

Distribution Routine Patrol Procedure (DRPP)

SUMMARY

The purpose of the Distribution Routine Patrol Procedure (DRPP) is to:

- Detail the steps and requirements for routine inspection of vegetation around PG&E electric distribution lines, including distribution underbuild lines.
- Maintain the safe and reliable operation of distribution and underbuild facilities.

Level of Use: Informational Use

TARGET AUDIENCE

- Vegetation Management Governance and Support
- Vegetation Management Operations
- VM Contractors: Pre-Inspector (PI), Tree Contractor (TC), Quality Control (QC), Quality Assurance (QA), Vegetation Control (VC)

SAFETY

PG&E or contract worker must review and follow all applicable safety standards and procedures before performing work, which includes review of tailboards and wearing appropriate Personal Protective Equipment for the job.

BEFORE YOU START

1. Ensure familiarization with entire procedure including the Definitions Section of this document
2. Read Distribution Vegetation Management Standard (DVMS)
3. Read Transmission Vegetation Management Standard (TVMS)
4. Read Transmission Routine (Non-Orchard) Patrol Procedure (TRPP)
5. Read Transmission and Distribution Vegetation Hazard Notification Procedure

Distribution Routine Patrol Procedure (DRPP)

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PROCEDURE STEPS

1 Distribution Patrol Practices

- 1.1 Pre-Inspection and tree work is performed in accordance with PI and TC Contract Specifications, Distribution Vegetation Management Standard (DVMS), practices described in this document, and other applicable standards and procedures.
- 1.2 PI INSPECTS lines once per cycle, generally November 15th of the current year – November 14th of the following year.
 1. IF VM employee or contractor identifies any of the following conditions:
 - Poses a hazard to the public or utility worker
 - Negatively impacts service reliability or asset life of PG&E facilities
 - Adversely impacts the ability to safely operate or inspect PG&E's facilities
 - Creates a condition that causes PG&E's facilities to be out of compliance with California Public Utilities Commission (CPUC) General Order (G.O.) 95 or 128

THEN NOTIFY the area Vegetation Program Manager (VPM) and Senior Consulting Utility Forester (SCUF).
 2. IF the condition only involves PG&E facilities or poses an immediate risk,

THEN FOLLOW the Reporting Abnormal Field Conditions Procedure.

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3. IF the condition is created by a 3rd party Utility (electric, communication, etc.),

THEN FOLLOW the Notification of Conditions to Third-Party Utility Procedure, TD 2014P-01.
4. IF the 3rd party is a non-utility,

THEN FOLLOW the Notification of Conditions to Non-Utility Third-Party Procedure, TD 2015P-01.
5. Primary Lines:
 - a. IF a tree is evaluated as having 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),

OR may fall into or impact primary conductors before next scheduled prune,

THEN LIST tree in the handheld device for one of the following:
 - Prune
 - Remove
 - Facility Protect (FP)
6. Secondary Lines:
 - a. IF a tree shows evidence of strain or abrasion on secondary lines,

OR may fall into or otherwise impact secondary conductors,

THEN RECOMMEND one of the following:
 - Prune
 - Remove
 - Facility Protect (FP)
 - Reconstruction, as advised by Maintenance and Construction (M&C)

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NOTE

Strain or abrasion on a conductor is present when contact with vegetation significantly compromises the structural integrity of distribution supply facilities. Contact between vegetation and conductors in and of itself does not constitute non-conformance with the rule.

7. Distribution Underbuild:
 - a. Distribution PI INSPECTS distribution underbuild spans per requirements for transmission, primary and secondary, as described in this document and the Transmission Routine (Non-Orchard) Patrol Procedure (TRPP).

NOTE

Transmission PI is responsible for listing tree work on transmission spans that begin with underbuild and then diverge.

1.3 Inspection Area

1. Distribution PI INSPECTS:
 - a. All vegetation with potential to grow, sway, or fall into PG&E's electric distribution and distribution underbuild conductors.
 - b. Distribution underbuild for vegetation that could fall into transmission structures, guys, or poles, regardless of Right-of-Way (ROW) or easement width.
 - c. Areas outside fenced areas, including portions of distribution line span crossing substation fence at substations, generation stations, or switchyards in inspection area.
 - IF distribution PI identifies vegetation inside substation, generation substation, or switchyard that requires tree work,

THEN NOTIFY VPM.

