Vegetation Management
PROGRAM OVERVIEW GUIDE

![SDGE]	Vegetation Management	DOCUMENT SECURITY: INTERNAL
	Standards, Processes, & Policies	EFFECTIVE DATE: 11/01/2024
Program Overview Guide		

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

# 1	PURPOSE

Utilities are required by state and federal law to maintain safe distances between vegetation and electrical facilities to avoid fires and outages. These clearances are required year-round and provide the framework for how utilities manage vegetation. As part of San Diego Gas & Electric's (SDG&E) efforts to ensure public safety, regulatory compliance, and system reliability, the Vegetation Management Program was designed with the goal of keeping electric infrastructure clear of vegetation.

This document reviews the Vegetation Management Program and how the program complies with codes and regulations.

# 2	APPLICABILITY

This document is applicable to all employees and contractors who engage in the Vegetation Management Program and internal or external groups that need to understand the program for accountability and compliance purposes.

# 3	REGULATORY AND OTHER REQUIREMENTS

Table 1: Codes, Regulations, and Internal Requirements

Code, Regulation, or Requirement	Description
GO 95, Rule 35	General Order (GO) 95, Rule 35, requires an 18-inch radial clearance always be maintained between vegetation and high-voltage conductors (750 volts to 22,500 volts). Clearance requirements increase for conductors carrying transmission voltages (69,000 volts and greater).
NCCP/HCP	This plan, developed in collaboration with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife, covers 2,245,800 acres of the service area and was designed to avoid, minimize, and mitigate impacts to 110 Covered Species and their habitats while allowing SDG&E to install, maintain, operate, and repair its existing gas and electric system and undertake anticipated expansion of that system.
NERC FAC-003-5	In addition to meeting state requirements, utilities must meet federal reliability standards for clearances between vegetation and transmission lines. These standards for the nation's bulk-power system are set by the Federal Energy Regulatory Commission (FERC) and the North American Electric Reliability Corporation (NERC). The Transmission Vegetation Management Reliability Standard, FAC-003-5, establishes a minimum vegetation clearance distance (MVCD) that must be maintained at all times between trees and certain transmission voltage conductors. Federally required clearances vary depending on voltage and in some cases are less stringent than state standards.
PRC§4292	This law is administered by the California Department of Forestry and Fire Protection (CAL FIRE). It requires a minimum clearance of 10 feet around the base of the pole cleared of all flammable vegetation down to bare soil. Limbs within the 10-foot radius are removed up to 8 feet above ground. All dead branches below the cross arms and within the 10-foot radius must be removed. This rule is applicable within the State Responsibility Area (SRA).

	Vegetation Management	DOCUMENT SECURITY: INTERNAL
	Standards, Processes, & Policies	EFFECTIVE DATE: 11/01/2024

Program Overview Guide

Code, Regulation, or Requirement	Description
PRC§4293	This law is administered by CAL FIRE. It requires a 4-foot radial clearance always be maintained for conductors between 2,400 volts and 72,000 volts. The clearance requirements increase as the voltage increases. Public Resources Code (PRC)§4293 applies year-round in San Diego County areas designated as SRAs, where CAL FIRE is the primary fire suppression agency.
CPUC Rulemaking 18-10-007).	Implements the provision of Senate Bill (SB) 901 that requires electrical corporations under the CPUC's jurisdiction to submit annual Wildfire Mitigation Plans (WMP).
ESP113.1	This document describes the procedures used for coordination of fire suppression and SDG&E operations during wildland fires that have SDG&E facilities or equipment within or adjacent to an active fire boundary.

