



GENERAL ORDER 165

CORRECTIVE MAINTENANCE PROGRAM

REPORT FOR 2019

This report contains the results of San Diego Gas & Electric Company's (SDG&E) General Order (GO) 165 compliance program for inspection and maintenance of electric distribution facilities, which covers the period from January 1, 2019 through December 31, 2019.

SDG&E's GO 165 compliance program is called the Corrective Maintenance Program (CMP) and is managed by SDG&E's Program Management Group. Through coordination with the Construction & Operations (C&O) Centers' Electric Supervisors, Inspectors, Linemen, and other personnel, the inspections required by GO 165 are performed along with any corrective work.

Verification of Counts

In 2019, SDG&E continued to utilize the automated interface in place between GIS (SDG&E's system of record for facilities) and SAP-PM (SDG&E's system of record for inspection and maintenance records). This interface evaluates every SDG&E facility to verify that an appropriate inspection plan is assigned to it. In addition to the interface, automated reports are published weekly showing the year-to-date status of all CMP Detailed Inspections and Patrols scheduled for the year.

For intrusive inspections, an annual analysis was performed in the end of the third quarter to determine if additional intrusive inspections were required. Any "Special Intrusive Inspections" were issued and completed by December 31, 2019. In addition, a monthly validation was conducted throughout the year to ensure all intrusive inspections scheduled for 2019 were completed within the calendar year.

Summary of the 2019 Year-end Report

Inspections:

SDG&E General Order 165 Maintenance 2019 Inspections Report

Type of Inspection by Facility	Facilities Due ¹	Facilities Outstanding ²
Overhead Detailed	47,676	6
Underground Detailed	28,886	0
Wood Pole Intrusive	20,000	0
Type of Inspection by Grid	Grids Due	Grids Outstanding
Patrols	26,894	0

Earlier this year, it was discovered that six overhead facilities did not receive a detailed inspection that were due in 2019.

In 2019, the inspector received the inspection orders for the six poles and completed the inspections within the interval they were assigned. When the corrective maintenance work was pre-fielded for construction, it was determined that the poles that were inspected belonged to a customer-owned electric network that was adjacent to the SDG&E poles that were supposed to be inspected. Once the district found the inadvertent errors, the six poles received a detailed inspection. The district reviewed the other poles in the surrounding area that were inspected to ensure they had the proper inspection. It was determined that only the six poles did not receive an

¹ This column represents SDG&E's determination about the number of facilities due for inspection in 2019.

² This column represents the number of facilities that were due to be inspected in 2019, but were not inspected by the end of 2019. This does not mean that the inspections remain outstanding at the time of this report.

inspection in 2019. SDG&E is currently evaluating and will be implementing additional measures to our inspector training program aimed at reducing facility verification issues.

Division of Inspections

The quantity of facilities is dynamic because of additions and removals of equipment due to maintenance, demolition, new customers, new technology, reliability, and conversion of overhead lines to underground lines, and other changes to the electric distribution system. When new equipment is added, it is regarded as inspected as of the date of installation. The new piece of equipment is then scheduled for inspection during the next inspection cycle for the respective equipment type. All equipment in the current inventory is scheduled for inspection at the required interval.

All equipment on a given structure is inspected at the same time and the inspection record is documented in the structure record. The CMP goals for the year historically have been determined by the system-wide counts of facilities in each inspection type, divided by the number of years in the cycle length. This practice created inspection cycles setting the CMP goals for the year. The goals for the year are determined by the last inspection date. SDG&E's CMP cycles are designed to adhere to or exceed GO 165 requirements. The following section describes SDG&E's CMP cycles by equipment type.

Description of Major SDG&E CMP Cycles

OVERHEAD VISUAL

- OHVI (Overhead Visual, Five-year)

This cycle consists of a detailed, walk-around inspection of all distribution poles, pole-mounted facilities with primary and secondary conductors, and distribution equipment on transmission poles. These inspections identify conditions that are out of compliance with GO 95. This is a five-year cycle.

ABOVE GROUND 5 (INTERNAL AND EXTERNAL INSPECTIONS)

This cycle consists of Above Ground Dead-front (AGDF) and Above Ground Live-front (AGLF) detailed external and internal inspections of dead-front and live-front pad-mounted facilities to identify conditions that are out of compliance with GO 128.

- AGDF (Above Ground Dead-front, Five-year)

This cycle consists of a detailed external and internal inspection of dead-front pad-mounted facilities to identify conditions out of compliance with GO 128. Originally, the AGDF cycle only required an external inspection; however, changes in 1999 modified this requirement to include an internal inspection. The cycle is still named AGDF to separate the dead-front equipment data from live-front equipment data. This is a five-year inspection cycle.