1.4 Idle Lines

1. IF idle or de-energized conductor is main line,

THEN distribution PI will treat de-energized conductor as if energized,

AND PATROL and PRUNE to maintain compliance.
2. IF circuit map identifies tap line as idle,

THEN line is NOT patrolled or pruned.

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3. IF tap line is not identified as idle on circuit map,

AND is de-energized by discontinuation of conductor (jumpers either removed, disconnected, or entire span is removed),

THEN line is NOT patrolled or pruned,

AND PI will COMPLETE Idle Facilities Investigation Work form (Idle Facilities Tag),

AND FORWARD Idle Facilities Tag to VPM.
4. IF an Idle Facility Tag does not already exist,

THEN VPM will EMAIL Idle Facilities Tag to Public Safety & Regulatory (PS&R) for input to SAP,

AND PS&R will NOTIFY VM if line is only seasonally or temporarily idle.
5. IF an Idle Facilities Tag already exists for removal of idle facility,

THEN line will NOT be patrolled or pruned,

AND PI will FILE copy of Idle Facilities Tag in the active circuit folder for reference during next patrol.
6. IF no Idle Facilities Tag exists for removing an idle facility,

THEN VPM will FORWARD the completed Idle Facilities Tag to M&C Compliance Supervisor,

AND line is NOT patrolled or pruned,

AND PI will FILE copy of submitted Idle Facilities Tag in the active circuit folder.

1.5 Non-PG&E Owned Distribution Lines

1. IF during patrol, PI identifies Private Facilities (PF),

THEN NOTIFY VPM,

AND FOLLOW the requirements of the Private Facilities Procedure (Dec. 2015).

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2 Distribution Patrol Prescriptions

2.1 Hazard Notification (HN)

NOTE

A Hazard Notification occurs when a vegetation condition affecting distribution or transmission lines has the potential to become an imminent threat. This condition could be the result of vegetation encroaching on the MDR or may arise from outside the ROW due to potential tree or limb failure.

1. IF PI identifies a HN tree,

THEN FOLLOW the requirements of the Transmission and Distribution Vegetation Hazard Notification Procedure.

2.2 General Practice – All Primary, Secondary, and Distribution Underbuild Lines

1. PI will:

- a. PRESCRIBE pruning In accordance with the most current ISA, Best Management Practices – Utility Pruning of Trees – Special Companion Publication to the ANSI 300 Part 1 and Part 7 (IVM).
- b. CONSIDER minimum clearances per MDR (Appendix A) sufficient to maintain mandated clearances under all foreseeable conditions of:
 - Tree Growth
 - Wind
 - Weather
 - Line loading
 - Line sag
 - Line blow-out
 - Tree sway
 - Snow Loading
- c. LIST hazard trees for removal or facility protect.
- d. PRESCRIBE stump treatment when removing re-sprouting species, unless specifically denied by the property owner, land manager, or regulations.

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2.3 Priority Work Codes

1. IF PI identifies a tree for routine pruning or removal work that may not maintain compliance with MDR (Section 2.3.4),

OR may be in contact with Tree Wire before TC would normally complete work,

THEN ASSIGN priority code "Accelerate",

AND in consultation with VPM, CREATE Tag for issue early to TC.

NOTE

Additional management and follow through to completion on accelerate trees may be necessary to mitigate risk and ensure timely completion. PI should be aware of TC schedule and know approximately how many weeks until the work will be completed.

2. IF PI identifies tree for routine pruning or removal work that is currently in compliance with the MDR,

AND tree will maintain compliance until TC is scheduled to complete work,

THEN ASSIGN priority code "Routine".

NOTE

For priority code determination, trees at locations with Tree Wire that are not in contact with tree wire can be considered in compliance with MDR. See Major Woody Stem Exemption Procedure to identify tree wire.

3. IF PI identifies tree for routine pruning or removal on secondary conductors,

THEN ASSIGN priority code "Routine".

4. Facility Protect (FP)

- a. IF PI identifies FP tree that has potential to fail before TC is scheduled to complete work,

THEN FOLLOW requirements per Transmission & Distribution Vegetation Hazard Notification Procedure.

- b. IF PI identifies FP tree that is not likely fail before TC can complete work,

THEN ASSIGN priority code "Routine".

