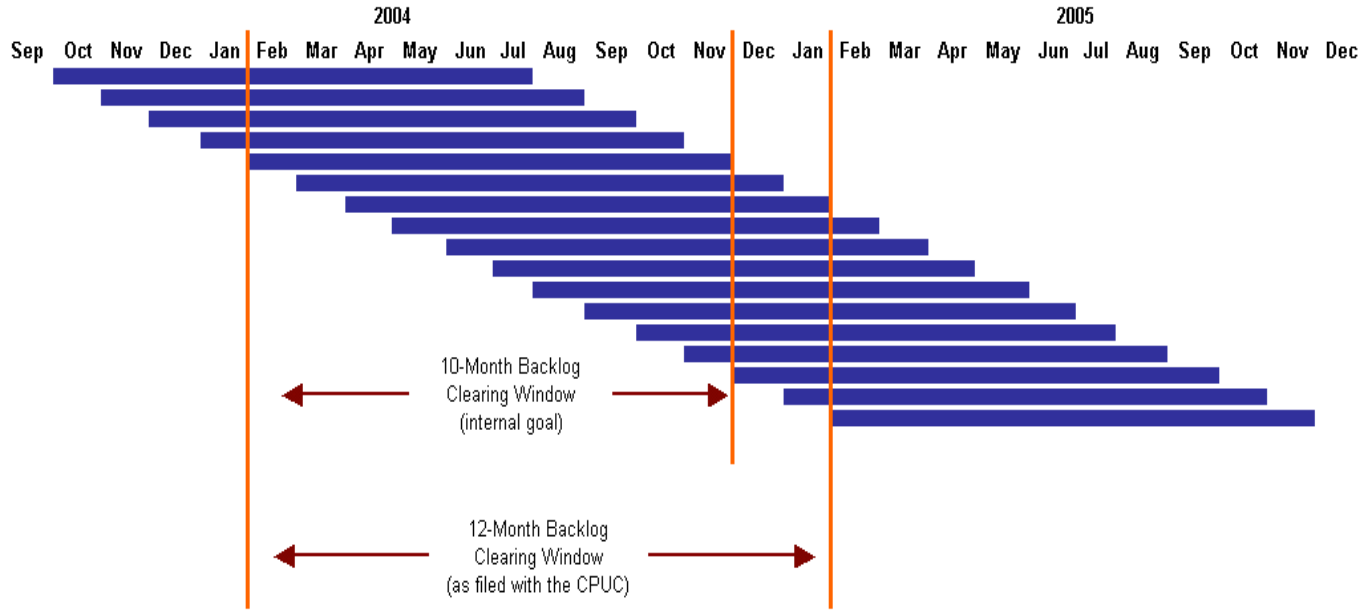
3. CMP BUDGETS:

CMP costs are captured and managed by the Districts and Electric Distribution Engineering (EDE) with the following budgets: 1) inspection and follow-up District O&M budgets 2) EDS wood pole integrity inspections O&M budget 3) EDS graffiti removal O&M budget 4) the CMP capital follow-up budget 5) the wood pole reinforcement/ replacement capital budget 6) 289 capital switch replacement budget (requires a work order).

4. SDG&E 10 MONTH FOLLOW-UP REPAIR BACKLOG MOVING WINDOW

Our filing with the CPUC for GO165 requires infractions to be cleared within 12 months of the inspection. SDG&E's own internal goals require an inspection to be corrected within the 10 month backlog clearing window. If any infraction exceeds 12 months, the CMP inspection and follow-up goals will not have been met. The following chart shows the 10-month clearing window.

Any infraction with an inspection date prior to the beginning of the bar must be cleared by the date by the end of the bar.



E. GENERAL AREAS OF CMP RESPONSIBILITIES

The general areas of responsibilities for the Corrective Maintenance Program are as follows:

1. ELECTRIC DISTRIBUTION ENGINEERING

- **Provide overall guidance and support of the CMP**
- **Establish and track goals and budgets and report periodically**
- **Create and maintain associated standard practices**
- **Guide and support districts with implementing program/compliance changes**
- **Maintain and update procedures related to the CMP**
- **Ensure inspectors and all CMP personnel are adequately trained**
- **Analyze CMP historical data to identify maintenance trends**
- **Provide support and guidance to district personnel responsible for inspection and follow-up work**

2. DISTRIBUTION ASSET MANAGEMENT

- **Submit yearly inspection progress reports to the California Public Utility Commission, as mandated by General Order 165**
- **Monitor regulatory changes and review compliance policy**
- **Assist Districts with preparation for CPUC audits**
- **Conduct Quality Assurance audits for inspections, follow-up work and new construction**
- **Guide and support DIMS enhancements and/or system changes**
- **Address DIMS/MDT or DIMS On-line systems user problems**

3. DISTRICTS

- **Effectively manage personnel performing inspections and follow-up work**
- **Provide qualified personnel familiar with CMP and DIMS to perform equipment inspections**
- **Plan, schedule and perform all facility maintenance inspections within the prescribed cycles**
- **Manage O&M and capital expenditures and budgets**
- **Use DIMS to manage, account for and report facility inspections to the central records database**
- **Ensure that safety hazards are made safe immediately**
- **Ensure inspections are uploaded nightly**
- **Evaluate the hold table for unmatched data weekly**
- **Submit GFMS mapping discrepancy transmittal (GMDT) form to EGIM for mapping discrepancies**
- **Follow standard practice procedures to inspect, report and conduct repairs**
- **Access DIMS On-Line for reports of facilities with pending abnormal conditions and:**
    - **Schedule and perform facility repairs or any necessary follow-up work**
    - **Maintain facility repair backlogs of GO related conditions not to exceed 10 months**
    - **Clear conditions in DIMS once corrected**
- **Field check wood poles, that inspection contractors identify for reinforcement, within 2 weeks of notification**
- **Decide whether to reinforce or replace reinforcement candidate poles within the 2 week period**
- **Plan and correct all poles recommended for reinforcement/ replacement, within 10 months of the inspection date**
- **Conduct quarterly quality audits of 1% of CMP inspections and follow up repairs and note deficiencies. Sample various equipment cycles (OHVI, AGE, AGI, SS3, SW3, SS10). Maintain a record of the audit for 1 year and send a copy to Compliance Management Group.**

4. INFORMATION TECHNOLOGY

- **Develop and support software for storage of CMP inspection and follow-up data in the GFMS and DIMS databases**
- **Develop and support software for management, retrieval and reporting of CMP inspection data that resides in the GFMS database**
- **Provide data backup and recovery of all CMP inspection information within the GFMS Database**
- **Develop and support DIMS software used to program inspection data collection devices such as MDT's**
- **Complete programming of DIMS enhancements**
- **Evaluate state of art software and hardware alternatives**

5. CONSTRUCTION SERVICES

- **Administer Intrusive Wood Pole Intrusive Inspection Program in conjunction with EDS staff, to ensure completion of inspections**
- **Administer the Vegetation Management program to provide clearance of vegetation surrounding SDG&E facilities**
- **Ensure accurate data is received in a timely manner from the contractor and notify EDS if not uploaded into DIMS**
- **Evaluate the hold table for unmatched data**
- **Submit packages for pole reinforcements to the Districts for approval**
- **Ensure approved reinforcements and replacements are corrected within 10 months of the initial inspection date**

a. WOOD POLE INTEGRITY CONTRACTOR

- **Ensure that all wood pole visual and intrusive inspections, reinforcements, and treatments are in accordance with SDG&E's Transmission Engineering and Electric Distribution Standards Specification for Inspection, Treatment and Reinforcement of In-Service Wood Poles (Specification NO. TE-0108 and Specification NO. 337)**
- **Ensure that all contract supervisors, foreman, and personnel are qualified to conduct intrusive wood pole inspections, reinforcement, and treatment**
- **Ensure that all crews are supervised in a manner acceptable to SDG&E**
- **Ensure that all work is performed safely and in a manner that will avoid injury to persons and damage to property**
- **Determine and report poles that need reinforcement or replacement per specifications**

- **Tag inspected poles per specifications**
- **Tag poles that are candidates for reinforcements or replacements**
- **Pole reinforcement candidates shall be reinforced with C-Truss or Fiber Wrap encasement techniques per specifications**
- **Treat wood poles with preservatives per specifications**
- **Collect all inspection and preservative treatment data via a hand-held microcomputer**
- **Report and transmit all to data to SDG&E electronically**

b. VEGETATION CONTRACTOR

- **Ensure that vegetation is cleared from SDG&E facilities to provide safe work access and reliable electric service in the most cost effective manner while maintaining positive customer relationships**
- **Respond to immediate requests to trim vegetation creating hazardous conditions**
- **Ensure that all contract supervisors, foreman, and personnel are qualified to trim vegetation whether around energized conductors or otherwise**
- **Ensure that all crews are supervised in a manner acceptable to SDG&E**
- **Ensure that all work is performed safely and in a manner that will avoid injury to persons and damage to property**

6. LAND DEPARTMENT

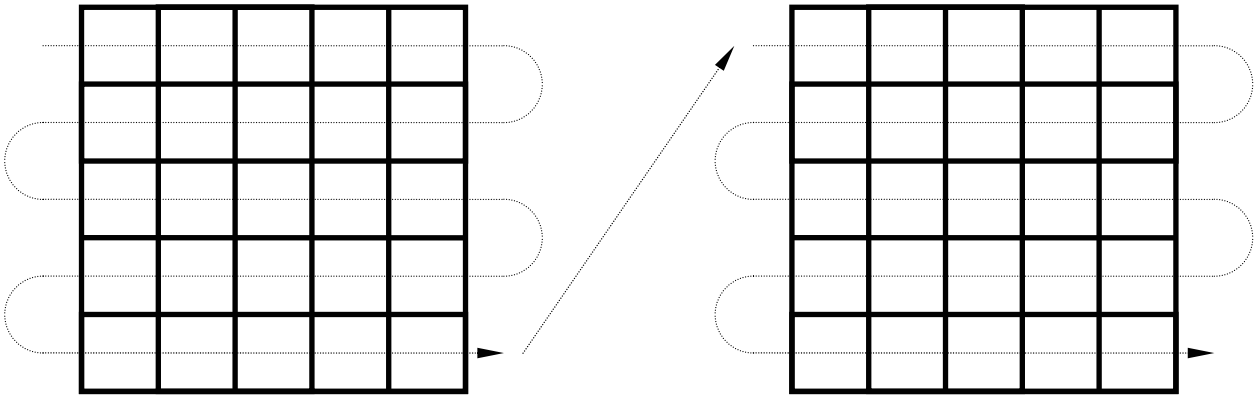
- **Resolve Right-Of-Way and easement issues with customer and other utility facilities to provide safe access to SDG&E facilities**

F. CYCLE SYNCHRONIZATION

All the cycles were restarted as of Jan 1, 1998. It is important to note that DIMS will record, but does not credit toward completion counts, duplicate inspections of the same facilities within the same cycle. Facilities that were inspected in the previous cycle for a corresponding year, are the "base" path. Additional inspections may be done, as necessary, to enhance the previous inspection path. Not all cycles have the same lengths, thus after the first few years, many cycles will be 'out-of-synch'. Care must be taken to administer these cycles accordingly.

Because of the way the General Order specifies the maximum cycle lengths, SDG&E is required to revisit facilities in the cycle anniversary year or sooner than they were originally inspected. Ideally, all inspections should be completed on the same map during the same cycle period and in adjacent maps to reduce driving time. That is, if a District inspected maps for the AGE (Above Ground Deadfront) cycle by 'rastering' from top left (northwest corner) to lower right (southeast corner) in the District maps, the next cycle begins again at the top left so as to maintain no more that the maximum cycle length between any facility. The following figure illustrates the transition from the first cycle to the second cycle.

Example of district facility maps, inspected from northwest to southeast



First cycle of GO165 **Second and subsequent cycles of GO165**

G. NEW FACILITIES

New facilities are routinely added to the system throughout the year and mapped by Electric Geographic Information Management (EGIM). These facilities will appear in GFMS with an initial installation date that is the date that the equipment was energized. In order to 'kick-off' an inspection cycle for new structures, the date energized is used to create an initial inspection date. A weekly refresh of all maps should help ensure they appear on the MDT. When field personnel find a discrepancy between what's in the field and what's on the current map, a GMDT form should be filled out and mailed to EGIM.

If the structure does not appear on the MDT, you should use the function to 'Add New Facility', and record an inspection. For details, refer to the COMPLETING GMDT FORMS AND FACILITY FIELD CHANGES TO MDTS/ MAPS section of this manual. You should do this only for new structures 'ahead' of you on maps you have not yet inspected. You do not need to go back and inspect new facilities 'behind' you on maps already inspected, but you do need to record added structures ahead of you as you encounter them. This is because you will return to those old maps in less than a full cycle, while you will not return to maps ahead of you until more than one full cycle.

Because of the way goal counts are established (using facility counts at the start of the year), we cannot anticipate the number of 'new' structures which will be added during the year. Thus the goal represents an estimate of the number of structures needing inspection to complete the cycle. Typically, up to 10% more inspections are completed than the goal count due to the new structures and pathing additions.

When calculating YTD performance, inspections for 'new' facilities are not included in the YTD "must do" inspection goals counts. The new facility counts are subtracted because DIMS automatically counts the new facility as inspected when it is digitized by EGIM. Any inspections above the "must do" goals are counted towards total inspections and inspection unit costs. Inspections should be done according to schedule using the DIMS pathing report for the most efficient path instead of as you encounter new structures.

H. INSPECTIONS - MISCELLANEOUS

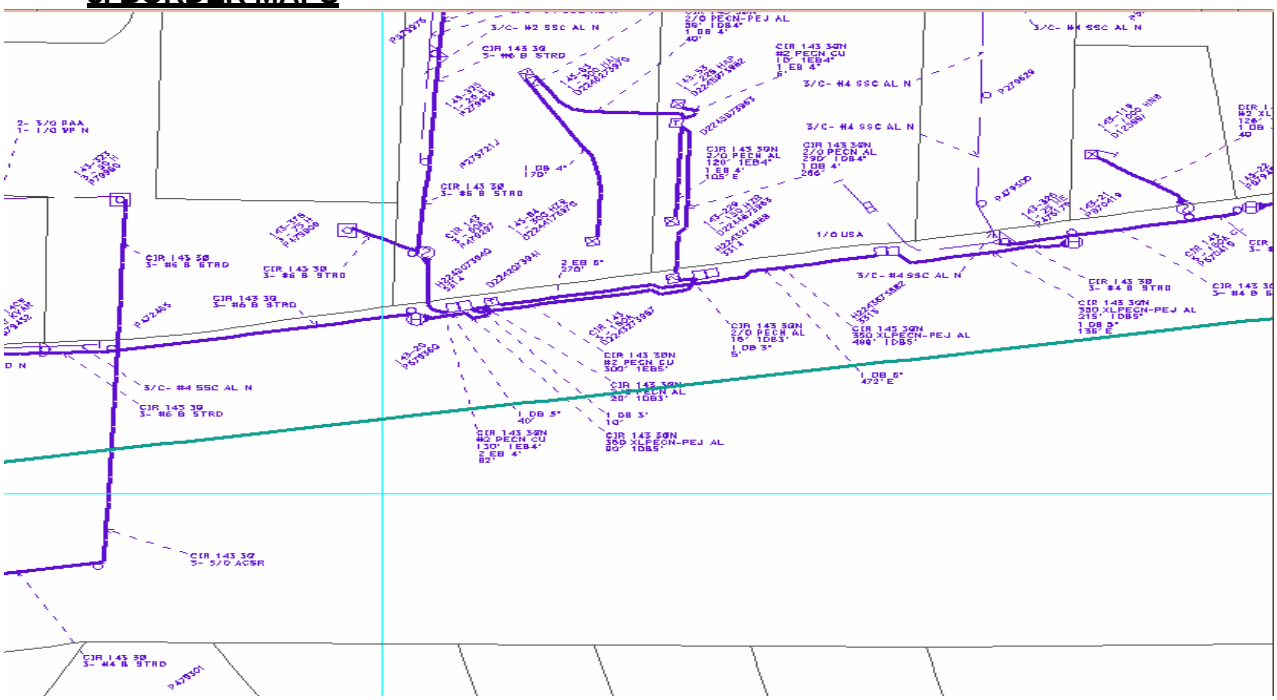
1. INSPECTION OF INACCESSIBLE FACILITIES

Facilities which cannot be inspected due to inaccessibility should be coded 19 for underground, 219 for Overhead and 401 for Foreign Utility or Private Property. These infractions should remain pending until the cause of the inaccessibility is removed and the facility is inspected.

2. UPLOAD OF INSPECTION DATA

Inspection data should be uploaded daily from DIMS/MDT to GFMS. This ensures that the actual date of the inspection is recorded. Maps should be refreshed weekly to insure the most accurate data.

3. BORDER MAPS



a. BORDER MAP INSPECTIONS

DIMS automatically assigns the map for inspection to the District based on which District is in the lower left corner of the map. In the above example, the facilities on map 224-1740 fall within the Eastern District boundary; the map's lower left coordinate is in the Metro District and therefore the map is inspected by Metro. If a condition is found that is critical, the inspector should mark as "critical" in the MDT. In addition, the inspecting District should immediately notify the owning District.

b. BORDER MAP FOLLOW-UP

Facilities with P (Pending) condition(s) will appear in the owning district's "Backlog Report" for follow-up work. In the above example, the facilities with (P) Pending condition(s) will show up in Eastern's "Backlog" Report.

10/26/2001 12:49:11

DIMS Backlog Report

Reco

From Date: 09/14/2001 **Through Date:** 09/18/2001 **Group(s):** I, R, D

Facility Id	Inspect Date	Purpose	GFMS Map	District	Emp #	Thomas Bros	DPSS No.	Equipment	Serial I
D104865	09/14/2001	General	224-1740	Eastern	35720	1269J1	000	Three Phase Xfmr	

Address: 4760 MISSIONN GORGE PL **Field Comments:** PAINT

Online Comments:

D104866	09/14/2001	General	224-1740	Eastern	35720	1249J7	000	Three Phase Xfmr	

Address: 4720 MISSION GORGE PL. **Field Comments:** PAINT–NEED DIRT

I. CMP AUDIT PROCESS

1. QUALITY ASSURANCE AUDITS:

Distribution Asset Management conducts two types of audit inspections which affect the CMP:

Inspection Audit- This type of audit follows maps which have been recently inspected, but not yet corrected. The facilities are selected randomly and this could include structures coded as 99, "no repairs needed". This audit is to determine completeness of the inspection process.

Correction Audit- This type of audit covers maps which have been inspected AND corrected. This audit is to determine the completeness of repairs made to facilities which were reported during the inpsection process.

2. QUALITY CONTROL AUDITS:

Each District performs a periodic Quality Control audit of their CMP.

J. THIRD PARTY FOLLOW-UP PROCEDURES

Various third party follow-up procedures are listed in this section.

1. EGIM GMDT FORMS- Forward completed GMDT forms to EGIM as per the COMPLETING GMDTS FORMS AND FACILITY FIELD CHANGES TO MDTS & MAPS section in this manual.

2. FOREIGN UTILITY/PRIVATE PROPERTY INFRACTIONS- Foreign Utility or Private Property caused infractions are recorded under the 400 series codes. Refer to the OVERHEAD CONDITION CODE DETAIL and the UNDERGROUND CONDITION CODE DETAIL in this manual for descriptions of each code. Foreign Utility codes are entered into the MDT and an IO (Investigation Order) form is sent to Distribution Asset Management, Joint Utilities.

For obstruction of structures (code 401, inaccessible) caused by pedestals of foreign utilities, code in MDT as 401- Inaccessible due to foreign utility, turn in an IO to Distribution Asset Management, Joint Utilities. Once the cause of the inaccessibility is cleared, the facility must be inspected. Leave code 401 pending until the facility is inspected.

Do not report pole-related infractions on poles which are not owned by SDGE in DIMS/MDT. Instead, send an IO to Distribution Asset Management, Joint Utilities. Distribution equipment on foreign utility poles must be inspected and its condition recorded in the DIMS/MDT.

3. TRANSMISSION- DISTRIBUTION EQUIPMENT- Any distribution equipment on transmission poles shall be inspected and its condition recorded via DIMS/MDT. Damaged transmission poles or transmission equipment found via a CMP inspection shall be reported to Electric Const & Maintenance (Kearny) via an IO to the Electric Supervisor and should not be recorded in the DIMS/MDT.

4. ABANDONED FACILITIES- Refer to "SPM 200, Abandoned Facilities" for follow-up related to abandoned facilities. Use code 238 for abandoned facilities such as poles and conductors owned by SDG&E. Use code 438 for foreign utilities equipment not transferred to new replacement pole. Use code 239 for idle equipment such as transformers, transformer insulators, mounting bolts, steps deadends, clevises and hardware.

[Note: Abandoned cable is different than abandoned facilities. Typically, the cable is rerouted and this is not a change in service to a customer. The old cable should be removed as part of a job when cable is rerouted in a separate conduit. In rare cases, when cable cannot be removed and is abandoned in place, the cable should be cut flush with the conduit and the conduit sealed. In order to avoid dig-ins, the map needs to be updated to show "abandoned cable". When an abandoned cable is encountered by an inspector and it is not abandoned as described above, the inspector should code as 58, "infraction, no applicable code" to correct the condition.]

5. TREE TRIM/ VEGETATION INFRACTIONS- All series 300 codes, code 219 and 19 due to trees/vegetation should be recorded in the MDT. In additon, codes 219 and 19 require an IO to

Vegetation Management for structures that are inaccessible and cannot be inspected. Refer to the OVERHEAD CONDITION CODE DETAIL and the UNDERGROUND CONDITION CODE DETAIL in this manual for a description of each code.

Vegetation Management is responsible for correcting all tree/vegetaion infactions entered into DIMS/MDT. It is the responsibility of Vegetation Management to notify the appropriate District personnel when an infraction has been corrected so that the appropriate District personnel can clear the infraction in DIMS.

6. GUIDELINES/FLOW OF VEGETATION REFUSAL AND DEFERRALS

- **The C&O CMP personnel and Vegetation Management (VM) should try to resolve all private property vegetation issues identified by CMP inspections**
- **Upon refusal by the owner, VM will send an Investigation Order to Land Management (LM)**
- **LM will try to resolve the matter within the 10-month backlog goal for the Corrective Management Program.**
- **If within the 10-month period LM cannot resolve the matter, LM will notify the C&O Center. (The C&O should be monitoring their backlog keeping track of when the facility involved is due)**
- **If the facility in question is going to exceed 10 months, the C&O Center can request a Deferral from Distribution Compliance Management (DCM)**
- **DCM will review the request and either Approve or Deny the request**
- **DCM will forward this information to the CMP team with Electric Distribution Services**
- **If a deferral is approved the EDS CMP team will make the notation in DIMS that the facility is in a Deferred status**
- **Once LM has resolved the infraction, LM will notify DCM. DCM will forward that information to the C&O Center, the C&O Center will clear the infraction in DIMS**

7. SDG&E OWNED STREET LIGHTS- Street lights are patrolled as part of the routine urban and rural patrol, but are repaired through Mass Market Billing, Street Lights. Dusk to dawn lights on SDG&E poles are visited during the overhead detailed inspection. Report dusk to dawn and ornamental street light conditions to Mass Market Billing, Street Lights with an IO via the Electric Supervisor.

8. DEFERRALS- Refer to "SP607, Deferring CMP Facility and Equipment Repairs" for details.

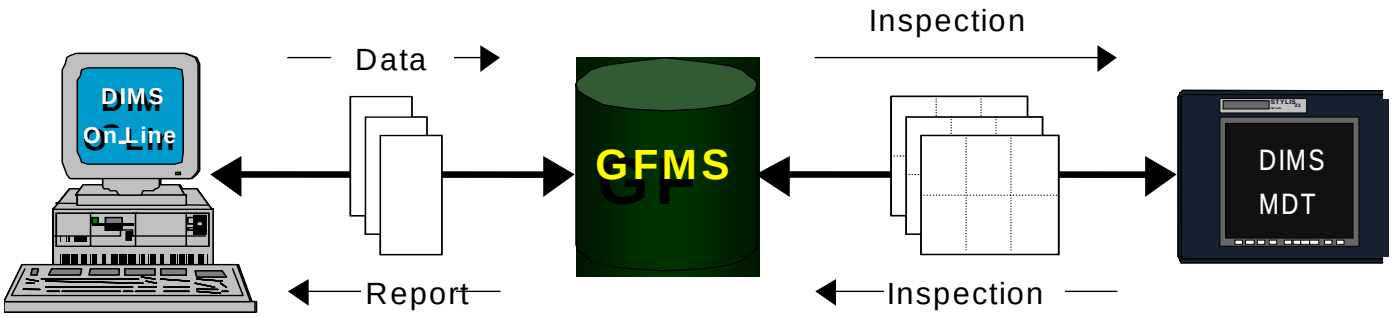
9. HAZMAT- In the event hazardous material evaluations must be made, or contaminated soils or materials must be transported, call the Environmental Services, Environmental Operations Supervisor at 858-549-6515. This includes testing and evaluation of severely leaking transformers.

K. CMP AND DIMS

1. GENERAL

The Distribution Inspection & Maintenance System (DIMS) is an integrated electronic data collection and reporting system composed of two major sub-systems- 1) DIMS Mobile Data Terminal (MDTs) for field deployment of MDTs and 2) DIMS On-line which provides access to inspection and follow-up data. DIMS is used to manage the Electric CMP Program through the use of GIS (GFMS) maps/records. DIMS On-line GFMS/DIMS provides two major functions: 1) the clustering, cycling and tracking of inspection work within standard 2,000' x 3,000' Inspection Maps and 2) the repository of inspection records at corresponding GIS facility locations which is used to issue follow-up repair work and provide general information about inspection results.

The MDT application automates both the field deployment of inspection maps, as well as, inspection tracking, recording and update of the GFMS database. DIMS On-line, provides a mechanism for viewing and modifying the inspection data, clearing infractions, querying inspection data, maintaining validation tables and requesting a variety of standard reports including inspection cycle progress and follow-up repair status.



In addition, the Wood Pole Inspection, Reinforcement, and Treatment data, is maintained in a separate file supplied by the Wood Pole Integrity contractor. The required data is transferred to DIMS as inspections are completed and data verified.

2. DIMS HOLD TABLE

DIMS MDT uses maps which are generated by GFMS. Map files for DIMS are refreshed weekly. This can cause a lag time between what is in the field and what is on the map.

All inspection records that do not have a matching facility number in DIMS/ GFMS are placed in a 'hold' file/table in DIMS. This hold file/table is compared nightly to GFMS for new matches. For example, when EGIM completes digitizing of a new facility, a match will be made with the data in the hold file and the inspection record is then moved into the GFMS database (and then DIMS) to show that the structure has been inspected.

It is therefore possible that a structure will not be digitized into GFMS until some time after an inspection has taken place, and that the inspection will rest for this time in the 'hold' file/table. If the condition status is cleared (C) or field cleared (F), the original inspection date will be retained. If the

condition status is pending (P) or critical (R), then the date of the match is used as the inspection date and the actual inspection date is put in the on-line comment field.

Because of this, it is possible that an inspection will 'pop up' in DIMS On-line much later, without having appeared on the backlog report for several months. This should be a rare occurrence, but may happen nonetheless.

To prevent the delay of correcting any condition reported on a record which rests in the hold file, report conditions found on any structure that you must manually add to DIMS to your Electric Supervisor. These may not appear immediately in DIMS On-line backlog. By notifying the Electric Supervisor at the time the inspection is made, the corrective action can be planned separately from the backlog report. In addition, the hold file should be reviewed weekly by District personnel.

