Distribution Vegetation Management Program

SUMMARY

This utility standard describes the requirements for the Pacific Gas and Electric Company (PG&E) Distribution Vegetation Management (VM) program. This program maintains vegetation clearances in accordance with CPUC General Order (G.O.) 95, Rule 35, CPUC General Order (G.O.) 95, Rule 18, State of California Public Resource Code (PRC) 4293 and 4295.5. The intent of the Distribution VM program is to prevent encroachment into minimum distance requirements (MDR), to reduce the risk of reasonably foreseeable outages and fire ignitions and to ensure compliance with State mandates.

TARGET AUDIENCE

Vegetation Asset Strategy and Analytics (VASA)

VM Operations

Quality Management (QM)

TABLE OF CONTENTS

Distribution Vegetation Management Program

REQUIREMENTS

1 Regulatory Requirements

1.1 PG&E recognizes and requires compliance with the following regulatory requirements and recommendations:

1. California Public Utilities Commission (CPUC) General Order 95, Rule 35 (G.O. 95, Rule 35)

2. G.O. 95, Rule 35 in Appendix E, which recommends a minimum 12-feet of clearance at time of trim in High Fire-Threat District (HFTD). PG&E extends this minimum clearance recommendation to tree work within HFRA. Reasonable vegetation management practices may make it advantageous for the purposes of public safety or service reliability to obtain greater clearances.

3. G.O. 95, Rule 18 in Appendix I which outlines Priority Levels and Safety Hazards

4. State of California Public Resources Code (PRC) 4293 and 4295.5

5. California Code of Regulation (CCR) Title 14 Sections 1250, 1251, 1252, 1253, 1256, 1257 and 1258

6. CPUC Resolution ESRB-4 (June 12, 2014), which directs investor-owned electric utilities to take remedial measures to reduce the likelihood of fires started by or threatening utility facilities.

2 PG&E Requirements and Expectations

2.1 Annual Patrol inspects all overhead electric distribution primary and secondary conductors (including idle), and facilities (excluding service drops).

2.2 Second Patrol inspects all overhead electric distribution primary and secondary conductors (including idle), and facilities (excluding service drops) within defined geographic areas (see Appendix B, “Second Patrol Defined Geographic Area”).

2.3 Adhere to regulations in Section 1, “Regulatory Requirements” above and relying on the criteria and guidance appearing in Appendix A of this document, to identify and act with respect to the following conditions:

- Vegetation that has or may encroach the MDR based on anticipated growth rates before the next annual work cycle (see Appendix A, Minimum Distance Requirements [MDR]).

- Vegetation (categorized as either a whole tree or portion of tree) that may fall into or otherwise impact PG&E electric facilities.

- Any vegetation that is causing abrasion or significant strain to the secondary conductors.

- When a third-party utility or non-utility third party causes a condition that negatively impacts PG&E's facilities is observed, then follow TD-2014S "Third-Party Notification and Resolution of Potential Violations and Safety Hazards" and TD-2015S, "Notification to Third-Party Non-Utility of Nonconformance."

2.4 Perform tree work to adhere to the regulations in Section 1, "Regulatory Requirements" above and to maintain the MDR around overhead electric distribution conductors (including idle) at any position of the conductor, specifically:

- On primary lines (greater than 750 volts) to include underbuilt construction.

- On secondary lines (pole-to-pole less than 750 volts).

2.5 Perform tree work to mitigate vegetation (categorized as either a whole tree or portion of tree) that is imminent and probable to fall into or otherwise impact PG&E electric facilities (including idle), following regulations in Section 1, "Regulatory Requirements" above.

3 Roles and Responsibilities

3.1 The Vegetation Asset Strategy and Analytics (VASA) team is responsible for risk-informed Scope of Work development.

3.2 The VM Operations team is responsible for creating procedures and processes to meet the expectations in this standard and to support compliance with the regulatory requirements and for the execution of day-to-day operational tasks to meet the expectations in this standard and compliance obligations.

1. The primary responsibilities for the VM Operations leadership team are to:

   - Monitor and manage the inspection and tree work schedule adherence throughout the year to ensure compliance and prevent encroachment into MDR.

   - Support the workforce to manage and resolve constraints and interference, mitigation of issues preventing work completion, adherence to the expectations set in this standard and supporting procedures.