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2.4 Pruning

1. PI PRESCRIBES clearance, sufficient to obtain 2 - 3 years clearance and no less than one year before next prune.
 - a. IF clearance to maintain one year compliance is not attainable based on field conditions and not property owner refusal,

THEN FOLLOW the instructions in Section 2.8 of this document, Bi-Annuals.
 - b. IF tree is being worked for current year compliance,

THEN CLEAR all overhanging branches to minimum of 15 feet, unless branches qualify for Major Woody Stem exemption.

2.5 Removal

1. IF PI identifies tree that will not hold compliance by pruning for one year minimum,

OR required clearance would leave the tree less than 4.5 feet tall,

THEN PI should PRESCRIBE removal, regardless of Diameter at Breast Height (DBH).
2. IF tree DBH is less than 12 inches,

THEN PI should PRESCRIBE removal rather than prune.
3. IF tree DBH is equal to or greater than 12 inches and less than 24 inches,

AND it is not possible to obtain 2-year clearance through pruning,

THEN PI should PRESCRIBE removal rather than prune.
4. IF the DBH is equal to or greater than 24 inches,

AND tree is unlikely to encroach for period greater than one year,

THEN PRUNE tree rather than remove.

2.6 Hazard Trees / Facility Protection Trees

1. IF PI identifies trees or portions of trees that are dead, shows signs of disease, decay or ground or root disturbance,

AND may fall into or otherwise impact primary or secondary conductors,

THEN PRESCRIBE work to make tree Facility Safe per Facility Protect and Work Difficulty Classification Procedure.

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NOTE

This requirement does not apply to Rule 16 secondary line serving a single customer, typically a service drop.

2.7 Refusal

1. IF property owners, land managers, Federal, State or local agency policies or site conditions restrict, constrain, or otherwise interfere with the ability to meet the requirements of this DRPP,

THEN PI will FOLLOW the requirements of the Distribution Vegetation Refusal Procedure.

2.8 Bi-annuals

NOTE

The purpose of the bi-annual cycle code is to effectively address fast growing trees that may not hold compliance for a full cycle. The intent is not simply to identify and perform bi-annual work, but to find the best way to manage these trees.

1. IF PI identifies a potential bi-annual tree on a routine OR bi-annual patrol,
THEN CONSULT with the PI Supervisor to consider options described in Alternatives to Manage and Reduce Bi-Annuals document (Appendix B).
2. IF clearance to maintain one-year compliance is not attainable,
AND no other alternatives are available,
THEN ASSIGN bi-annual cycle code.
3. IF tree cannot be kept compliant even with bi-annual work,
THEN NOTIFY VPM.
4. Following completion of circuit, the Database Manager will:
 - a. PRINT list of all Bi-annuals listed for PI Supervisor to evaluate and enter written comments.
 - b. FORWARD list to VPM per VM Database Monitoring Procedure.

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5. Bi-Annual Patrol

NOTE

The goal of a bi-annual patrol is to quickly evaluate trees which may become compliance issues before next routine cycle and prescribe additional work if needed.

- a. PI REVIEWS Alternatives to Manage and Reduce Bi-Annuals before prescribing work (Appendix B).
- b. Supervisor and PI MEET to set goals for unit reduction prior to start of a bi-annual patrol.

6. Planning in Project Management Database (PMD)

- a. Depending on the number of bi-annuals in a division, VPM CREATES additional projects to account for all bi-annual trees.
- b. VPM will:
 - (1) ADD projects to PMD to track bi-annual trees.
 - (2) CREATE multiple bi-annual projects depending on local designations, including district and contractor.

7. Pre-Loaded Data

NOTE

A bi-annual preload file contains only addresses that have at least one tree set to "bi-annual" as the cycle.

- a. PI will:
 - (1) CONDUCT bi-annual patrols using PMD pre-loaded data.
 - (2) CREATE list of all circuits in quarter in which the patrol is performed.
 - (3) MOVE data that is not part of the pre-load to history.

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CAUTION

DO NOT change the routing of the locations during bi-annual patrol as they do not have all the data for that source side, or source side routing number.

DO NOT “add” locations that are not in pre-load as this can cause duplicate locations in inventory.

CHANGE information only when appropriate as same data is part of normal routine preload, including changing a tree from bi-annual back to routine cycle if tree has maintained compliance and will continue to hold until next routine cycle.