Table 2: Required Regulatory Reports

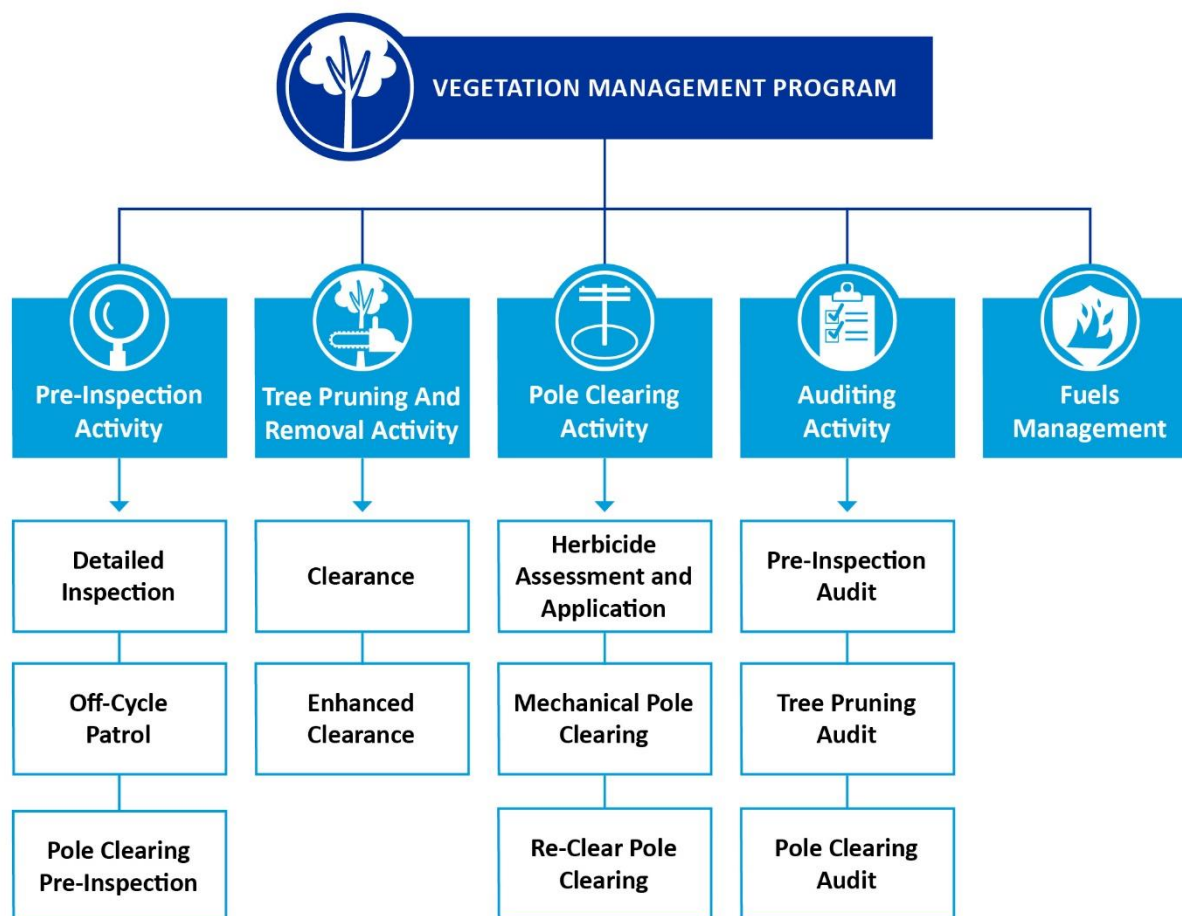| Regulator	Report Description	Frequency
CAISO	Number of trees, trims, removals and last trim date for ISO lines	Annual
NERC/WECC	Validation of Completion of Annual VM Work Plan	Annual
NERC/WECC	Quarterly Report on Circuit Interruptions	Quarterly
CAL FIRE	Major Woody Stem Exemption Report	Annual
OEIS	Wildfire Mitigation Plan and Updates	Annual
OEIS	WMP Quarterly Data Report	Quarterly

4   PROGRAM SUMMARY

Vegetation management is the trimming and removal of trees and other vegetation at risk of contact with electric equipment[1]. The Vegetation Management Program consists of four core activities: Pre-Inspection, Tree Pruning and Removal, Pole Clearing, and Auditing. These activities involve several components, including tracking and maintaining a database of inventory trees and poles, detailed and off-cycle inspections, pruning and removing trees for conductor clearance, replacing unsafe trees with compatible species, and quality compliance to ensure work quality and contractual adherence. Figure 1 outlines the activities of the Vegetation Management Program.

