

# San Diego Gas and Electric Company Pre-Inspection Procedures

## Section 1: Introduction

### Overview

The Vegetation Management Department's role within San Diego Gas and Electric Company (SDG&E) involves identifying, recording, and managing an inventory of vegetation within SDG&E's service territory. The main purpose of this inventory is to ensure vegetation does not encroach within the required minimum clearance zones mandated by the California Public Utilities Commission (CPUC), and other applicable laws and regulations. Maintaining an accurate database helps to ensure safe, reliable, and cost-effective service to SDG&E customers. The entire SDG&E service area is sub-divided into 133 Vegetation Management Areas known as VMAs. Each VMA is given a unique three-digit number identifying its location within the service area.

Pre-inspection accuracy is critical to the effectiveness of SDG&E's Vegetation Management Program. High quality pre-inspection ensures adherence to the Vegetation Management Master Schedule and compliance requirements, and improves the pruning contractors' ability to work efficiently and productively. If the pre-inspection contractor performance is below SDG&E's standards, the pre-inspector contractor may be required to re-inspect a VMA, spending additional time and resources at the contractor's expense to make the necessary corrections.

Missed trees puts both the pre-inspection contractor and SDG&E at risk for compliance infractions, fires, safety issues, tree caused outages, and delays to schedule. Over-listing can result in unnecessary pruning, additional costs to SDG&E, and increased customer complaints and refusals. The pruning contractor relies on a forecasted number of trees to be worked and adjusts their resource levels accordingly.

## *How is Electricity generated and delivered to your home?*



### How does it work?

**GENERATING STATIONS** or power plants are where electricity is produced by utilizing resources such as natural gas, the sun, wind and steam heat from within the earth. With the use of magnets on a spinning shaft, mechanical energy is converted to electrical energy.

**TRANSMISSION LINES** are the “energy superhighways” of an electric system, carrying large amounts of electricity from power plants over long distances and at very high voltages – typically 69,000 to 500,000 volts. SDG&E has over 1,800 miles of transmission lines in its service territory, but has only two connections to the state’s electric grid.

**SUBSTATIONS** are specialized equipment to reduce or “step down” transmission line voltage and connect high voltage transmission lines to lower voltage distribution lines. SDG&E currently operates more than 200 substations.

**DISTRIBUTION LINES** are the “local streets” that deliver electricity directly to homes and businesses. SDG&E operates over 15,000 miles of distribution lines.

### **Vegetation Management Definitions**

**Area Forester:** SDG&E individual responsible for managing the tree contractor and the scheduled work completion and compliance of each VMA in his or her territory.

**Cal Fire:** (Previously known as California Department of Forestry and Fire Protection, CDF): State fire agency responsible for fire suppression in the State Responsibility Area, and enacting and regulating state forest practice rules.

**California Public Utilities Commission (CPUC):** The governing body that regulates the business practices of utilities throughout the state of California.

**Canned Comment:** Standard, pre-defined wording found in selected tree notes that are used to clarify work requirements. Canned comments are not to be altered except when required for date and initials.

**Clearance:** Measurement, typically in units of feet and inches, of the closest distance between vegetation and an energized overhead electric conductor.

**Clustering:** Using one icon for multiple trees sharing the same characteristics (DBH, height, species, clearance, etc) when the amount of trees in a span makes it impractical to have all trees as individual icons.

**Conductor:** Path through which an electric current flows, metal wire or cable.

**Customer:** Person or entity who is a customer of SDG&E who either owns, manages, or occupies the property upon which work is to be performed.

**Customer Notification:** Notice to SDG&E customers prior to the commencement of scheduled work.

**Customer Refusal:** Property owner refusing SDG&E or representative contractor access to property for purposes of inspection, or from performing pruning to maintain required clearances for the duration of the pruning cycle.

**Cycle:** The twelve month period of time between scheduled inspections of the same VMA.

**Cycle Busters:** Trees that are very fast growing and do not hold

compliance for the complete VMA cycle.

**Deleted Tree:** A tree or brush removed from inventory because it does not meet inventory specifications or no longer physically exists within the field.

**Diameter at Breast Height (DBH):** Measurement of a tree's diameter in inches, taken at 4 ½ feet above ground level. Trees existing on a slope are measured from the upslope side of the tree.

**Environmentally Sensitive Area (ESA).** An area that contains or provides habitat for sensitive, threatened, or endangered species, or encompasses a protected cultural resource. May require an evaluation by a biologist or archaeologist to determine if any work restrictions apply.

