

Vegetation Management Distribution Inspection Procedure

SUMMARY

This procedure outlines the tasks necessary to fulfill the inspection requirements of the Distribution Vegetation Management program. The inspection of vegetation around Pacific Gas & Electric Company's (PG&E) overhead electric distribution lines and facilities is performed to maintain safe and reliable operation.

Level of Use: Informational Use

TARGET AUDIENCE

Distribution Vegetation Management Inspectors (VMI)

Supervising Vegetation Management Inspector

Vegetation Program Manager (VPM)

SAFETY

NA

BEFORE YOU START

All individuals must complete PG&E Academy training required for inspections prior to performing this procedure. Training expectations are available at [Training Expectations](#).

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PROCEDURE STEPS

1 Before Going Out into the Field

1.1 Before going out into the field, the VMI must PERFORM the following steps:

1. CONFIRM with the supervisor which system of record will be used to record tree information, OneVM or VMD.
2. CONFIRM access to the appropriate system of record.
3. GATHER and review the following information:
 - Current inspection maps (including EVM historical work)
 - Work packets
 - Pre-Patrol Report
 - Historical outage data
 - Issues that may occur on the assigned circuit, as provided by their direct supervisor.

2 Requirements While in the Field

2.1 Unusual and Unsafe Conditions

1. IF a third party is threatening the VMI's physical safety,

THEN the VMI must PERFORM the following steps:

- a. GET TO A SAFE AREA
 - b. CALL 9-1-1 or local emergency services and/or NOTIFY the supervisor or appropriate leadership.
2. At any time during the visit to a location, the VMI must REPORT any of the following:
 - Any unsafe site situations (i.e., site conditions preventing access or inspection).
 - Abnormal field conditions (whether owned by PG&E or a third party), per [TD-7102P-09, "Reporting Abnormal Field Conditions Procedure."](#)
 3. IF any of the vegetation affects distribution facilities such that it requires Priority 1 or Priority 2 mitigation,

THEN the VMI must refer to [Utility Procedure TD-7102P-17, "Vegetation Management Priority Tag Procedure"](#).

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2.1 (continued)

4. IF any of the vegetation affects transmission facilities such that it requires Hazard
5. Notification-Immediate or Hazard Notification-Urgent designation,

THEN REFER to [Utility Procedure TD-7103P-09, "Transmission Vegetation Management Hazard Notification Procedure."](#)

2.2 Refusals

1. IF at any time during inspection of a location a customer, property owner, or agency obstructs or delays PG&E pre-inspection work,

THEN the VMI must FOLLOW the steps in the document titled [TD-7102P-04, "Distribution Vegetation Refusal Procedure."](#)

2.3 Palm Trees

1. IF at any time during the visit to a location the VMI encounters a palm tree that may encroach the MDR,

THEN the VMI must FOLLOW the steps in Attachment 1, "Strategies to Manage and Reduce Palms."

2.4 Environmental Considerations

1. If the VMI encounters conditions that may require Environmental review ([bird's nest](#), [riparian area](#), [VELB habitat](#), etc.),

THEN DOCUMENT the conditions in the system of record.

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3 Performing an Inspection

3.1 What to Inspect

1. The VMI must INSPECT the following:

- 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]) and considering normal weather patterns for the local area or line position or line conditions.
- 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 significant strain or abrasion to the secondary conductors (excluding service drops).
- All Idle lines as if they are energized.
- Distribution underbuilt for vegetation that could fall into transmission structures, guys, or poles, regardless of right-of-way (ROW) or easement width.
- Areas outside fenced areas, including portions of distribution line span crossing substation fence at substations, generation stations, or switchyards in the inspection area.
- Enhanced Vegetation Management (EVM) segments that have been claimed and reported as part of the EVM WMP commitments (refer to Attachment 2, "EVM Commitments").

3.2 Handling Inspections that Cannot be Completed

1. If an inspection cannot be completed because of constraints or external factors, the VMI must RECORD the type of constraint or external factors involved in the system of record.

3.3 Inspecting Vegetation

1. The VMI must GO TO their first location and PERFORM a Level 1 visual inspection of the vegetation surrounding the facilities, looking for the following:
- On overhead electric distribution primary and secondary conductors and facilities (excluding service drops), IDENTIFY:
 - Vegetation that will encroach the MDR (see Appendix A, Minimum Distance Requirements (MDR)) before the next annual work cycle.
 - Any vegetation that has already encroached the MDR.