It is possible that a structure in the field will be encountered that does not appear on your DIMS map. This is the purpose of the 'Add Facility' button on the 'DIMS Inspections' screen. This allows you to complete an inspection and receive credit for it, even though it does not appear on the DIMS map. Refer to the COMPLETING GMDT FORMS AND FACILITY FIELD CHANGES TO MDTS/ MAPS section of this manual for details on adding, removing or changing a facility on a map or MDT and completing a GMDT form.

3. DIMS COMMENT FIELDS

DIMS provides two comment fields which are used in the CMP program: a 'field' comment and an 'online' comment. The field comment is gathered during the inspection process on the MDT, the online comment is gathered during a DIMS On-line session. The field comment is locked and not editable with DIMS On-line. The online comment is editable at any time.

An important note in the way the field comment is gathered: DIMS/MDT allows only one comment for each structure or piece of equipment to be passed to DIMS On-line. There is not a separate comment for each infraction on the same structure or equipment. This is because DIMS actually keeps all the condition codes on a single record (for the structure or piece of equipment) in the MDT. It is during the transfer to DIMS On-line that this line is broken up into separate lines shown in the 'Clear Infractions' screen. The comment is replicated each time and is the same for each infraction on the structure or equipment. Thus, if you record more than one infraction against a transformer and a comment, DIMS On-line will show that same comment in each separate infraction line for that transformer. The comments can be different for the structure and separate pieces of equipment for underground only. Code 151 can be used for additional comments for underground facilities as an extension of another code only.

4. DIMS REFERENCES

- **DIMS MDT User Guide**
- **DIMS On-Line User Guide**
- **These manuals can be obtained on SDG&E Intranet**
- **http://utilinet.sempra.com/departments/etdp/services/SysSupportDev/DIMS.cfm**

5. DIMS INSPECTION MATRIX

The following table lists the required inspection type and sub type for all equipment and structures which require inspection under GO165. The inspection type and subtype determine

the inspection cycle. The DIMS MDT Extract software, DIMS MDT Application software and DIMS On-line reporting software use this table to determine the required inspection cycle for a given piece of equipment or structure.

INSPECTION MATRIX

Structure Type	Structure Code	Above Ground	Equipment Type	Equipment Code	Oil_Gas Unknown	Dead front	Inspection Type	Sub Type
DBLPOLE	DL						PO	IN
DBLPOLE	DL		PRIMRY	PR			OH	VI
DBLPOLE	DL		PRIMRY	PR			PO	IN
DBLPOLE	DL		SECNDARY	SE			OH	VI
DBLPOLE	DL		SECNDARY	SE			PO	IN
ENCLOSUR	EN						AG	I
ENCLOSUR	EN		CBLTPS	CT			AG	I
ENCLOSUR	EN		STPUPDWN	UD			AG	I
ENCLOSUR	EN		STPUPDWN	UD		Y	AG	I
ENCLOSUR	EN		TERM	TN			AG	I
ENCLOSUR	EN		XFRONE	TO			AG	I
ENCLOSUR	EN		XFRONE	TO		Y	AG	I
ENCLOSUR	EN		XFRTHREE	TR			AG	I
ENCLOSUR	EN		XFRTHREE	TR		Y	AG	I
MANHOLE	MH						SS	10
MANHOLE	MH		CBLTPS	CT			SS	10
MANHOLE	MH		FUSECAB	FC			SS	3
MANHOLE	MH		GSWITCH	GS			SS	3
MANHOLE	MH		GSWITCH	GS	Y		SW	I
MANHOLE	MH		SWITCH	SW			SS	3
MANHOLE	MH		SWITCH	SW	Y		SW	I
MANHOLE	MH		TERM	TN			AG	I
MANHOLE	MH		THROWOVR	TH			SS	3
MANHOLE	MH		XFRONE	TO			SS	3
MANHOLE	MH		XFRONE	TO		Y	SS	3
MANHOLE	MH		XFRTHREE	TR			SS	3
MANHOLE	MH		XFRTHREE	TR		Y	SS	3
Y	MH	Y					SS	10
Y	MH	Y	FUSECAB	FC			AG	I
Y	MH	Y	GSWITCH	GS			AG	I
Y	MH	Y	GSWITCH	GS	Y		SW	I
Y	MH	Y	SWITCH	SW			AG	I
Y	MH	Y	SWITCH	SW	Y		SW	I
Y	MH	Y	TERM	TN			AG	I
Y	MH	Y	XFRTHREE	TR			AG	I
Y	MH	Y	XFRTHREE	TR		Y	AG	E
PAD	PD						AG	E
PAD	PD		BOSTBUCK	BB			AG	I
PAD	PD		BOSTBUCK	BB		Y	AG	E
PAD	PD		CAPACTOR	CA			AG	I
PAD	PD		CAPAFIX	CF			AG	I
PAD	PD		FUSECAB	FC			AG	I
PAD	PD		GSWITCH	GS			AG	I
PAD	PD		GSWITCH	GS	Y		SW	I
PAD	PD		RECLOSER	RC			AG	E
PAD	PD		REGLATOR	RG			AG	I
PAD	PD		REGLATOR	RG		Y	AG	E
PAD	PD		STPUPDWN	UD			AG	I
PAD	PD		STPUPDWN	UD		Y	AG	E
PAD	PD		SWITCH	SW			AG	I
PAD	PD		SWITCH	SW	Y		SW	I
PAD	PD		TERM	TN			AG	I
PAD	PD		THROWOVR	TH			AG	E
PAD	PD		XFRONE	TO			AG	I
PAD	PD		XFRONE	TO		Y	AG	E
PAD	PD		XFRTHREE	TR			AG	I
PAD	PD		XFRTHREE	TR		Y	AG	E

INSPECTION MATRIX
(Continued)

Structure Type	Structure Code	Above Ground	Equipment Type	Equipment Code	Oil_Gas Unknown	Dead front	Inspection Type	Sub Type
POLE	PO						PO	IN
POLE	PO		K	BB			PO	IN
POLE	PO		R	CA			PO	IN
POLE	PO		CAPAFIX	CF			PO	IN
POLE	PO		FUSECAB	FC			PO	IN
POLE	PO		GSWITCH	GS			PO	IN
POLE	PO		PRIMRY	PR			OH	VI
POLE	PO		PRIMRY	PR			PO	IN
POLE	PO		R	RC			PO	IN
POLE	PO		REGLATOR	RG			PO	IN
POLE	PO		Y	SE			OH	VI
POLE	PO		Y	SE			PO	IN
POLE	PO		N	UD			PO	IN
POLE	PO		SWITCH	SW			PO	IN
POLE	PO		TERM	TN			PO	IN
POLE	PO		XFRONE	TO			PO	IN
POLE	PO		XFRTHREE	TR			PO	IN
PRIHH	PH						SS	10
PRIHH	PH		CBLTPS	CT			SS	10
PRIHH	PH		GSWITCH	GS			SS	3
PRIHH	PH		GSWITCH	GS	Y		SW	I
PRIHH	PH		R	RC			SS	3
PRIHH	PH		N	UD			SS	3
PRIHH	PH		N	UD		Y	SS	3
PRIHH	PH		SWITCH	SW			SS	3
PRIHH	PH		SWITCH	SW	Y		SW	I
PRIHH	PH		TERM	TN			SS	3
PRIHH	PH		XFRONE	TO			SS	3
PRIHH	PH		XFRONE	TO		Y	SS	3
PRIHH	PH		XFRTHREE	TR			SS	3
PRIHH	PH		XFRTHREE	TR		Y	SS	3
or W	PH	Y					SS	10
or W	PH	Y	FUSECAB	FC			AG	I
or W	PH	Y	GSWITCH	GS			AG	I
or W	PH	Y	GSWITCH	GS	Y		SW	I
or W	PH	Y	SWITCH	SW			AG	I
or W	PH	Y	SWITCH	SW	Y		SW	I
or W	PH	Y	TERM	TN			AG	I
or W	PH	Y	R	TH			AG	E
or W	PH	Y	XFRONE	TO			AG	I
or W	PH	Y	XFRONE	TO		Y	AG	E
or W	PH	Y	XFRTHREE	TR			AG	I
or W	PH	Y	XFRTHREE	TR		Y	AG	E
SUBSURF	SR						AG	E
SUBSURF	SR		CBLTPS	CT			SS	10
SUBSURF	SR		GSWITCH	GS			SS	3
SUBSURF	SR		GSWITCH	GS	Y		SW	I
SUBSURF	SR		SWITCH	SW			SS	3
SUBSURF	SR		SWITCH	SW	Y		SW	I
SUBSURF	SR		XFRONE	TO			SS	3
SUBSURF	SR		XFRONE	TO		Y	SS	3
SUBSURF	SR		XFRTHREE	TR			SS	3
SUBSURF	SR		XFRTHREE	TR		Y	SS	3

INSPECTION MATRIX
(Continued)

Structure Type	Structure Code	Above Ground	Equipment Type	Equipment Code	Oil_Gas Unknown	Dead front	Inspection Type	Sub Type
VAULT	VA						SS	10
VAULT	VA		R	CA			SS	3
VAULT	VA		CAPAFIX	CF			SS	3
VAULT	VA		CBLTPS	CT			SS	10
VAULT	VA		FUSECAB	FC			SS	3
VAULT	VA		GSWITCH	GS			SS	3
VAULT	VA		GSWITCH	GS	Y		SW	I
VAULT	VA		N	UD			SS	3
VAULT	VA		N	UD		Y	SS	3
VAULT	VA		SWITCH	SW			SS	3
VAULT	VA		SWITCH	SW	Y		SW	I
VAULT	VA		R	TH			SS	3
VAULT	VA		XFRONE	TO			SS	3
VAULT	VA		XFRONE	TO		Y	SS	3
VAULT	VA		XFRTHREE	TR			SS	3
VAULT	VA		XFRTHREE	TR		Y	SS	3

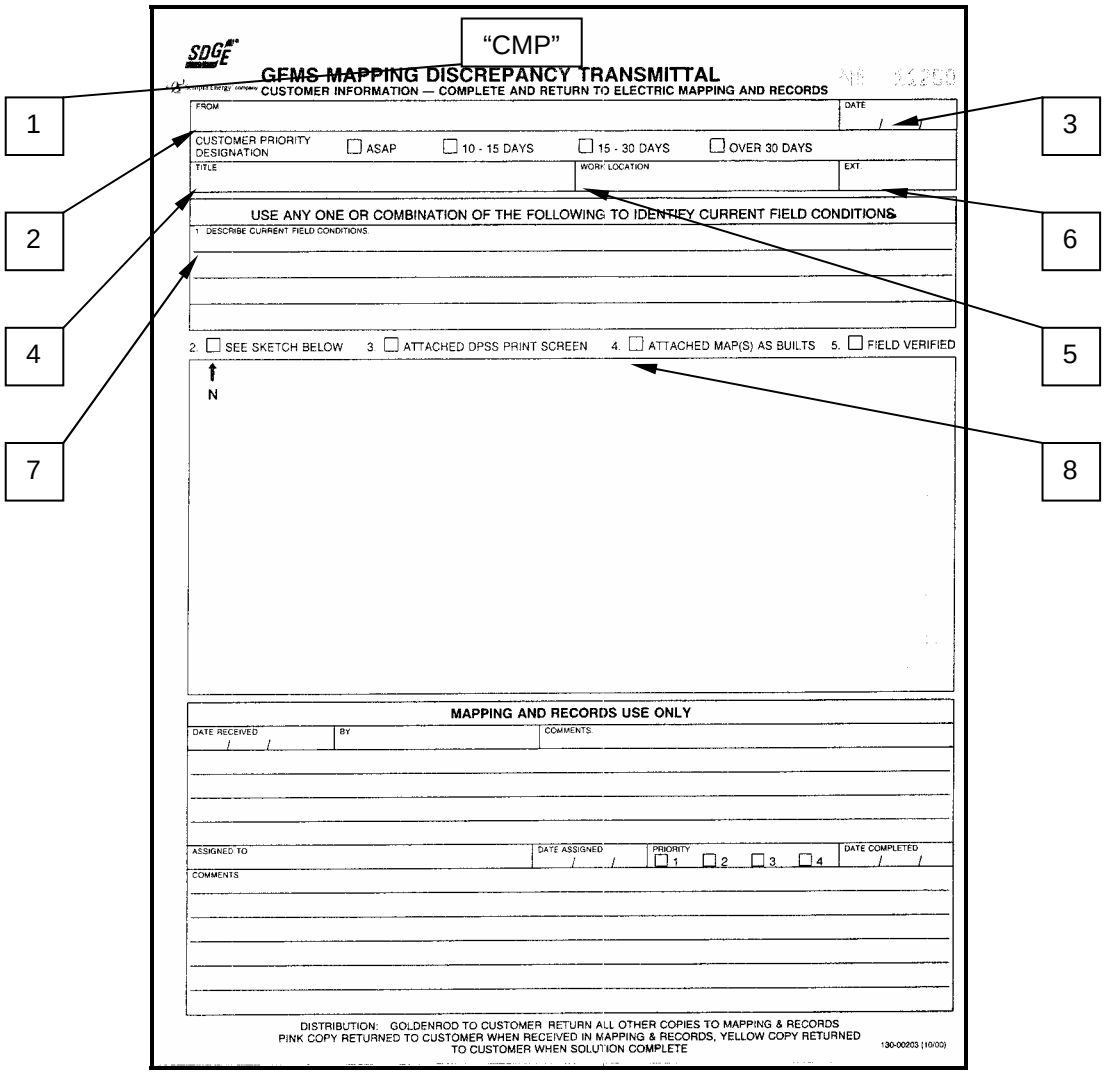
L. COMPLETING GMDT FORMS AND FACILITY FIELD CHANGES TO MDTS/ MAPS

1. GMDT FORMS

The GFMS Mapping Discrepancy Transmittal (GMDT) is the form used to inform Electric District Geographic Information Management (EGIM) of a change which is needed on a map. This may include facilities which have been removed, installed or relocated, are shown in an incorrect location or in an incorrect structure. The GMDT should be flagged 'CMP' so that it will be treated as a high priority. Generally, do not report new facilities via a GMDT because the process of digitizing new facilities and issuing new maps depends on the C&O centers notifying Distribution Operations/EGIM of the energizing of equipment in the field. It is common that EGIM has been informed of new structures in a preliminary mode; however, the actual as-built work order does not come to EGIM in a timely manner. When Distribution Operations/EGIM is notified of completion of a work order, publication and distribution of hard copy maps is generated within 24 hours. If you come across a new facility, add the facility to the MDT and complete the inspection. In general, if you come across a discrepancy between the tagging in the field and a current map, then tag the equipment with what is on the map. Refreshing the MDT maps weekly should reduce the need for GMDT usage.

Form: GFMS Mapping Discrepancy Transmittal (GMDT) - See example below
Completed by: Inspector
Send to: EGIM- Team Lead CP51C via Electric Construction Supervisor

HOW TO FILL OUT A GMDT



1	**Write the letters 'CMP' on top of the Header**
2	YOUR FULL NAME
3	DATE FORM IS FILLED OUT
4	YOUR JOB TITLE WITH THE COMPANY
5	DISTRICT NAME OF ORIGINATOR
6	YOUR PHONE NUMBER AND EXTENSION (OPTIONAL)
7	DESCRIPTION OF WHAT NEEDS TO BE MAPPED
8	ATTACH A CURRENT FACILITY MAP

CONTINUED ON NEXT PAGE

HOW TO FILL OUT A GMDT (CON'T.)

WIRE:
MISSING WIRE NEEDS TO BE SHOWN ON FACILITY MAP
INDICATE 2, 3, OR 4 CONDUCTOR QUANTITY
INDICATE PRIMARY OF SECONDARY
IF WIRE NEEDS TO BE REMOVED, INDICATE ON MAP BY CROSSING OUT

TRANSFORMERS:
MISSING TRANSFORMERS NEED TO BE SHOWN AS SINGLE OR THREE PHASE
INDICATE SIZE OF TRANSFORMER(S), I.E. 15, 25

INDICATE TYPE OF TRANSFORMER(S), I.E. H, HE
INDICATE QUANTITY OF TRANSFORMER(S) I.E. 1, 2, 3
INDICATE TRANSFORMER NUMBERS/TAGS

NOTE: IF UNDERGROUND EQUIPMENT, PLEASE PROVIDE COMPANY NUMBERS OR STOCK NUMBERS.

POLES:
HEIGHT OF POLE, I.E. 45', 55'
CLASS OF POLE, I.E. (3), (5)
SHOW SUFFIXES, I.E. S, J, N

- SHOW EXACT PLACEMENT OF ALL FACILITIES THAT NEED CORRECTION ON FACILITY MAP.
- WHEN REMOVING POLES BE SURE TO INCLUDE THE DISPOSITION OF ALL FACILITIES ON THE POLE AS WELL AS WIRE ATTACHMENTS.

DISTRIBUTION: KEEP GOLDENROD COPY, PINK COPY WILL BE RETURNED UPON RECEIPT OF GMDT, YELLOW COPY WILL BE RETURNED UPON COMPLETION OF GMDT.

M. ADDING/CHANGING/REMOVING FACILITIES

THE FOLLOWING ARE INSTRUCTIONS ON ADDING, REMOVING, CHANGING FACILITIES TO MAKE THE MDTS MAPS MATCH WHAT IS IN THE FIELD.

1. FIELD CHANGES TO THE MDT- OVERHEAD

IF FACILITY IS:

1. **ON THE MAP (CURRENT), IN THE FIELD, BUT NOT ON THE MDT**
   - **USE "INSERT FACILITY" FUNCTION ON THE MDT**
   - **IGNORE THE GMDT PROMPT**

   Select  **icon**

   Tap location where facility should be placed
   Click OK
   Select Structure Type and click OK

   PLACE PEN IN ID FIELD

   Select keyboard and enter structure id
   Select Inspect Values
   Click OK
   Close the GMDT Prompt
   Click OK

2. **IN THE FIELD, NOT ON THE MAP, AND NOT ON THE MDT**
   - **USE "INSERT FACILITY" FUNCTION ON THE MDT**
   - **FILL-OUT DISCREPANCY FORM – GMDT**
   - **ENTER GMDT # IN COMMENT FIELD**

   THIS FACILITY WILL SIT IN THE HOLD TABLE UNTIL THE FACILITY IS DIGITIZED, THEN MATCH WILL BE MADE BETWEEN GFMS/DIMS

3. **ON THE MAP, ON THE MDT, BUT NOT IN THE FIELD**
   - **FILL-OUT DISCREPANCY FORM - GMDT**
   - **USE CODE 150 – OTHER – FIELD CLEARED (F)**
   - **ENTER COMMENT "POLE REMOVED" GMDT #**
     THIS POLE WILL APPEAR ON THE INSPECT SUMMARY REPORT/DETAIL AS "I – INSPECTED" UNTIL FACILITY IS DELETED (DIGITIZED) VIA GMDT, THEN WILL NO LONGER APPEAR ON REPORT.

4. **NOT ON THE MAP, ON THE MDT, AND NOT IN THE FIELD**
   - **USE THE "REMOVE FACILITY" FUNCTION ON THE MDT**

5. <u>DUPLICATE ID, ON THE MAP, ON THE MDT, AND IN FIELD.</u>

- **CALL OFFICE FOR NEW POLE ID.**

Note: Research should be done by office resource (Altris, GFMS, etc.)

- **CHANGE ID IN MDT**
- **TAG POLE WITH NEW ID**
- **FILL-OUT DISCREPANCY FORM – GMDT**
- **ENTER GMDT # IN COMMENT FIELD**

2. FIELD CHANGES TO THE MDT- UNDERGROUND

IF FACILITY IS:

1. **ON THE MAP (CURRENT), IN THE FIELD, BUT NOT ON THE MDT**
   - **USE "INSERT FACILITY" FUNCTION ON THE MDT**
   - **IGNORE THE GMDT PROMPT**

   Select  **icon**

   Tap location where facility should be placed

   CLICK OK

   Select Structure Type and click OK

   PLACE PEN IN ID FIELD

   Select keyboard and enter structure id
   Select Inspect Values
   If applicable, Select Equipment

   CLICK ADD

   Select equipment from list and click OK

   SELECT INSPECT VALUES

   Click OK
   Click Close
   Click OK

2. **IN THE FIELD, NOT ON THE MAP, AND NOT ON THE MDT**
   - **USE "INSERT FACILITY" FUNCTION ON THE MDT**
   - **FILL-OUT DISCREPANCY FORM – GMDT**
     THIS FACILITY WILL SIT IN THE HOLD TABLE UNTIL THE FACILITY IS DIGITIZED, THEN MATCH WILL BE MADE BETWEEN GFMS/DIMS

3. **MDT, BUT NOT IN THE FIELD**
   - **USE CODE 19, P - PENDING (CANNOT OPEN, OPERATE, OR INSPECT – INACCESSIBLE UNIT)**
   - **ENTER COMMENT "NOT FOUND"**
   - **FILL-OUT DISCREPANCY FORM**
   - **THIS FACILITY WILL APPEAR ON THE INSPECT SUMMARY REPORT/DETAIL AS "I – INSPECTED" UNTIL FACILITY IS DELETED (DIGITIZED), THEN IT WILL NO LONGER APPEAR ON REPORT.**

4. **NOT ON THE MAP, ON THE MDT, AND NOT IN THE FIELD**
   - **USE THE "REMOVE FACILITY" FUNCTION ON THE MDT**

5. **DEAD FRONT ON MAP, DEAD FRONT IN FIELD, LIVE FRONT ON MDT**

- **CHANGE INSPECTION TYPE to AGE**

Click Inspect Equipment
Click Inspect
Select Above Ground External Inspection Type
Enter Comment "Dead Front"
Select Inspect Values
Click OK
Click Close (equipment no longer appears)
Click Close
Click OK
INSPECTION RECORDS WILL GO TO GFMS/DIMS

6. **DEAD FRONT ON MAP, DEAD FRONT ON MDT, LIVE FRONT IN FIELD**

- **CHANGE INSPECTION TYPE TO AGI**
- **FILL-OUT DISCREPANCY FORM – GMDT**

Click Inspect Equipment
Click Inspect
Select Above Ground Internal Inspection Type
Enter Comment "Live Front"
Select Inspect Values
Click OK
Click Close (equipment no longer appears)
Click Close
Click OK
THIS FACILITY WILL SIT IN THE HOLD TABLE UNTIL THE FACILITY IS DIGITIZED AS A LIVE FRONT STATION, THEN MATCH WILL BE MADE BETWEEN GFMS/DIMS.

N. CARE, LOGIN, UPLOAD, AND MAP REFRESH OF HAMMERHEAD XRT MDT

Most of these instructions are highlights taken from the Hammerhead users guide. A shortcut is located on the MDT. You should read the guide to get the best performance from the Hammerhead XRT computer.

INTRODUCTION TO HAMMERHEAD XRT

SPECIFICATIONS

- Fully sealed aluminum housing
- 800 MHz Mobile Intel Pentium III processor
- 512 MB Ram
- 10.4" Transflective active matrix color display – Indoor/Outdoor
- Built to Military grade specifications

ACCESSORIES

- Cigarette lighter adapter
- AC power cord and adapter
- Two batteries
- Outer case and shoulder strap
- Pen

BASIC CARE TIPS

- Do not place the MDT on the dash of your vehicle, or in any location where it will be subjected to extreme heat.
- Do not place the MDT on the roof or hood of your vehicle.
- This is a ruggedized unit, however, avoid severe impacts especially to the screen.

SCREEN CARE

- Do not use abrasive cleaners or cloths. Prepackaged eye glass cleaner is not recommended because they can become dry and scratch the screen.
- Wipe the screen surface gently using a soft cotton cloth. Scotch-Brite High Performance Cleaning Cloth is recommended.

PEN USE AND CARE

- The pen should be calibrated the first time you use the MDT.
- To calibrate the pen:
    - Select start
    - Select Control Panel
    - Select Tablet and Pen Settings
    - Under the Settings tab, Select Calibrate
    - Tap the pen once in each cross-hair displayed
    - Select OK
    - Select OK again to close the window
    - Close the Control Panel window
    - Recommended to keep pen on a tether
    - Pen has "right click" button on barrel
    - Does not require batteries.
    - Contact Help Desk for replacement.

BATTERY OPERATION

- The MDT comes with 2 Lithium Ion batteries.
- Depending on conditions, a fully charged battery should last about 1-½ hours.
- The battery indicator is located on the front of the unit. There are 5 green LED lights. Each light represents approximately 20% of the batteries life.
- You will be provided with an AC charger and a DC cigarette lighter adapter.
- The last LED will flash when approximately 10% of battery power remains.
- To recharge, plug in the AC charger or DC adapter, the LED by the lightning bolt will flash.
- The batteries will be warm when charging.

WINDOWS LOGIN

- After the unit is turned on, the Windows login screen will appear, along with a keyboard at the bottom of the screen. It will ask you to hit Ctl-Alt_Delete. Press the on/off button twice; be sure to press the button with two distinct actions.
- System Warning message will appear stating system is for use by authorized users only. Tap OK.
- The Windows login screen will appear, type your Username and hit Tab key to send the cursor to the password box. Type in your password.
- To change your password:
  - Your MDT must be connect to the LAN
  - Press Power button twice (ctrl-alt-delete)
  - Select Change password
  - Type in your old password
  - Type in you new password, twice
  - Select OK
  - **Password Policy**
    - **Treat your password like a toothbrush, don't share it and change it often!**
    - **Create a strong password and must meet Sempra Energy standards**
    - **See Password Policy handout for making better passwords**
- Unauthorized Software Applications
  - Do not load any software programs onto the MDT.
  - If you find a new software program that may be useful to you, please let your CMP coordinator know, and they can forward that information to Distribution System Support for evaluation.
  - login to the Network, LAN line connected, at least once a week so that your systems can be automatically updated with the latest virus protection and software upgrades passed through the network.

UPLOADING THE MDT

Inspection data should be uploaded daily from your DIMS MDT. This ensures that the actual date of the inspection is recorded. After 'End of Day' is performed, you must do a "data Transfer' within a 24 hours time frame, otherwise the system will not allow you to do a 'Map Selection'.

Prior to double clicking the Data Transfer ICON 4 you must first:

- Attach LAN cable and AC adapter if battery is low to MDT
- Wait for the Local Area Connection icon (two computers with red X) at the bottom right screen to disappear (it is not necessary to restart the computer using the "Start/Shut Down' button.
- Double click on the Data Transfer ICON 4. Once the upload to the LAN server has completed the 'Transfer Successful' message appears. CAUTION: If you do not receive a 'Transfer Successful' message, your data did not upload!
- Click OK button to dismiss this message.

- Shut down the computer using the ‘Start’ button at the bottom left of your screen
- Disconnect the LAN cable.
- Connect your MDT to an AC Adapter in the district office overnight. This will ensure a full charge to begin your inspections the next day.

Map Refresh

- It is recommended to update both the DIMS and Electric maps weekly
- When updating, it is recommended that the AC Adapter be used or your battery meter displays at least 50 % remaining.
- Plan your updates based on the information below and the availability of the port(s).

MOST CURRENT DATA

DIMS: Every Monday morning after 6:00 a.m.
Electric: Every Monday morning after 6:00 a.m.