2. The primary responsibility for vegetation management inspectors (VMI) is to inspect and prescribe necessary vegetation work in accordance with regulatory obligations and industry and PG&E standards.

3. The primary responsibility for tree contractors (TC) is to review clearance prescriptions and execute vegetation work in accordance with regulatory obligations and industry and PG&E standards.

3.3 The Quality Management team conducts work performance reviews and assessments, verification of work completion, and quality assurance audits.

4 Industry Standards and Arboriculture Practices

4.1 The PG&E VM program shall consider the use of the industry standards and best management practices such as, but not limited to, the documents listed in the "Reference Documents" section.

5 Utility Arboriculture Cycles

5.1 Annual Patrol and Second Patrol VM activities occur based on two utility arboriculture cycles, Inspection Cycle and Work Cycle.

5.2 During the Inspection Cycle, vegetation is inspected for adherence to the regulatory requirements and recommendations in Section 1, "Regulatory Requirements" and PG&E requirements and expectations in Section 2, "PG&E Requirements and Expectations "of this document.

- As necessary, vegetation work prescriptions are made to ensure that vegetation remains in compliance.
- The Annual Patrol cycle stabilization is performed to maintain compliance and manage risk. Deviations from an annual patrol cycle need to be documented.
- The Annual Patrol cycle is planned on an annual timeline but allows for unforeseen schedule changes to the cycle if a constraint or external factors is documented.
- The Second Patrol inspection cycle is typically planned and patrolled with a six-month offset from the annual patrol inspection date. This timing can vary due to operational or external factors.

5.3 During the Work Cycle, vegetation pruning and felling of trees is performed to ensure compliance with the regulatory requirements and recommendations in Section 1, "Regulatory Requirements" and PG&E requirements and expectations in Section 2, "PG&E Requirements and Expectations "of this document.

1. This work is to be completed prior to vegetation breaching compliance. Beginning in the 2024 inspection cycle, unless a constraint or external factors is documented, tree work shall be completed within one year of identification.
    a. Priority work shall be addressed according to TD-7102P-17, "Vegetation Management Priority Tag Procedure."
2. This cycle is planned on an annual timeline but allows for unforeseen schedule changes to the cycle if a constraint or external factor is documented.

Distribution Vegetation Management Program

6 Annual Planning

6.1 Workplans are created annually in advance of initiation of the Inspection Cycle.

This process identifies opportunities to adjust the schedule of circuits or circuit segments based on the most current data and information available. Data and information available can include, but is not limited to, risk models, predictive models, input or requests from local experts, environmental considerations, tree species growth or failure rates, outage and ignition data, and coordination with wildfire mitigations outside vegetation management.

7 Records Management and Data Integrity

7.1 The Distribution Vegetation Management program is required to document its work and to create and complete records per Records and Information Management, below in this standard.

8 Exceptions

8.1 Variances to this standard must be approved by the Vegetation Management Vice President (VP) and the Wildfire & Enterprise Risk Management Vice President (VP).

END of Requirements

DEFINITIONS

Abrasion: Damage to insulation resulting from friction between vegetation and conductors. Scuffing or polishing of the insulation or covering is not considered abrasion.

Strain: Is present when vegetation contact significantly compromises the structural integrity of supply or communication facilities. Contact between vegetation and conductors is not considered strain.

Constraint: A situation that occurs when a customer, property owner, or agency obstructs or delays PG&E pre-inspection work or the completion of the intended tree work.

External Factors: Events and conditions that are beyond the control of Vegetation Management.

Facility (Distribution): The components of the electric distribution overhead system, including pole/support structure, primary conductors [4 kilovolts (kV) and less than 60 kV – with the majority being between 4 kV to 21 kV], voltage regulating equipment, switching equipment, transformers, and secondary conductors (operates under 750 V and supply ranging from 120 V to 480 V). Refer to TD-8105, "Distribution Line Overhead Asset Management Plan" for additional details.

Distribution Vegetation Management Program

High Fire-Threat District (HFTD): High Fire-Threat District means those areas comprised of the following:

(1) (1) Zone 1 is Tier 1 of the latest version of the United States Forest Service (USFS) and CAL FIRE's joint map of Tree Mortality High Hazard Zones (HHZs). (Note: The Tree Mortality HHZs Map may be revised regularly by the USFS and CAL FIRE.)

(2) (2) Tier 2 is Tier 2 of the CPUC Fire-Threat Map.