- AGLF (Above Ground Live-front, Five-year)

This cycle consists of a detailed external and internal inspection of live-front pad-mounted facilities to identify conditions out of compliance with GO 128. This is a five-year inspection cycle.

SUBSURFACE, WITH EQUIPMENT

- SS3 (Subsurface, Three-year)

This cycle consists of a detailed inspection of subsurface structures (manholes, vaults, primary hand-holes and subsurface enclosures) containing distribution equipment. Thus, structures with only cable taps, splices or pass-throughs are excluded as they are not required by GO 165. The SS3 cycle consists of a detailed inspection of these facilities to identify conditions out of compliance with GO 128. This is a three-year inspection cycle.

SWITCH

- SW3 (Oil or Gas Switch, Three-year)

This consists of a specialized inspection of all subsurface and pad-mounted oil and gas switches. Oil samples and gas pressure readings are obtained and recorded in SAP. The laboratory performs analysis of oil samples for low dielectric strength and high-water content. These results and the inspection records are stored in SAP. The status of “Do Not Operate Energized” (DOE) switches for prioritizing replacements are also tracked in SAP and GIS mapping system. Other conditions out of compliance with GO 128 are also identified. This is a three-year inspection cycle

WOOD POLE INTEGRITY

- Pole (10/20 year)

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 ground line. Currently, treatment is applied in the form of ground line pastes and/or internal pastes. These inspections are performed on a 10-year cycle. The 10-year cycle fulfills the

requirements of GO 165, which are: (1) all poles over 15 years of age are intrusively inspected within ten years; and (2) all poles which previously passed intrusive inspection are to be inspected intrusively again on a 20-year cycle.

The wood pole integrity inspections are currently performed by a SDG&E contractor who also applies wood preservative treatments and installs mechanical reinforcements (Steel Reinforcement). The type of treatment is dependent upon the age of the pole, the individual inspection history, and the overall condition of the structure. SDG&E's Vegetation Management group administers the wood pole intrusive inspection and treatment 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 into 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 (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 steel reinforcement based on the remaining shell thickness for various lengths of pole. If a pole does not have sufficient shell thickness for steel reinforcement, it is rejected and replaced.

PATROL, URBAN

- Patrol 1 (urban patrol, one year)

The purpose of the urban patrol is to identify obvious structural problems and hazards. This cycle consists of a simple visual inspection of every applicable overhead, underground and streetlight facility in rural areas. Under agreement of interpretation with Commission Staff, "urban" is defined as incorporated areas (GO 165 defined "urban" as those areas with 1000 persons or more per square mile). GO 165 defines a "patrol" as a "simple visual inspection, of applicable utility equipment and structures that is designed to identify obvious structural problems and hazards." When Patrols have been completed, any identified structural problems and hazards are recorded in SAP.

PATROL, RURAL

- Patrol 2 (rural patrol, two year)

The purpose of the rural patrol is to identify obvious structural problems and hazards. This cycle consists of a simple visual inspection of every applicable overhead, underground and streetlight facility in rural areas. Under agreement of interpretation with the CPUC, "rural" is defined as unincorporated areas (GO 165 defined "rural" as those areas with less than 1000 persons per square mile). GO 165 defines a "patrol" as a "simple visual inspection, of applicable utility equipment and structures that is designed to identify obvious structural problems and hazards."

Consistent with D. 09-08-029, SDG&E has conducted annual patrol inspections in rural areas which are included in SDG&E's designated Tier 2 & Tier 3 areas of the High Fire-Threat District as per D. 17-12-024 in R. 15-05-2006. When Patrols have been completed, any identified structural problems and hazards are recorded in SAP.

SDG&E CMP INSPECTION CYCLES

SDG&E System Inspection Cycles (Maximum intervals in years)

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

*Patrol inspections conducted once per year within Tier 2 & Tier 3 of the High Fire-Threat District as per D.17-12-024 in R. 15-15-006

OFFICER VERIFICATION

I, Bruce Folkmann, declare the following:

I am an Officer of San Diego Gas & Electric and am authorized to make this verification on its behalf.

I am informed and believe that the matters stated in the foregoing 2019 General Order 165 Report are true to my own knowledge, except as to matters which are therein stated on information and belief, and as to those matters, I believe them to be true.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct based on my information and belief.

Executed this 26th day of June 2020, in San Diego, California.

Bruce Folkmann

Bruce Folkmann

Senior Vice President – Controller and Chief Financial Officer
SDG&E