O. DIMS ON-LINE HELP DESK SUPPORT

(858) 637-3799 or E-mail DIMSHELP

- **DIMS ON-LINE ACCESS AND SOFTWARE INSTALL**
- **STATUS OF DIMS RECORDS OR PROBLEMS**

- **SYSTEM ENHANCEMENTS**
- **SYSTEM FIXES**

- **DIMS ON-LINE TRAINING**
- **DIMS-MDT TRAINING (SMALL GROUPS)**

- **DIMS REFERENCES**
  - **DIMS-MDT User Guide**
  - **DIMS On-line User Guide – Available on the SDG&E Intranet**

http://utilinet.sempra.com/departments/etdp/services/SysSupportDev/DIMS.cfm

P. REFERENCES

References:

- **Electric Standard Practice 120- Infrared Thermometer (3M)**
- **Electric Standard Practice 122- Clean-up Procedures for PCB or Non- PCB Fluid Spills**
- **Service Planning Manual- SPM 200- Overhead Abandoned Facilities**
- **Electric Standard Practice 209- Disposal of Water from Underground Structures**
- **Electric Standard Practice 210- Adding Oil to Energized Oil Switches**
- **Electric Standard Practice 601- Overhead Maintenance-Visual Inspection of Poles and Equipment**
- **Electric Standard Practice 602- Underground Maintenance- Inspection of Structures and Equipment**
- **Electric Standard Practice 603- Oil and gas Electric Switch Inspection and Tagging Procedures**
- **Electric Standard Practice 607- Corrective Maintenance- Deferring CMP Facility and Equipment Repairs**
- **Electric Standard Practice 608- CMP Record, Work Paper and Other Document Retention**
- **Overhead Construction Standards Book**
- **Underground Construction Standards Book**
- **CPUC General Order 95- Rules for Overhead Electric Line Construction**
- **CPUC General Order 128- Rules for Construction of Underground Electric Supply and Communication Systems**
- **CPUC General Order 165- Electric Distribution System Inspection and Maintenance Cycles**
- **DIMS/MDT Users Manual**
- **DIMS On-line Users Manual**
- **Transmission Engineering and Electric Distribution Standards Specification for Inspection, Treatment and Reinforcement of In-Service Wood Pole Structures, Specification No. TE-018 and Specification No. 337**

II. CMP ACCOUNTS

A. CMP O&M ACCOUNT NUMBERS (REVISED 2005)

FERC ACCT # (For SDG&E Labor)	CYCLE	DESCRIPTION	SAP STANDING ORDERS (For Materials)
		OVERHEAD SYSTEM INSPECTIONS	
593.942	OHVI	EDM OCMP OH INSPECTIONS	FE5939422100
593.947	OH (CPUC)	EDM OCMP CPUC OVERHEAD INSPECTION	FE5939472100
593.945	POIN	EDM OCMP POLE INSPECTION & TREATMENT (CC 2100-0124)	FE5939452100
593.945	POIN	EDM OCMP TREATMENT (Charge to District)	FE5939452100
		OVERHEAD SYSTEM FOLLOW-UP REPAIRS	
593.943	OHVI	EDM OCMP FOLLOW-UP REAIRS	FE5939432100
593.944	OH (CPUC)	EDM OCMP CPUC FOLLOW-UP REPAIRS	FE5939442100
593.945	POIN	EDM OCMP POLE REINFORCEMENT (Osmose C&O misc. minor adj.)	IO #200160851
593.945	POIN	EDM OCMP POLE REINFORCEMENT (Osmose 2100-0124 C-Truss)	IO #200160852
593.951		EDM OCMP ENVIRONMENTALLY SENSITIVE AREA	FE5939512100
593.952		EDM OCMP VEGETATION/ TREE TRIM OR REMOVAL	FE5939522100
593.953		EDM OCMP FIELD CLEARED	FE5939532100
		UNDERGROUND SYSTEM INSPECTIONS	
594.612	AGE	EDM UCMP EXTERNAL INSPECTIONS	FE5946122100
594.613	AGI	EDM UCMP ABOVE GROUND INTERNAL INSPECTIONS	FE5946132100
594.614	SS3	EDM UCMP SUBSURFACE 3 INSPECTIONS	FE5946142100
594.615	SS10	EDM UCMP SUBSURFACE 10 INSPECTIONS	FE5946152100
594.632	SW3	EDM UCMP SWITCH INSPECTIONS	FE5946322100
594.616	UG (CPUC)	EDM CMP CPUC UG INSPECTIONS	FE5946162100
		UNDERGROUND SYSTEM FOLLOW-UP REPAIRS	
594.642	AGE	EDM UCMP EXTERNAL INSPECTIONS FOLLOW-UP REPAIRS	FE5946422100
594.644	AGI	EDM UCMP ABOVE GROUND INTERNAL INSPECTION FOLLOW-UP	FE5946442100
594.645	SS3	EDM UCMP SUBSURFACE 3 FOLLOW-UP	FE5946452100
594.646	SS10	EDM UCMP SUBSURFACE 10 FOLLOW-UP	FE5946462100
594.634	SW	EDM UCMP SWITCH FOLLOW-UP REPAIRS	FE5946342100
594.643	UG (CPUC)	EDM UCMP CPUC UG INSPECTIONS	FE5946432100
594.633		EDM UCMP CORROSION REPAIR & PAINT	FE5946332100
594.635		EDM UCMP GRAFFITI REMOVAL	FE5946352100
594.648		EDM UCMP ENVIRONMENTALLY SENSITIVE AREAS	FE5946482100
594.649		EDM UCMP VEGETATION/ TREE TRIM OR REMOVAL	FE5946492100
594.650		EDM UCMP FIELD CLEARED	FE5946502100
		PATROLS	
593.948	Patrol	EDM CMP PATROL INSPECTIONS	FE5939482100
593.949	Patrol	EDM OH CMP PATROL FOLLOW-UP REPAIRS	FE5939492100
594.647	Patrol	EDM UG CMP PATROL FOLLOW-UP REPAIRS	FE5946472100
		INSPECTOR TRAINING	
593.91		EDM OCMP OH PREVENTATIVE MAINT-MANAGEMENT (CC42003)	FE5939102100
594.61		EDM UCMP UG PREVENTATIVE MAINT-MANAGEMENT (CC42003)	FE5946102100

B. CORRECTIVE MAINTENANCE PROGRAM PERMANENT ELECTRIC ORDERS (PE'S)

PE Or WO	Description	Budget	Account Numbers
500006X*	ED/UG – Corrective Maintenance Program Improvement of Underground Service	229	108.4, 184.632, 366, 367.1, 367.2, 368.2, 369.2, 371, 373.2, 584.2, 594.6X (CMP O&M Account Numbers)
500007X* **	ED/OH - Corrective Maintenance Program Improvement of Overhead Service	229	108.4, 184.631, 364, 365, 367.1, 368.2, 369.1, 371, 373.2, 583.3, 593.9X (CMP O&M Account Numbers)
500017X*	ED/OH – Replace Bare Services	229	108.4, 364, 369.1
500524X*	ED/OH – Replace Deteriorated Facilities (OCMP Only)	87232	108.4, 184.631, 364, 365, 367.1, 369.1, 373.2, 583.3, 593.5
WORK ORDER	CMP Underground Switch Replacement & Manhole Repair	289	108.4, 366.0, 367.1, 367.2, 397.0, 594.5

* 1 = Metro
2 = Beach Cities
3 = Northeast
4 = Eastern
6 = North Coast
7 = Orange County

**** Do not use CMP PE and/or Accounts for forced outage or proactive cable replacement jobs.**

III. OVERHEAD CONDITIONS

A. OVERHEAD CONDITION CODES

1. OVERHEAD CONDITION CODE DETAIL

The following tables are divided into three sections:

GO Conditions (Infractions)
These are conditions, which must be corrected in the ten-month period, and are governed by GO95.

Reliability Conditions
These are conditions, which do not fall within the General Order, but are determined to affect system reliability and may be repaired based on engineering evaluation or experience.

Discretionary Conditions
These are conditions, which are neither governed by the General Order, nor are determined to have a significant impact on system reliability, and may be corrected at the discretion of the district.

Overhead GO Conditions

Code	Description	GO 95 Requirements and Overhead Standards	On Site Maintenance	Follow-up Maintenance	Ref
026	Ground Rods or Studs Missing	GO 128 Rule 36.5-C (2) requires conductors and equipment to be effectively grounded by connections at one or more locations to driven ground rods or other suitable grounding electrodes.		Follow-up fix if exposed, missing or corroded out; install new rod	SP602 OH 1002.1
096	Conduit Damaged	Use this code if cable pole conduit is damaged.		Follow-up fix by crew	
098	Conduit Not Strapped Down	Use this code if conduit is not strapped down.	Strap conduit.	Follow-up by crew	
201	Pole Steps Too Low	SDG&E Electric Standard sets minimum height at 8 feet.(GO 95 requires the removal of steps below 7'6" to ground level.)	Remove step(s) below 8 feet.		OH363
203	Damaged/Missing Visibility Strips	Visibility strips are required on all poles on state highways within 12 feet of traveled roadway.	Install/replace visibility strips on state highways only.		OH208 OH217
206	Damaged/Missing Pole Hardware	GO 95 Rule 49.8 requires all pole line hardware to be galvanized, otherwise protected by a corrosion resisting treatment or composed of corrosion resistant material. Use this code when hardware is damaged or missing or to replace damaged or depleted galvanized hardware.	If corrosion affects serviceability now or within cycle length or it is not built to standard, record as infraction.	Follow-up fix by crew; replace damaged/missing hardware	OH390-OH396
207	Pole Leaning Badly	GO 95 Rule 47.3 & 48 require that loads imposed on poles be balanced. Pole being pulled over and leaning more than 10 degree from the vertical position shall be considered leaning badly. 10 degrees is equal to 7 feet off center for a 45' pole; however, 7 feet is adequate for all poles.		Follow-up fix by crew; install guy(s).	OH901
209	Foreign Attachment/ Unauthorized Equipment	GO 95 Rule 34 prohibits antenna, signs, posters, banners, decorations, wires, lighting fixtures, guys, rope or any other equipment foreign to the purpose of OH electric line construction. Temporary attachments older than one year old are also prohibited.	Remove foreign attachment, if practicable, and field clear.	Follow-up by crew if truck is required to remove foreign attachments	OH225
219	Pole Inaccessible	GO 95 Rule 31.2 requires that all supply system be inspected by the operator frequently and thoroughly for the purpose of insuring that they are in good condition and in conformance with all applicable requirements." Inaccessible" occurs where there is a locked gate, animal, material stacked around pole or vegetation that prevent access to the pole. Inspect after the cause of the inaccessibility is cleared. For trees, record as 219 in MDT and send IO to Veg. Management.	Fix on site if object causing this condition is removable	Record in DIMS as 219. Code 219 will remain pending until inspected. For trees/veg, use street address, leave door hanger for effected customers, for vegetation removal obtain signed removal card, quantity of trees, use abbreviation key.	SP602
228	Exposed Conductor	GO 95 Rule 54.6. Use this code whenever there are uncovered vertical and lateral runs, broken or missing PVC conduit.		Follow-up fix by crew; replace PVC conduit	OH225

Overhead GO Conditions (cont.)

Code	Description	GO 95 Requirements and Overhead Standards	On Site Maintenance	Follow-up Maintenance	Ref
229	Climbing / Working Space	GO 95 Rule 54.7 & OH Standard 251-261 require that there be no conflict or encroachment on the climbing and working space; However, GO 95 allows quadrant climbing space up through the communications level. For maintenance only, do not enter this code where there is quadrant-climbing space available below secondary. Use this code only when climbing and working space infractions are caused by SDG&E. If caused by foreign utility use code 402. Refer to "climbing space diagrams".		Follow-up fix by crew. If caused by vegetation and no bucket truck access is available, send an IO to Vegetation Management or call the VM help desk when trimming is needed urgently.	OH225 OH251 OH255 OH261
230	Damaged Ground Molding	GO 95 Rule 54.6B requires that ground wires attached on the surface of wood poles and structures be covered throughout their length by a suitable protective covering. Use this code if ground molding is broken and ground conductor is exposed.	Replace damaged ground molding.	Follow-up to Electric Supervisor for molding above conductors energized over 750V	OH393 OH1002
231	Open/Damaged Ground	GO 95 Rule 52.7F requires equipment grounding. Use this code whenever the pole ground has been broken, burned through or cut.		Follow-up fix by crew	OH1002
234	Damaged/Missing High Voltage Signs - 2 Man, Cable Poles Only	GO 95 Rule 51.6A requires marking the pole to no more than 40" below the lowest conductor of circuit(s) 750 volts or more for poles with no equipment or 6" below equipment. Place high signs on cross-arms on cable poles. Use this condition code where 2 or more linemen are needed to clear the condition.		Follow-up fix by crew	OH208.3
235	Damaged Arrestor/Insulator/ Dead-end	Use this code if there is broken or chipped arrestor and insulator and if there is evidence of burning or flashover. Make further comments in the MDT comment box.		Follow-up fix by crew	OH1251 OH750 OH1247
236	Damaged/Missing High Voltage Sign - 1 Man	GO 95 Rule 51.6A requires marking the pole to no more than 40" below the lowest conductor of each circuit 750 volts or more for poles with no equipment or 6" below equipment. Use this code where a 1-man crew can be used to clear the condition.		Follow-up fix by crew	OH208.3
237	Oil Leak	Use this code if there is visible oil leaking from any pole mounted electrical equipment. Refer to SP122 on follow-up requirements.		Follow-up fix by crew	SP122
238	Abandoned Facilities	GO 95 Rule 31.6 requires that lines or portions of lines permanently abandoned shall be removed by their owners so that such lines do not become a hazard. Applies to pole and conductors or UG structures. District to send IO, Do not clear.		Follow SPM 200 Follow-up Electric Supervisor	GO95 Rule31.6
239	Idle Equipment	Use this code if equipment or hardware is no longer in use		Follow-up by Electric Supervisor	GO95 Rule31.6
240	Damaged Cutout	Use this code if there are broken or chipped cutouts and if there is evidence of burning or flashover. Make further comments in the MDT.		Follow-up fix by crew	OH1240 OH1212

Overhead GO Conditions (cont.)

Code	Description	GO 95 Requirements and Overhead Standards	On Site Maintenance	Follow-up Maintenance	Ref.
241	Damaged Crossarm	Use this code if the crossarm is broken, if there is severe cracking, evidence of charring, burning, or severe tracking. Make further comments in the MDT.		Follow-up fix by crew	OH380 OH384
243	Damaged Switch	Use this code if any part of the switch is damaged or broken, insulators, switch blades etc.		Follow-up fix by crew	OH1442- OH1444 OH1451 OH1220 OH1222 OH1228 OH1230
244	Damaged switch gang operator mechanism	Use this code if the switch gang operator mechanism is broken, bent or missing.		Follow-up fix by crew	OH1228 OH1271 OH1230
246	Damaged SDG&E Pole	Use this code if the pole is broken, or if the strength of the pole is questionable due to vehicular contact, severe cracking, shell rot, top rot, evidence at the groundline of butt rot, charred wood or severe tracking. Make further comments in the MDT noting the location of damage. Do not turn in to Osmose for damage 8 feet above ground line. If already red or yellow tagged, contact Osmose contract administrator for follow-up.	For severe damage, contact Electric Supervisor for immediate temporary shoring	For SDG&E-owned pole, follow-up fix- notify Electric Supervisor. For foreign utility own poles, send IO to Joint Facilities (Do not record in DIMS).	SP601 OH225
254	Insufficient Clearance	GO 95 sets clearance requirements for various subjects. Refer to OH Standard for review of these requirements. Use this code when there is not adequate clearance or ground to conductor clearances caused by SDG&E except for low service drops (code 262). If caused by foreign utility use code 403.		Follow-up fix by crew	OH221 OH224 OH228 OH262 OH236 OH264 OH908 OH1406 OH1509 OH1530 OH1533

Overhead GO Conditions (cont.)

Code	Description	GO 95 Requirements and Overhead Standards	On Site Maintenance	Follow-up Maintenance	Ref.
258	Avian Protection Missing/Damaged	Use this code where the Avian Protection is missing or damaged on poles that require Avian Protection.		Follow-up fix by crew to change out /replace	OH sec 1600
262	Low Service Drops	GO 54.8B requires service drops above ground, buildings, etc., shall not be less than the following minimum clearances: • over fences -2' (non-walk able), 8' (walk able) • over pedestrian walkways - 10' (residential), 12' (commercial) • over driveways - 12' (residential), 16' (commercial) • over thoroughfares - 18' (centerline), 16' (at curb)		Follow-up fix by crew; notify customers affected	OH241 OH645 OH646
264	Bare/Wrapped Service	Use this code if the service conductor has evidence of fraying, or its insulation or weatherproofing is missing. Use this code also for open wire service that is wrapped or touching. These services should be changed out/replaced. Make further comments in the MDT.		Follow-up fix by crew; change out /replace	OH225
266	Foreign Objects	Use this code when kites, palm frond, balloons, tennis shoes, etc. are on the conductors.		Follow-up fix by crew; Remove foreign objects	OH225
267	Damaged Capacitor	Use this code when bushings show sign of damage, and cases are swollen or damaged due to foreign contacts.	Notify Electric Supervisor for immediate repair for critical condition.	Follow-up fix by crew	OH1301
268	Slack Conductors	Use this code when overbuild has greater sag than the lower wires on the same span or when there's unequal sag of conductor(s) on the same span. Use this code also when lower (secondary) conductors sag. Make further comments in the MDT.		Follow-up fix by crew	OH225
269	Damaged Conductors	Use this code if conductors are broken, severely bent, or severely corroded. Make further comments in the MDT.	Notify Electric Supervisor for immediate repair for critical condition.	Follow-up fix by crew	OH225
270	Damaged/Missing Guy Marker	GO 95 Rule 56.9 requires guy guard to be securely attached to all anchor guys. Use this code when guy guard is twisted, bent, cut, unsecured or missing.	Replace damaged or install new guy marker.		OH225 OH975 OH927
274	Guy Grounded Above Insulator	GO 95 Rule 56.7B requires insulator to be installed in each anchor guy. Use this code when portion of guys above the insulator are grounded by trees, building, messenger, metal-sheathed cables or other similar objects. If condition is caused by trees, use code 328.		Follow-up fix by crew	OH909

Overhead GO Conditions (cont.)

Code	Description	GO 95 Requirements and Overhead Standards	On Site Maintenance	Follow-up Maintenance	Ref.
276	Slack Anchor Guy	GO 95 Rule 56.2 requires where mechanical loads imposed on poles are greater than can be supported, additional strength shall be provided by the use of guys or other suitable condition. Use this code when an anchor guy is loose.		Follow-up fix by crew	OH225 OH920
277	Damaged Guying	Use this code when strands are missing, broken, severely bent or corroded, when there's evidence of vehicular contact, when there's corrosion or damage to guy grips, anchors or hardware. Make comments in the MDT.		Follow-up fix by crew	OH925-OH928 OH961-OH966
278	Slack Span Guy	Use this code when any guy other than an anchor guy is loose.		Follow-up fix by crew	OH908
280	Damaged SDG&E Stub Poles	Use this code if the stub pole is broken, or if the strength of the pole is questionable due to vehicular contact, severe cracking, shell rot, top rot, evidence at the ground line of butt rot, etc. Note location of damage.		Follow-up fix by crew	SP601 OH225
282	Bolt Covers Missing	Use this code whenever bolt covers are missing.		Follow-up fix by crew.	OH1145
283	Damaged/Missing/ Incorrect Station Pole ID	Per SDG&E standards, use this code whenever the station identification, size, or pole number is damaged, missing or incorrect. Make further comments in the MDT.	Fix on site if damage. Replace old Cal-grid or other non-standard pole number. Use pole number shown on the map.	If pole number is unknown or missing, submit GMDT to EGIM. Follow-up fix	OH211 OH208
298	Infraction, No Applicable Code	Use this code to identify infraction conditions that do not have an existing code, but need immediate repairs. Provide comments in DIMS/MDT.		Follow-up fix by crew.	CMP manual
318	Trees/Veg in Primary 18" or closer	Use this code when tress are 18 inches or closer to primary conductors	For trees/veg, use street address, leave door hanger for affected customers, for vegetation removal leave yellow removal card for customer, quantity of trees, use abbreviation key.	Record in the MDT. Do not send in an IO. Call in emergencies to Vegetation Management Help Desk 858-654-8608.	
319	Trees/Veg. Contacting Open wire secondary	Use this code when trees/veg is contacting open wire secondary pole to pole.	For trees/veg, use street address, leave door hanger for affected customers, for vegetation removal leave yellow removal card for customer, quantity of trees, use abbreviation key.	Record in the MDT. Do not send in an IO. Call in emergencies to Vegetation Management Help Desk– 858-654-8608.	

Overhead GO Conditions (cont.)

Code	Description	GO 95 Requirements and Overhead Standards	On Site Maintenance	Follow-up Maintenanc	Ref.
320	Trim-Veg in 2ndry-SSC/Aerial Cable (P/P) Hvy /Immediate Strain or Abrasion	Use this code for Secondary SSC/Aerial Cable (Pole to Pole) with only immediate heavy strain or abrasion for which tree trim is recommended. Record in the MDT. Do not send in an IO. Call in emergencies to Vegetation Management Help Desk – 858-654-8608.	For trees/veg, use street address, leave door hanger for affected customers, for vegetation removal leave yellow removal card for customer, quantity of trees, use abbreviation key.	Record in the MDT. Do not send in an IO. Call in emergencies to Vegetation Management Help Desk– 858-654-8608.	
321	Guard-Veg in 2ndry-SSC/Aerial Cable (P/P) Hvy /Immediate Strain or Abrasion	Use this code for Secondary SSC/Aerial Cable (Pole to Pole) with only immediate heavy strain or abrasion for which tree guard is recommended. Record in the MDT. Do not send in an IO. Call in emergencies to Vegetation Management Help Desk– 858-654-8608.	For trees/veg, use street address, leave door hanger for affected customers, for vegetation removal leave yellow removal card for customer, quantity of trees, use abbreviation key.	Record in the MDT. Do not send in an IO. Call in emergencies to Vegetation Management Help Desk– 858-654-8608.	
322	Reroute-Veg in 2ndry-SSC/Aerial Cable (P/P) Hvy /Immediate Strain or Abrasion	Use this code for Secondary SSC/Aerial Cable (Pole to Pole) with only immediate heavy strain or abrasion for which a reroute is recommended for which reroute is recommended. Record in the MDT. Do not send in an IO. Call in emergencies to Vegetation Management Help Desk– 858-654-8608.	For trees/veg, use street address, leave door hanger for affected customers, for vegetation removal leave yellow removal card for customer, quantity of trees, use abbreviation key.	Record in the MDT. Do not send in an IO. Call in emergencies to Vegetation Management Help Desk– 858-654-8608.	
323	Guard-Veg in Service-(P/HSE) HVY/Immediate Strain or Abrasion	Use this code for Services (Pole to House) with only immediate heavy strain or abrasion for which tree guard is recommended. Record in the MDT. Do not send in an IO. Call in emergencies to Vegetation Management Help Desk– 858-654-8608.	For trees/veg, use street address, leave door hanger for affected customers, for vegetation removal leave yellow removal card for customer, quantity of trees, use abbreviation key.	Record in the MDT. Do not send in an IO. Call in emergencies to Vegetation Management Help Desk– 858-654-8608.	
324	Slack-Veg in Service-(P/HSE) HVY/Immediate Strain or Abrasion	Use this code for Services (Pole to House) with only immediate heavy strain or abrasion for which slacking the line is recommended. Record in the MDT. Do not send in an IO. Call in emergencies to Vegetation Management Help Desk– 858-654-8608.	For trees/veg, use street address, leave door hanger for affected customers, for vegetation removal leave yellow removal card for customer, quantity of trees, use abbreviation key.	Record in the MDT. Do not send in an IO. Call in emergencies to Vegetation Management Help Desk– 858-654-8608.	
325	Reroute-Veg in Service-(P/HSE) HVY/Immediate Strain or Abrasion	Use this code for Services (Pole to House) with only immediate heavy strain or abrasion for which reroute is recommended. Record in the MDT. Do not send in an IO. Call in emergencies to Vegetation Management Help Desk– 858-654-8608.	For trees/veg, use street address, leave door hanger for affected customers, for vegetation removal leave yellow removal card for customer, quantity of trees, use abbreviation key.	Record in the MDT. Do not send in an IO. Call in emergencies to Vegetation Management Help Desk– 858-654-8608.	

Overhead GO Conditions (cont.)

Code	Description	GO Requirements Overhead Standards	On Site Maintenance	Follow-up Maintenance	Ref.
326	Trim-Veg in Service-(P/HSE) HVY/Immediate Strain or Abrasion	Use this code for Services (Pole to House) with only immediate heavy strain or abrasion for which tree trim is recommended. Record in the MDT. Do not send in an IO. Call in emergencies to Vegetation Management Help Desk– 858-654-8608.	For trees/veg, use street address, leave door hanger for affected customers, for vegetation removal leave yellow removal card for customer, quantity of trees, use abbreviation key.	Record in the MDT. Do not send in an IO. Call in emergencies to Vegetation Management Help Desk– 858-654-8608.	
328	Guy Grounded By Trees/Vegetation	GO 95 Rule 56.7B requires insulator to be installed in each anchor guy. Use this code when portion of guys above the insulator are grounded by tree or vegetation. Use code 274 if grounded by building, messenger, metal-sheathed cables or other similar objects. For vegetation causing strain on down guy below insulator, send IO to Vegetation Management.	For trees/veg, use street address, leave door hanger for affected customers, for vegetation removal leave yellow removal card for customer, quantity of trees, use abbreviation key.	Record in the MDT. Do not send in an IO. Call in emergencies to Vegetation Management Help Desk– 858-654-8608.	
402	Climbing Space Caused By Foreign Utility	GO 95 Rule 54.7 & OH Standard 251-261 require that there be no conflict or encroachment on the climbing and working space; however, GO 95 allows quadrant climbing space up through the communications level. For maintenance only, do not enter this code where there is quadrant-climbing space available below secondary and communications lines are attached to pole. Refer to "climbing space diagram". Use this code only when Foreign Utility causes climbing and working space infractions.		If caused by vegetation and no bucket truck access is available, send an IO to Vegetation Management or call the VM help desk when trimming is needed urgently. Record in DIMS and send an IO to Joint Facilities. Clear after IO sent. Do Not field clear.	OH225 OH251 OH255 OH261
403	Insufficient Clearance Due To Foreign Utility/Private Property Owner	GO 95 sets clearance requirements for various subjects. Refer to OH Standard for review of these requirements. Use this code when there is not adequate clearance or ground to conductor clearances caused by foreign utility or private property owner. Service poles with two or more services with foreign utilities attached must have four feet separation. Poles with Only one service and foreign utility attached may have two feet separation. Use code 254 if not caused by foreign utility.		Record in MDT and send IO to Compliance Management. Do Not field clear.	OH221 OH224 OH228 OH262 OH236 OH264 OH908 OH1406 OH1509 OH1530 OH1533

Overhead GO Conditions (cont.)

Code	Description	GO Requirements Overhead Standards	On Site Maintenance	Follow-up Maintenance	Ref.
481	Pole replacement from POIN	Use this code when a pole coded 682 or 683 for c-truss or fiber-wrap repair is determined by the Electric Supervisor to need replacement.		Use DIMS On-line Condition Entry tab, Follow-Up type, and enter as pending. The original date of the 682 or 683 code shall be the effective date for the new code 481. Add comments referring to the Osmose inspection code and then clear the Osmose POIN in the Clear Inspection screen.	