- b. PI will make every effort to notify each customer personally to discuss removals.
- c. IF during bi-annual patrol PI identifies additional trees which will not hold compliance until the next routine cycle,

THEN ENTER tree as “Tag”, with appropriate handheld code.

NOTE

Because of their unpredictable growth and proximity to the lines, Major Woody Stems with epicormic sprouting should not be managed as bi-annuals.

- d. Upon work generation, Database Manager ASSIGNS PMD project number to each TC Work Request associated with that bi-annual patrol.
- e. TC COMPLETES tree work within 30-day maintenance window.



CAUTION

DO NOT ADD trees on a bi-annual cycle unless approved by SCUF or VPM.

2.9 Stump Re-Sprouts

1. PI will:
 - a. VERIFY stump death of past removals from previous patrols for all re-sprouting species during current routine patrol.
 - b. LIST all re-sprouting stumps for tree re-work in VMD using trim code “TRT” when following conditions are met:

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- Stump is or will become a compliance issue in future, regardless of time frame.
 - Herbicide treatment was prescribed and customer, agency, or local ordinances approve the herbicide application.
 - Herbicide will not translocate to other living vegetation.
 - Re-sprouts are not root sprouts.
- c. DELETE tree record from handheld when stump is verified as dead.
- d. NOTIFY customer of re-treat in person or with door card.
- e. UPDATE VMD records and add comments when TC notifies PI of locations where herbicide treatments cannot be applied.
2. TC will:
- a. RE-TREAT and kill any re-sprouts that have been prescribed trim code “TRT” during routine activities.
 - b. VERIFY herbicide treatments result in the death of stump.
 - c. NOTIFY PI on same working day when re-sprouts have been prescribed for re-treat work and the stump cannot be treated.
 - (1) Enter NO WORK on the Work Request.
 - d. PRUNE stump re-sprout unit when unit cannot be re-treated and will be non-compliant before next annual cycle, and documents and invoices the unit as an “add”.

2.10 Palms

1. PI will:
- a. REVIEW VMD pre-patrol report prior to patrolling circuits to identify potential palm tree problems on circuit.
 - IF PI identifies a palm in the field that routine pruning will not maintain compliance for at least one cycle,

THEN PRESCRIBE tree removal, or removal of “heart” of palm.

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- IF palm is in contact with line(s),

THEN FOLLOW Transmission & Distribution Hazard Notification Procedure,

AND CONTACT property owner to discuss removing palm.

- IF customer is not present at time of visit,

THEN LEAVE the Palm Tree Alert door card with name and contact number,

AND contact PG&E clerk to obtain customer's phone number to discuss palm removal,

AND PI NOTIFIES VPM of each Palm identified in the field that may require the Palm Letter.

NOTE

Palm Letters are only used when removal of tree or "heart" of the palm is required to maintain compliance.

2. VPM will:
 - a. CONDUCT site visit, when appropriate, to verify condition of palm(s) after receiving information from PI.
 - IF VPM or PI is unable to contact property owner,

THEN VPM will make an additional attempt to NOTIFY customer that their palm needs removal.

 - IF customer responds and refuses to remove the palm,

THEN VPM will FOLLOW steps described in the Distribution Vegetation Refusal Procedure.

3. PI will:
 - a. IDENTIFY palm species code (Queen, Fan, or Date).
 - b. REFER to Strategies to Manage and Reduce Palms (Appendix C) if tree removal is not feasible.
 - c. RECOMMEND remediation based on tree and site conditions.
 - d. REVIEW VMD palm work history.

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- e. FORWARD information on new palm plantings under PG&E facilities to VPM.
 - IF there is no response after repeated attempts to contact property owner,

THEN VM Palm Letter is SIGNED by VPM and SENT to property owner.
 - f. The Palm Letter:
 - (1) LISTS all Palm Letters sent to property owners in the Issue Tracking System (ITS) with record Type = Non Refusal, Subtype: = Palm Letter.
 - (2) INDICATES palm species in Comment section.
 - (3) DESCRIBES conditions and any communications with property owner in the ITS Comments section.
 - (4) RECORDS the date pruning is scheduled to occur in the ITS Follow-up Section.
 - IF the property owner responds and refuses to remove the palm,

THEN as appropriate, FOLLOW steps outlined in the Distribution Vegetation Refusal Procedure.
 - g. PROVIDE photo documentation of palm condition, if necessary.
4. VPM will:
- a. DECIDE whether any outside agencies need be notified.
 - IF palm is on a section of line which appears to be Rule 16,

THEN land rights must be requested before Palm Letter is sent.
 - IF Palm Letter is sent and customer does not respond within 10 calendar days,

THEN TC will PROCEED with the tree work.
5. Database Manager will:
- a. CHANGE the trim type to Top in VMD.
 - b. ADD prescribed clearance in the Comment section, regardless of where the heart of the palm is located.