**Exception Tree:** Tree issued to pruning contractor whose completion is delayed due to uncontrollable circumstances such as environmental restriction, property access, etc.

FAC003-1

Fire Threat Zone

**General Order 95, Rule 35 (GO 95, Rule 35):** Mandate set forth by the California Public Utilities Commission requiring a minimum clearance between vegetation and overhead high voltage conductors. Requirement applies year round in SDG&E territory.

Highest Risk Fire Area

**Icon:** A symbol used in the MDT computer to represent an inventory tree or brush record.

**Institute of Electrical and Electronics Engineers (IEEE):** Professional association of engineers, scientists and professionals for the advancement of technology.

**Inventory Brush:** Vegetation with a DBH of less than three (3) inches that has the potential to encroach within the applicable minimum clearance to overhead conductors, or otherwise poses a potential threat to SDG&E facilities, within 3 years from date of inspection.

**Inventory Tree:** Vegetation with a DBH of three (3) inches or greater that has the potential to encroach within the minimum clearance requirements of overhead conductors, or otherwise poses a potential threat to SDG&E facilities, within 3 years from date of inspection.

**Local Responsibility Area (LRA):** Urban areas of California where the local fire agency has the primary responsibility of fire suppression. GO 95, Rule 35 clearance requirements apply.

**Major Woody Stem (MWS):** Tree trunk (minimum 10 inches diameter at breast height) or tree limb (minimum 6 inches diameter) with less than 18 inches but greater than 6 inches from distribution voltage conductor, with sufficient strength and vigor to be exempt from G.O. 95, Rule 35 and PRC 4293 clearance requirements.

**Matrix Address:** a fictitious property address used for properties that have no posted street address number.

**Memo Tree:** Tree that is pruned outside routine schedule because it poses an accelerated threat to the high voltage electrical facilities (i.e. closer than minimum clearance requirements). Memos are classified as same day, next day, or grouped.

**Mobil Data Terminal (MDT):** The tablet PC used by pre-inspectors to update inventory records.

**North American Electric Reliability Corporation (NERC):** Group of regional reliability councils formed to ensure the bulk electric systems that serve North America are adequate, reliable, and secure.

**Ownership Type:** The person or entity who owns the property where the tree exists.

**Pole Number:** The unique number assigned to any electrical pole or tower in SDG&E's service area.

**Pre-inspector (PI):** Contract individual responsible for field inspection of SDG&E tree and pole inventory, and updating data to reflect current conditions for the purpose of ensuring compliance with all applicable laws and regulations.

**Distribution Voltage:** A conductor with a voltage between 2,400 volts (2.4kV) and 12,000 volts (12kV).

**Property Owner:** The person or entity who holds title to a property as recognized by the county.

**Public Resources Code 4292:** Requires 10 feet radial horizontal ground clearance of all flammable vegetation from the outer circumference of poles carrying non-exempt electrical hardware. Also requires a vertical clearance of 8 feet of all vegetation, and the removal of all dead and dying vegetation from ground level to top of pole.

**Public Resources Code 4293:** Minimum clearance requirement between all vegetation and high voltage electrical conductors in the SRA. Minimum clearances are:

- For any line operating at 2,400 to 72,000 volts, 4 feet
- For any line operating at 72,000 to 110,000 volts, 6 feet
- For any line operating at 110,000 or more volts, 10 feet

**Qualified Line Clearance Arborist:** Individual who has successfully completed the Line Clearance Arborist OSHA training for working on trees near high voltage equipment.

**Reliability Tree:** Any tree, located inside or outside the utility right of way, that has a reasonably good potential for interrupting service to an overhead circuit with the current routine cycle.

**Removal:** Vegetation (brush or tree) that is cut to ground level. Stumps are treated with an approved herbicide to prevent re-sprouting.

**Secondary Voltage:** Low voltage (0-750 volt) circuit between transformer and point of use.

**Service Drop:** Portion of the powerline from the secondary distribution line to the point of use (between pole and house).

**Span:** The area between two power poles connected by powerlines.

**Stand Alone Facility:** Single type of conductor voltage existing on a power pole (transmission, primary, or secondary).

**State Responsibility Area (SRA).** Designated areas of California where Cal Fire has the primary responsibility of fire suppression. Public Resource Codes 4292 and 4293 and GO 95, Rule 35 clearance requirements apply.

**Status Code:** Identifies the current work status of an inventory tree (i.e., PIP = Prune, PIC = Clear, MPIP = Memo Prune, etc.).