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3.3 (continued)

- For trees that may fall into or may contact the line:
 - Dead trees or portions of trees that are rotten or weakened by decay or disease
 - Rotten or diseased portions of otherwise healthy trees that overhang or lean (due to outside influences: soil structure, soil heaving, weather conditions, cracking, breaking, etc.) toward the line (refer to Appendix E, "Information About Tree Lean").
- Any distribution underbuilt spans for any of the above conditions.
 - The VMI must INSPECT the distribution underbuilt spans as described in the document titled [TD-7103P-01, "Transmission Routine \(Non-Orchard\) Patrol Procedure \(TRPP\)."](#)
 - IF the VMI DISCOVERS vegetation or abnormal conditions that adversely affect transmission primary and/or secondary facilities,
 - THEN the VMI must APPROPRIATELY REPORT them.
- IF a tree or limb is more than 6 in. in diameter at line height,
AND is more than 10 in. DBH,
AND within 6 - 48 in. of a conductor (in HFTD/SRA) or 6 - 18 in. of a conductor (in LRA),
THEN PERFORM the steps in Attachment 3, "Identifying Major Woody Stems" to identify and record the potentially exempt major woody stem.
- 2. IF (while performing the Level 1 inspection) the VMI identifies a tree or trees with conditions found in the Hazard Trees/Vegetation Clearance section of the "California Power Line Fire Prevention Field Guide" (see Appendix B, Overview of Tree Defects and Site Conditions),
OR, if the VMI suspects a tree may have one or more of those conditions,
THEN PERFORM a Level 2 assessment of that tree.
- 3. IF work is not necessary to maintain safety and compliance as defined above,
THEN INSPECT the next tree on the assigned circuit.
- 4. IF work is necessary, PROCEED to section 4, "Prescribing Work."

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4 Prescribing Work

NOTE

G.O. 95, Rule 35, Appendix E, recommends minimum 12-feet of clearance at time of trim in High Fire Threat District (HFTD). PG&E extends this minimum clearance to tree work within HFRA.

Idle lines must be treated as energized and work prescribed accordingly.

- 4.1 Using the information gathered in Section 3 and their professional judgement, the VMI must DETERMINE which of the two options in this section applies to the vegetation,

AND PRESCRIBE the work in that option in the system of record.

1. Prescribing Non-EVM Work

a. IF a tree shows any of the following characteristics:

- Has the potential to encroach within minimum distances required to maintain compliance with G.O. 95, Rule 35, or PRC 4293 (see Appendix A, Minimum Distance Requirements (MDRs),
- Shows evidence of creating strain or abrasion on secondary lines,
OR may fall into or otherwise impact secondary conductors.
- Is dead or has portions of it that are dead are rotten or weakened by decay or disease,

AND overhangs or leans toward and may fall into or may contact the line from the side.

- Is healthy but has one or more portions that are rotten or diseased,

AND overhangs or leans toward and may fall into or may contact the line from the side.

THEN the VMI must PERFORM the following steps:

(1) Prescribe removal.

- IF prescribing removal of a tree that may resprout,

OR IF a stump is currently resprouting,

THEN refer to Attachment 4, "Handling Stump Resprouts."

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4.1 (continued)

- (2) If removal is not practical,
THEN prescribe pruning such that the tree will maintain compliance for three annual work cycles.
- (3) If pruning to maintain compliance for three annual work cycles is not an option,
THEN prescribe pruning such that the tree will maintain compliance for one annual work cycle.
- (4) If pruning to maintain compliance for one annual work cycle is not an option,
THEN prescribe Bi-Annual clearance.
 - The VPM must CONSIDER the mitigation options outlined in Attachment 5, "Bi-Annual Considerations" and DETERMINE a course of action for the tree.
- (5) IF the customer refuses removal and/or any pruning, THEN the VMI must FOLLOW the steps in [Utility Procedure TD-7102P-04, "Distribution Vegetation Refusal Procedure,"](#)
AND ESCALATE to the VPM.