---

[1] 2023-2025 WMP Technical Guidelines, Appendix A; https://energysafety.ca.gov/what-we-do/electrical-infrastructure-safety/wildfire-mitigation-and-safety/wildfire-mitigation-plans/2023-wildfire-mitigation-plans/

Figure 1: Vegetation Management Program

The core Vegetation Management activities are:

- Pre-Inspection Activity is the initiating activity. Its purpose is to complete an initial evaluation of which trees require pruning and which poles require pole clearing for the annual cycle. Pre-Inspection in a Vegetation Management Area (VMA) is completed annually within the scheduled month. See Section 4.2 for details.
- Tree Pruning and Removal Activity commences 2 months after the Pre-Inspection Activity and is scheduled for two consecutive months within each VMA. See Section 4.3 for details.
- Pole Clearing Activity follows a separate VMA schedule based on vegetation fuel loading and the need for multiple pole clearing activities throughout the calendar year. See Section 4.4 for details.
- Auditing Activity is the Quality Assurance/Quality Control (QA/QC) process for Pre-Inspection, Tree Pruning and Removal, and Pole Clearing Activities. The purpose of the audit activity is to

check compliance to the activity standard and to review the data quality in the Vegetation Management System (VMS). See Section 4.5 for details.

Additional vegetation management activities are performed as part of SDG&E's Wildfire Mitigation Plan (WMP) to further reduce the risk of circuit interruptions and wildfire that may result from tree/power line conflicts. See Section 4.8 for a description of vegetation management activities related to the WMP.

The service territory is broken into 133 geographical polygons, called VMAs, for the purpose of planning and scheduling vegetation management work. Each VMA has a unique three-digit number and associated community name. VMA borders are delineated variably using city boundaries, SDG&E Districts, roads, and geographical features. The service territory is further delineated by jurisdictional and fire designation areas including the State Responsibility Area (SRA), Local Responsibility Area (LRA), and the High Fire Threat District (HFTD). These areas determine where specific laws pertaining to vegetation management apply.

State law requires vegetation clearances around electric infrastructure at all times. As such, a documented vegetation management schedule of activities must be followed throughout the year. The Master Schedule is structured to enable inspection of all overhead facilities and completion of required work within the annual schedule to comply with all applicable rules and regulations.

The HFTD outlines areas of the state designated by the California Public Utilities Commission (CPUC) as having increased risk from utility-related wildfires. The HFTD is separated into Tier 2 and Tier 3, where the risk of wildfire is considered elevated and extreme respectively. The relative risk includes factors such as the presence of utility infrastructure, vegetation type and density, and fire history. Approximately two-thirds of the service territory is within the HFTD. Vegetation management in the HFTD generally includes multiple, annual inspection activities, greater trim clearances, targeted tree species removals, and fuels management.

Minimum vegetation clearances are required for transmission and distribution voltage conductors. Vegetation clearances are also required for other types of facilities such as pad-mount transformers, down-guys, and pole climbing space. Inspection activities for these conditions occur outside the scope of Vegetation Management and are documented in SDG&E's Corrective Maintenance Program (CMP).

Maintenance of vegetation encroaching service drops is the responsibility of the customer. SDG&E can disconnect the line so the customer can hire a qualified contractor to safely perform the work. Private meters on poles and conductors beyond the meter are also the responsibility of the customer. Facilities attached to SDG&E structures that are owned by communication infrastructure providers (CIP) are not maintained by SDG&E.

4.1   Vegetation Management System

The Vegetation Management System (VMS), called PowerWorkz, is used to track and record inventory assets (trees and poles) and manage work activities. PowerWorkz uses the CityWorks software platform and serves as the platform where activity work orders are created and issued. The field (mobile)

application of PowerWorkz, called Epoch, is the mapping interface used to navigate and to perform data entry to record completed work. Epoch includes multiple geographic information system (GIS) layers, electric infrastructure, land ownership, and parcel information, and houses the electronic records for all tree and pole clearing assets.

4.2   Pre-Inspection Activity

Pre-Inspection is the initiating vegetation management activity, resulting in related work orders that inform the rest of the activities in vegetation management. Pre-Inspection involves the field evaluation of trees within and adjacent to the utility right-of-way to determine which require pruning for the annual cycle. It also involves the field evaluation of poles/structures in the SRA and portions of the LRA to determine which require pole clearing. Trees and poles that meet the criteria are added to the database as inventory. An inventory tree is one that could encroach or otherwise impact the overhead conductors within 3 years of inspection[2]. A subject pole is a pole that has non-exempt hardware requiring clearing per Public Resources Code (PRC)§4292.