**Vegetation Management System (VMS):** SDG&E computer software and hardware used to track, dispatch, and manage vegetation work.

**Vegetation Management Area (VMA):** The SDG&E service territory is sub-divided into 133 vegetation management areas known as VMAs. Each VMA is given a unique three-digit number identifying its location within the service area. The first digit identifies the SDG&E district; the second digit identifies LRA or SRA. The VMA is LRA if the second digit is less than 5 (e.g. 519), and it is an SRA if 5 or greater (e.g. 466).

## **VMS**

The Vegetation Management System (VMS) is a software application designed to record various layers of tree data and graphic images within a dynamic inventory of vegetation having the potential to grow into or fall into SDG&E electric power lines and facilities. VMS requires regular updates to maintain accuracy because trees continually grow and encroach the minimum clearance

zones of overhead power lines. Trees also decline and die, and are removed by others. The VMS inventory needs to reflect these changes. The purpose of pre-inspection is to identify vegetation that requires pruning or removal in order to ensure compliance, and to maintain an accurate inventory of trees.

### **Utility Vegetation Management Rules and Regulations**

Two state laws pertaining to utilities and vegetation form the foundation of SDG&E's compliance requirements: 1) CPUC G.O. 95, Rule 35, and 2) Public Resource Code 4293.

California Public Utilities Commission (CPUC) General Order 95, Rule 35 requires an 18 inch radial clearance of all vegetation be maintained around conductors between 750 and 22,500 volts. The clearance requirements increase as the voltage increases. **GO 95, Rule 35 applies to the entire SDG&E territory year round.** (See *Table 1* for transmission clearance requirements). In VMAs where the **second digit** of the VMA number is 4 or less, only GO 95, Rule 35 applies (examples: VMA 210 or 220).

In the State Responsibility Areas where Cal Fire is responsible for fire suppression, Public Resource Code (PRC), section 4293 requires that a 4 foot radial clearance be maintained for conductors between 2,400 and 72,000 volts. Clearance requirements increase as the voltage increases. Refer to the *CDF Power line Fire Prevention Manual* (cite current version) for additional information. The VMAs where PRC 4293 applies are identified with a **second digit** number of 5 or greater (examples: VMA 453 or 463 or 375). The exception is VMA 552 which is treated as LRA.

Additionally, the Federal Energy Regulatory Commission (FERC) requires specific minimum vegetation clearances for all overhead transmission circuits energized at 230kV or higher, and any lower voltage transmission circuits determined by the Regional Reliability Organization (RRO) to be critical to the bulk electric reliability system.

**Refer to the Vegetation Management *Pole Brush Pre-Inspection Guidelines* for information and procedures regarding Public Resource Code 4292, pole brushing requirements.**

### **Routine Pre-inspection**

The purpose of routine pre-inspection is to identify vegetation for pruning or removal that will not maintain required clearances for a full cycle (fourteen months). Any tree that could possibly encroach non-compliant clearances within fourteen months should be flagged for pruning.

It is required on a routine pre-inspection that every span of overhead conductors

and all vegetation within each span be accurately surveyed and all inventory records updated. This includes transmission, primary, and open wire stand alone secondary conductors (not to include house/service drops). Factors to consider when determining if a tree requires pruning for cycle include current clearance from facilities, tree species, potential tree growth rate, past pruning practice, site conditions, wind sway of trees and wire, wire sag, conductor voltage, and VMA location (LRA vs. SRA).

### **Environmentally Sensitive Areas (ESA)**

The unique geography and climate of San Diego County combine to provide a rich diversity of flora and fauna species, including several that are threatened or endangered under state and/or federal law. SDG&E is committed to complying with all applicable environmental regulations. SDG&E's Subregional Natural Community Conservation Plan was implemented to avoid or minimize potential impacts or threats to sensitive species. The Plan, also referred to as the 50-Year Permit follows a comprehensive habitat approach to species protection while allowing the utility to provide and expand service to its customers, and to meet its regulatory responsibilities.

Procedures developed between SDG&E and state and federal wildlife agencies serve to ensure Vegetation Management activities follow applicable protocol. In designated environmentally sensitive areas of the service territory SDG&E schedules routine pruning and brushing activities outside the breeding season (March 1 - September 1) of protected bird species. Disturbance related to tree pruning and pole brushing activities is also avoided at protected cultural resource areas such as archaeological sites.