2. Prescribing Work to Maintain EVM Clearances

- a. Prescribe work to maintain the following EVM clearances for the entire segment:
 - A clear vertical plane (clear to sky) of a minimum of 4 ft. from the outside conductor.
 - EVM-required radial clearances of a minimum of 12 ft. at time of trim.

- 4.2 After prescribing tree work (or recording a refusal), the VMI must PROCEED to section 5, "Marking a Tree."

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5 Marking a Tree

5.1 The VMI must MARK the tree, using at least one of the methods in this section once tree work has been identified.

1. Painting

NOTE

Paint colors are assigned to programs and to specific years of some programs. See Appendix D, "Tree Marking Colors."

- a. Spray the paint near the base of a tree using one of the following shapes:
 - A dot for pruning.
 - An X for removal
- b. When painting a mark, use the following guidelines:
 - The best location for marking is above surrounding vegetation (grass and bushes) and above any expected snowline.
 - The best location for marking is on the side that a tree crew will likely see first.
 - Spray new marks over any marks from previous years, but with some of the older mark still showing.
 - Cover incorrect marks with black or brown paint.

2. Flagging

NOTE

Flag colors are assigned to programs and to specific years of some programs. See Appendix D, "Tree Marking Colors."

- a. SECURELY ATTACH flagging that will help the tree crew identify the tree.

3. Cannot Paint or Flag

- a. IF the VMI cannot paint or flag a tree,

THEN UPDATE the tree record with the code CNP (cannot paint) or CNF (cannot flag) and a description of the tree's location within the span.

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5.2 After marking the tree, the VMI must PROCEED to section 6, “Notifying the Customer/Property Owner of Upcoming Work.”

6 Notifying the Customer/Property Owner of Upcoming Work

6.1 Agency Land Notification

1. IF work is prescribed on agency land,
THEN invoke the ERTC process in coordination with [Environmental Support](#).

6.2 Customer/Property Owner Notification

1. The VMI must PERFORM the following steps:
 - a. ATTEMPT to contact the customer/property owner directly and DESCRIBE the work to be performed.
 - Acceptable methods of contact include:
 - Direct contact in person
 - Phone Calls
 - Email
 - Door hanger
 - Letters
 - b. IF the customer/property owner does not respond to the first contact attempt,
THEN ATTEMPT TO CONTACT the customer/property owner at least two more times (for total of three times).
 - c. If the customer/property owner does not acknowledge the receipt of the information,
THEN ENTER the details and method of the notification attempts into the system of record.

6.3 Customer/Property Owner Refusal

1. IF the customer/property owner refuses to allow the work to proceed,
THEN the VMI must FOLLOW the steps in the document titled [TD-7102P-04, “Distribution Vegetation Refusal Procedure.”](#)

6.4 After performing the above steps, the VMI must inspect the next location on their assigned circuit.

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END of Instructions

DEFINITIONS

Abnormal Field Condition: Field conditions that may include, but are not limited to, broken cross arms, floaters, objects on wires, broken poles, frayed conductors, arcing wires, etc.

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

Basic Assessment (Level 2): A detailed visual inspection of a tree and surrounding site that may include the use of simple tools. It requires that a tree risk assessor inspect completely around the tree trunk looking at the visible aboveground roots, trunk, branches, and site.

Level 2 inspections are ground-based.

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.

Distribution Underbuilt: The presence of electric distribution lines located directly under and parallel with the transmission lines and attached to the same pole or structure.

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

Harm: Personal injury or death, property damage, or disruption of activities.

Hazard Condition: A vegetation condition affecting transmission or distribution lines which does not pose an imminent threat, but where the condition has the potential to become an imminent threat and is at or encroaching the PG&E clearance distance.

Hazard Tree: A tree identified as a likely source of harm.

Lean: The predominant angle of the trunk from vertical.

Limited Visual Assessment (Level 1): A visual assessment from a specified perspective such as a foot, vehicle or aerial (airborne) patrol of an individual tree or a population of trees near specified targets to identify conditions or obvious defects of concern.

- Walk-by: A limited visual inspection, usually from one side of the tree, performed as the tree risk assessor walks by the tree(s).
- Drive-by/windshield assessment: A limited visual inspection from only one side of the tree, performed from a slow-moving vehicle.
- Aerial patrol: Overflights of a utility right-of-way, large areas, or individual trees in a defined area to record the location of trees that are likely to fail and cause harm.