Overhead Reliability Conditions

Code	Description	Standard Practice	On Site Maintenance	Follow-up Maintenance	Ref
32	Pothead Leaking	Use this code where the insulating gel is leaking from the pothead.		Turn in follow-up to Electric Supervisor	SP602
33	Pothead Chipped/Broken	Use this code where the pothead shows signs of cracks, chips or are broken.		Turn in follow-up to Electric Supervisor	SP602
150	No applicable code	Use this code to identify reliability conditions that do not have existing codes. Provide comments in DIMS/MDT.		Follow-up as required	
208	Tags Missing (P/N Sign)	SDG&E Electric Standards requires that when the primary phase and primary neutral cannot be distinguished, the primary neutral shall be identified by a "PN" sign.		Follow-up fix by crew; install 'PN' sign on primary neutral.	OH208
220	Guy Buried	Use this code when the anchor rod eye is buried or less than six inches above the ground. Install an anchor rod extension.		Follow-up fix by crew	OH927.1
227	Damaged/Missing Warning Signs	OH Standards, item 10, requires warning sign (Mr. Ouch sign) on poles with energized electrical facilities (secondary and above). Place sign 9' above ground.		Fix on site	
233	Standoff pin missing or damaged	Use this code when the standoff is damaged or missing.		Follow-up fix by crew	OH1145
327	Climbing Space Obstruction By Vegetation	Use this code for any Tree or Veg in Climbing Space. For maintenance only, do not enter this code where there is quadrant-climbing space available below secondary. Record in MDT. Do not send in an IO. Call in emergencies to Vegetation Management Help Desk- 858-654-8608. Use 402 for foreign utility/private property owner. Use 229 for SDGE caused.		Record in the MDT. Do not send in an IO. Call in emergencies to Vegetation Management Help Desk- 858-654-8608.	
438	Foreign utility not transferred to new pole	Use this code where SDG&E has installed a new pole and the communications utilities have not transferred off the old pole. Use code 238 where the communications facilities have been transferred.		Send an IO to Joint facilities and identify which communication utility has not transferred. Do Not Field Clear.	
600 Series	Intrusive Wood Pole Inspection (contractor)	See attached Intrusive Wood Pole Inspection Codes 601-699 in Separate DIMS Table. To be entered only by Wood Pole Inspection Contractor.			

Code	Description	Standard Practice	On Site Maintenance	Follow-up Maintenance	Ref
006	Cable pole tag missing	Equipment requires labeling. Use this code when the cable pole tag is missing.	Fix on site		SP601
299	No repairs needed				SP601 OH208

2. INTRUSIVE POLE INSPECTION (CONTRACTOR)*

CODE	DESCRIPTION		CODE	DESCRIPTION
601	Damage, external fire		651	Partial excavation, no decay
602	Damage, external gunshot		652	Partial excavation, decay present
604	Damage, external, vehicle		653	Partial excavation, rejected
605	Damage, external, other		661	Sound & bore, no decay
607	Damage, animal, livestock		662	Sound & bore, decay present
608	Damage, animal, woodpecker		663	Sound & bore, rejected
609	Damage, animal, other		666	Visual inspection only
611	Damage, insect, ants		667	Visual inspection, pole previously
612	Damage, insect, bees		668	Partial excavate, decay found
613	Damage, insect, termites		669	Sound & bore, decay found
614	Damage, insects, woodborers		671	Restoration recommended
615	Damage, insect, other		674	Visual and sound performed
621	Decay, above groundline, heartrot		675	Visually rejected
622	Decay, above groundline, internal		676	Visual inspection pole, previously
623	Decay, above groundline, shell rot		681	Restoration rejected, replace
624	Decay, above groundline, top rot		682	Restoration recommended, C-truss
625	Decay, below groundline, heartrot		683	Restoration recommended, fiberwrap
626	Decay, below groundline, internal		684	Restoration recommended, pole top
627	Decay, below groundline, shell rot		691	Restored
631	Treatment applied, external & internal		692	Not restored
632	Treatment applied, external		693	DUG rejected
633	Treatment applied, internal		696	Treated no change
634	Decay, below groundline, heartrot		697	Pole leaning badly
635	Decay, below groundline, internal		698	Critical repairs needed
641	Treated, no decay		699	No repairs needed
642	Treated, decay present			
643	Treated, rejected			

*Pole replacements and C-trusses are infractions.

3. OVERHEAD CONDITION CODE TEMPLATE- 03/15/05

Code	Cond.	Description	Follow-up action
6	D	Cable pole tag missing	Fix on site
26	I	Ground rods or studs missing	Exposed missing or corroded out; install new rod
32	R	Pothead leaking	F/U to Supervisor
33	R	Pothead chipped/broken	F/U to Supervisor
96	I	Conduit damaged	F/U fix by crew
98	I	Conduit not strapped down	Strap Conduit/F/U fix by crew
150	R	Other - Reliability, no applicable code	F/U as required
201	I	Pole steps too low	Remove step(s) below 8 feet
203	I	Damaged/missing visibility strips	Install/replace visibility strips on state highways only
206	I	Damaged/missing pole hardware	F/U fix by crew; replace damaged/missing hardware
207	I	Pole leaning badly	7 feet off center, F/U fix by crew
208	R	Tags missing (p/n sign)	F/U fix by crew; install PN sign on primary neutral
209	I	Foreign attachment/unauthorized equipment	Remove foreign attachment, F/U by crew as required
219	I	Pole inaccessible-include remarks	Record in DIMS and send IO. Code 219 will remain pending until inspected. For trees/veg, use street address, leave door hanger for affected customers, for veg. removal obtain signed removal card, quantity of trees, use abbr key.
220	R	Guy buried	6" or less exposed, F/U fix by crew
227	R	Damaged/missing warning signs(Mr Ouch)	Install 9' high off ground, Fix on site
228	I	Exposed conductor	F/U fix by crew, replace conduit
229	I	No climbing/working space – Use this code only when climbing and working space infractions are caused by SDGE	F/U fix by crew, use 402 for foreign utility. If caused by vegetation and no bucket truck access is available, send IO to Veg Management or call the VM help desk when trimming is needed urgently.
230	I	Damaged ground molding	Replace damaged ground molding/F/U to Supervisor
231	I	Open/damaged ground	F/U fix by crew
233	R	Standoff pin missing/damaged	F/U fix by crew
234	I	Damaged/missing high voltage signs-2man, use this for cable poles only	F/U fix by crew install 40" below lowest conductor for poles with no equipment, or 6" below equipment and on cross-arms on cable poles.
235	I	Damaged arrestor/insulator/dead-end	F/U fix by crew
236	I	Damaged/missing high voltage sign-1 man	F/U fix by crew install 40" below lowest conductor for poles with no equipment, or 6" below equipment.
237	I	Oil leak	F/U fix by crew
238	I	Abandoned facilities (pole and conductors)	F/U to Supervisor/ follow SPM 200 District to send IO, Do not clear
239	I	Idle equipment	F/U to Supervisor
240	I	Damaged cutout	F/U fix by crew
241	I	Damaged cross-arm	F/U fix by crew
243	I	Damaged switch	F/U fix by crew
244	I	Damaged switch gang operator mechanism	F/U fix by crew
246	I	Damaged SDGE pole. (Noting the location of the damage in the comment field in the MDT.)	For severe damage contact Supervisor. For foreign utility poles, send IO to Joint Facilities - do not record in DIMS.
254	I	Insufficient clearance/SDGE	F/U fix by crew, use 403 for foreign utility
258	I	Avian Protection is missing or damaged on poles that require Avian Protection.	Follow-up fix by crew to change out /replace
262	I	Low service drops	F/U fix by crew
264	I	Bare/wrapped service	F/U fix by crew to change out service
266	I	Foreign objects	F/U fix by crew
267	I	Damaged capacitor	F/U fix by crew/notify Supervisor for critical condition
268	I	Slack conductors	F/U fix by crew
269	I	Damaged conductors	F/U fix by crew/notify Supervisor for critical condition
270	I	Damaged/missing guy marker	Fix on site
274	I	Guy grounded above insulator (non-veg)	F/U fix by crew
276	I	Slack anchor guy	F/U fix by crew
277	I	Damaged guying	F/U fix by crew
278	I	Slack span guy	F/U fix by crew
280	I	Damaged SDGE stub poles (note location of damage)	F/U fix by crew, at this time use parent pole fac. ID for identification.
282	I	Bolt covers missing	F/U fix by crew
283	I	Damaged/missing/incorrect station pole id	Fix on site/ if number is unknown submit GMDT
298	I	Other - infraction - no applicable code	F/U fix by crew
299	D	No repairs needed	No action needed
318	I	Trees/Veg in Primary 18" or closer, list quantity of trees	For trees/veg, use street address, leave door hanger for affected customers, for veg. removal leave yellow removal card for customer, quantity of trees, use abbr key. Record in MDT. Do not send in an IO. Call emergencies to help desk - 858-654-8608.

OVERHEAD CONDITION CODE TEMPLATE (CONTINUED)- 03/15/05

319	I	Trees/Veg. Contacting Open wire secondary (strain or abrasion only)	For trees/veg, use street address, leave door hanger for aeffected customers, for veg. removal leave yellow removal card for customer, quantity of trees, use abbr. key. Record in MDT. Do not send in an IO. Call emergencies to help desk - 858-654-8608
320	I	Veg in secondary - Trim (strain or abrasion only)	For trees/veg, use street address, leave door hanger for affected customers, for veg. removal leave yellow removal card for customer, quantity of trees, use abbr. key. Record in MDT. Do not send in an IO. Call emergencies to help desk - 858-654-8608
321	I	Veg in secondary - Guard (strain or abrasion only)	For trees/veg, use street address, leave door hanger for affected customers, for veg. removal leave yellow removal card for customer, quantity of trees, use abbr. key. Record in MDT. Do not send in an IO. Call emergencies help desk - 858-654-8608
322	I	Veg in secondary - Reroute (strain or abrasion only)	For trees/veg, use street address, leave door hanger for aeffected customers, for veg. removal leave yellow removal card for customer, quantity of trees, use abbr. key. Record in MDT. Do not send in an IO. Call emergencies to help desk - 858-654-8608
323	I	Veg in service - Guard (strain or abrasion only)	For trees/veg, use street address, leave door hanger for affected customers, for veg. removal leave yellow removal card for customer, quantity of trees, use abbr. key. Record in MDT. Do not send in an IO. Call emergencies to help desk - 858-654-8608
324	I	Veg in service - Slack (strain or abrasion only)	For trees/veg, use street address, leave door hanger for affected customers, for veg. removal leave yellow removal card for customer, quantity of trees, use abbr. key. Record in MDT. Do not send in an IO. Call emergencies to help desk - 858-654-8608
325	I	Veg in service - Reroute (strain or abrasion only)	For trees/veg, use street address, leave door hanger for affected customers, for veg. removal leave yellow removal card for customer, quantity of trees, use abbr. key. Record in MDT. Do not send in an IO. Call emergencies to Veg Management help desk
326	I	Veg in service - Trim (strain or abrasion only)	For trees/veg, use street address, leave door hanger for affected customers, for veg. removal leave yellow removal card for customer, quantity of trees, use abbr. key. Record in MDT. Do not send in an IO. Call emergencies to help desk - 858-654-8608
327	R	Climbing Space Obstruction By Vegetation	Use this code for any Tree or Veg in Climbing Space. Record in MDT. Do not send in an IO. Call in emergencies to Vegetation Management Help Desk-858-654-8608. Use 402 for foreign utility/private property owner. Use 229 for SDGE caused.
328	I	Guy grounded by vegetation - use 274 for non veg.	For trees/veg, use street address, leave door hanger for affected customers, for veg. removal leave yellow removal card for customer, quantity of trees, use abbr. key. Record in MDT. Do not send in an IO. Call emergencies to help desk - 858-654-8608.. Use 274 for non veg. For vegetation causing strain on down guy below insulator send IO to Vegetation Management.
402	I	No climbing space – Foreign utility/private property	Record in DIMS. Send IO to Joint Facilities. Use 229 SDG&E caused.
403	I	Insufficient clearance/other utility	Record in MDT. Send IO to Joint Facilities. Use 254 for non veg.
438	R	Foreign utility/private property not transferred to new pole	Send an IO to Joint facilities and identify which communication utility has not transferred.
481	I	Pole replacement from POIN	Use DIMS On-line Condition Entry tab, Follow-Up type, and enter as pending. The original date of the 682 or 683 code shall be the effective date for the new code 481. Add comments referring to the Osmose inspection code and then clear the Osmose POIN in the Clear Inspection screen.

(I/O should include Condition Code, Circuit, Map Page, TB & Photo #)

Condition Abbreviations

I – Infraction

R – Reliability

D – Discretionary

Vegetation Abbreviation Key

Type

Eucalyptus – EU#

Palm – PA#

Pine – PI#

Oak – OA#

Other – OT#

Qty – Quantity (#)

Access

Back lot – BL

Backyard – BY

Truck Access – TA

Special instructions

Removal Required – RR

Stump grind Required – SG

Door Hanger Left – DH

Authorization Card Left – AC

Customer Contact – CC

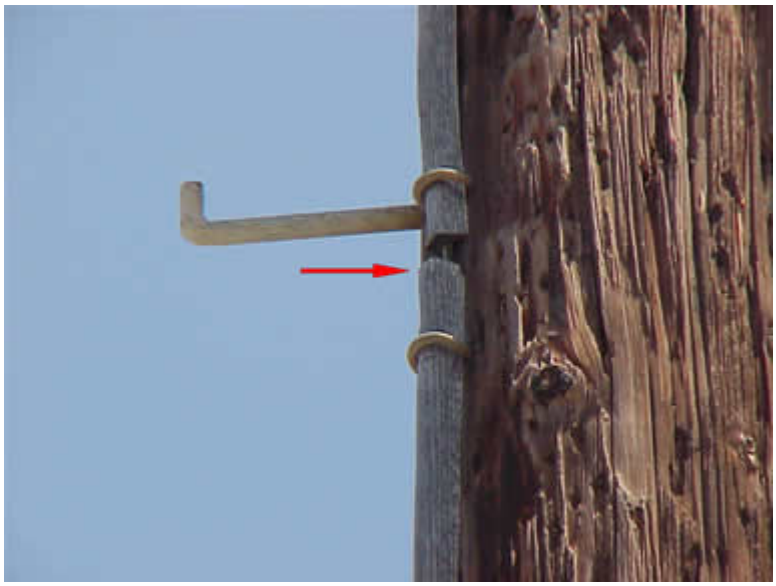
4. OVERHEAD CODE CLARIFICATION

219- Pole Inaccessible (GO Infraction) – Clear cause of inaccessibility. Leave code 219 open until re-inspection. For trees, record in DIMS and send IO to Vegetation Management.

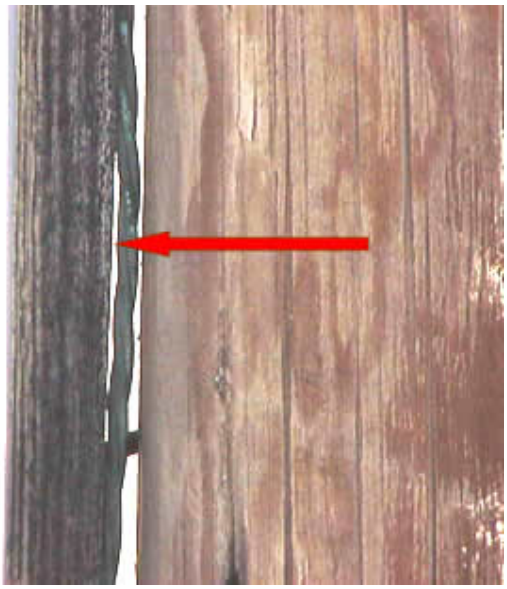
402 – Climbing Space Caused by Foreign Utility (GO Infraction) - Record in MDT and send IO to Compliance Management. Clear in DIMS after IO is sent.

B. OVERHEAD PHOTOS- FREQUENTLY ASKED QUESTIONS

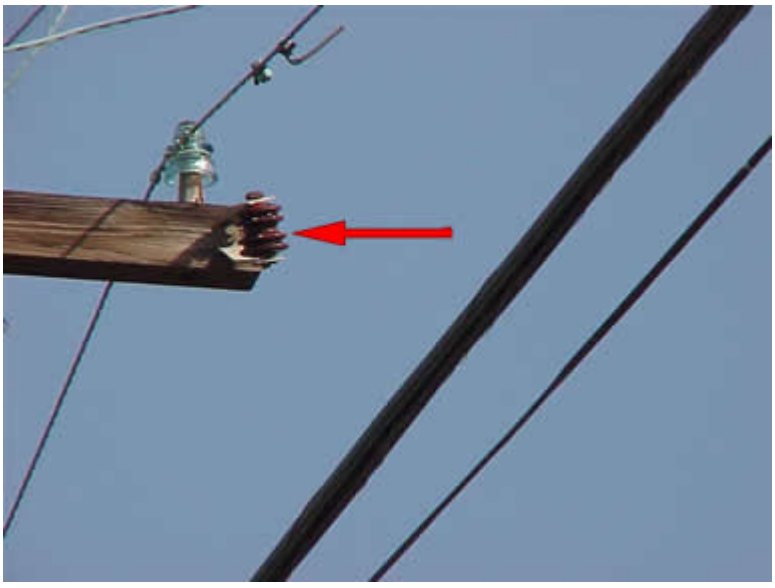
Damaged Ground Molding
Code 230



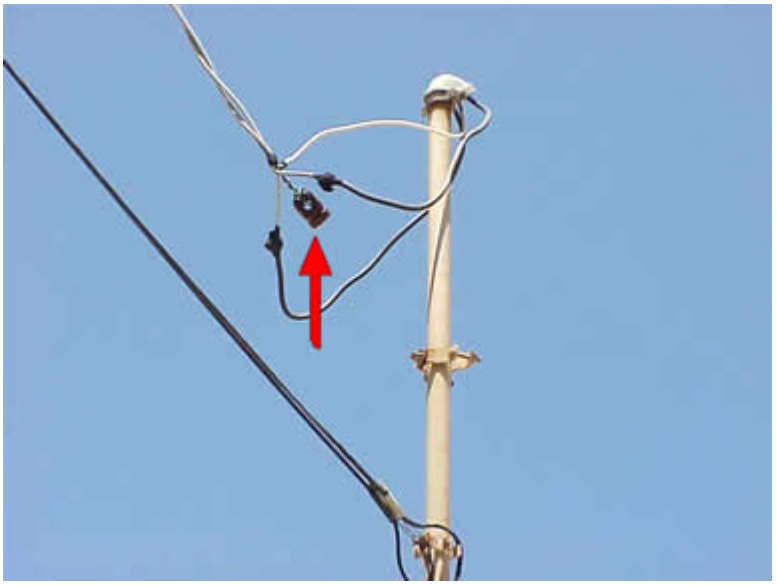
Damaged Ground Molding
Code 230



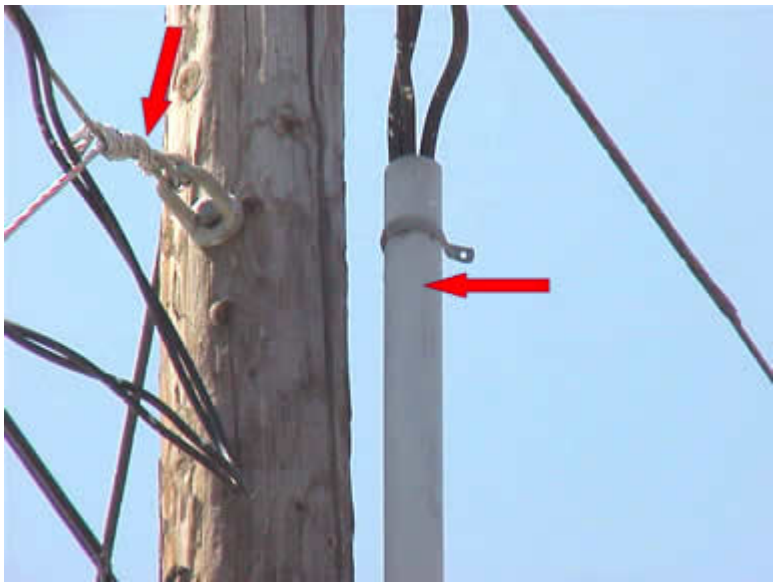
Idle Facility
Code 239



Damaged Arrestor/Insulator/Dead-end
Code 235



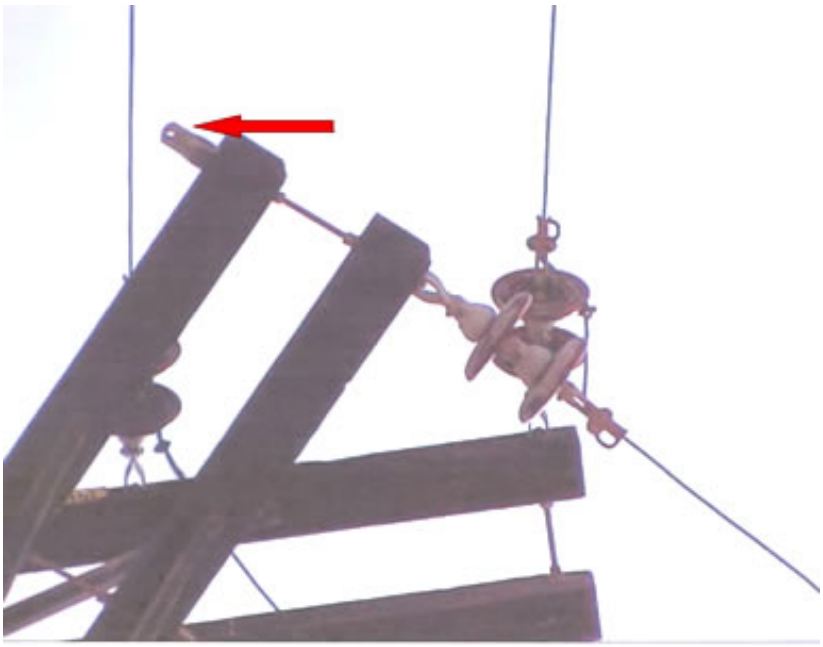
Conduit Not Strapped Down
Code 98
Infraction No Applicable Code (Neutral Attached to Hog-eye)
Code 298



Infraction No Applicable Code (Insulator Resting On Crossarm)
Code 298 with Comments

Damaged Conduit/Conduit Not Strapped Down
Code 96/98

Idle Equipment – Code 239
This Condition No Longer an Infraction as Long as The Clevis is backing up Strain

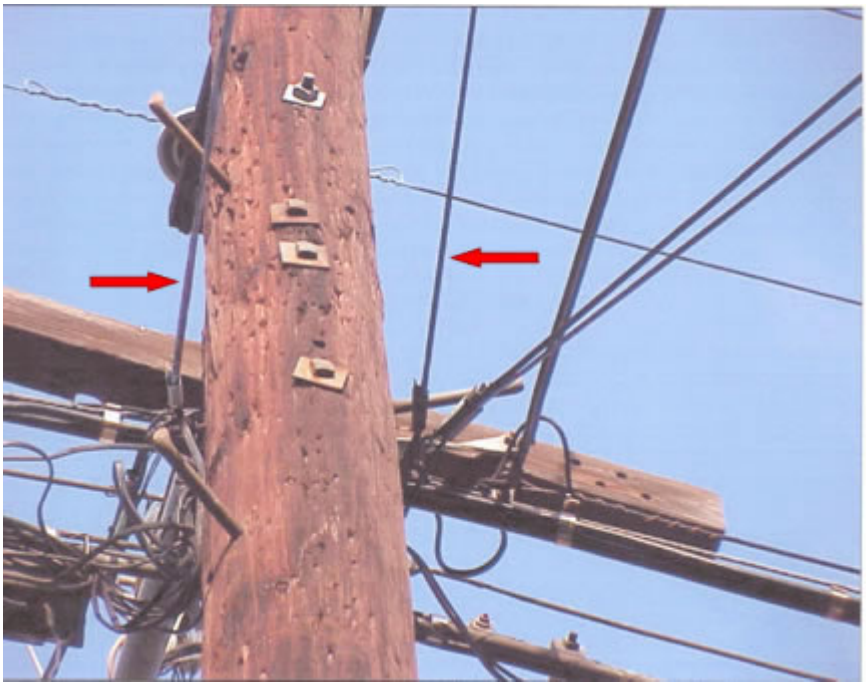


Need Tree Guard (Slipped Down)
Code 323

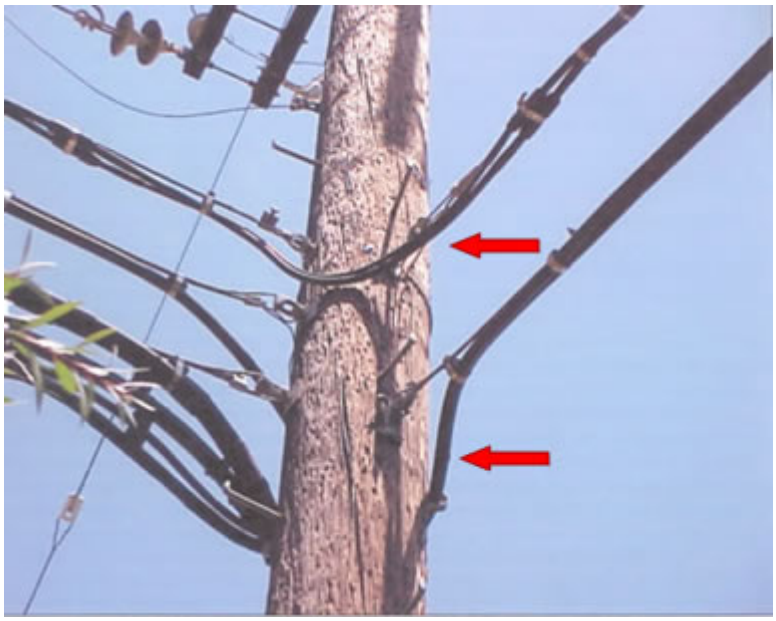
Reroute – Vegetation in Service Pole to House
Code 325

Foreign Utility Not Transferred to New Pole
Code 438

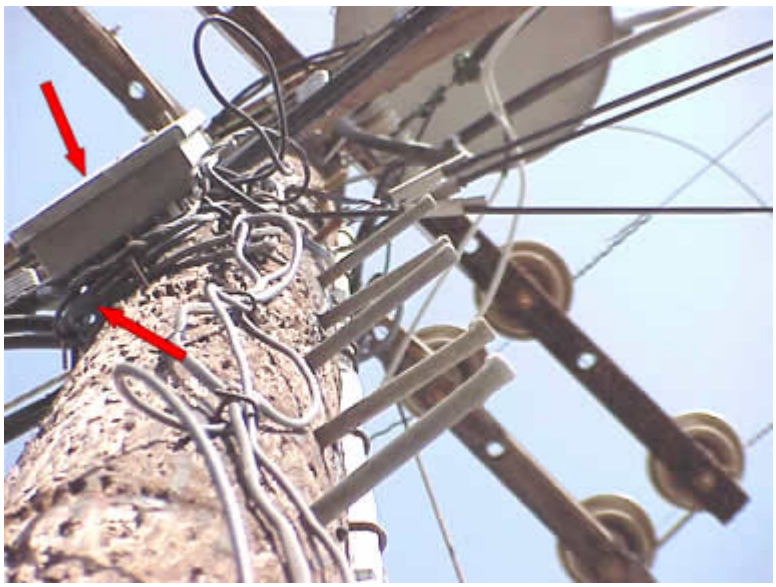
Climbing Space Caused By Foreign Utility
Code 402



Climbing Space Caused By Foreign Utility
Code 402



Climbing Space Caused By Foreign Utility
Code 402



ID Missing, Damaged or Incorrect
Code 283

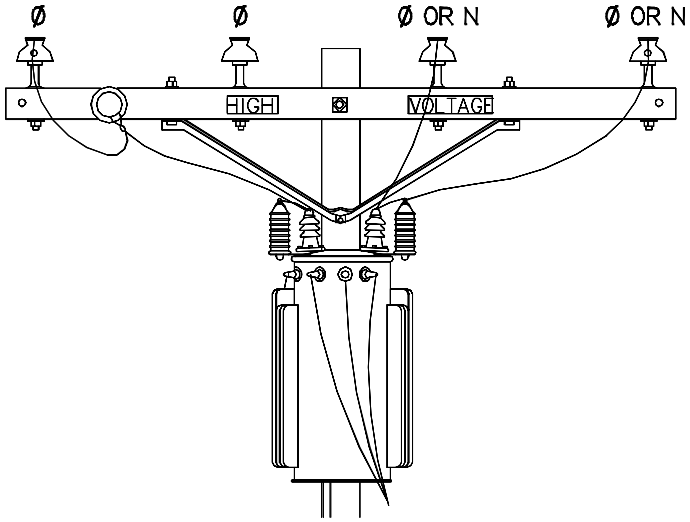
ID Missing, Damaged or Incorrect
Code 283

C. OVERHEAD REFERENCES

1. HIGH VOLTAGE SIGN REQUIREMENTS

The following diagrams illustrate high sign requirements.