### **Clearance Requirements**

#### **Table 1: Bare Minimum Year-Round Radial Clearances Requirements for Trees and Energized Conductors**

The clearances shown are to be maintained year round and in all weather conditions (during storms, high winds, and extreme temperatures both hot and cold which can cause power lines to sag).

<b>Conductor Voltage</b>	<b>PRC 4293 (SRA)</b>	<b>CPUC General Order 95, Rule 35 (LRA)</b>	<b>*NERC FAC-003-1 (IEEE 516-2003)</b>
500kV	10.0 ft	9.7 ft	14.7 ft
230kV	10.0 ft	2.7 ft	5.1 ft
138kV	10.0 ft	1.9 ft	2.9 ft
69kV	4.0 ft	1.5 ft	N/A

12kV	4.0 ft	1.5 ft	N/A
4.0kV	4.0 ft	1.5 ft	N/A
2.4kV	4.0 ft	1.5 ft	N/A
<750V	No strain or abrasion	No strain or abrasion	N/A

\*NERC FAC-003-1 applies to transmission lines operated at 200kV and above or any lower voltage lines designated by the RRO (Regional Reliability Organization) as critical to the reliability of the electricity system in the region.

**Vegetation Management Cycle**

The VM cycle is the annual timeframe within the vegetation management master schedule that includes pre-inspection, pre-inspection auditing, pruning, and post-prune auditing activities. One cycle is defined as the time between two consecutive pre-inspections in the same VMA.

- Pre-inspection of a VMA is to be completed within the scheduled month.
- Pre-inspection audit is conducted the first month after the scheduled completion of pre-inspection.
- Pruning commences two months after pre-inspection. Pruning contractor has a 65-calendar day timeframe to complete all assigned work and to certify VMA per contract specifications.
- Post prune audit is scheduled to commence the month following completion of routine pruning. All trees pruned must maintain the required minimum clearance in *Table 1* above for a period of 12 months after prune completion.

**Table 2: VMA Cycle** – Example of the activity cycle for VMAs pre-inspected in the month of January. Master schedule includes approximately 10-12 VMAs per month.

	Activity	Start	Finish	2007												2008		
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	
1	Pre-inspection	01/01/2007	02/01/2007	■														
2	Pre-inspection Audit	02/08/2007	02/28/2007		■													
3	Routine Pruning	03/01/2007	05/01/2007			■	■	■										
4	Pruning Audit	05/08/2007	05/31/2007					■										
5	Pruning Compliance Cycle	03/01/2007	02/28/2008			■	■	■	■	■	■	■	■	■	■	■	■	■

**Table 3.1 and 3.2: Clearances and Tree Growth Rates** - Use the following clearances as a guideline when determining whether to list a tree for routine pruning in LRA and SRA. Note: Tree growth rates are averages per year.

**Table 3.1: Clearance Guidelines for LRA**

Tree Growth Rate per year	Open wire 2ndary	Primary	Transmission			
	up to 750 volts	up to 12kV	69kV	138kV	230kV	500kV
Very Fast = 6 ft & greater	2 ft or less	10 ft or less	12 ft or less	14 ft or less	20 ft or less	30 ft or less
Fast = 4 to 6 ft	2 ft or less	8 ft or less	10 ft or less	12 ft or less	20 ft or less	30 ft or less
Medium = 2 to 4 ft	in contact	6 ft or less	8 feet or less	12 ft or less	18 ft or less	25 ft or less
Slow = 0 to 2 ft	in contact	4 ft or less	8 feet or less	12 ft or less	18 ft or less	25 ft or less

**Table 3.2: Clearance Guidelines for SRA**

Tree Growth Rate per year	Open wire 2ndary	Primary	Transmission			
	up to 750 volts	up to 12kV	69kV	138kV	230kV	500kV
Very Fast = 6 ft & greater	2 ft or less	12 ft or less	14 ft or less	16 ft or less	20 ft or less	30 ft or less
Fast = 4 to 6 ft	2 ft or less	10 ft or less	12 ft or less	16 ft or less	20 ft or less	30 ft or less
Medium = 2 to 4 ft	in contact	8 ft or less	10 ft or less	14 ft or less	18 ft or less	25 ft or less
Slow = 0 to 2 ft	in contact	6 ft or less	10 ft or less	12 ft or less	18 ft or less	25 ft or less

**Pre-inspector should always consider the individual tree (not just the species in general) when determining whether to list a tree for pruning.**

Clearances are to be measured from the portion of the tree closest to the conductor. Clearances to secondary voltage shall be used only when the construction is stand-alone construction.