Major Woody Stem (MWS): A trunk or limb at least 6 in. in diameter at the conductor level, on a tree at least 10 in. DBH and at least 10 years old.

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Minimum Distance Requirement: 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.

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 constraints 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.

Refusal: A situation that occurs when a customer / property owner refuses to allow PG&E to perform pre-inspection work or complete 100% of the work prescribed.

Service Drop: The low-voltage (generally 110 to 750 volts) electric supply lines that connect end users to an electric distribution supply network. (ISA)

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.

IMPLEMENTATION RESPONSIBILITIES

The VM Communication and Training team is responsible for issuing the communication associated with this procedure to the target audience and maintaining the accuracy of applicable training material.

The leadership of the target audience is responsible for holding the target audience accountable to performing the procedure as written.

The Document Contact(s) are subject matter or technical expert(s) who can answer questions about the procedure.

The Document Owner is responsible for maintaining accuracy of this procedure.

GOVERNING DOCUMENT

TD-7102S, Vegetation Management Distribution Program

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COMPLIANCE REQUIREMENT / REGULATORY COMMITMENT

Records and Information Management:

Information or records generated by this procedure must be managed in accordance with the Enterprise Records and Information (ERIM) program Policy, Standards and Enterprise Records Retention Schedule (ERRS). REFER [GOV-7101S, "Enterprise Records and Information Management Standard"](#) and related standards. Management of records includes, but is not limited to:

- Integrity
- Storage
- Retention and Disposition
- Classification and Protection

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 Resources Code (PRC), sections [4293](#) and [4295.5](#)

[California Code of Regulations \(CCR\), Title 14, section 1257, "Exempt Minimum Clearance Provisions – PRC 4293"](#)

REFERENCE DOCUMENTS

Developmental References:

TD-7102S, Vegetation Management Distribution Program

California Power Line Fire Prevention Field Guide, 2021 edition

Supplemental References:

[TD-7102P-09, "Reporting Abnormal Field Conditions Procedure."](#)

[TD-7102P-17, "Vegetation Management Priority Tag Procedure"](#)

[TD-7103P-09, "Transmission Vegetation Management Hazard Notification Procedure."](#)

[TD-7102P-04, "Distribution Vegetation Refusal Procedure."](#)

[TD-7102P-08, "Facility Protect and Work Difficulty Classification Procedure."](#)

[TD 2014P-01, "Notification of Conditions to Third-Party Utility Procedure."](#)

[TD 2015P-01, "Notification of Conditions to Non-Utility Third-Party Procedure."](#)

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

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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"

Appendix B, "Overview of Tree Defects and Site Conditions"

Appendix C, "Second Patrol Defined Geographic Area"

Appendix D, "Bi-Annual Considerations"

Appendix E, "Tree Marking Colors"

Appendix F, "Information about Tree Lean"

ATTACHMENTS

TD-7102P-01-Att01 "Attachment 1, Strategies to Manage and Reduce Palms"

TD-7102P-01-Att02 "Attachment 2, EVM WMP Commitments"

TD-7102P-01-Att03 "Attachment 3, Identifying Major Woody Stems"

TD-7102P-01-Att04 "Attachment 4, Handling Stump Resprouts"

TD-7102P-01-Att05 "Attachment 5, Bi-Annual Tree Management and Reduction Strategy"

TD-7102P-01-JA01, "Best Management Practices (BMP) for Vegetation Management Activities"



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DOCUMENT REVISION

TD-7102P-01, "Vegetation Management Distribution Routine Patrol Procedure (DRPP)," 10/27/2015, Rev. 1 (original publication)

TD-7102P-01-B026, "EVM Transition to Distribution Routine Patrol," 09/13/2021, Rev. 0

TD-7102P-01-B028, "Overhanging Vegetation Clearances," 10/26/2022, Rev. 0

TD-7107S, "Vegetation Management Marking Standard," 01/28/2021, Rev. 0

TD-7102P-05, "Major Woody Stem Exemption," 01/12/2018, Rev. 2

TD-7102P-05-B023, "Changes to Major Woody Stem Exemption Procedure," 06/15/2020, Rev. 0