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- c. PROVIDE TC with copies of the Work Request and the following:
 - Removal Form, with detailed tree work and debris removal prescriptions, signed by VPM
 - Palm Letter
 - Land Rights Letter, if land rights were requested

2.11 Orchards

1. Orchard PI will:
 - a. INSPECT all orchards per requirements for transmission, primary and secondary, as described in this document and Transmission Routine (Non-Orchard) Patrol Procedure (TRPP).
 - b. FOLLOW Orchard Best Management Practices (Appendix D).

END of Instructions

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DEFINITIONS

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

Easement (or Right of Way) – For the purposes of this Standard, the as-built condition of a geographically described strip of land upon which PG&E's electric facilities are constructed, operated and maintained. "Easement" refers to the legal description of that corridor.

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 Trees - Any tree whose height is at or approaching the PG&E Minimum Clearance Requirements (Appendix A).

- **All lines:** Trees that are dead, show signs of disease, decay or ground or root disturbance, which may fall into or otherwise impact the conductors, towers or guy wires before the next inspection cycle.

Minimum Clearance Requirement – PG&E defined minimum clearance designed to meet or exceed all applicable regulatory requirements at all times.

Orchard – Any commercial-producing orchard. Only includes trees that are part of the production crop.

Orchard Tree – Any commercial-producing fruit or nut tree that is part of a production crop.

Private Facilities (PF): Includes all Private Owned Lines (POL), Primary Metered / Primary Service (PM / PS), Private Owned Transmission Lines (POTL).

- **Private Owned Line (POL):** Private lines are defined as distribution main or line extension facilities, or service facilities that are not owned, operated and maintained by PG&E.
- **Primary Metered / Primary Service (PM / PS):** All pole-top primary metering installations with Primary Service are considered Primary Metered. Facilities beyond the interconnection point should be considered customer owned.
- **Private Owned Transmission Lines (POTL):** All privately owned line connected to PG&E facilities designated on GIS / ETGIS or other application as Non-PG&E Owned energized at 60KV or greater connected to PG&E facilities

Right-of-Way – See Easement.

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.

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Tap Line – Section of overhead primary line that deviates off of the mainline of a distribution circuit. Tap Line may be a hard tap (non-fused) or a fused tap.

IMPLEMENTATION RESPONSIBILITIES

The Vegetation Management Document Owner is responsible for the rollout and communication of this Standard as well as the periodic review of this document. Vegetation Management Operations is responsible for the distribution of this Standard by providing training and conducting regular reviews.

GOVERNING DOCUMENT

Distribution Vegetation Management Standard

Transmission Vegetation Management Standard

COMPLIANCE REQUIREMENT / REGULATORY COMMITMENT

[General Order 95, Rule 35](#)

General Order 95, Rule 18, Section B

[Public Resource Code \(PRC\) 4292](#)

[Public Resource Code \(PRC\) 4293](#)

ANSI/ISO/ASQC Q10011 Guidelines for Auditing Quality Systems

REFERENCE DOCUMENTS

Database Monitoring Procedure

Distribution Refusal Procedure

Mapping Procedure

Private Facilities Procedure (Dec. 2015)

Project Management Database (PMD) Standardization Guidelines (Dec. 2015)

Transmission & Distribution Vegetation Hazard Notification Procedure

Transmission Routine (Non-Orchard) Patrol Procedure (TRPP)

Notification of Conditions to Third-Party Utility Procedure, TD-2014P-01

Notification of Conditions to Non-Utility Third-Party Procedure, TD- 2015P-01

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APPENDICES

- Appendix A: Minimum Distance Requirements
- Appendix B: Alternatives to Manage and Reduce Bi-Annuals
- Appendix C: Strategies to Manage and Reduce Palms
- Appendix D: Orchard Best Management Practices

ATTACHMENTS

NA

DOCUMENT REVISION

NA

DOCUMENT APPROVER

██████████ Vegetation Management Operations Manager - North

██████████ Vegetation Management Operations Manager - South

DOCUMENT OWNER

██████████ Vegetation Program Manager

DOCUMENT CONTACT

██████████ Vegetation Program Manager

REVISION NOTES

Where?	What Changed?
Entire document	This is a new procedure, formatted to meet GDM requirements.
Entire document	Renumbered per the GDM Numbering Procedure in preparation for Documentum migration.