**Table 4: Radial Clearance Requirements – Minimal post pruning clearances to be established at time of pruning.**

SRA and LRA	Open wire 2ndary	Primary	Transmission			
Tree Growth rate per year	up to 750 volts	up to 12kV	69kV	138kV	230kV	500kV
Very Fast = 6 ft & greater	4 feet	10 feet	20 feet	25 feet	30 feet	35 feet
Fast = 4 to 6 ft	4 feet	10 feet	15 feet	20 feet	25 feet	35 feet
Medium = 2 to 4 ft	4 feet	10 feet	15 feet	20 feet	25 feet	35 feet
Slow = 0 to 2 ft	4 feet	10 feet	15 feet	20 feet	25 feet	30 feet

**Figure 1: Powerline Facilities**

Typically, only high-voltage (distribution and transmission) overhead powerlines

are cleared of vegetation. These lines are found on the highest position of power poles. The words "*High Voltage*" are required on poles or cross-arms carrying conductors greater than secondary voltage.

Trees growing near open wire secondary voltage wire running pole to pole shall be added to the inventory and listed for pruning if they have the potential to contact the secondary lines within 14 months of pre-inspection date (See *Table 3* for specific criteria based on growth rate and clearance.

Trees growing adjacent to service drop wires running pole to house are the responsibility of the customer. Although SDG&E does not typically clear vegetation near service drops, the customer must hire a qualified third-party contractor to safely complete the work; or alternately, contact SDG&E to reroute the line in a clear path through the tree(s).

### **Key steps to follow during routine Pre-inspection**

- Verify you have all materials required to perform pre-inspection (open dispatch order, VMA map, field reports, forms, highlighters, flagging tape, white tree paint and Vegetation Management Department contact numbers.
- Inspect every span of all required overhead electrical power lines in a VMA.
- Open and edit every record and verify that all data fields are accurate.
- Add new or missed trees that meet the criteria for inventory tree as needed.
- Trees in the current inventory that do not meet the criteria shall be noted with the proper comments and removed from the inventory.
- Place a markup symbol on the tree icon after update to help track progress.
- Pursue removals of good candidate species.
- Fully document all refusals. Trees that are refused and non-compliant are to be reported immediately to the Pre-Inspection Supervisor.
- Document memos according to procedure (see *Memo procedures* page 35).
- Carefully inspect for **reliability** issues. A **reliability** tree may or may not be in the inventory. If a **reliability** tree requires immediate attention notify your Lead, otherwise record and update the record as needed (see *Reliability Trees* page 30).
- Highlight hard copy of VMA map as you pre-inspect daily.
  - use different color for each day
  - include dates
  - document all memos
  - on VMA's with multiple pre-inspectors, record pole numbers on map indicating the boundary between inspection areas
- Communicate with Leads and Foresters.
- Report your starting locations by phone daily to your Lead.
- Upload data daily before 6:45pm.

## Section 2: Inventory Criteria

### Tree Inventory and Voltage

A tree/brush unit will be created when it meets one or more of the following conditions:

- All High Voltage (750 volts or greater): Trees that are dead or in decline and have the potential of interrupting electrical service within the current routine cycle (Reliability trees).
- All High Voltage (750 volts or greater): Green trees with indications of structural defects that have the potential of interrupting electrical service within the current routine cycle (Green Reliability trees).
- Transmission Voltage: Tree or brush is or has the potential to grow or otherwise encroach the minimum clearances required within three years of inspection date (refer to *Table 1*).
- Primary Voltage: Tree or brush is or has the potential to grow or otherwise encroach the minimum clearances required within three years of inspection date (refer to *Table 1*).
- Stand Alone Open-Wire Secondary: Tree or brush is or will be in contact with stand-alone open wire secondary conductors within 14 months of pre-inspection date. Trees shall only be added to the system for stand alone secondary when they are listed for pruning (see *Table 3*).
- Tree or brush has branches that directly overhang conductors of 2400 volts or greater regardless of the clearance above the conductor.

### **The following trees/brush shall not be included in the tree inventory:**

- trees/brush encroaching service drops only (pole to house)
- trees/brush encroaching triplex secondary (pole to pole)
- trees/brush affecting telephone or cable TV facilities.

### **Non-SDG&E Facilities**

Certain facilities, such as some government-owned military properties, are not maintained by SDG&E and are not reflected on VMA or GFMS maps. Special criteria are to be followed concerning these properties. Call your Supervisor or Lead if you are unsure of facility ownership. Private meters on power poles and conductors beyond the meter are the responsibility of the customer. SDG&E is not responsible for the inspection and maintenance of these lines.