TD-7102P-23, "Vegetation Management Second Patrol Procedure," 07/13/2019, Rev. 2

TD-7106P-01, "Enhanced Vegetation Management Pre-Inspection Procedure," 05/12/2020, Rev. 0

TD-7106P-01-B001, "Change Control Process for EVM Non-Regulatory Commitments," 4/28/2022, Rev. 0

DOCUMENT APPROVER

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REVISION NOTES

Where?	What Changed?
Entire document	<p>Completely rewritten to streamline and bring procedures current as of 31 December 2022.</p> <p>Moved information about palms, orchards, bi-annuals, stump resprouts to attachments.</p> <p>Added information about major woody stems.</p>

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Appendix A, Minimum Distance Requirements (MDR)

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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 Inspection 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.

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Appendix B, Overview of Tree Defects and Site Conditions

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The Hazard Trees/Vegetation Clearance section of the “California Power Line Fire Prevention Field Guide” provides information on tree defects and site conditions that increase the likelihood of tree failure. Below is a non-exhaustive list from that document.

- Standing dead trees and dead parts of trees
- Broken and/or hanging branches
- Cracks
- Weakly attached branches or codominant stems
- Decayed or missing wood (damage or cankers)
- Unusual tree architecture (lean, balance, branch distribution, or lack of taper)
- Loss of root support
- Shallow soils
- Insect infestation
- Diseases
- Suppressed or intermediate stems within a forest stand
- Fire damage
- Fruiting bodies of known wood decay fungus
- Narrow attachment with included bark
- Dwarf Mistletoe and Rust Cankers (conifers)
- Bleeding
- Dying
- Rot

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Appendix B, Overview of Tree Defects and Site Conditions

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When assessing for heart/butt rot, the assessment should include but not be limited to the following items:

- Open wounds showing visible rot
- Old wounds that have partially or fully healed over
- Conks anywhere on the bole of the tree
- Hollow trunks detected by rapping on the tree trunk or by use of an increment borer
- Decreasing crown vigor
- Cracks or splits not caused by lightning
- Swelling or cankers on the bole
- Wildlife cavities
- Presence of carpenter ants or termites
- Number, size, and distribution of fungal fruiting bodies
- Broken or dead tops
- The amount of solid radial wood remaining where visible
- Poor live crown ratio (% live crown)
- Poor diameter-to-height ratio

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Appendix C, Second Patrol Defined Geographic Area

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Inspection area details

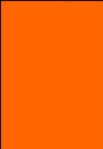
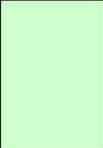
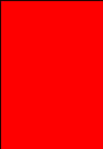

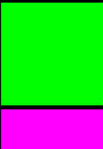







- **State Responsibility Area (SRA):** The area in the state where the State of California (CAL FIRE) has the primary financial responsibility for the prevention and suppression of wildland fires.
- **Federal Responsibility Area (FRA):** Those lands administered or controlled by the Federal Government 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.

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Appendix D, Tree Marking Colors

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Programs are assigned the marking colors and patterns shown in the table. One color can be assigned to several programs. The sample column is approximate and illustrative only. The paint brands and color names shown in the table comply with this standard.