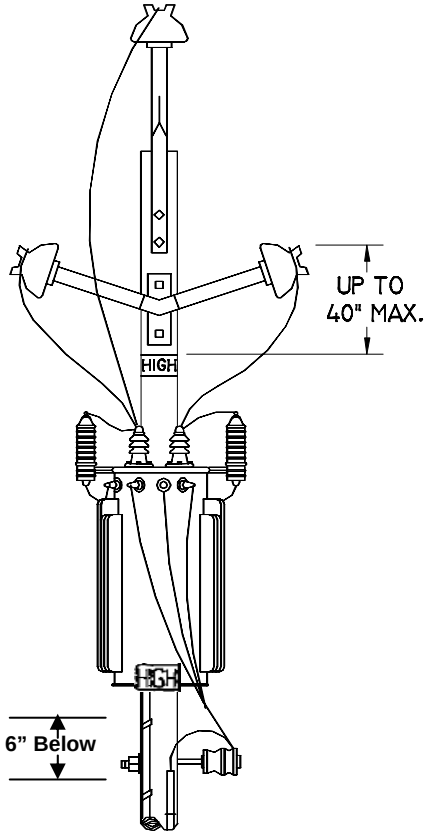
Diagram - General 'High Voltage Sign Requirements



CROSSARM CONSTRUCTION

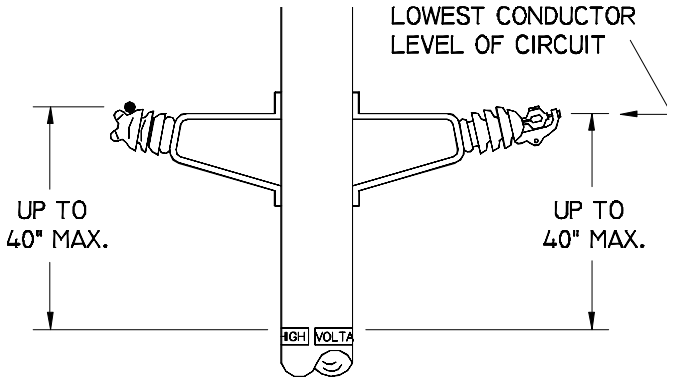
If there are large pieces of equipment on the pole such as transformers, regulators, capacitors or service restorers, the signs are to be placed on the line arms for new construction and 6 inches below the equipment on maintenance.

Crossarm construction may have the HIGH VOLTAGE signs placed on either the line arms or the pole, as shown in these illustrations. Signs are not required on equipment arms, switch arms, equipment mounting brackets, etc., nor does their existence relieve SDGE of the requirement to place high voltage signs on the line arms of the pole.

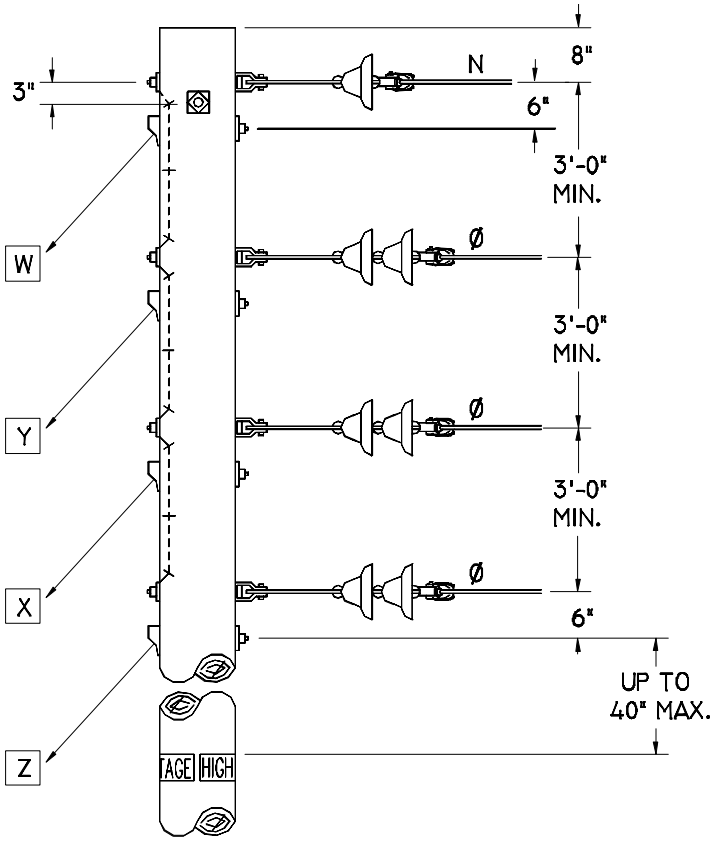


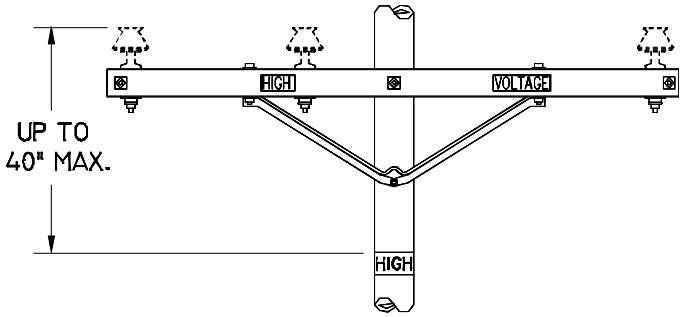
ARMLESS CONSTRUCTION

High voltage signs must be placed either within 40 inches of the lowest conductor of the circuit or 6 inches below the equipment. This also applies to cross arm construction. Place the high voltage signs above the transformer or other large pieces of equipment but below the lowest conductor of the circuit. Signs placed on the pole need to encircle the pole so that the yellow warning color is visible from all directions.

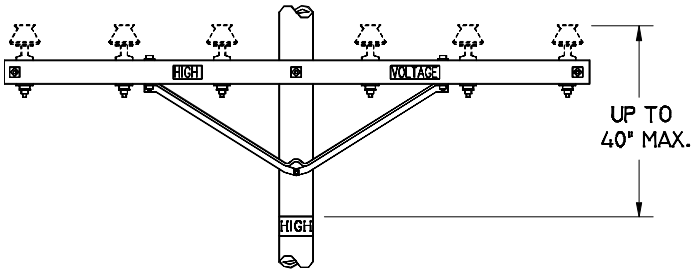


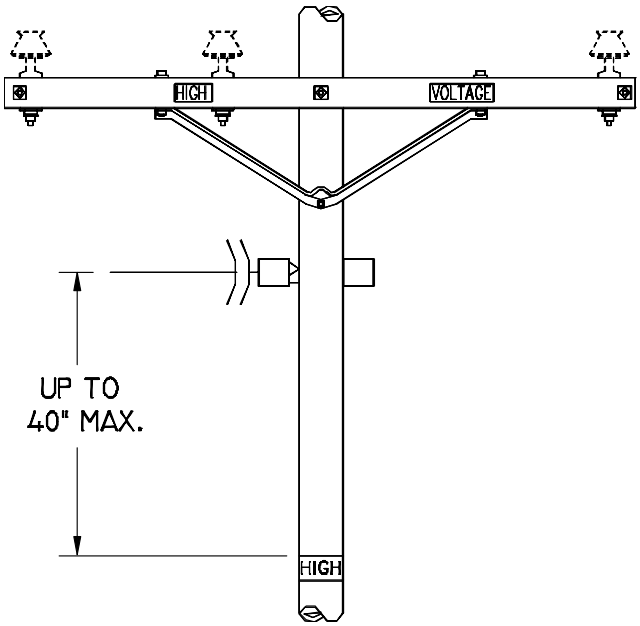
Signs placed on the pole need to encircle the pole so that the yellow warning color is visible from all directions.



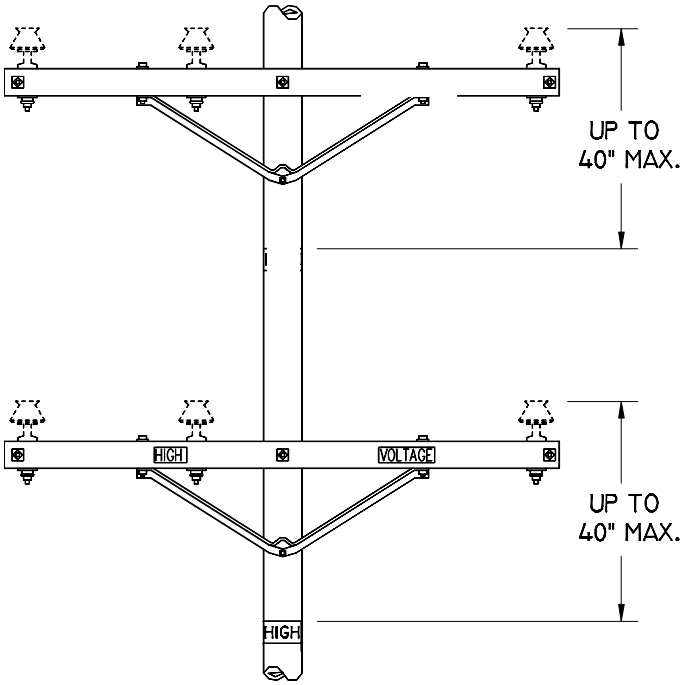


Signs may be placed on linearms or on the pole. It is not required to have signs in both locations.





Signs may be placed on linearms or on the pole. It is not required to have signs in both locations.

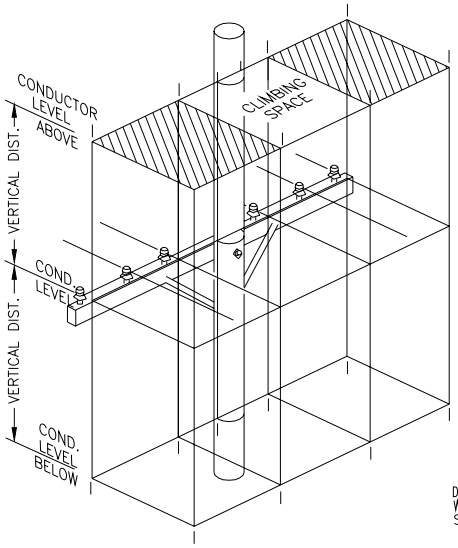


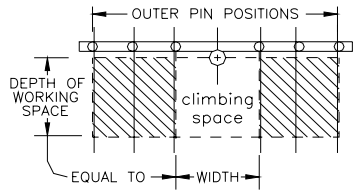
2. WORKING AND CLIMBING SPACE

DIMENSIONS OF WORKING SPACE

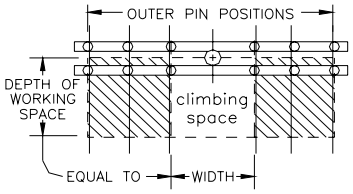
THE VERTICAL DIMENSIONS OF WORKING SPACE ABOVE AND BELOW ANY CONDUCTOR LEVEL SHALL BE EQUAL TO THE VERTICAL DISTANCES BETWEEN CONDUCTORS SHOWN ON PAGES 221 AND 224 FOR VOLTAGES INVOLVED. THE WIDTH OF THE WORKING SPACE WHERE CROSSARMS ARE INVOLVED SHALL BE THE DISTANCE BETWEEN OUTSIDE PIN POSITIONS.

THE DEPTH OF THE WORKING SPACE WHERE CROSSARMS ARE INVOLVED SHALL BE EQUAL TO THE WIDTH OF THE CLIMBING SPACE AND SHALL BE MEASURED HORIZONTALLY FROM THE CENTERLINE OF THE POLE.



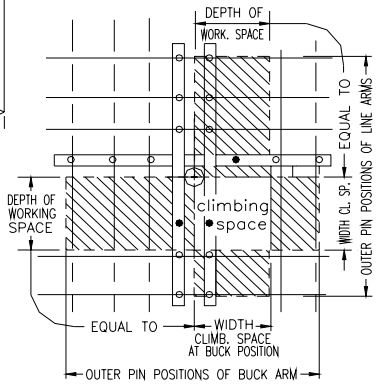


SINGLE LINE ARM

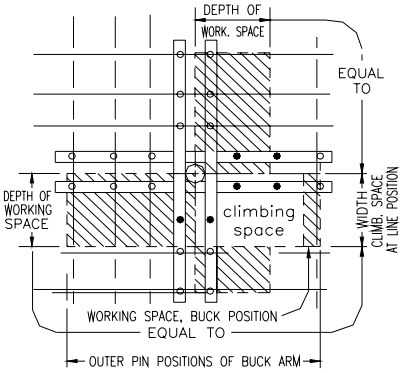


DOUBLE LINE ARM

WORKING SPACE AS RELATED TO POLE POSITION CLIMBING SPACE



DOUBLE LINE ARM AND SINGLE BUCK



DOUBLE LINE AND DOUBLE BUCK

LEGEND
WORKING SPACE

WORKING SPACE AS RELATED TO QUADRANT POSITION CLIMBING SPACE

ALLOWABLE CLIMBING SPACE OBSTRUCTIONS FOR CROSSARM CONSTRUCTION (G.O. 95 RULE 54.7-A3)

1) CROSSARMS AND BRACES
2) 2 GUYS PERMITTED IN ANY ONE 4 FT. VERTICAL SECTION OF CLIMBING SPACE.
3) SUITABLE PROTECTED VERTICAL CONDUCTORS SUCH AS RISERS, RUNS AND GROUND WIRE, WHICH ARE ATTACHED TO THE SURFACE OF THE POLE, PROVIDED THAT NOT MORE THAN TWO GUYS AND ONE VERTICAL RISER, RUN OR GROUND WIRE IS PERMITTED IN ANY ONE 4 FT. VERTICAL SECTION OF CLIMBING SPACE (SEE NOTE (A)).
4) ONE HALF DIAMETER OF INSULATORS AND THEIR ATTACHING BRACKETS SUPPORTING LINE CONDUCTORS.
5) ONE HALF DIAMETER OF STREET LIGHT BRACKETS AND ASSOCIATED STREET LIGHT BRACKET STRUTS.
6) ONE HALF DIAMETER OF SWITCH OPERATING RODS.
7) BANDS, LIMITED TO 6 INCHES IN WIDTH WITH NO MORE THAN ONE BAND PERMITTED IN ANY ONE 24 INCH VERTICAL SECTION OF CLIMBING SPACE.

ALLOWABLE CLIMBING SPACE OBSTRUCTIONS (G.O. 95 RULE 54.7-B2)

1) TAPS FROM CONDUCTORS ON LINE ARMS TO CONDUCTORS ON RELATED BUCK ARMS.
2) 0–750 VOLT SERVICE DROPS FROM LINE ARMS.
3) CUTOUTS AND THEIR LEADS.
4) LIGHTNING ARRESTERS AND THEIR LEADS.
5) SWITCHES AND THEIR LEADS.
6) TRANSFORMERS AND CAPACITOR LEAD WIRES.
7) TERMINAL FITTINGS OF RISERS AND RUNS AND THEIR TAPS MAY EXTEND INTO WORKING SPACE PROVIDED THESE FITTINGS ARE THE ONLY OBSTRUCTION OF THE WORKING SPACE AT THEIR LEVEL ON THE SAME SIDE OF THE CLIMBING SPACE.
8) STREET LIGHTS AND THEIR ASSOCIATED HARDWARE.

NOTES:

(A) TERMINALS OR TERMINAL FITTINGS OF RISERS OR RUNS, PVC, AND GUYS CONTACTING METAL PINS ARE NOT PERMITTED WITHIN THE CLIMBING SPACE. G.O. 95 RULE 54.7 A3.

B. CLIMBING SPACE SHALL BE MAINTAINED IN THE SAME POSITION FOR A DISTANCE OF 4FT. VERTICAL BOTH ABOVE AND BELOW EACH CONDUCTOR LEVEL THROUGH WHICH IT PASSES AND MAY BE SHIFTED NOT MORE THAN 1/4 OF THE DISTANCE AROUND THE POLE WHERE THE VERTICAL DISTANCE BETWEEN CONDUCTOR LEVELS IS 4 FT. OR MORE AND LESS THAN 8 FT. CLIMBING SPACE SHALL EXTEND UP TO A SINGLE LEVEL OF POLE–TOP CIRCUITRY, BUT NOT THROUGH AND ABOVE SUCH LEVEL.

	Indicates Latest Revision	Completely Revised	New Page	Information Removed

REVISION	SDG&E ELECTRIC STANDARDS	
DATE 1–1–98	WORKING AND CLIMBING SPACE	251
APPD PEA / DMK		

3. CLIMBING SPACE FOR HORIZONTAL INSULATOR CONSTRUCTION

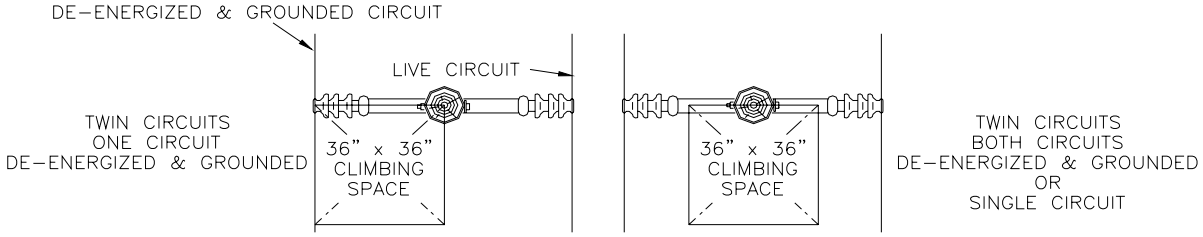
SCOPE: THIS STANDARD SHOWS AND EXPLAINS CLIMBING SPACE FOR HORIZONTAL INSULATOR CONSTRUCTION.

BONDED CIRCUITS – ANYWHERE ON POLE.

WORKMAN SHALL NOT GO ABOVE LOWEST CONDUCTOR LEVEL UNLESS:

1. CONDUCTORS ARE MOVED OUT FROM POLE BY ACCEPTED "HOTLINE" TECHNIQUES OR:
2. ONE OR BOTH CIRCUITS ARE DE–ENERGIZED AND BOND WIRES AND DE–ENERGIZED CIRCUIT ARE GROUNDED AND CLIMBING SPACE PROVIDED AS SHOWN BELOW.

CLIMBING SPACE IS TO EXTEND FROM 4' BELOW LOWEST CONDUCTOR TO 4' ABOVE TOP CONDUCTOR IF NOT AT TOP OF POLE.

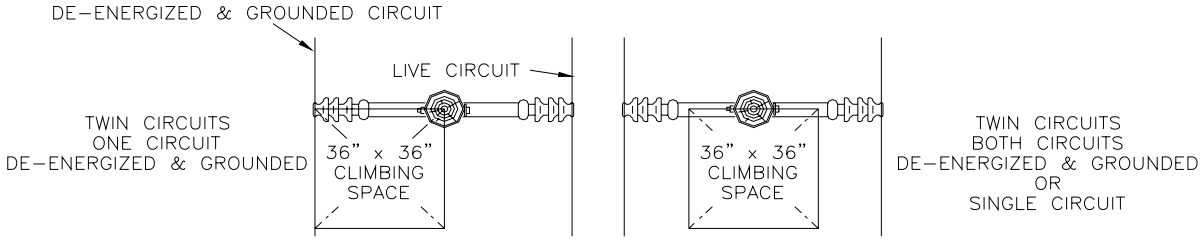


UNBONDED CIRCUITS – AT TOP OF POLE.

WORKMAN SHALL NOT GO ABOVE LOWEST CONDUCTOR OF CIRCUIT SUPPORTED AT TOP OF POLE UNLESS:

1. CONDUCTORS ARE MOVED OUT FROM POLE BY ACCEPTED "HOTLINE" TECHNIQUES OR:
2. ONE OR BOTH CIRCUITS ARE DE–ENERGIZED AND GROUNDED AND CLIMBING SPACE PROVIDED AS SHOWN BELOW.

CLIMBING SPACE IS TO EXTEND FROM 4' BELOW LOWEST CONDUCTOR TO CONDUCTOR AT TOP OF POLE.



UNBONDED CIRCUITS – BELOW POLE TOP.

FOR 750–46,000 VOLTS
EXCEPT FOR DEAD–ENDS

CLIMBING SPACE IS TO EXTEND FROM 4' BELOW THE LOWEST CONDUCTOR TO 4' ABOVE THE TOP CONDUCTOR AND SHALL HAVE DIMENSIONS AS SHOWN BELOW.

DIMENSIONS "A"
750 – 46,000 VOLTS – 36"
46,000 – 75,000 VOLTS – 48"
MORE THAN 75,000 VOLTS – 48"
PLUS 1/2" PER KV IN
EXCESS OF 75 KV

INSTALLATION:

A. WHERE TWO POST INSULATORS OR INSULATOR BRACKETS ARE ATTACHED TO POLE WITH A COMMON BOLT OR BOLTS, THESE INSULATORS ARE CONSIDERED TO BE BONDED.

REFERENCE:

B. SEE G.O. 95 RULE 54.11 F.1–4 FOR CLIMBING SPACE REQUIREMENTS.

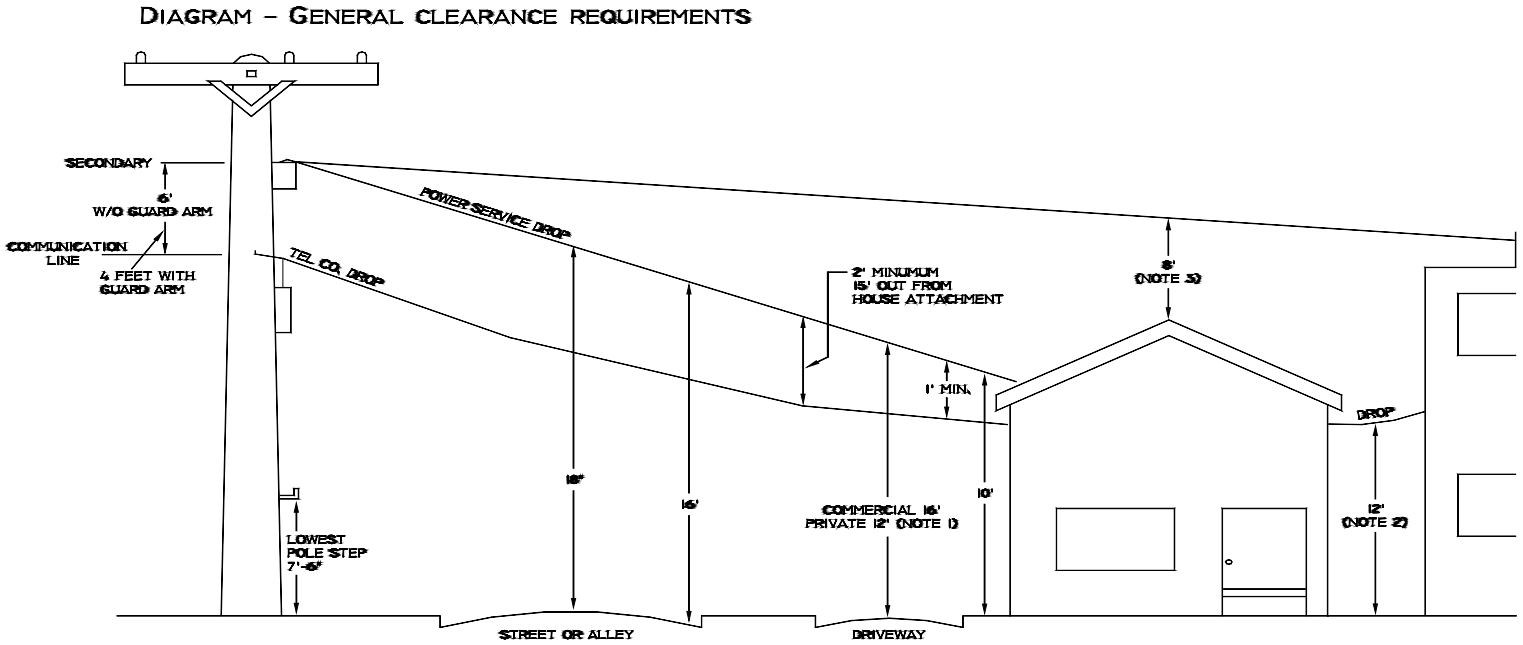
	Indicates Latest Revision	Completely Revised	New Page	Information Removed
252	SDG&E ELECTRIC STANDARDS			REVISION
	CLIMBING SPACE FOR HORIZONTAL INSULATOR CONSTRUCTION			DATE 1–1–91 APPD PLA / RDG

4. OVERHEAD CLEARANCE AND CLIMBING SPACE REQUIREMENTS

Table - Summary of clearance requirements

VERTICAL CLEARANCES ABOVE GROUND, TRAILS, ROOF, ETC.		
WHERE WIRES OR CABLES CROSS OVER	MINIMUM VERTICAL CLEARANCE	
	TEL WIRES OR CABLES AND DROP WIRE RUNS ALONG THE LEAD	TELEPHONE SERVICE DROPS
(1) Highways, streets, roads or alleys in urban or rural areas	18 ft.	18 ft.
(1) Steam railways	25 ft.	25 ft.
(1) Driveways in urban or rural areas:		
(a) Commercial or agricultural premises	18 ft.	16 ft.
(a) Residential premises	18 ft.	12 ft.
(1) Private vehicular entrance to fields, orchards, etc., in rural districts	15 ft.	15 ft.
(1) Areas not under cultivation and over which there is no likelihood of vehicular or agriculture traffic, includes areas accessible to horseback riders.	13 ft.	13 ft.
(1) Areas accessible to pedestrians only:		
(a) Industrial and commercial only	10 ft.	12 ft.
(a) All other areas	10 ft.	10 ft.
(1) Roofs of all buildings on premises served:		
(a) Roofs having pitch less than 3/8	8 ft.	3 in.
(a) Roofs having pitch of 3/8 or greater	2 ft.	3 in.
(a) Where conductors do not overhang buildings by more than 6 feet, roofs of any pitch	2 ft.	3 in.
(1) Roofs of buildings on premises other than premises served:		
(a) Roofs having pitch less than 3/8	8 ft.	8 ft.
(a) Roofs having pitch of 3/8 or greater	2 ft.	2 ft.
(a) Where conductors do not overhang buildings by more than 6 feet, roofs of any pitch		2 ft.
(1) Where wires or cables run along highways, streets or alleys:		
(a) In urban districts generally	18 ft.	
(a) In rural districts generally	15 ft.	
(a) In rural districts only where no part of the line overhangs the part of the thoroughfare ordinarily traveled and where it is unlikely that vehicles will cross under the line	13 ft.	
(a) Where the ground underneath is accessible to pedestrians only	10 ft.	
MINIMUM CLEARANCES IN FEET AT CROSSINGS OF WIRES AND CABLES CARRIED ON DIFFERENT SUPPORTS OR MIDSPAN ON SAME SUPPORTS		
TYPE OF CROSSING WIRES AND CABLES	TELEPHONE OPEN WIRES, CABLES, MESSENGER, DROPS AND GUYS	
	CROSSING UNDER	CROSSING OVER
(1) Open supply wires 0-750 volts and supply cables having effectively grounded sheath or messenger - all voltages:		
(a) Line wires	4	4
(a) Service wires	4	2
(1) Open supply line or service wires:		
(a) 750-7500 volts	4	Not GTC practices
(a) 7500-22500 volts	6	Not GTC practices
(a) Over 22500 volts	8	Not GTC practices
(1) * Foreign guys, span wires, lightning protection wires	2	2
(1) Foreign communication wires, cable & fire alarm wires	2	
(1) Trolley contact conductors		
(a) 750 volts or less		4
* Clearances from foreign communications, wires & cables which do not meet telephone company protection standards shall be the same as for supply wires or cables.		
MINIMUM HORIZONTAL CLEARANCE OF POLES FROM OTHER OBJECTS		
Fire hydrants	4 ft.	
Curbs	6 in. from surface of pole to field side of curb	
Railroad tracks	12 ft. measured to nearest rail.	