## **Palms**

### [Include photo examples](#)

To minimize the occurrence of outages during high wind conditions, palms with dead fronds and/or seed pods shall be flagged for pruning if they meet the following criteria:

- on transmission and distribution conductors, dead palm skirts and all seed pods shall be flagged for reliability when the head of the skirt above the conductors is equal to approximately three (3) year's accumulation
- any palm with the reasonable potential for frond and/or seed pod detachment that could affect the overhead facilities (based on construction type) shall be listed for routine pruning
  - any palm that can encroach by frond growth within the minimum clearance shall be listed for routine pruning.

Palm skirts (circumference of dead fronds around the trunk) should only be flagged for pruning for open wire secondary if they are in contact with the conductors. If you feel you have a special situation, call your Lead.

### **Trees that do not meet VMS inventory requirements and should be removed from the system include:**

- trees where overhead facilities have been removed or rerouted
- trees removed by property owner
- trees that do not exist in the field
- trees that do not have the potential to encroach the minimum clearance requirement, or otherwise affect the facilities within 3 years of inspection date ([Retain old reliability?](#))

### Removing Trees from Inventory

If a tree needs to be removed from the inventory use one of the following canned comments:

- *Remove from Inv - tree has been removed*
- *Remove from Inv - doesn't meet Inv specs*
- *Remove from Inv - tree not found*
- *Remove from Inv - grouped trees to clean map*

**Note: Pre-inspectors are NOT to delete trees in the MDT using the "Erase"**

**function.**

If a tree has been removed in the field, do not reuse the icon or tree ID. Each tree ID represents a specific tree which has a history that needs to be retained. It is very important to keep the information in VMS accurate.

example: If GFMS shows a fan palm icon and the fan palm no longer exists in the field, do not use this icon/ID# to represent an ash tree you need to add to the system.

**Maintaining Data in VMS**

The pre-inspector is required to update all fields in VMS during each inspection cycle. It is critical to verify the accuracy of all fields before updating. Once you update a record you are responsible for its accuracy. The record will be recorded with the date, time, and MDT crew ID for history. The information contained in the record is very important. It will be used to identify work required for the cycle, for forecasting work in the future, and may be used for reporting to regulators monitoring compliance. If you have any questions or need clarification, contact your Lead.

**Section 3: Tree Tab Information****Figure 2: Tree Tab in GFMS Record**

The screenshot shows the 'Edit Tree' window for tree ID (1742023, 391611). The 'Tree' tab is active, showing the following information:

- Information:**
  - Species: Eucalyptus
  - Growth Rate: Very Fast
  - Height: 55 to 90 ft
  - DBH: 24.0 to 35.9 in
  - # of Units: 1
  - Reliability Tree:
- Trim:**
  - Trimming Required:
  - Trim Type: Crown Reduction
  - Clearance (ft): 12.0 to 14.9 ft
  - Months to Next Trim: 9 to 12
  - Access:
    - Traffic Control Required:
    - Climb:
    - Lift:
    - Both:
  - Conductor Voltage: Standalone Transmis
- Notes:**
  - Type: Tree Location
  - Description: Located in backyard
  - Trim Information : Reliability tree - trim to safe height
  - Tree Alert : Poison oak
  - Tree Location : Access from alley
  - Tree Location : Access easement road
  - Tree Location : Located in backyard
- History:**
  - Last Visit : Thu January 19, 2006 @ 08:13:07 AM
  - Last Trim : Tue March 14, 2006 @ 12:00:00 AM

At the bottom, the status is 'JF3130 - Compltd/Trimmed' and there are 'Update' and 'Cancel' buttons.

**Species**

Use the drop down menu to select the correct tree species. If you are unsure of the species contact your Lead for assistance. If unsure you can temporarily enter the species by growth rate type (*very fast, fast, medium* or *slow*). See page 46 for individual species and growth rates.

**Growth Rate**

Each tree species has an assigned growth rate to be used as a guideline. The assigned growth rate should be changed when appropriate.