The Pre-Inspection activity includes Detailed inspections and Off-Cycle patrols. Detailed inspections occur annually on every inventory tree within the service territory, and inventory tree records are updated to reflect the current status and condition of each inventory tree. Additionally, during Detailed inspections, all poles and structures in the SRA and portions of the LRA are evaluated to determine if they require pole clearing (see Section 4.4) and pole clearance records are updated. Off-Cycle patrols occur within the HFTD and serve as the second annual inspection for inventory trees. Whether or not it meets specific inventory criteria, every tree with the potential to strike conductors if it were to fall is inspected during the Off-Cycle patrol. During the Off-Cycle patrol, only those trees that require work prior to the next scheduled detailed inspection activity are updated in the tree inventory database.

4.3   Tree Pruning and Removal Activity

Tree pruning and removal is the activity of cutting vegetative material (branches, limbs, trunk) for the purpose of maintaining safe, reliable, and compliant clearance between trees and overhead electrical conductors. The Tree Pruning and Removal Activity generally occurs 2 to 3 months after the Pre-Inspection Activity and follows accepted tree industry standards, including the American National Standards Institute (ANSI) A300 and International Society of Arboricultural (ISA) best management practices. Clearances established at time-of-trim are determined by multiple factors including species, growth rate, minimum legal clearance, wind sway, line sag, proper pruning practices, and tree health. Clearances established at time-of-trim must be sufficient to ensure safety and compliance for at least one annual cycle.

Enhanced tree pruning is performed within the HFTD where fire risk is elevated or extreme. Enhanced clearances are defined as greater than 12 feet from the conductor, which exceeds the clearance recommended by the CPUC.

---

[2] 2023-2025 WMP Technical Guidelines, Appendix A

4.4　Pole Clearing Activity

Pole clearing is the state-mandated activity of maintaining a fuel break around power poles by removing vegetation that could ignite or propagate a fire. Pole clearing is required within the SRA to comply with Public Resources Code (PRC)§4292 for poles that carry specific, attached, "non-exempt" equipment. Non-exempt equipment may spark, arc, and/or fail, causing hot particles to fall to the base of the pole and potentially cause an ignition. PRC§4292 requires clearing of flammable fuels for a minimum 10-foot radius from the outer circumference of non-exempt poles and towers (also called subject poles and towers). Pole clearing is also performed in areas within the LRA that could support a significant wildland fire. Additionally, SDG&E has pole clearing criterion for poles with non-exempt equipment in the LRA. These criteria include acreage, fuel type, slope, values threatened, and access.

4.5　Audit Activity

Quality assurance audits of vegetation management activities are performed to measure work quality, contractual adherence, compliance with regulations and standards, and data accuracy in the VMS. A third-party contractor is utilized to perform the quality assurance audits of vegetation management activities.

4.6　Fuels Management

The Fuels Management activity is performed to reduce the risk of fire ignition and propagation resulting from electrical equipment. Fuels management is performed at pole locations where pole clearing for PRC§4292 is required and ignition risk is elevated. The scope of the fuels management activity includes thinning vegetation in a 50-foot radius surrounding the pole. Vegetation is reduced to approximately 30% ground cover within the cleared radius, and native and sensitive vegetation are retained where possible.

4.7　Emergency Response

Vegetation Management emergency response is unplanned work that is performed before, during, or after events such as Power Safety Power Shutoff (PSPS), Red Flag Warning (RFW), adverse weather, or a wildfire.

In advance of a forecasted RFW or Santa Ana event, additional vegetation management patrols may occur if needed to assess tree conditions and/or where known priority issues may exist. As a forecasted event approaches, tree crew resources may be staged and coordinated for standby operations within SDG&E's Construction & Operation Centers (Districts) and are utilized for storm response and restoration activities. Vegetation Management contractors are kept informed during forecasted elevated or extreme weather events, allowing them time to relocate crews to safe locations or to cease work operations if required. Where emergency tree pruning is required during elevated wildfire conditions, additional firefighting resources may be engaged to provide support.

After any fire event of significant size, Vegetation Management conducts a hazard tree assessment within the fire perimeter to identify dead, burned, and structurally defective trees that may pose a

future threat to the overhead conductors, and/or that may require priority response to facilitate restoration activities. The scope of such patrols includes a visual inspection of all trees within the utility strike zone in the fire perimeter. Abatement activities include topping dead/defective trees that could strike the lines or felling a tree if deemed required for worker safety, facility safety, or environmental protection.