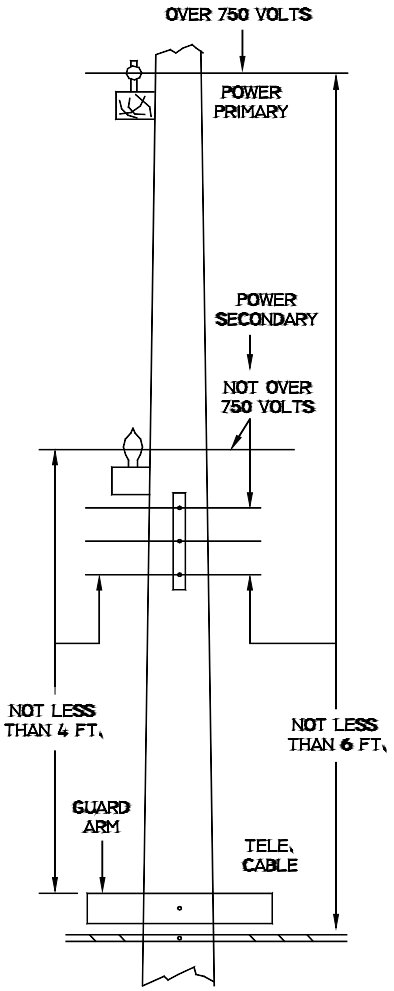
DIAGRAM - GENERAL CLEARANCE REQUIREMENTS

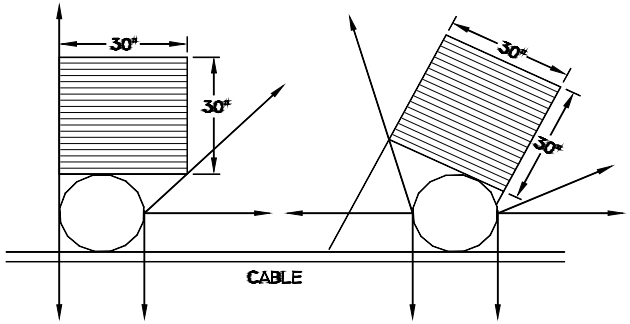


NOTES: 1 MAY BE REDUCED TO 10' FOR SSC SERVICES.
2 MAY BE REDUCED TO 8'-6" FOR SSC SERVICES (PEDESTRIAN ACCESS ONLY).
3 MAY BE REDUCED TO 2' FOR SSC SERVICES (BOTH BUILDINGS ON THE SAME PROPERTY, NO REDUCTION FOR BUILDINGS ON DIFFERENT PROPERTY).

IF REPORTING A CODE 262 (LOW RESIDENTIAL SERVICE) AND THE WEATHERHEAD (HOUSEKNOB) IS DAMAGED, NOTE THE DAMAGED WEATHERHEAD IN THE COMMENTS AREA OF DIMS/MDT.

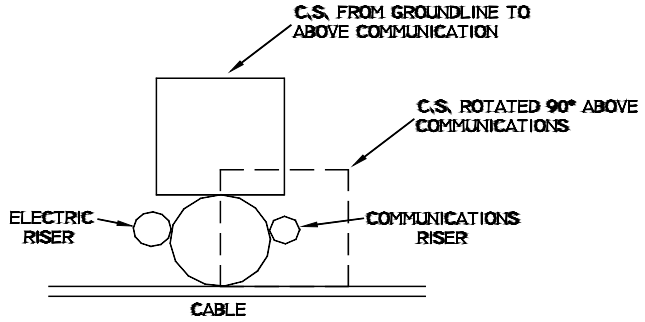
DIAGRAM - GENERAL CLIMBING SPACE REQUIREMENTS





CLIMBING SPACE

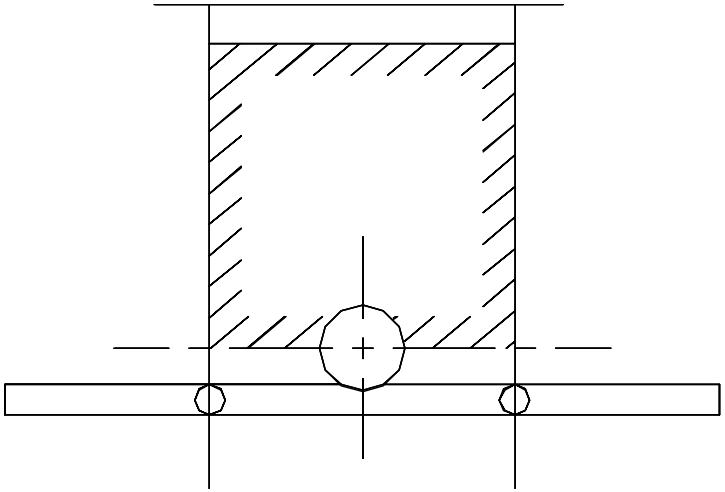
PLACE DROPS IN THE SAME QUADRANT AS POWER SERVICE DROP FOR THE SAME SERVICE LOCATION.



ADDITIONAL CLIMBING SPACE DIMENSIONS

Dimensions where line arms only are involved

Voltage of Conductors	Dimensions of square
0 - 7,500 Volts	30 inches
7,500 - 46,000 Volts	36 inches
More than 46,000 Volts	36 inches plus 1/2 inch per kV in excess of 46 kV



Climbing space, line arms only.

Dimensions where buck arms are involved

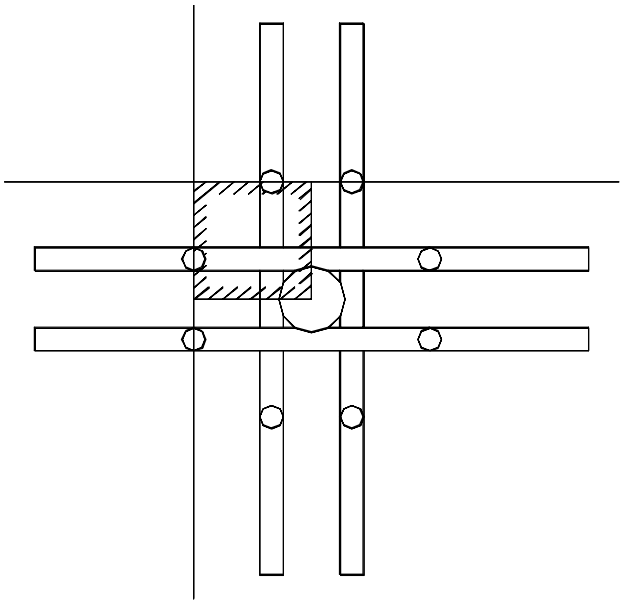
Dimensions where buck arms are involved: The climbing space where line arms and related buck arms are involved on poles or structures shall be on one side or face of the pole, or in a quadrant as defined below:

(a) Where the vertical clearance between conductors on line and buck arms is four feet or more: The climbing space shall be provided on one side or face of the pole for each arm, as for line arms only.

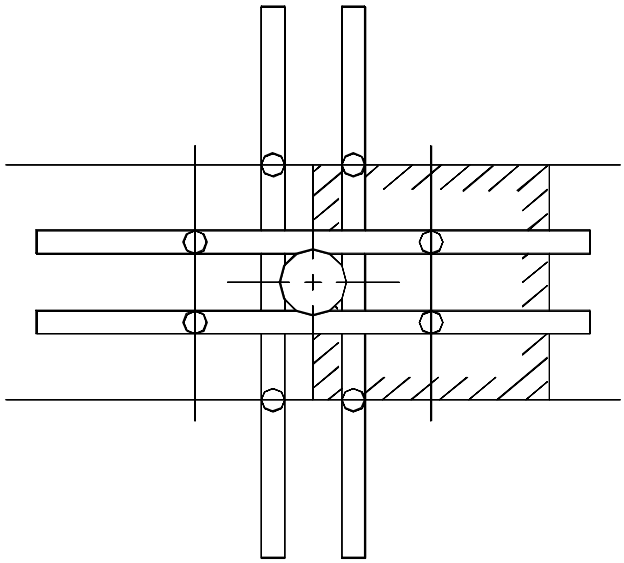
(b) Where the vertical clearance between conductors on line and buck arms is less than four feet: The climbing space shall be provided through such levels and located in a quadrant and shall have at least the following dimensions (see figure at left, below):

Voltage of Conductors	Dimensions of square
0 - 7,500 Volts	30 inches
7,500 - 35,000 Volts	42 inches

For circuitry located at pole top, the climbing space specified for line arms only may be applied to the lower arms and up to, but not through, the conductors on the top arm (see figure at right, below).



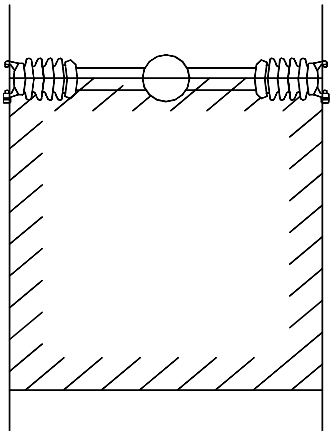
Pole top or below pole top



(Optional) At pole top

Where insulators are in vertical or horizontal position (vertical or triangular configuration) more than 750 Volts

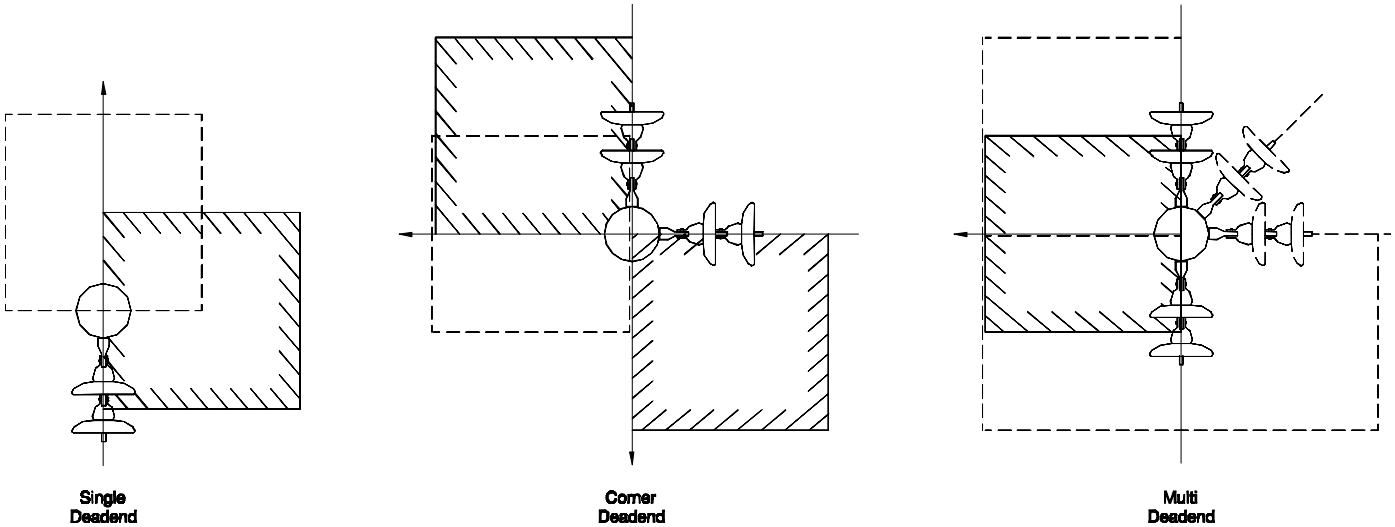
Voltage of Conductors	Dimensions of square
750 - 46,000 Volts	36 inches
46,000 - 75,000 Volts	48 inches
More than 75,000 Volts	48 inches plus 1/2 inch per kV in excess of 75 kV



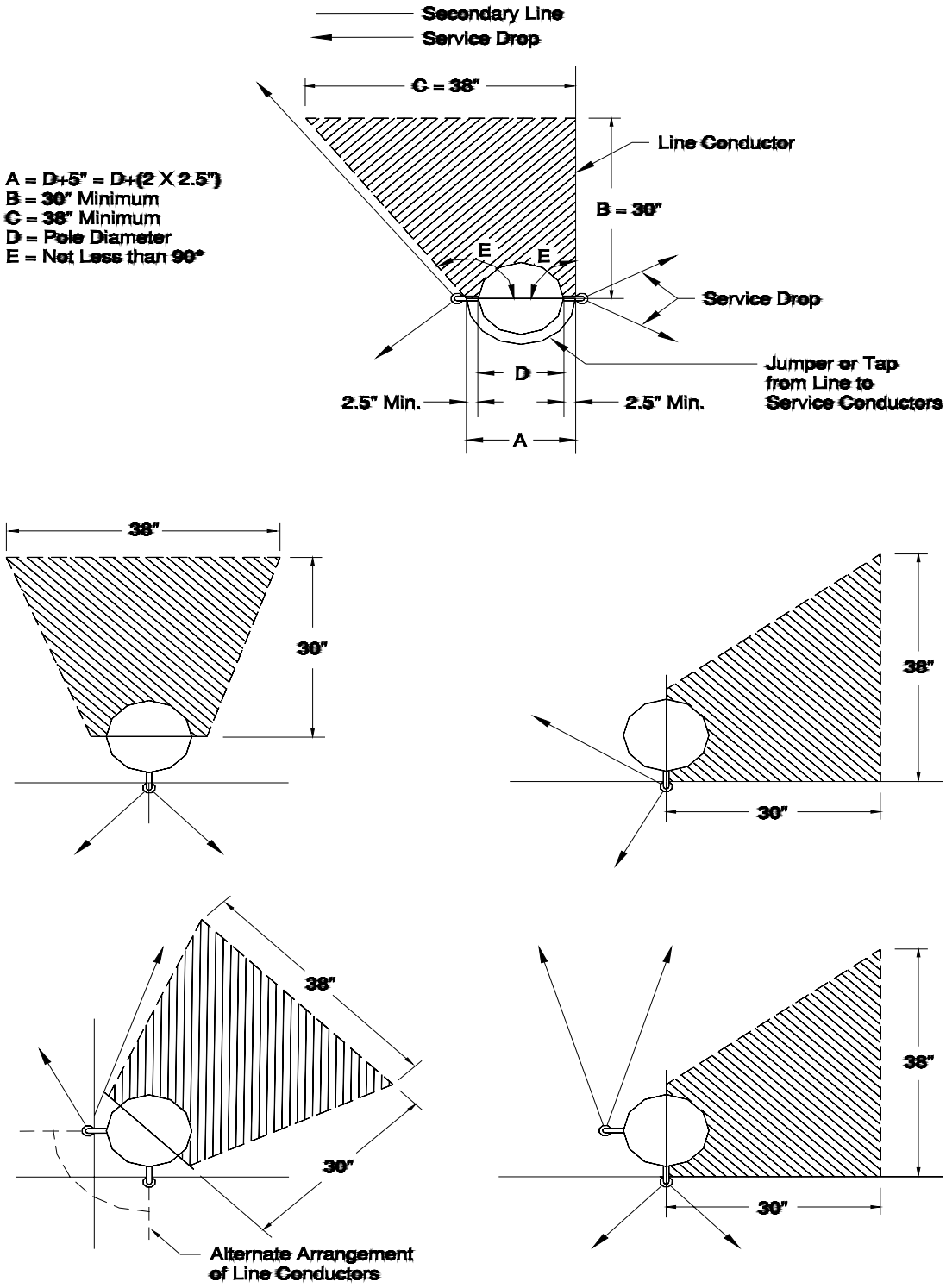
Where conductors are deadended in vertical configuration

Climbing space through conductors shall be a square:

Voltage of Conductors	Dimensions of square
750 - 7,500 Volts	30 inches
7,500 - 46,000 Volts	36 inches
More than 46,000 Volts	36 inches plus 1/2 inch per kV in excess of 46 kV



Climbing space low voltage racks 0-750 Volts



Allowable climbing space obstructions

Allowable climbing space obstructions in triangular and vertical configuration without the use of wood crossarms are:

(1) Crossarms, brackets, and their supporting members.

(2) Insulators which support line conductors, jumpers, and incidental wires may extend one-half of their diameter into the climbing space.

(3) Conductors may extend one-half their diameter into the climbing space.

(4) Suitably protected (covered only by wood):

- Vertical risers; or
- Vertical runs; or
- Ground wires

Such risers, runs and grounds are allowable, provided that not more than one is installed in any 4-foot section of climbing space.

(5) Guys. However, not more than two guys having a vertical separation of 18 inches or less can be installed in any 4-foot section of climbing space.

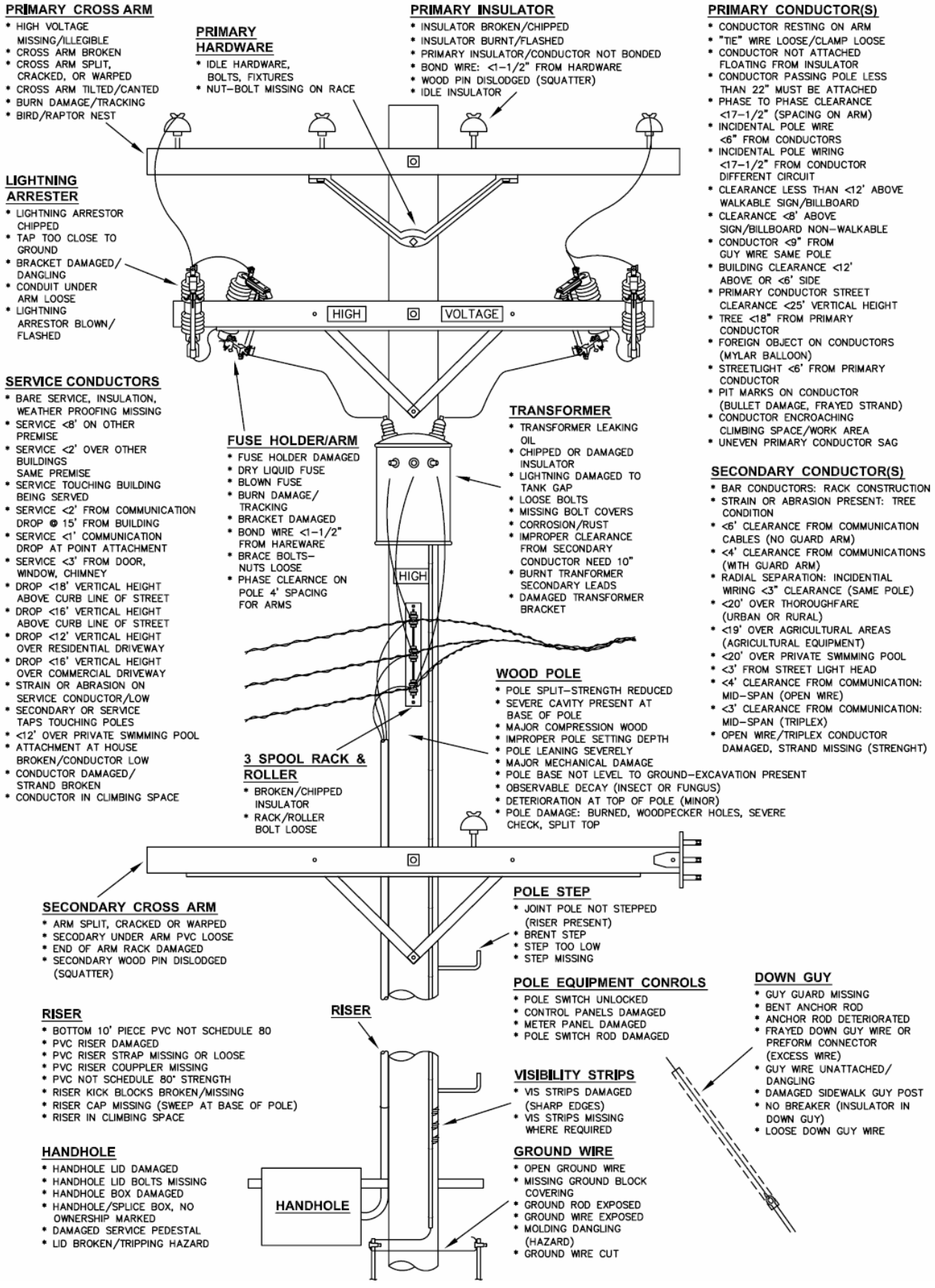
(6) Steet light brackets may extend one-half their diameter into the climbing space. Associated street light bracket struts are allowed in the climbing space.

(7) Operating rods (e.g. switch rods) and their associated hardware may extend one-half their diameter into the climbing space.

(8) Bands, limited to 6 inches in width with no more than one band allowed in any 24-inch section of climbing space (these limitations are excluded for pole stubbing and pole splicing bands when pole steps are installed).

(9) Bolts and their washers. If bolts are bonded, a secure electrical contact shall be made. The covering of bolts and bond wire is not required in triangular and vertical configuration without the use of wood crossar

5. OVERHEAD DETAIL INSPECTION SUMMARY



IV. UNDERGROUND CONDITIONS

A. UNDERGROUND CONDITION CODES

1. UNDERGROUND CONDITION CODE DETAIL

These tables are organized into three sections:

GO conditions (Infractions)
These are conditions, which must be corrected in the ten-month period and are governed by GO128.

Reliability Conditions
These are conditions, which do not fall within the General Order, but are determined to affect system reliability and may be repaired based on engineering evaluation or experience.

Discretionary Conditions
These are conditions, which are neither governed by General Order, nor are determined to have a significant impact on system reliability, and may be corrected at the discretion of the district.

Underground GO Conditions

Code	Description	GO 128 Requirements / UG Standards / Standard Practice	On Site Maintenance	Follow-up Maintenance	Ref.
1	Id/Circuit/Switch # Missing or Incorrect	SDGE Electric Standards requires all major overhead distribution equipment and structures to be properly identified and numbered. Use this code if id/circuit/switch #'s are missing or incorrect.	Fix on site if missing	Follow-up fix if incorrect	SP602 UG3103 UG3211 UG3212
5	High Voltage Sign Missing/Damaged (Outside/Inside)	GO 128 Rule 35.3 requires warning signs indicating high voltage shall be installed on an interior, or barrier if present, inside the entrance of vaults, manholes, hand holes, pad mounted transformer compartments, and other above ground enclosures. Such warning signs shall also be installed on an exterior surface of all such pad mounted transformer compartments and other above ground enclosures containing exposed live parts above 750 volts. High voltage sign not needed for any SS10 cycle. For dead front equipment use code 4.	Fix on site if missing, exposed live parts put in comment field inside/outside.		SP602 UG3221
8	Cable/Cable Pole/Utility Termination compartment Not Tagged/Illegal/ Incorrect	GO 128 Rule 35.1 requires cables operating at a voltage in excess of 750 Volts be permanently and clearly identified by tags or other suitable means to indicate their operating voltage and the circuit with which they are normally associated at each manhole or other commonly accessible location of the underground system. Applies to ONLY multiple circuits.	Fix on site if missing	Follow-up fix if incorrect Follow-up to Service Standard utility label	SP602 UG3202 SS&G672
12	Temp Rise Equal to or More Than 20 Degree Fahrenheit	Standard Practice 120 indicates that when there is a 20 degree Fahrenheit difference between the cable and the connectors by using the infrared thermometer (3M heat tracker) an immediate action to replace the connector should be taken.		Follow-up fix. Notify your Electric Supervisor	SP602 SP120
14	Door/Cover/Enclosure/ Cabinet is Warped/ Damaged	Use this code when door/cover/enclosure/cabinet is warped /bent/damaged	Fix on site; prevent GO 128 wire entry	Change-out or re-bend	SP602 UG3408G O128 Rule 17.1
16	External Corrosion Replace (Severe)	There is excessive discoloration, excessive loss of paint, and pitting greater than 25% of the original equipment's wall thickness on more than 25% of the surface area of any 2 panels or more. The unit must be replaced if repairs are unlikely to last for five years. If any corrosion results in any wire entry or hole in the unit, code as 55 and immediately perform a temporary fix for the wire entry and schedule the unit to be replaced. Do not leave site in an unsafe condition.	The equipment must be replaced if the time to repair the unit exceeds the following criteria: 2 Man-hour for all single-phase equipment, 4 Man-hours for three-phase transformers 300kVA and below, 8 Man-hours for three-phase transformer500kVA and above, 4 Man-hours for all other three-phase equipment	The unit cannot be physically repaired based on the criteria in SP602.	SP606 UG3408 UG3553 GO 128 Rule 17.1
19	Cannot Open or Inspect, located or inaccessible	GO 128 Rule 17.2 requires all supply systems be inspected for the purpose of insuring that they are in good condition and in conformance with all applicable requirements. Use this code if the unit cannot be opened or inspected, located or inaccessible. If caused by foreign utility or private property owner, use code 401. For trees, record as19 in MDT and send IO to Veg Management. Leave code open until the cause is corrected and the facility is inspected.	Fix on site if object causing this condition is removable	Record in DIMS. Code 19 will remain pending until inspected. For tree/veg ensure accurate address, for removal leave yellow door hanger for affected customers, quantity of trees	SP602

Underground GO Conditions (cont.)