**Table 5: Growth Rates**

Very Fast	Over 6 feet/year
Fast	4-6 feet/year
Medium	2-4 feet/year
Slow	Less than 2 feet/year

The pre-inspector should select the rate that best reflects growth of the individual tree. Some factors to consider when determining if a change in growth rate is warranted include:

- **less growth** due to stress from drought or lack of irrigation, tree in decline, or planted in a location with poor soil
- **more growth** due to irrigation, good soil, cultural practices (i.e., heavy pruning, fertilization)

Example:

- Very fast grower: ex. eucalyptus: (6-8 feet per year x 3 years = (18-24 feet)
- Fast grower: ex. silk oak: (4-6 feet per year x 3 years = (12-18 feet)
- Medium grower: ex. California pepper (2-4 feet per year x 3 years = (6-12 feet)
- Slow grower; ex. Magnolia (0-2 feet per year x 3 years = up to 6 feet)

Note: Palms are considered “fast growers” when the heart begins to encroach the minimum required clearances near conductors. The upward trunk growth is relatively slow, averaging 1 to 2 feet per year. Once the heart of a palm is in close proximity to the conductor, however, the quick generation of leaves (fronds) will require the palm be pruned frequently or removed.

**Height**

Enter the range in the drop down menu that most accurately reflects the tree's height. Accuracy in height can help the tree contractor in the field identify the correct tree to prune.

**Diameter at Breast Height (DBH)**

The trunk of a tree grows incrementally in girth. The DBH of each inventory tree shall be updated as necessary each inspection cycle. Measurement is to be taken using a DBH tape four feet six inches above ground level. If the tree is located on a slope, take the measurement from the upslope side of the tree. Select the correct range in the drop down field.

**Units**

It is essential that the number of inventory units represent actual field conditions. Unit counts need to be updated each inspection cycle because of trees removed and planted, or previous pre-inspection inaccuracies.

The number of units each icon represents is always one (1) unless the tree/brush density within the span is so high that accurate placement of graphics is not practical. If density is so high that you must cluster tree/brush icons, always use the fewest number of units possible.

The criteria for clustering trees is as follows:

- Trees must share the same species, DBH, clearance, and height range, and pruning type.
- Trees must not cross property boundaries.
- Trees must be located within the same span.
- Property or tree notes must pertain to every tree in the cluster.
- Multiple trunk trees can be clustered as long as they meet all of the requirements above.

To determine whether to list a tree as one unit or multiple units, visually inspect the base. If the trunks appear to originate from one main root system, list as one tree with multiple trunks.

If a group of trees does not meet the cluster requirements above, separate the graphics accordingly. For example, if a group of eucalyptus trees previously clustered as one unit now includes one tree with 2.1-4 feet clearance and three trees with 8-9.9 feet clearance, use the original tree icon for the tree with 2.1-4 feet clearance and change units to one. Create a new three unit icon for the trees with 8-9.9 feet clearance.

Note: Despite appearance, palms do not have multiple trunks. Palms (monocotyledons) that grow in clusters shall be counted as individual units. The exception to this is palm brush removals (see *Palm Removals* page 39).

### **Brush Units**

Inventory trees with a DBH of less than 3 inches are considered part of a brush unit. This includes a multi-trunk tree (either from one common root or a cut stump) where no single stem is larger than 3 inches. One brush unit equals a 25 square foot pruning area (5ft x 5ft) (*i.e. 100 square feet of bamboo equals 4 brush units*). Brush units are estimated by the canopy area that requires pruning, not the square footage on the ground.

**Bamboo:** (“Brush 5ft x 5ft Bamboo”) Regardless of the diameter of the bamboo, record as brush.

**Palm:** (“Brush 5ft x 5ft palm”) Includes any palm species whose height is less than 5 feet measured from ground to the heart of the palm. Note: Brush palm records should only be added to the inventory if they are to be removed (see *Palm Removals* page 39).

**Sapling:** Special consideration is given to species with fast growth rates. A sapling is defined as a single stem whose DBH is less than 3 inches. Six saplings of the same species within one span comprise one brush unit. In the Tree Notes specify number of saplings. Note the quantity and brush species in the system using the Misc Tree Comments in the Tree Tab under the Type drop down menu (*ex. six eucalyptus saplings*).

**Figure 3: Brush Unit** – Eucalyptus brush originating from old cut stump (each stem < 3”). In this example the unit count would be based on the total square foot area to be pruned or removed, not the total number of individual stems.

Use the appropriate brush code based on growth rate. For instance, a Melaleuca with a DBH of less than three (3) inches would be listed as “Brush Fast 5ftx5ft”.