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Appendix A: Minimum Distance Requirements

MINIMUM DISTANCE REQUIREMENTS

CPUC Rule 35 Applicable at all times (1) (feet)	Santa Barbara County CPUC Rule 35, Table 1, Case 14 (hhh) Applicable in extreme and very high fire threat zones in Southern California at all times (1) (feet)	PRC 4293 Applicable in SRA during fire season (1) (feet)	Potential Line Sag (2) (feet)
1.5'	4'	4'	1 - 4'

- 1) Vegetation shall not encroach within the minimum distance at any time between inspection and one year or next scheduled tree work cycle.
- 2) Depending on span length, facility construction and conductor material, potential sag and sway can range from 1' at quarter-span to 4' at mid-span.

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Appendix B: Alternatives to Manage and Reduce Bi-Annuals

ALTERNATIVES TO MANAGE & REDUCE BI-ANNUALS

PURPOSE: The purpose of the Bi-annual Cycle code is to effectively address fast growing trees that may not hold compliance for a full trim cycle. The intent is not simply to identify and perform bi-annual trims, but to find the best way to manage such trees using all the available tools listed below. These alternatives include increasing line clearance, changing the trim type, pursuing removal, applying tree growth regulators, or seeking engineering solutions. If it is found that a tree cannot be kept in compliance even with bi-annual pruning, as with palms, the VPM shall be notified.

DEFINITION: A bi-annual is a tree that should be inspected between routine inspections so as to ensure compliance with applicable laws and regulations. **However, the following management alternatives must be considered before listing a tree as a bi-annual:**

ALTERNATIVE	CONSIDERATIONS
Refusal	<ul style="list-style-type: none"> IF property owners, land managers, Federal, State or local agency policies or site conditions restrict, constrain, or otherwise interfere with the ability to meet the requirements of this DRPP, then follow the Distribution Vegetation Refusal Procedure.
Increase Line Clearance Prescriptions	<ul style="list-style-type: none"> Additional notification is necessary if larger wood needs to be taken from the tree to maintain compliance and meet ANSI A300 standards. Set realistic expectations with the customer <u>but do not negotiate clearance distances.</u> Determine whether previous clearance distance maintained compliance for at least one (1) trim cycle. May need to check last trim date in VMD. Increase clearance to match site conditions and species' specific growth rates.
Change Trim Type	<ul style="list-style-type: none"> Determine whether the previous trim type contributed to the tree not maintaining compliance for at least one (1) trim cycle. Prescribe directional pruning versus topping (if possible).
Seek Removal	<ul style="list-style-type: none"> Is this an appropriate removal? Consider the following: <ul style="list-style-type: none"> Cost-effectiveness Tree species, DBH, and height Reliability and facility protection Is the trunk positioned below or within close proximity to the conductors? Will replacement tree(s) facilitate successful removal negotiations with the customer? Use herbicides on removals for control of re-sprouting species unless directed otherwise by the customer. Do the land rights give PG&E the authority to remove the tree in question?
Apply Tree Growth Regulators	<ul style="list-style-type: none"> TGRs can help PG&E more cost-effectively manage fast growing species, manage more trees annually, extend trim cycles, increase reliability, and reduce biomass as it relates to trimming and cleanup time. Do not discuss TGRs with the customer. TGR notification requires specialized training. Consult your SCUF or VPM to find out more about your area-specific TGR management plan.