Code	Description	GO 128 Requirements / UG Standards / Standard Practice	On Site Maintenance	Follow-up Maintenance	Ref.
20	Penta Bolts/Latch/Lock Missing - Unit Unsecured	GO 128 Rule 34.3A requires equipment case or enclosure to be secured in place and be of sufficient strength to resist entrance or damage to the equipment by unauthorized persons.	Install bolt/tie-down/lock to prevent GO 128 violations; Secure to prevent entry	Install latch	SP602 UG3501
21	Elbows, Caps or Racks Damaged/ Missing	Use this code when elbows and racks are damaged and/or caps missing or damaged.		Follow-up fix by crew	-
24	Hinge Broken	GO 128 Rule 34.3A requires equipment case or enclosure to be secured in place and be of sufficient strength to resist entrance or damage to the equipment by unauthorized persons.	Secure to prevent entry	Weld hinge or change out cabinet	SP602
26	Ground Rods or Studs Missing	GO 128 Rule 36.5-C(2) allows conductors and equipment to be effectively grounded by connections at one or more locations to driven ground rods or other suitable grounding electrodes.		Follow-up fix, if missing or corroded out; install new rod	SP602 UG4501
29	Hold Downs Broken, Corroded or Missing	GO 128 Rule 34.3A requires equipment case or enclosure to be secured in place and be of sufficient strength to resist entrance or damage to the equipment by unauthorized persons.	Install missing or bad hardware	Drill/install new tie downs	SP602
30	External Corrosion Repairable (Severe)	There is excessive discoloration, excessive loss of paint, and pitting greater than 25% of the original equipment's wall thickness on more than 25% of the surface area of any 2 panels or more. The unit should be repaired if the life of the unit can reasonably be extended 5 years.	The equipment must be replaced if the time to repair the unit exceeds the following criteria: 2 Man-hour for all single-phase equipment, 4 Man-hours for three-phase transformers 300kVA and below, 8 Man-hours for three-phase transformers 500kVA and above, 4 Man-hours for all other three-phase equipment	The unit cannot be physically repaired based on the criteria in SP602.	GO 128 Rule 17.1 SP602
35	Internal Corrosion Repairable (Severe)	There is excessive discoloration, excessive loss of paint, and pitting greater than 25% of the original equipment's wall thickness on more than 25% of the surface area of any 2 panels or more. Repairable internal severe corrosion not visible from the outside of the equipment should be coded as "Internal Corrosion Repair" – Code 35. The unit should be repaired if the life of the unit can reasonably be extended 5 years.	The equipment must be replaced if the time to repair the unit exceeds the following criteria: 2 Man-hour for all single-phase equipment, 4 Man-hours for three-phase transformers 300kVA and below, 8 Man-hours for three-phase transformers 500kVA and above, 4 Man-hours for all other three-phase equipment	The unit cannot be physically repaired based on the criteria in SP602.	GO 128 Rule 17.1 SP602
38	Internal Corrosion Replace (Severe)	There is excessive discoloration, excessive loss of paint, and pitting greater than 25% of the original equipment's wall thickness on more than 25% of the surface area of any 2 panels or more. The unit must be replaced if repairs are unlikely to last for five years. Internal severe corrosion not visible from the outside of the equipment that can not be repaired should be coded as "Internal Corrosion Replace" – Code 38.	The equipment must be replaced if the time to repair the unit exceeds the following criteria: 2 Man-hour for all single-phase equipment, 4 Man-hours for three-phase transformers 300kVA and below, 8 Man-hours for three-phase transformers 500kVA and above, 4 Man-hours for all other three-phase equipment	The unit cannot be physically repaired based on the criteria in SP602.	GO 128 Rule 17.1 SP602
48	Lid with gap or bent, possible slip or trip	This code addresses substructure lids that have a gap, are uneven , or bent that pose a trip or slip hazard.		Follow-up fix by crew	GO 128 Rule17.1, 17.2
49	Traffic lid gasket deteriorated or missing	This code addresses substructure lids that have a gasket which has deteriorated or is missing, causing the lid to have a gap or become uneven, posing a potential safety hazard.		Follow-up fix by crew	GO 128 Rule17.1, 17.2

Underground GO Conditions (cont.)

Code	Description	GO 128 Requirements / UG Standards / Standard Practice	On Site Maintenance	Follow-up Maintenance	Ref.
50	Improper Grounding	GO 128 Rule 36 requires conductors used for grounding connections to be made of copper or other corrosion resistant material, or be suitably protected against corrosion; to have sufficient conductivity to carry the fault currents, and in no case less than the conductivity equivalent of #6 AWG Copper; and to be attached by means of suitable lugs, pressure connectors, clamps, welds, or other suitable means.		Follow-up crew repair or replace	SP602 UG4501
51	Vent Fan/Vault Blower Damaged/Not Running	GO 128 Rule 17.1 requires that all equipment and materials that are part of the supply system be maintained in a condition which will provide adequate service and secure safety to workmen, property, and the general public. If vent fan/vault blower exists, it must be maintained. If missing and there is not adequate ventilation, then one must be installed.		Follow-up crew repair or replace	SP602
55	Possible Wire Entry	Code 55 may be associated with corrosion codes. Field clear code 55 if permanent repairs made on site. Leave pending if temporary repair was made. Never leave unsafe. Use code 55 to identify any gap between the pad & equipment (associated to the pad) and fix on site. Use code 55 to identify localized through-wall corrosion (associate to the equipment).	Caulk entry holes between pad & cabinet; use epoxy to patch holes. Caulk the front of the transformer to make safe. Leave in safe condition.	Change out equipment or weld/rivet metal patch.	UG3408 GO 128 Rule 17.1
56	Ground Wire Requires Covering	GO 128 Rule 36.5-C(1) allows for bare neutral conductors, metallic cable sheaths and shields, metal pipes and metal conduits to be grounded by burying them directly in the earth. Bare ground wire in the earth must be covered with dirt.	Cover with dirt	Re-concrete by street repair	UG4501
58	Infraction, No Applicable Code	Use this code to identify infraction conditions that do not have an existing code, but need immediate repairs. Provide comments in DIMS/MDT.	Leave equipment in a safe condition	Follow-up as needed.	-
59	Internal High Voltage Barrier Missing/Damaged	GO 128 Rule 35.2 and 21.6 states that live parts shall be isolated, guarded or insulated to prevent accidental contact by means of a suitable cover or barrier.	Fix on site if barriers are available.	Contact Kearny to make replacement barriers	
63	Oil Leak From Bushing/Case/Duct/ Cable	Use this code where there is oil leaking from bushings/case/duct/cable. Reference SP122 on follow-up repair requirements.	Empty transformer if to large oil spill, change out ASAP as per 122	Follow-up fix on leaking transformer	SP122
93	Switch Legs or Hold Downs Corroded	GO 128 Rule 34.3A requires equipment case or enclosure to be secured in place and be of sufficient strength to resist entrance or damage to the equipment by unauthorized persons. Corroded switch legs and hold down bolts should be repaired or replaced.	Scrape and paint legs with galvanized paint, replace corroded hold down bolts.	Change out legs	SP602
95	No External Working Space	GO 128 Rule 33.6A requires working space to be available at all times for the safe operation, maintenance, and replacement of equipment. If caused by foreign utility or private property owner, use code 400. If caused by trees use code 330. Refer to UG standards in reference column for working space requirements. Cannot be corrected on site but can be inspected. 8' front clearance and no touch on sides.		Turn in follow-up to Electric Supervisor. Electric Supervisor may clear if equipment can be worked safely.	SP602 UG3481 UG3483 UG3486

Underground GO Conditions (cont.)

Code	Description	GO 128 Requirements / UG Standards / Standard Practice	On Site Maintenance	Follow-up Maintenance	Ref.
238	Abandoned Facilities	GO128 17.1 requires all structures to be maintained.		Turn in to Electric Supervisor to determine if structures should be removed or if there is a future use. If there is a future use, and structure is kept, it needs to be maintained.	GO95 Rule31.6
330	No external Work Space Caused by Tree/Veg	Use this code when trees/vegetation are in the working space. Unit can be inspected. Record in the MDT. Do not send in an IO. Use 95 if not vegetation related. Use code 400 if caused by foreign utility/private property owner. 8' front clearance and no touch on sides		Leave door hanger. Obtain signed removal card, if applicable. Use abbrev. key	
400	No External Work Space Caused By Foreign Utility/Private Property Owner	GO 128 Rule 33.6A requires working space to be available at all times for the safe operation, maintenance, and replacement of equipment. 8' front clearance and no touch on sides. Refer to UG standards for working space requirements. For trees, use Code 330. Use 95 if not veg or foreign utility / private property owner.	Record in MDT and submit an IO to Compliance Management.	Electric Supervisor may clear if equipment can be worked safely	SP602 UG3486 UG3486.2 UG3486.3
401	Cannot Open. Locate, or Inspect-Inaccessible Caused By Foreign Utility or Private Property Owner	GO 128 Rule 17.2 requires all supply systems to be inspected for the purpose of insuring that they are in good condition and in conformance with all applicable requirements. Use this code if the unit cannot be opened, located or inspected. For trees, record 19 in MDT and send IO to Veg Management. Use 19 if not foreign utility / property owner.	Record in MDT and send IO to Compliance Management.		GO 128 Rule 17.2

Underground Reliability Conditions

Code	Description	Standard Practice	On Site Maintenance	Follow-up Maintenance	Ref.
22	Handles On Handholds Damaged/Missing	Use this code when the handhole handles are damaged or missing.	Repair on site, if possible.	Follow-up for repair crew	
23	External Working Space Sign Missing	SDG&E Standards require workspace around pad-mounted equipment to be defined. Workspace requirement sign shall be posted on pad mount equipment.	Fix on site.	Turn in follow-up to Electric Supervisor	UG3240 UG3240.1
31	Internal working Clearance Not Adequate	Use this code to identify conditions where the internal work clearances are not adequate. The structure must be tagged “Do Not Enter Energized” in order to denote as a reliability condition. Notify Switching Center that the hole has been tagged DEE (Do Not Enter Energized).	Rearrange/ tie-down cable on site, no tagging necessary and field clear the infraction.	Turn in follow-up to Electric Supervisor. Note in the comment field the cause of the infraction and whether or not the handhole can be worked with sticks.	UG3605.1 UG3605.2 To UG3649.23
34	SCADA Inoperable	Use this code when tagged by Kearny as SCADA inoperable		Turn into Electric Supervisor to remove or replace switch	SP603
36	Need Barrier Posts For Vehicular Traffic	All equipment that may be subjected to vehicular traffic or vehicular contact in alleys, parking lots, etc. and need barrier posts.		Turn in follow-up to Electric Supervisor.	SP602
37	Need Retaining Wall	A retaining wall should be installed if soil could erode and come in contact with the facility.	Remove soil that has eroded on or over structure.	Turn in follow-up to Electric Supervisor to have retaining wall installed.	SP602
39	Gas Level Low	For padmount mount switches, if the pressure is below 5 PSIG, record the pressure and tag the switch. If the pressure is confirmed below 5 PSIG, but above 3 PSIG, the switch must remain tagged “DO NOT OPERATE ENERGIZED”, until gas can be added to bring the pressure above 5 PSIG. If the pressure is confirmed below 3 PSIG, DO NOT ADD GAS, TAG DOE. For subsurface gas switches, if the pressure is below 7 PSIG, tag the switch DOE. Do not add gas energized where the switch has been submerged and the pressure is below 3 PSIG, tag the switch “DOE” and tag the entrance to the structure “Do Not Enter with the Switch Energized (DEE)”. Refer to SP603 inspection and SP230 adding gas.	Correct condition on site if practicable following SP603 and SP230.	Follow-up to Electric Supervisor to replace switch	SP603 SP230
40	Contaminated Dielectric	This code is automatically generated by DIMS when the lab test result does not meet dielectric limit. Condition status will remain pending until problem is corrected.		Replace switch/tag switch	SP603 SP210 UG3501
43	Dielectric Meets Limit	This code is automatically generated by DIMS when the lab test result meets dielectric limit. Pending condition status will be changed to cleared.	No action necessary. Untag switch if applicable.		SP603

Underground Reliability Conditions (cont.)

Code	Description	Standard Practice	On Site Maintenance	Follow-up Maintenance	Ref.
45	Cannot Take Oil Sample	Use this code when the switch oil sample cannot be taken for any reason.		Follow-up to be determined by the Electric Supervisor.	SP603
46	Do Not Enter Energized - Switch	Use this code for substructures that contain switches tagged DOE where the switch has been submerged and has an open tie position. Use code 31 for work space.	Tag switch DEE with reason for DEE on tag comment field	Follow-up to Electric Supervisor	SP603
73	Oil Level Low	Check sight glass for oil level. Estimate percentage of oil remaining from the middle of the sight glass (25 degrees line) to the bottom on the sight glass. If oil level cannot be determined, or oil level is confirmed below the lowest point of the sight glass, tag the switch “DO NOT OPERATE ENERGIZED”.	Correct condition on site if possible.	Add oil per SP210 instruction. Follow-up to Electric Supervisor	SP602 SP210
78	Sample Taken and Sent to lab	Use this code whenever an oil sample is taken in order to identify the bottle number for uploading lab data. When data is uploaded from lab, it will automatically clear 78 and code as 40 or 43. If lab uploaded bottle number does not find the same bottle #in the MDT, the data will not upload into DIMS.			SP603
85	Sump Pump Required / Damaged	Sump pumps are not a GO 128 requirement. If they are in place, they must work properly.	Clean intake & replace fuse.	Follow installation/ application per Ug3362. Notify Electric Supervisor.	SP602 UG3362
89	Fault Indicator Damaged/Missing	Fault indicators are not a GO 128 requirement. If they are in place, they must work properly.		Follow installation/ application per UG4352 and 4355. Notify your Electric Supervisor.	SP602 UG4352 UG4355
102	Overload Condition	Use this code to address an electrical overload, check with IR gun and amp meter.		Follow-up by Electric Supervisor	
121	Damaged or missing pull ring on Elbow/Caps	Use this code when the pull ring is damaged or missing on Elbows and Caps but can still be operated using the elbow pulling tool with hot sticks.			
150	No Applicable Code	Use this code to identify reliability or discretionary conditions that do not have an existing code. Provide comments in DIMS/MDT		Follow-up by Electric Supervisor	

Underground Discretionary Conditions

Code	Description	Standard Practice	On Site Maintenance	Follow-up Maintenance	Ref.
4	High Voltage Sign Missing or Damaged (Inside/Outside)	Use this code for dead front equipment where the internal warning signs are damaged or missing. For live front use code 5.	Correct condition on site, if practical.	Follow up to Electric Supervisor	
17	External Corrosion Repair (Light/Moderate)	For corrosion ranging from light where there is distinct discoloration of the coating, blisters or scaling resulting in a loss of paint to moderate where there is pitting less than 25% of the original equipment's wall thickness on less than 25% of the surface area of any 2 panels or more and the unit can be repaired to reasonably last until the next cycle. There are no signs of oil leaks or low gas pressure. (Check gas pressure with a second gage).	Correct condition on site. The unit can be repaired within the following times: 2 Man-hour for all single-phase equipment, 4 Man-hours for three-phase transformers 300kVA and below, 8 Man-hours for three-phase transformers 500kVA and above, 4 Man-hours for all other three-phase equipment		SP602 SP606
18	Internal Corrosion Repair (Light/Moderate)	For corrosion ranging from light where there is distinct discoloration of the coating, blisters or scaling resulting in a loss of paint to moderate where there is pitting less than 25% of the original equipments wall thickness on less than 25% of the surface area of any 2 panels or more and the unit can be repaired to reasonably last until the next cycle. Internal Moderate corrosion that is not visible from the outside of the equipment should be coded as "Internal Moderate Corrosion" – Code 018 with comments in the comment field comment field.	Correct condition on site. The unit can be repaired within the following times: 2 Man-hour for all single-phase equipment, 4 Man-hours for three-phase transformers 300kVA and below, 8 Man-hours for three-phase transformers 500kVA and above, 4 Man-hours for all other three-phase equipment		SP602 SP606
28	Paint Unit	Use this code when units are in need of painting. Ensure inside and outside surfaces are thoroughly prepared and clear of dirt and loose rust. Apply Loctite Extend Rust or POR-15 and allow time for the curing before applying paint.	Correct condition on site. The unit can be repaired within the following times: 2 Man-hour for all single-phase equipment, 4 Man-hours for three-phase transformers 300kVA and below, 8 Man-hours for three-phase transformers 500kVA and above, 4 Man-hours for all other three-phase equipment		SP606
42	Raise Unit	Use this code for any unit that needs to be raised or leveled.	Correct condition on site, if practicable.	Follow up to Electric Supervisor	SP602

Underground Discretionary Conditions

Code	Description		On Site Maintenance	Follow-up Maintenance	Ref.
44	Cracked	Use this code when the structure is cracked having a surface crack width of 1/64 inch (about the thickness of a standard business card) or more extending for a length of 18 inches or more, regardless of position. Through cracks are a crack or hairline crack 1/32 inch and less than 18 inches in length and not extending through the rebar area(s).	Correct condition on site, if practicable.	Follow up to Electric Supervisor	
47	Weeds, Trees, Bushes, Dirt, or Obstacle Outside Unit	Use this code when there are weeds, trees, bushes, dirt, or obstacles on or outside the unit and it can be field cleared. If the obstruction cannot be corrected on site, use code 19 or 95. Only put under equipment or sometimes structure if applicable but not both equipment and structure.	Correct condition on site		SP602
57	Grout Needed	Use this code where grout is needed to repair cracks, chips and spalls.	Correct condition on site. if practicable.	Follow up to Electric Supervisor	
74	Weeds, grass, dirt inside unit	Use this code when there are weeds, dirt, and grass inside the unit and can be corrected on site. Only put under equipment or sometimes structure if applicable but not both equipment and structure.	Correct condition on site		
99	No repairs needed				
151	Additional comments	Use this code to extend the comment field for any infraction, reliability, and discretionary condition. This code applies to UG only if the equipment and the structure comments have not been used.			

2. UNDERGROUND CONDITION CODE TEMPLATE- 05/17/05

Code	Condition	Description	Follow-Up Actions
1	**I**	Id/circuit/switch # missing or incorrect	Fix on site
4	**D**	Internal warning sign missing/damaged – deadfront	Fix on site
5	**I**	High voltage sign missing (outside/inside) – livefront	Fix on site
8	**I**	Cable/cable pole/Utility Termination Compartment not tagged/illegal/incorrect – Applies to multiple circuits only	Fix on site F/U to Service Standard utility label
12	**I**	Temp rise (= or > 20 degrees Fahrenheit).	F/U Notify Supervisor
14	**I**	Door/cover/enclosure/cabinet warped/damaged	Fix on site/change out or rebend
16	**I**	External Corrosion Replace (Severe) There is excessive discoloration, excessive loss of paint, and pitting greater than 25% of the original equipment's wall thickness on more than 25% of the surface area of any 2 panels or more. The unit must be replaced if repairs are unlikely to last for five years. If any corrosion results in any wire entry or hole in the unit, code as 55 and immediately perform a temporary fix for the wire entry and schedule the unit to be replaced. Do not leave site in an unsafe condition.	Make safe, F/U to replace unit. The equipment must be replaced if the time to repair the unit exceeds the following criteria: 2 Man-hour for all single-phase equipment, 4 Man-hours for three-phase transformers 300kVA and below, 8 Man-hours for three-phase transformer 500kVA and above, 4 Man-hours for all other three-phase equipment
17	**D**	For External Corrosion Repair (Light/Moderate) ranging from light where there is distinct discoloration of the coating, blisters or scaling resulting in a loss of paint to moderate where there is pitting less than 25% of the original equipment's wall thickness on less than 25% of the surface area of any 2 panels or more and the unit can be repaired to reasonably last until the next cycle. There are no signs of oil leaks or low gas pressure. (Check gas pressure with a second gage).	Correct condition on site if possible. The equipment must be replaced if the time to repair the unit exceeds the following criteria: 2 Man-hour for all single-phase equipment, 4 Man-hours for three-phase transformers 300kVA and below, 8 Man-hours for three-phase transformer 500kVA and above, 4 Man-hours for all other three-phase equipment
18	**D**	For Internal Corrosion Repair (Light/Moderate) ranging from light where there is distinct discoloration of the coating, blisters or scaling resulting in a loss of paint to moderate where there is pitting less than 25% of the original equipment's wall thickness on less than 25% of the surface area of any 2 panels or more and the unit can be repaired to reasonably last until the next cycle. There are no signs of oil leaks or low gas pressure. (Check gas pressure with a second gage).	Correct condition on site if possible. The equipment must be replaced if the time to repair the unit exceeds the following criteria: 2 Man-hour for all single-phase equipment, 4 Man-hours for three-phase transformers 300kVA and below, 8 Man-hours for three-phase transformer 500kVA and above, 4 Man-hours for all other three-phase equipment
19	**I**	Use this code if the unit cannot be located or inaccessible or cannot open or inspect – Enter remarks/for veg record in DIMS and send IO. Use code 401 for foreign utility/private property owner	Fix on site/if object is immovable turn in F/U. Record in DIMS. Code 19 will remain pending until inspected. For tree/veg ensure accurate address, for removal leave yellow door hanger (if applicable), quantity of trees.
20	**I**	Penta bolts/latch/lock missing – unit unsecured	Install bolt/tie-down/lock/latch
21	**I**	Elbows, caps or racks damaged/missing	F/U fix by crew
22	**R**	Handles on hand hole damaged/missing	Fix on site/F/U for crew
23	**R**	External working space sign missing	Fix on site/turn F/U to supervisor if inaccessible
24	**I**	Hinge broken	Make safe/weld hinge or C/O cabinet
26	**I**	Ground rods or studs missing	Fix if missing or corroded out; install new rod
28	**D**	Paint unit –Ensure inside and outside surfaces are thoroughly prepared and clear of dirt and loose rust. Apply Loctite Extend Rust or POR 15 and allow time for the curing before applying paint.	Correct condition on site if possible. The equipment must be replaced if the time to repair the unit exceeds the following criteria: 2 Man-hour for all single-phase equipment, 4 Man-hours for three-phase transformers 300kVA and below, 8 Man-hours for three-phase transformer 500kVA and above, 4 Man-hours for all other three-phase equipment
29	**I**	Hold downs broken/corroded or missing	Install missing or bad hardware/install new tie downs
30	**I**	External corrosion repairable (severe) There is excessive discoloration, excessive loss of paint, and pitting greater than 25% of the original equipment's wall thickness on more than 25% of the surface area of any 2 panels or more. The unit should be repaired if the life of the unit can reasonably be extended 5 years.	Correct condition on site if possible. The equipment must be replaced if the time to repair the unit exceeds the following criteria: 2 Man-hour for all single-phase equipment, 4 Man-hours for three-phase transformers 300kVA and below, 8 Man-hours for three-phase transformer 500kVA and above, 4 Man-hours for all other three-phase equipment
31	**R**	Use this code to identify conditions where the internal work clearances are not adequate. The structure must be tagged "Do Not Enter Energized" in order to denote as a reliability condition. Notify Switching Center that the hole has been tagged DEE (Do Not Enter Energized	Turn in follow-up to Electric Supervisor. Note in the comment field the cause of the infraction and whether or not the handhole can be worked with sticks.
34	**R**	SCADA inoperable tagged by Kearny	Turn into Electric Supervisor to remove or replace switch
35	**I**	Internal Corrosion Repairable (Severe) There is excessive discoloration, excessive loss of paint, and pitting greater than 25% of the original equipment's wall thickness on more than 25% of the surface area of any 2 panels or more. Repairable internal severe corrosion not visible from the outside of the equipment should be coded as "Internal Corrosion Repair" – Code 35. The unit should be repaired if the life of the unit can reasonably be extended 5 years.	Correct condition on site if possible. The equipment must be replaced if the time to repair the unit exceeds the following criteria: 2 Man-hour for all single-phase equipment, 4 Man-hours for three-phase transformers 300kVA and below, 8 Man-hours for three-phase transformer 500kVA and above, 4 Man-hours for all other three-phase equipment
36	**R**	Need barrier posts for vehicular traffic	F/U Notify Supervisor
37	**R**	Need retaining wall	Remove soil F/U to supervisor
38	**I**	Internal corrosion replace (severe)– C/O required – There is excessive discoloration, excessive loss of paint, and pitting greater than 25% of the original equipment's wall thickness on more than 25% of the surface area of any 2 panels or more. The unit must be replaced if repair are unlikely to last five years. Internal severe corrosion that not visible from the outside of the equipment should be coded as "Internal Replace Corrosion" – Code 38.	Make safe/replace unit. The equipment must be replaced if the time to repair the unit exceeds the following criteria: 2 Man-hour for all single-phase equipment, 4 Man-hours for three-phase transformers 300kVA and below, 8 Man-hours for three-phase transformer 500kVA and above, 4 Man-hours for all other three-phase equipment
39	**R**	Gas level low	Correct on site following SP603 and 230. Tag per SP603, 230.
40	**R**	Contaminated dielectric	Auto generated code, tag appropriately
42	**D**	Raise unit	Fix on site/F/U to supervisor
43	**R**	Dielectric meets limit	Auto generated code, tag appropriately
44	**D**	Cracked structure	Fix on site
45	**R**	Cannot take oil sample	F/U Notify Supervisor

UNDERGROUND CONDITION CODE TEMPLATE (CONTINUED)- 05/17/05

46	**R**	Use this code for substructures that contain switches tagged DOE where the switch has been submerged and has an open tie position. Use code 31 for work space.	Follow-up to Electric Supervisor
47	**D**	Weeds, trees, bushes, dirt, or obstacle – Enter remarks	Fix on site
48	**I**	Lid with gap or bent, possible or trip	F/U crew
49	**I**	Traffic lid gasket deteriorated or missing	F/U crew
50	**I**	Improper grounding	F/U crew
51	**I**	Vent fan/vault blower damaged/not running	F/U crew
55	**I**	Possible Wire Entry- Code 55 may be associated with corrosion codes. Field clear code 55 if permanent repairs made on site. Leave pending if temporary repair was made. Never leave unsafe. Use code 55 to identify any gap between the pad & equipment (associate to pad) and fix on site. Use code 55 to identify localized through-wall corrosion (associate to equipment).	Caulk the front of the transformer to make safe. Leave in safe condition. Change out equipment or weld/rivet metal patch.
56	**I**	Ground wire requires covering	Cover with dirt/ concrete
57	**D**	Grout needed to repair racks, chips, spalls	Fix on site/F/U to supervisor
58	**I**	Other – infraction/no code-repair immediately/Enter remarks	Make safe F/U as needed.
59	I	Internal High Voltage Barrier Missing/Damaged use this code for all live front equipment	Fix on site if barriers are available. Kearny will make barriers as needed
63	**I**	Oil leak from bushing/case/duct/cable	Follow SP122
73	**R**	Oil level low	Fix on site/add oil per SP210
74	**D**	Weeds, grass, dirt inside unit -Clear on site or Enter remarks	Fix on site
78	**R**	Sample taken and sent to lab	Up load daily to match sample bottle #
85	**R**	Sump pump damaged	Clean intake & replace fuse/F/U to Supervisor
89	**R**	Fault indicator damaged/missing	If not working notify Supervisor
93	**I**	Switch legs/hold downs corroded-provide measurements	Repair legs/replace bolts/change out legs
95	**I**	No external working space (cannot field clear) –Enter remarks – 8' front and no touch on sides	Use code 330 for veg. Use code 400 for foreign utility/ private property owner. Electric supervisor may clear if equipment can be worked safely
99	**D**	No repairs needed	No action needed
102	**R**	Overload condition	Check with IR gun and Amp meter/F/U to Supervisor
121	**R**	Damaged or missing pull ring on Elbow/Caps	Use this code when the pull ring is damaged or missing on Elbows and Caps but can still be operated using the elbow pulling tool with hot sticks.
150	**R**	No Applicable Code	Use this code to identify reliability or discretionary conditions that do not have an existing code. Provide comments in DIMS/MDT
151	**D**	Additional comments - Must reference another code	Use this code to extend the comment field for any infraction, reliability, and discretionary condition. This code applies to UG only if the equipment and the structure comments have not been used.
238	**I**	Abandoned Facilities	Turn in to Electric Supervisor to determine if structures should be removed or if there is a future use. If there is a future use, and structure is kept, it needs to be maintained.
330	**I**	No external work space due to Veg-See Vegetation key. Use code 400 if foreign utility/private property. Use code 95 if not Vegetation/foreign utility/private property owner. 8' front clearance and no tough on sides.	Record in MDT. Do Not send in an IO. Leave door hanger for effected customers, for vegetation removal obtain signed removal card, and quantity of trees, use abbreviation key.
400	**I**	No external working space due to foreign utility/private property owner. Use 330 for no external workspace due to vegetation. 8' front clearance and no touch- on sides. Use code 95 if not Veg/foreign utility/private property owner.	Record in MDT and submit IO to Compliance Management. Electric supervisor may clear if equipment can be worked safely
401	**I**	Cannot open or inspect - due to foreign utility/private property owner. Use 19 if not foreign utility/private property owner.	Record in MDT and submit IO to Compliance Management.