Program	Color	Sample	Paint Brand and Color Name
<ul style="list-style-type: none"> • Distribution program years: 2020, 2024, 2028 • Transmission program years: 2022, 2026, 2030 	Orange		<ul style="list-style-type: none"> • Nelson Aero Spot: Orange • Aervoe: Orange • Aervoe Professional Choice: Orange
<ul style="list-style-type: none"> • Distribution program years: 2021, 2025, 2029 • Transmission program years: 2023, 2027, 2031 	Light Green		<ul style="list-style-type: none"> ▲ Nelson Aero Spot: Lite Green
<ul style="list-style-type: none"> • Distribution program years: 2022, 2026, 2030 • Transmission program years: 2020, 2024, 2028 	Red		<ul style="list-style-type: none"> • Nelson Aero Spot: Red • Aervoe: Red • Aervoe Professional Choice: Red
<ul style="list-style-type: none"> • Distribution program years: 2023, 2027, 2031 • Transmission program years: 2021, 2025, 2029 	White		<ul style="list-style-type: none"> • Nelson Aero Spot: White • Aervoe: White • Aervoe Professional Choice: White
<ul style="list-style-type: none"> • Fire and storm response 	Fluorescent Green		<ul style="list-style-type: none"> • Nelson Aero Spot: Green Glo • Aervoe: Fluorescent Green • Aervoe Professional Choice: Fluorescent Green
<ul style="list-style-type: none"> • Estimating arborist 	Pink		<ul style="list-style-type: none"> • Nelson Aero Spot: Pink Glo • Aervoe: Fluorescent Hot Pink
<ul style="list-style-type: none"> • Transmission reliability (TVMR) 	Blue		<ul style="list-style-type: none"> • Nelson Aero Spot: Lite Blue • Aervoe Professional Choice: Light Blue
<ul style="list-style-type: none"> • Enhanced vegetation management (EVM) • Fuel reduction • Second patrol/CEMA 	Yellow		<ul style="list-style-type: none"> • Nelson Aero Spot: Yellow • Aervoe: Yellow • Aervoe Professional Choice: Yellow
<ul style="list-style-type: none"> • Cover paint 	Black		<ul style="list-style-type: none"> • Nelson Aero Spot: Black • Aervoe: Black
	Brown		<ul style="list-style-type: none"> ▲ Nelson Aero Spot: Brown
<ul style="list-style-type: none"> • Work Verification 	Pink with a pattern	Examples:   (flagging only)	







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Appendix D, Tree Marking Colors

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1 Unassigned Colors (Informative)

Some colors are not yet assigned to a program. The sample column is approximate and illustrative only. This appendix is informative only.

Program	Color	Sample	Paint Brand and Color Name
• None	Fluorescent Orange		<ul style="list-style-type: none"> • Nelson Aero Spot: Orange Glo • Aervoe Professional Choice: Fluorescent Orange
• None	Fluorescent Red		<ul style="list-style-type: none"> • Nelson Aero Spot: Red Glo • Aervoe: Fluorescent Red
• None	Fluorescent Blue		<ul style="list-style-type: none"> ▲ Nelson Aero Spot: Blue Glo ▲ Aervoe Professional Choice: Fluorescent Blue
• None	Purple		<ul style="list-style-type: none"> ▲ Nelson Aero Spot: Purple
• None	Light Purple		<ul style="list-style-type: none"> ▲ Nelson Aero Spot: Lite Purple
• None	Gray		<ul style="list-style-type: none"> ▲ Nelson Aero Spot: Gray

2 Marking Errors (Informative)

The following actions are marking errors. This appendix is informative only.

- Painting a crumbly dirt hillside (cut bank) below a tree.
- Getting paint on a road or curb or fence (which could be considered graffiti).
- Flagging that is not the current cycle's color.
- Flagging on surrounding vegetation (e.g., blackberry bushes around an oak tree that requires work).

3 Discontinued Markings (Informative)

Some markings have been discontinued. This appendix is informative only.

- Two dots meant facility protect.
- SE** SE meant special equipment. Instead, the need for special equipment or methods is recorded in the tree record.

Vegetation Management Distribution Inspection Procedure

Appendix E, Information about Tree Lean

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The following is taken from the California Power Line Fire Prevention Field Guide, 2021 edition.

Hazard Trees/Vegetation Clearance/Steps to Inspection/Lean (page 44)

Trees with more than a slight lean away from utility infrastructure are unlikely to strike the infrastructure, regardless of their weight distribution. Within reasonably foreseeable field conditions, such trees are generally not hazardous to infrastructure. Otherwise, the direction and amount of lean should be carefully evaluated.

Trees exhibit either corrected or uncorrected lean. Corrected lean is usually exhibited in hardwood trees that naturally grow in a non-linear fashion (decurent) or in conifers that grow upright (excurrent) after a force has moved the bole off vertical (like snow-loading). Corrected lean may not constitute a structural weakness in a tree.

Uncorrected lean is usually caused by outside factors (wind, soil conditions, etc.) that loosen or break roots. Construction activities that sever roots or strike tree butts and boles also cause trees to lean, as does the impact of falling trees, either natural or human caused. Humps and soil mounding on the opposite side of the lean direction are often indicators of broken or loosened tree roots. Cracks in the bole and roots are often signs of a failure in progress, and abatement may be required right away.

A leaning tree can be more hazardous because of the presence of open fire wounds or cankers, especially if accompanied by rot.