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Seek Engineering & Line
Construction Solutions

- Do not discuss engineering alternatives with the customer (VPM/SCUF only).
- The best time to address the adverse effects of trees on distribution lines is at the time of initial design.
- Notify the SCUF of potential infrastructure alterations including new line construction, upgrades to the electrical system, and road widening or relocation projects.
- Consider overhead construction alternatives including:
 - Alley or wing arm construction
 - Compact construction
 - Covered overhead primary (i.e. "Ray Chem")
 - Squirrel guard on tree (use "side wrap" code in hand held)
 - Spacer ("Hendrix") system (combination of covered wire and compact construction)
 - Aerial cable
- Only in exceptional cases can the cost of converting an existing system to an alternative construction type be justified on the basis of reliability, avoided cost of future tree maintenance, or infrastructure repair.

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Appendix C: Strategies to Manage and Reduce Palms

STRATEGIES TO MANAGE AND REDUCE PALMS	
<p>PURPOSE: The purpose of this document is to provide additional strategies for managing palms, including removal, strategic pruning, bi-annual patrols, transplantation, and engineering solutions.</p> <ul style="list-style-type: none"> Note: any additional costs associated with transplantation, re-engineering, and/or line re-construction will be at the property owner's expense. 	
ALTERNATIVE	CONSIDERATIONS
Removal	<ul style="list-style-type: none"> Is this an appropriate removal? Consider the following: <ul style="list-style-type: none"> Is palm positioned below the conductors? Will the tree be in violation before the next cycle? DBH and height Reliability & facility protection Is the tree protected under any municipal regulations? Is it a City tree? Will replacement tree(s) facilitate successful removal negotiations with the customer? Vouchers may be provided at VPM discretion. VPM may consider additional T&M for wood removal, in order to secure removal permission from reluctant customers. Use of 3rd party contractor list can be considered for wood removal if approved by VPM. Customer can provide dumpster for wood. Do the land rights give PG&E the authority to remove the tree in question?
Prune	<ul style="list-style-type: none"> To be used only for palms to the side that will grow past the lines. Do not negotiate pruning prescriptions with the customer. Determine whether previous clearance distance maintained compliance for at least one (1) trim cycle. Increasing the radial clearance may not be the best way to maximize the time the tree will stay in compliance. Palms grow quickly in response to trimming. Prescribe a side trim or slope cut, and make notes to cut upper fronds that will droop down into violation in the future. For feather palms, consider removing partial fronds when side pruning to slow the downward movement of upper fronds. Palms maintain a certain number of fronds at any one time. As you remove living fronds, new frond growth is encouraged. Not removing the whole frond may actually provide a longer cycle before next trim is required. Inspection during subsequent cycles, including bi-annual patrols, can help determine whether trimming strategies are maintaining compliance. If not, consider alternatives such as removal.
Work Tracking	<ul style="list-style-type: none"> Utilize the Future Palm letter for customers with palms that will require removal in the future. Palm letters by themselves do not ensure that one full year of clearance will be obtained. Individual palms or locations may fall through the cracks. For palms that will not hold clearance for a full year with normal pruning, the refusal process should be used. The refusal process is used to track unmanageable palms when the customer refuses removal. Although PG&E may or may not have the right to remove or kill the palm, PG&E does have the right and responsibility to obtain one-year' worth of clearance even if that clearance removes the heart of the palm and kills it.

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Transplanting & Palm Brokers	<ul style="list-style-type: none"> • Palms may be valuable enough to justify transplantation by the customer. • Customer should contact palm broker and coordinate work. • This alternative should be initiated at least 2-3 years before the tree enters within 10' of the high voltage lines. Palm brokers may not be interested in trees that have been pruned due to concerns about disease or appearance. • Line-kills may be appropriate, at property owner expense, during transplantation to ensure safety. • Always prescribe necessary pruning to maintain compliance until the next cycle, even if the customer says they will move the palm.
Engineering & Line Construction Solutions April 2007	<ul style="list-style-type: none"> • Do not discuss engineering alternatives with the customer (VPM/Forester only). • The best opportunity to address the adverse effects of trees on distribution lines is at the time of initial design. Notify VPM/Forester of potential infrastructure alterations including new line construction, upgrades to the electrical system, and road widening or relocation projects. • At the customer's request and expense, the electric construction department may consider overhead construction alternatives including: <ul style="list-style-type: none"> ○ Alley or wing arm construction ○ Compact construction and/or changing pin spacing ○ Aerial cable ○ Raychem wire covering • Always prescribe necessary trimming to maintain compliance until the next cycle, even if the customer says they will pursue a construction change.