(I/O should include Condition Code, Circuit, Map Page, TB & Photo #)

Condition Abbreviations

I – Infraction

R – Reliability

D – Discretionary

Vegetation Abbreviation Key

Type

Eucalyptus – EU#

Palm – PA#

Pine – PI#

Oak – OA#

Other – OT#

QTY – Quantity (#)

Access

Back lot - BL

Backyard – BY

Truck Access – TA

Special instructions

Removal Required - RR

Stump grind Required - SG

Door Hanger Left - DH

Authorization Card Left - AC

Customer Contact – CC

3. UNDERGROUND CODE CLARIFICATIONS

Code 19: **(GO Condition) – Cannot open, inspect**

- **cannot inspect for any reason other than foreign utility/private property**
- **if due to vegetation – leave door hanger for affected customer(s), leave yellow removal authorization card if removing vegetation is required, give detailed address, use abbreviation key- Record in DIMS and send I/O (only for 19s and 219s)**

Code 401: (GO Condition) – Cannot open or inspect due to foreign utility/private property

- **record in DIMS and issue an I/O with photo and map to Joint Facilities**

Code 95: (GO Condition) – Obstruction in working space

- **Cannot be correct on site, but unit can be inspected**
- **For Vegetation, use code 330. For Foreign Utility/Private Property, use code 400.**
- **Provide details of obstruction**.

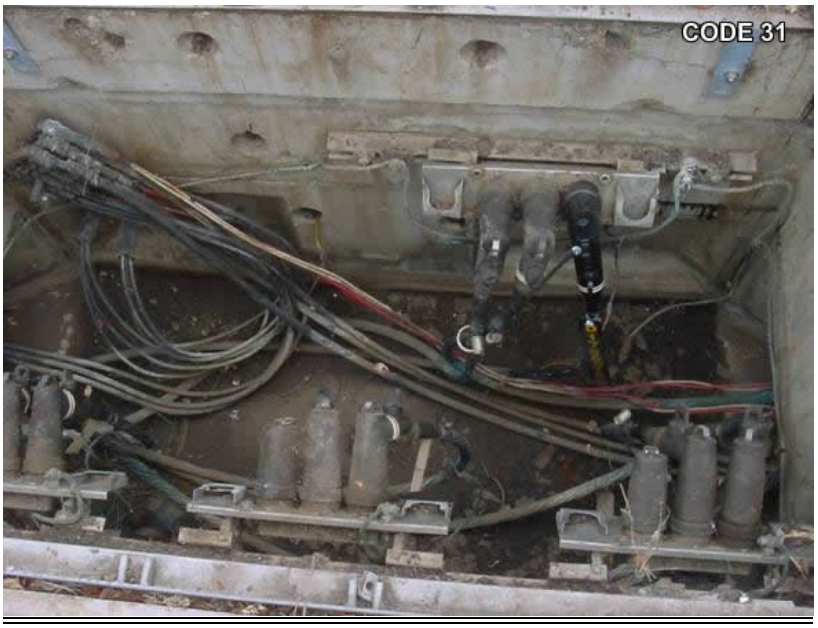
Code 330: (GO Condition) - No external workspace caused by <u>vegetation</u>

- **if due to vegetation – leave door hanger for effected customer<u>s</u>, obtain signed removal authorization card if removing vegetation, give detailed address, use abbreviation key- Record in DIMS and do not send I/O.**

Code 400: (GO Condition) - No external working space due to foreign utility/private property

- **Issue I/O with photo, map and record in DIMS.**
- **Provide details as specified by Compliance Management.**
- **Do not cleared in DIMS until infraction is cleared.**

<u>Code 47: (Discretionary Condition)</u> – Weeds, trees, bushes, dirt, or obstacle (outside); <u>CONDITION CAN BE CORRECTED ON SITE</u>. If obstruction <u>CANNOT</u> be corrected on site, it should be coded 19 or 95. Only put in under equipment (sometimes structure) but not both equipment and structure. Use code 74 for inside the unit.



<u>Code 31 (Reliability)-</u> Example of Inadequate Internal Work Space. This is not an infraction because the condition is identified and the structure is tagged "Do Not Enter Energized".

<u>Code 31 (Reliability)-</u> Example of Inadequate Internal Work Space. This is not an infraction because the condition is identified and the structure is tagged "Do Not Enter Energized".

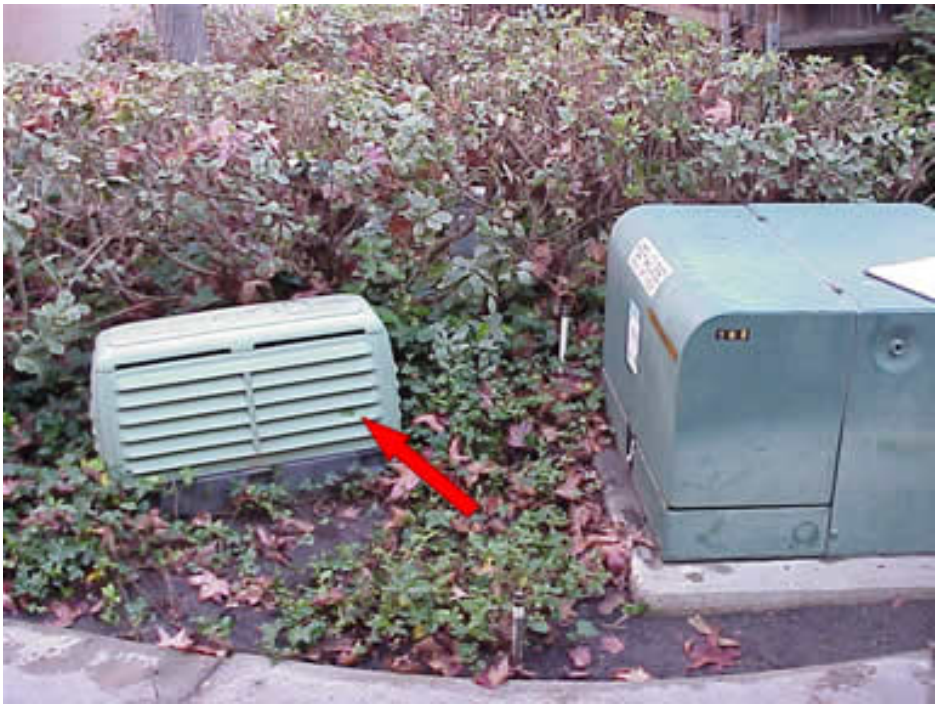
<u>Code 31 (Reliability)-</u> Example of Inadequate Internal Work Space. This is not an infraction because the condition is identified and the structure is tagged "Do Not Enter Energized".

B. UNDERGROUND PHOTOS- FREQENTLY ASKED QUESTIONS

Wire Entry
Code 55

Wire Entry/Severe Corrosion
Code 55 – Wire Entry
Code 16 – Severe Corrosion

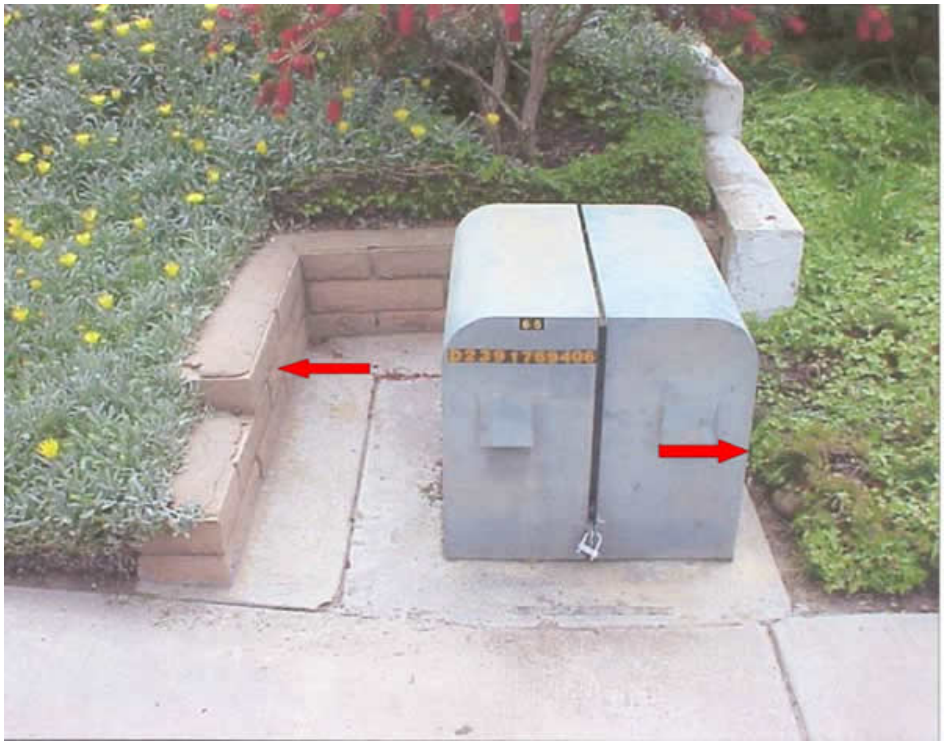
No External Working Space (Caused By Foreign Utility/ Private Property Owner)
Code 400



External Working Space Caused By Tree / Vegetation
Code 330

No External Working Space Caused By Foreign Utility/Private Property Owner
(Unit Can Be Inspected)
Code 400

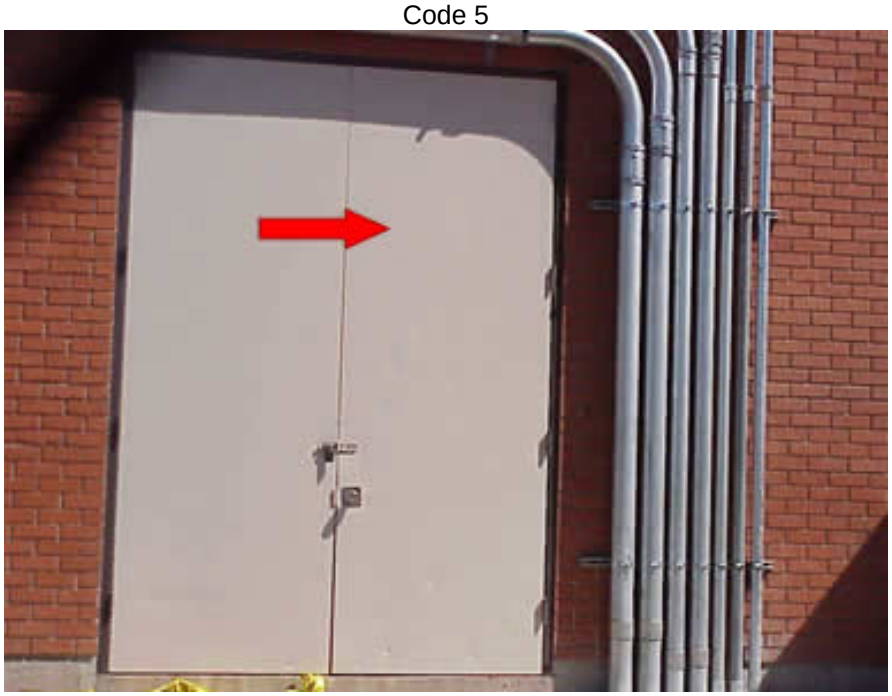
External Working Space (SDG&E Caused)
Code 95



High Voltage Sign Damaged or Missing (Deadfront)
Code 4 (Discretionary)

High Voltage Sign Damaged or Missing (Livefront)
Code 5 (Infraction)

No High Sign
Code 5



Weeds, Trees, Bushes, Dirt or Obstacle Outside Unit
Code 47

Weeds, Trees, Bushes, Dirt Or Obstacle Outside Unit (Clear On Site)
Code 47

Weeds, Grass, Dirt Inside Unit (Clear On Site)
Code 74

Cannot Open, Locate or Inspect – Inaccessible
(Leave Pending Until Cause Of Inaccessibility Is Corrected And The Facility Is Inspected)
Code 19 (if caused by SDG&E) or Code 401 (if caused by foreign utility/ private property owner)

C. UNDERGROUND REFERENCES

1. PADMOUNT WORKING SPACE REQUIREMENTS

Working space requirements

The following are copies of actual labels which are to be applied to padmount equipment cabinets, and illustrate the working space requirements around various types of equipment.

PADMOUNT WORKING SPACE REQUIREMENTS

Figure 1 – Single Phase Transformer

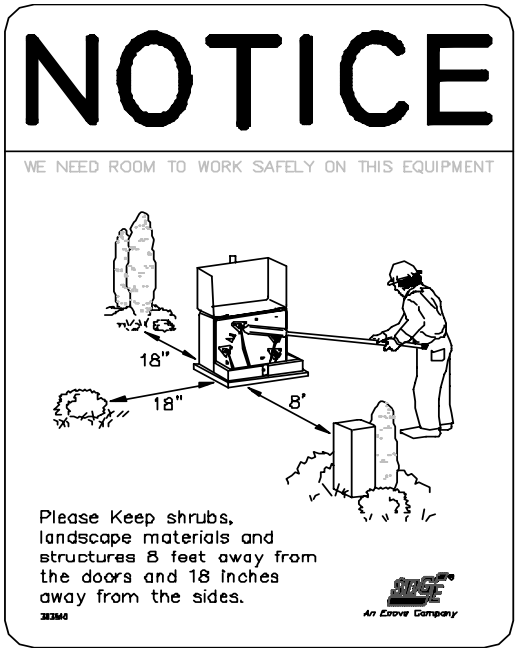


Figure 2 – Three Phase Transformer

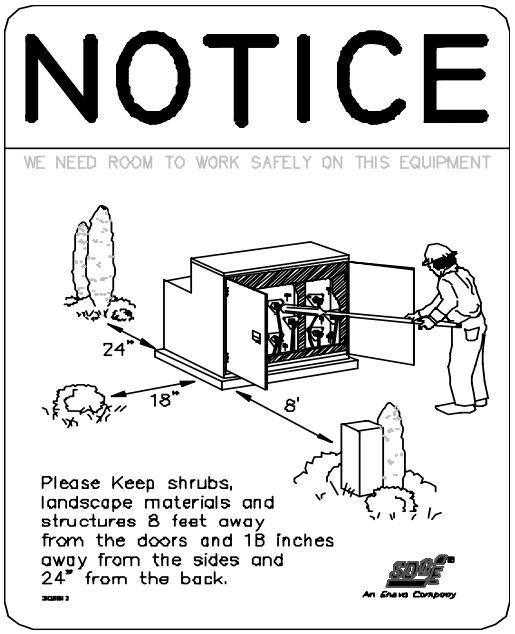


Figure 3 – Switch Cabinet

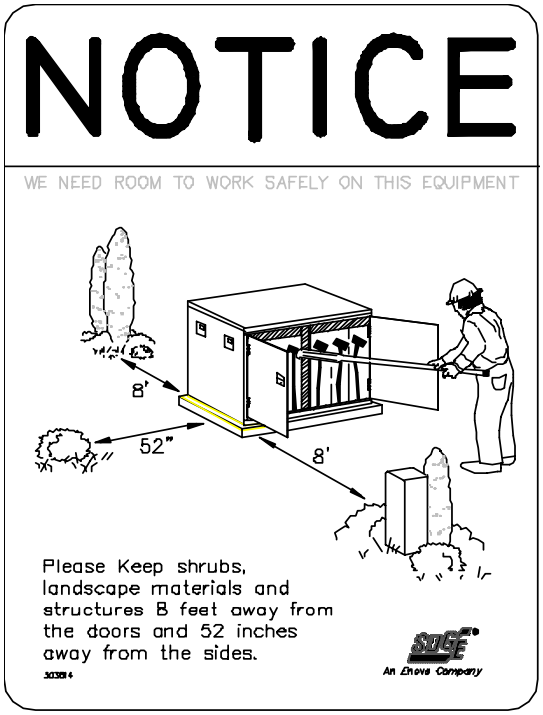
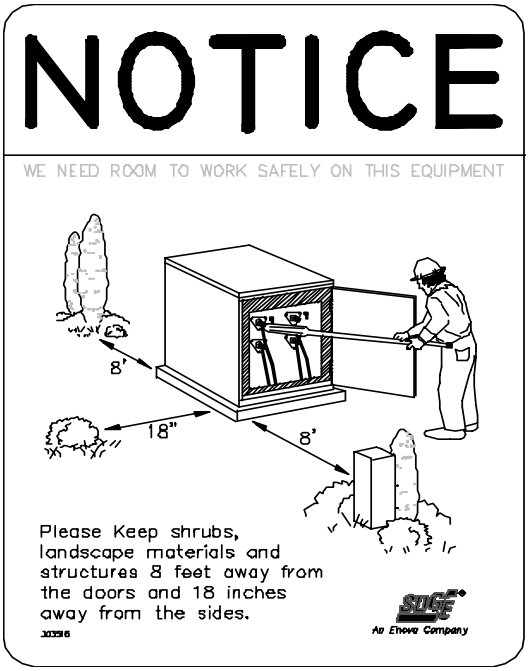


Figure 4 – Fuse Cabinet



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V. PATROLS

A. GENERAL

- **One of the significant features of GO165 implementation was the establishment of Patrols. These patrols are required to be performed annually in urban areas and every two years in rural areas as defined below.**

- **The General Order defines a patrol as a "simple visual inspection, of applicable utility equipment and structures, that is designed to identify obvious structural problems and hazards."**

- **The Patrols may be a drive-by, fly-by or walk by inspection. Every overhead, underground and streetlight facility needs to be visually patrolled. Access issues should be forwarded to Distribution Asset Management, Joint Facilities, on an IO via the Electric Supervisor. Patrols are not intended to be detailed maintenance inspections but notes items that need more immediate attention.**

- **Conditions that pose a safety hazard will be made safe immediately.**

B. PATROL, URBAN

- **Patrol 1 (urban patrol, 1 year)**
  The purpose of the urban patrol is to identify obvious structural problems and hazards. This cycle consists of drive by, fly by, or walk-by patrols of every overhead, underground and streetlight facility in urban areas. Under agreement of interpretation with the CPUC, 'urban' is defined as incorporated areas. (GO165 calls for urban as those areas with 1000 persons or more per square mile). The General Order defines a patrol as a "simple visual inspection, of applicable utility equipment and structures, that is designed to identify obvious structural problems and hazards." The Patrol Inspection Record form is used to record obvious structural problems and hazards.

C. PATROL, RURAL

- **Patrol 2 (rural patrol, 2 year)**
  The purpose of the rural patrol is to identify obvious structural problems and hazards. This cycle consists of drive by, fly by, or walk-by patrols of every overhead, underground and streetlight facility in rural areas. Under agreement of interpretation with the CPUC, 'rural' is defined as unincorporated areas. (GO165 calls for rural as those areas with less than 1000 persons per square mile). The General Order defines a patrol as a "simple visual inspection, of applicable utility equipment and structures, that is designed to identify obvious structural problems and hazards." The Patrol Inspection Record form is used to record obvious structural problems and hazards. Rural patrol maps done in even years should be repeated in even years and maps done in odd years should be repeated in odd years to ensure that patrols of a particular map do not exceed 2 calendar years.

D. PATROL INSPECTIONS

- **Patrols are accomplished by Electric Trouble Shooters or Line Checkers, and managed by SORT Sub- region and facility maps. Trouble Shooters or Line Checkers are responsible for patrolling each facility/map on an annual basis for urban patrols and every two years for rural patrols and reporting any infractions found.**

- **SDG&E owned streetlights are patrolled as part of the routine urban and rural patrols and are repaired through Mass Market Billing, Street Lights. Infractions found on any dusk to dawn and ornamental street light are reported on the Patrol Inspection Record form and an IO sent to Mass Market Billing, Street Lights via the Electric Supervisor. Again, only obvious structural problems and hazards should be reported. The patrol does not need to determine if the lamp is functional (i.e., burned out).**

E. PATROL RECORDS

- **There are two steps to creating records for patrols:**

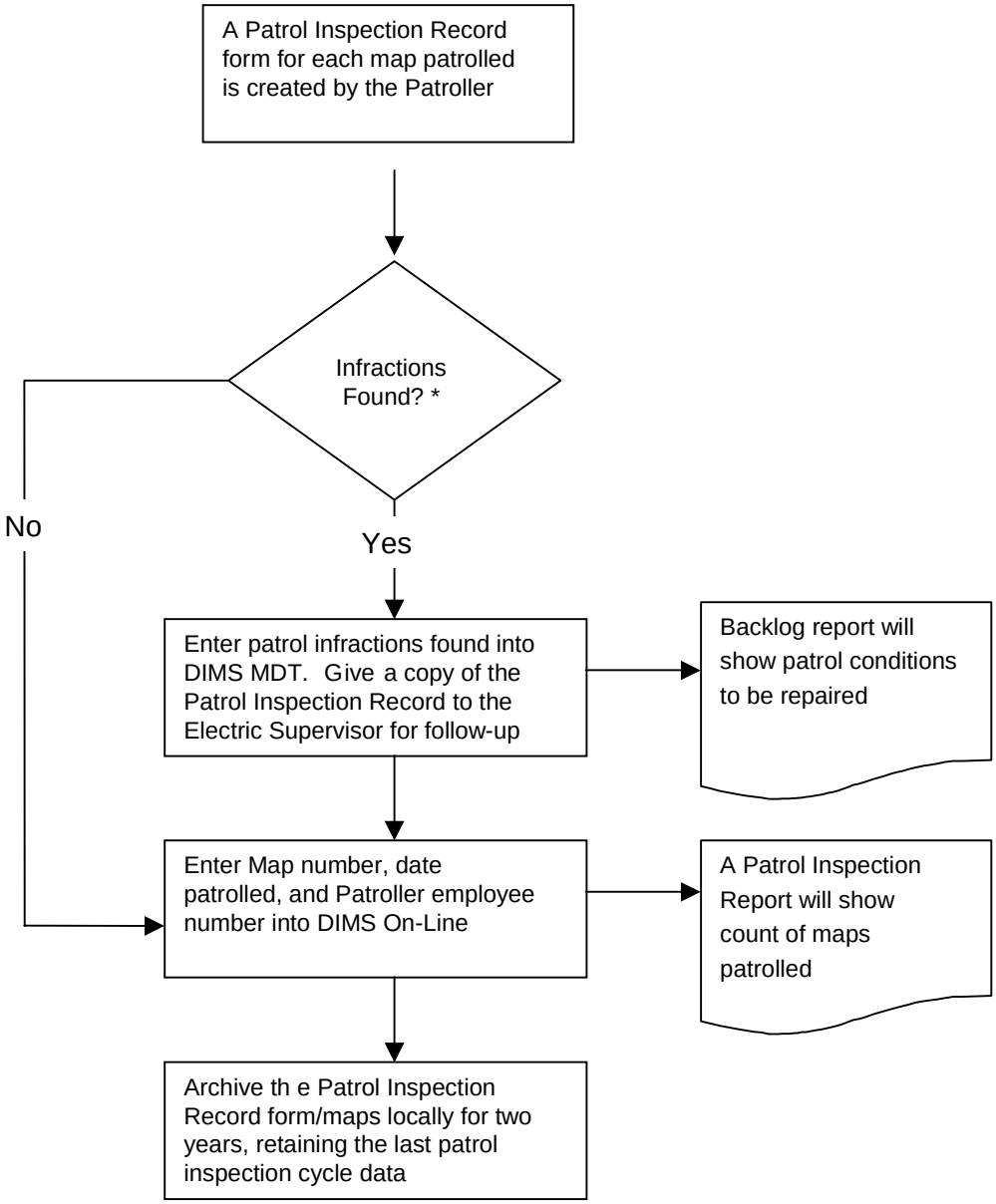
  - **Recording the map as having been patrolled: The Trouble Shooter or Line Checker will complete a Patrol Inspection Record form (a sample is included below) for each map indicating a particular map has been patrolled. The Trouble Shooter or Line Checker will identify each facility on each map and indicate the date that the facility was patrolled and initial (or use employee number). This can be done by circling or highlighting several facilities patrolled on the same day, initialing (or using employee number) and dating as long as it is clear when the facilities were patrolled and by whom. DIMS/ONL is used to record the map number, date completed, and Trouble Shooter or Line Checker employee number. This action simply records that the map has been patrolled. A Patrol Inspection Record form will be completed for each map inspected, even if no infractions were found. If no infractions are found, a Patrol Inspection Record form will be signed and dated for that map. If infractions are encountered, turn in a copy of the Patrol Inspections Record form each day so that follow-up will begin immediately and record infractions in DIMS immediately. Thus, several copies of the Patrol Inspection Record forms may be required to complete the follow-up work on a map. The original will remain with the map. Completed map books will be stamped as completed when they are 100% complete, including the date complete and the inspector's name. Patrol Inspection Record forms will be retained for a period of two years, ensuring that the last cycle Patrol maps and Patrol Inspection Record are always retained. After such time, the documents will be purged and discarded.**

  - **Infractions found are recorded by the Trouble Shooter or Line Checker on the Patrol Inspection Record form. These infractions should be transcribed from that form into an MDT by the District daily. In creating this record, "Patrol", (code 'P'), is designated as the purpose field to indicate that the infraction was discovered on a patrol, rather than during a general (code 'G') or CPUC (code 'C') inspection. These infractions should also be marked as "critical" in the MDT as opposed to "pending". The employee number of the Trouble Shooter or Line Checker should be used when recording these infractions.**

  - **Refer to the attached Data Flow Diagram.**

- **DIMS allows a single entry for each map by most recent date patrolled. All urban maps must have a valid entry by year-end. Rural maps must have a valid entry in the second anniversary year of their cycle. While it is not possible to record more than 100% of the annual urban patrol goal in a given year, it is possible to record more than 100% of the annual rural patrol goal in the first year of the two-year cycle. Care must be taken to avoid over-patrolling rural areas more frequently but not longer than 2 calendar years for a particular map.**

PATROL DATA FLOW



* Those conditions that pose a public safety hazard will be made safe immediately.

PATROL INSPECTION RECORD

OVERHEAD PATROL FIELD REPORT

Record patrol conditions found. Report exceptions only.

Pole no: (list individual pole numbers below)	Damaged Pole 246	Damaged Hardware 206	Pole Leaning Badly 207	Damaged Crossarm 241	Foreign Objects 266	Obvious Structural Problems*	Hazards*
1	☐	☐	☐	☐	☐	☐	☐
Notes:							
2	☐	☐	☐	☐	☐	☐	☐
Notes:							
3	☐	☐	☐	☐	☐	☐	☐
Notes:							
4	☐	☐	☐	☐	☐	☐	☐
Notes:							
5	☐	☐	☐	☐	☐	☐	☐
Notes:							
6	☐	☐	☐	☐	☐	☐	☐
Notes:							
7	☐	☐	☐	☐	☐	☐	☐
Notes:							
8	☐	☐	☐	☐	☐	☐	☐
Notes:							
9	☐	☐	☐	☐	☐	☐	☐
Notes:							
10	☐	☐	☐	☐	☐	☐	☐
Notes:							

UNDERGROUND PATROL FIELD REPORT

Record patrol conditions found. Report exceptions only.

Facility no: (list individual facility numbers below)	Enclosure Damaged 14	Severe Corrosion 16	Obvious Structural Problems*	Hazards*
11	☐	☐	☐	☐
Notes:				
12	☐	☐	☐	☐
Notes:				
13	☐	☐	☐	☐
Notes:				
14	☐	☐	☐	☐
Notes:				
15	☐	☐	☐	☐
Notes:				
16	☐	☐	☐	☐
Notes:				
17	☐	☐	☐	☐
Notes:				

This map has been patrolled. Map Number:	Date:	By:	Empl. No.

The patroller is to identify each facility on each map and indicate the date that the facility was patrolled and initial. This can be done by circling facilities patrolled on the same day, initialing (or using employee number) and dating as long as it is clear when the facilities were patrolled and by whom. Infractions will be recorded on this form. Turn in a copy of the Patrol Inspection Record found each day if infractions are encountered, so that follow-up can begin immediately and record infractions in DIMS immediately. For maps with no infractions found, a Patrol Inspection Record form will be completed (map ID, date, signature, employee ID) and attached to each map.

*Use the appropriate code if not listed. If no code, use code 298 or 58.