4.8   Wildfire Mitigation Plan Activities and Utility Tracking IDs

California Public Utility Code (PUC)§8386 requires electric utilities to develop annual WMPs to prevent, combat, and respond to wildfires within their service territories resulting from electrical infrastructure. The California Office of Energy Infrastructure Safety (Energy Safety) is the lead state agency that reviews, approves, and audits the effectiveness of the utilities' WMPs. Vegetation management is a key component of the WMP and includes multiple initiatives to prevent wildfire. Specific initiatives are variably affiliated with Vegetation Management's four core activities or serve as stand-alone activities within the Vegetation Management Program.

In the 2023-2025 WMP Technical Guidelines, Energy Safety tasked electrical corporations with the implementation of tracking IDs specified in the Energy Safety Data Guidelines to tie objectives, targets, narratives, and initiatives together throughout their WMPs. Table 3 lists the utility tracking IDs that are related to Vegetation Management Activities and Table 4lists general utility tracking IDs associated with the Vegetation Management Program.

Table 3: WMP Utility Tracking IDs Related to VM Activities

WMP Utility Tracking ID	WMP Initiative	Associated Vegetation Management Program Activity
WMP.494	Detailed Inspections	Pre-Inspection
WMP.496	Emergency Response Vegetation Management	Pre-Inspection
WMP.508	Off-Cycle Patrol	Pre-Inspection
WMP.501	Clearance	Tree Pruning and Removal
WMP.497	Wood and Slash Management	Tree Pruning and Removal
WMP.505	QA / QC Vegetation Management	Audit
WMP.512	Pole Clearing	Pole Clearing

Table 4: General WMP Utility Tracking IDs

WMP Utility Tracking ID	WMP Initiative	Associated Vegetation Management Program Activity
WMP.497	Fuels Management	Stand Alone Initiative; Not part of VM Activities
WMP.506	Workforce Planning	Applicable to all VM Activities
WMP.511	Vegetation Management System	Applicable to all VM Activities
WMP.1329	Open work orders	Applicable to all VM Activities

5   REFERENCE DOCUMENTS

Document Type	Document Name and Link
Internal	Audit Activity (document in development)
External	Fire-Threat Maps and Fire-Safety Rulemaking
Internal	Pre-Inspection Activity (document in development)
Internal	Pole Clearing Activity (document in development)
Internal	Tree Pruning and Removal Activity (document in development)
Internal	Vegetation Management Master Schedule
Internal	WMP DGF Compliance Documentation: Vegetation Management
External	OEIS Wildfire Mitigation Plans and Guidance

6   ROLES AND RESPONSIBILITIES

Roles and Responsibilities for used in this document can be found on the Vegetation Management SharePoint site.

7   DEFINITIONS AND ACRONYMS

7.1   Definitions

Definitions for terms used in this document can be found on the Vegetation Management SharePoint site.

7.2   Acronyms

Abbreviation	Name
ANSI	American National Standards Institute
CAL FIRE	California Department of Forestry and Fire Protection
CIP	Communication infrastructure provider
CPUC	California Public Utilities Commission
CMP	Corrective Maintenance Program
Energy Safety	Office of Energy Infrastructure Safety
FERC	Federal Energy Regulatory Commission
GIS	geographic information system
GO	General Order
HFTD	High Fire Threat District
ISA	International Society of Arboricultural
LRA	Local Responsibility Area
MVCD	minimum vegetation clearance distance
NERC	North American Electric Reliability Corporation
PRC	Public Resources Code
PSPS	Power Safety Power Shutoff
PUC	Public Utilities Code
QA/QC	Quality Assurance/Quality Control
RFW	Red Flag Warning
SDG&E	San Diego Gas & Electric
SRA	State Responsibility Area
VMA	Vegetation Management Area
VMS	Vegetation Management System
WMP	Wildfire Mitigation Plan

8   REVISION HISTORY AND APPROVALS

Rev. Number	Description	By	Approved By	Date
0	Document creation	Michael Daleo, Leigh Ratcliffe, Lana Radchenko	Michael Daleo	11/1/2024
1				
2				