(3) (3) Tier 3 is Tier 3 of the CPUC Fire-Threat Map.

High Fire Risk Area (HFRA): A purpose-built map for use in scoping Public Safety Power Shutoff events identifying areas where risk factors for the potential of catastrophic fire from utility infrastructure ignition during offshore wind events is higher.

Idle: Facilities that do not currently serve a customer load and may be energized or de-energized temporarily or permanently. All idle facilities are considered active until they are abandoned. For this standard, abandoned facilities are included in this definition. Abandoned facilities are physically isolated from all other energized conductors, equipment, or facilities and are determined by PG&E to have no foreseeable future use.

Inspection: An organized and systematic examination.

Minimum Distance Requirement (MDR): Distance to maintain separation between vegetation and distribution conductors in Local Responsibility Areas (LRAs), State Responsibility Areas (SRAs) and California's High Fire-Threat District (HFTD), in accordance with CPUC General Order (G.O.) 95, Rule 35 and Public Resource Code (PRC) 4293.

Portion of tree: A part of a tree. Such as a limb, branch, or section of the canopy.

Prescription: A recommendation of tree work to be performed. Information provided typically includes type of pruning (e.g., top-trim, or side-trim), how much of the tree to be trimmed or removed, and any other information that would be helpful for the tree contractor.

Priority: Conditions that may result from either encroachment into the Pacific Gas and Electric Company (PG&E) minimum clearance requirement or from potential tree or limb failure. The following time constrains apply to each of the priority conditions:

- Priority 1 tags must be mitigated within 24 hours of identification when reported.
- Priority 2 tags must be mitigated within 20 business days, unless constrained

Prune (Trim): Removing branches from a tree or other plant using approved practices, to achieve a specified objective.

Secondary Conductor: Conductors operated at a transformer's secondary voltage (< 750 volts) to distribute power to end-use customers.

Service Drop: Service Drop means that portion of a circuit located between a pole line and a building, a structure or a service and meter pole. (Section 23.4 of GO 95)

Underbuilt: Electric distribution lines located directly under and parallel with transmission lines and attached to the same pole or structure.

IMPLEMENTATION RESPONSIBILITIES

The Vegetation Asset Strategy and Analytics team is responsible for the development and communication of this standard to VM Operations leadership, as well as the periodic review of this document. VM Execution is responsible for the distribution of this standard by providing training and conducting regular reviews to ensure adherence.

GOVERNING DOCUMENT

Utility Policy TD-05, "Vegetation Management Policy"

COMPLIANCE REQUIREMENT / REGULATORY COMMITMENT

California Public Utilities Commission (CPUC), General Order 95, Rule 35

California Public Utilities Commission (CPUC), General Order 95, Rule 35 in Appendix E

California Public Utilities Commission (CPUC), CPUC General Order 95, Rule 18

California Public Utilities Commission (CPUC), General Order 95, Rule 18 in Appendix I

California Public Resources Code (PRC), sections 4293 and 4295.5

California Code of Regulations (CCR), Title 14, sections 1250, 1251, 1252, 1253, 1256, 1257 and 1258

CPUC Resolution ESRB-4 (June 12, 2014)

Records and Information Management:

PG&E records are company assets that must be managed with integrity to ensure authenticity and reliability. Each Line of Business (LOB) must manage Records and Information in accordance with the Enterprise Records and Information (ERIM) Policy, Standards and Enterprise Records Retention Schedule (ERRS). Each Line of Business (LOB) is also responsible for ensuring records are complete, accurate, verifiable and can be retrieved upon request. Refer to GOV-7101S, "Enterprise Records and Information Management Standard" for further records management guidance or contact ERIM at Enterprise_RIM@pge.com."

Distribution Vegetation Management Program

REFERENCE DOCUMENTS

Developmental References:

NA

Supplemental References:

International Society of Arboriculture (ISA) Best Management Practices (BMPs)

ANSI A300 Part 9, "Tree Risk Assessment Standard," by E. Thomas Smiley, Nelda Matheny, and Sharon Lilly and its companion publication, "Utility Tree Risk Assessment," by John W Goodfellow, that describes the levels and scope of tree risk assessment.