Distribution Routine Patrol Procedure (DRPP)

Appendix D: Orchard Best Management Practices

ORCHARD BEST MANAGEMENT PRACTICES

PIs and TCs are expected to follow Vegetation Management Best Management Practices, as follows:

GENERAL SAFETY

BMP 1: VM contractors will follow all Vegetation Management BMPs for environmental laws and procedures.

S:\Orchard - Distribution Project\VM BMPs

BMP 2: VM contractors will review and comply with all pesticide safety rules and regulations.

Do not enter an orchard if chemicals are suspected as a result of pesticide treatment; required spray re-entry signage may not be posted. When in doubt, verify with grower / orchard manager that orchard is safe to access.

S:\Orchard - Distribution Project\Safety

BMP 3: VM contractors must access orchards by using pavement or designated roads, and comply with seasonal entry restrictions. If vehicle access between rows is required, permission from orchard manager must be obtained. Vehicle speed limit (generally 10 mph) must be followed.

BMP 4: VM contractors will not enter during restricted entry intervals such as harvest, flooding or application of pesticides. For emergency tree work, immediately contact local PI supervisor (SCUF), VPM and notify orchard owner.

SCHEDULE

BMP 5: VM contractors will prescribe tree work according to the Distribution Patrol Standard (DPS) to ensure regulatory compliance. Any trees that require increased clearance, or removal, since they can't be managed on a one year cycle, must be discussed with the orchard owner and recorded in vegetation management database (VMD). PIs must tailboard increased clearance locations with TCs prior to tree work.

S:\Orchard - Distribution Project\5 Minute Meeting Annual Clearances

BMP 6: Whenever possible, VM Contractors will schedule distribution and transmission orchard-work at the same property, or corridor, and coordinate schedules using the project management database, seasonal restrictions and harvest schedule.

DATABASE MANAGEMENT

BMP 7: VM contractors will use "Orchard Projects" defined in PMD as a separate segment from the non-orchard patrol, identified by Circuit name as the Project name, and using Orchard as the descriptor. The PMD Standardization Guidelines must be utilized for specific guidance.

Note: Non-Orchard trees can be listed in an orchard project with "Private" as owner.

BMP 8: Pre-inspection contractor will maintain a list of Orchard Owners that will be updated / edited / corrected frequently so that accurate information can be used by TCs. The grower list for the transmission orchard

Distribution Routine Patrol Procedure (DRPP)

program will include distribution orchard owners if distribution lines exist on the same property. Pre-patrol notification letters must be mailed in advance of each scheduled quarter, and mailing coordinated with transmission orchard program pre-patrol letters to avoid duplications. To the extent possible, one letter should be sent when a property / grower has both transmission and distribution. PI transmission will send these letters - one for transmission only and one for distribution and transmission; distribution-only will be handled by PI distribution.

- BMP 9:** PI contractors will verify the accuracy of contact information and update the database as required. For obtaining current orchard owner phone numbers, PIs have access to a variety of databases including CCNB /S AP information provided by PG&E clerk
- BMP 10:** SCUF will provide orchard PIs with Pre-Planning reports for orchard projects from back office PMD, and discuss quality, schedule and compliance goals

PRE-WORK REVIEWS / BENCHMARKING

- BMP 11:** VM contractors will perform customer call outs utilizing the customer notification system, specific to orchard projects. Call out schedules must be coordinated with transmission orchard program to avoid duplications.
- BMP 12:** Locations: Identify orchards that have discussion topics (i.e., clearance, different species, older mature trees, new plantings, etc.). Contractors will work with the orchard owner to ensure coordination. Ensure benchmark locations are safe, away from main thoroughfares, and with plenty of parking.

Orchard owner notifications: Benchmarks should include the importance of proper notifications to all orchard owners / managers. They should be conducted pre-and post-harvest to help educate inspectors on the effects of leaf and nut loading, or changing tree-conductor clearances from dormant season to time of harvest.

VM contractors must conduct representative benchmarks prior to annual tree maintenance.

TALKING POINTS

- BMP 13:** VM contractors will review talking points when communicating with orchard owners to deliver a consistent message.

S:\Orchard - Distribution Project\Talking Points

Bulletins are intended to communicate the following:

- An immediate change in how business is done
- Information about a safety, health or environmental incident or issue and resulting required actions
- Information about a new mandatory compliance requirement

A clarification of a previous instruction to communicate why the document is being