Cal Fire Power Line Fire Prevention Field Guide

Utility Arborist Association (UAA) Best Management Practices for Tree Risk Assessment and Abatement

Utility Standard RISK-6300S, "Quality Management Audit Standard"

Utility Standard TD-2459S, "Management of Idle Electric Distribution Lines"

TD-2014S, "Third-Party Notification and Resolution of Potential Violations and Safety Hazards"

TD-2015S, "Notification to Third-Party Non-Utility of Nonconformance"

APPENDICES

Appendix A, Minimum Distance Requirements (MDR)

Appendix B, Second Patrol Defined Geographic Area

ATTACHMENTS

NA

DOCUMENT RECISION

Utility Standard TD-7102S, "Distribution Vegetation Management Standard (DVMS)," Rev. 1, 09/04/2015 (original publication)

Distribution Vegetation Management Program

DOCUMENT APPROVER

Michael Seitz, VP, Vegetation Management

Russell Prentice, VP, Wildfire & Enterprise Risk Management

[redacted], Sr. Director, Wildfire Risk Management

DOCUMENT OWNER

[redacted], Director, Vegetation Asset Strategy and Analytics

[redacted], Director, Vegetation Management

DOCUMENT CONTACT

[redacted], Principal Asset Management Specialist, Vegetation Asset Strategy and Analytics

[redacted], Principal Asset Management Specialist, Vegetation Asset Strategy and Analytics

REVISION NOTES

Where?	What Changed?
Entire document	This is a complete rewrite of this document.

Distribution Vegetation Management Program

Appendix A, Minimum Distance Requirements (MDR)
Page 1 of 1

Jurisdiction	LRA (non-HFTD) Applicable year-round	HFTD Applicable year-round	SRA Applicable during fire season	FRA (When on USFS property) Applicable during fire season
Regulation	G.O. 95, Rule 35	G.O. 95, Rule 35	PRC 4293	PRC 4293
Minimum Distance Requirement for Primary Conductors greater than 750 volts	18-inches	4-feet	4-feet	4-feet
Requirement for Conductors less than 750 volts	Prune if strain or abrasion to the conductor is observed.			

- If LRA overlaps with HFRA, PG&E MDR guidance is consistent with HFTD requirements, unless otherwise constrained.
- If FRA is not on USFS Property, PG&E MDR guidance is consistent with HFTD requirements, unless otherwise constrained.
- Vegetation must not encroach within the minimum distance at any time between inspection and one year or next scheduled Work Cycle.
- Depending on span length, facility construction and conductor material, potential sag and sway can range from 1-foot at quarter-span to 4-feet at mid-span.

Distribution Vegetation Management Program

Appendix B, Second Patrol Defined Geographic Area
Page 1 of 1

Inspection area details

- **State Responsibility Area (SRA):** The area in the state where the State of California (CAL FIRE) has the primary financial responsibility for the prevention and suppression of wildland fires.
- **Federal Responsibility Area (FRA):** Those lands administered or controlled by the Federal Government for which the Federal Agencies have administrative and protection responsibility.
    - **High Fire-Threat District (HFTD):** High Fire-Threat District means those areas comprised of the following:
        - (1) Zone 1 is Tier 1 of the latest version of the United States Forest Service (USFS) and CAL FIRE's joint map of Tree Mortality High Hazard Zones (HHZs). (Note: The Tree Mortality HHZs Map may be revised regularly by the USFS and CAL FIRE.)
        - (2) Tier 2 is Tier 2 of the CPUC Fire-Threat Map.
        - (3) Tier 3 is Tier 3 of the CPUC Fire-Threat Map.
    - **High Fire Risk Area (HFRA):** A purpose-built map for use in scoping Public Safety Power Shutoff events identifying areas where risk factors for the potential of catastrophic fire from utility infrastructure ignition during offshore wind events is higher.
    - **Wildland Urban Interface (WUI):** Layer produced by Silvis Labs that clipped to Local Responsibility Areas (LRA). Intermix WUI are areas where housing and vegetation intermingle; interface WUI are areas with housing in the vicinity of contiguous wildland vegetation.
    - **Fire Hazard Severity Zone (FHSZ):** A layer produced by CAL FIRE and the Resource Assessment Program (FRAP) using data and models describing development patterns, potential fuels over a 30-50 yeartime horizon, expected fire behavior, and expected burn probabilities, to quantify the likelihood and nature of vegetation fire exposure. This second patrol project pertains only to the very high fire severity zone within the LRA.