### **Brush unit categories:**

- ☞ Brush Very Fast 5ftx5ft
- ☞ Brush Fast 5ftx5ft
- ☞ Brush Med 5ftx5ft
- ☞ Brush Slow 5ftx5ft
- ☞ Brush 5ftx5ft Bamboo
- ☞ Brush Fast 5ftx5ft Palm

### **Trimming Required**

Trees that require pruning must have the Trimming Required box checked. Pre-inspector shall determine whether a tree is to be pruned within the 14 month

specification based on VMA (LRA vs. SRA), tree species, current clearance, growth rate, last prune date, conductor voltage, and previous pruning clearance obtained. Checking the Trimming Required box will update the status of the tree to LT (listed for trim).

### **Trim Type**

Pre-inspector must select a trim type when a tree is listed to be pruned. Select the appropriate type based on which portion of the tree requires pruning relative to its position with the conductors. Trees to the side whose canopy is predominately above the lines shall be identified as “side trim”. Trees whose canopy is predominately below the lines shall be identified as “crown reduction”. Select “removal” for trees to be removed. Do not use any other trim type in the drop down unless directed to do so by your supervisor.

### **Clearance**

Clearance is the estimated distance in feet between the overhead electrical conductors and the closest portion of the tree or brush. When determining clearance, always use the most conservative range. For instance, if a tree is 4 feet from the primary, select *2.1 to 4*, versus *4.1 to 5.9* ft. Remember, the tree will continue to grow and the clearance will decrease from the date of inspection.

### **Months to Next Trim**

Use this field to estimate how many months will elapse before the tree grows out of compliance. Months to next trim does not indicate the length of time before the tree will be pruned. Months to next trim serves two purposes; 1) allows SDG&E to monitor compliance, and 2) helps forecast future workload. Some factors when considering months to next trim:

- species and potential growth rate
- last pruning and inspection date
- clearance obtained at last pruning or clearance listed during last inspection
- amount of regrowth since last prune or pre-inspection
- local site conditions, water availability
- overall health of tree

### **Trim Status Code Definition**

- AT Assigned to Trimmers *(contact supervisor before updating)*
- CT Completed Trim *(update as required)*
- GR Group Reliability *(contact supervisor before updating)*
- LC Listed & Clear *(update as required)*
- LT Listed & Requires Trim *(contact supervisor before updating)*
- PR Pending Removal *(contact Help Desk before updating)*
- RF Refused *(contact Forester)*
- RM Removed *(contact supervisor before updating)*
- XT Exception *(contact supervisor before updating)*

**Tree Crew Access**

Provide the pruning contractor the best access route to the tree. It is important that the pre-inspector pay close attention when entering and leaving a property. Remember that the contractor will be driving a large lift truck and towing a chipper. Look for anything that may restrict a crew's ability to enter or leave a property. Take into consideration heavy erosion, soft sand, saturated soil, steep grade, concrete driveways, etc. If flagging or lane closure is required to safely complete the pruning, select the **"Traffic Control Required"** box in the Tree Tab.

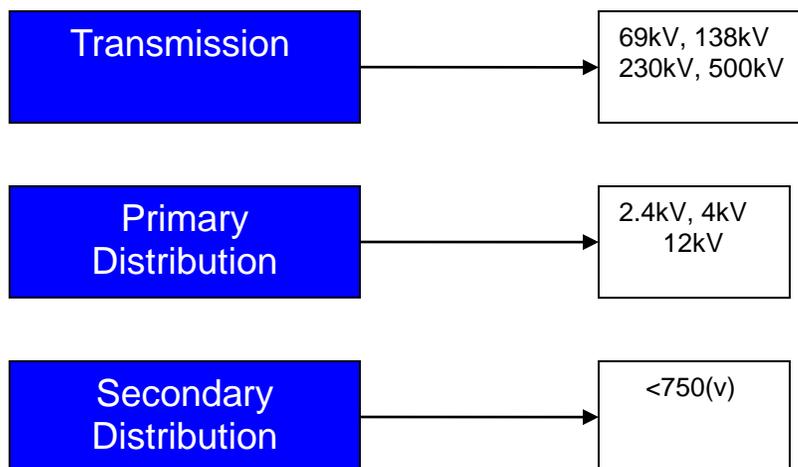
**Select "Climb"** if the contractor will encounter any of the following:

- narrow gates or narrow drives with no turnaround
- low tree limb or signs that overhang entry points
- bridges – some are not passable due to vehicle weight
- customer restriction of truck access

**Select "Both"** if the contractor's route to the tree is not impeded by any obstructions but the tree is too tall, too wide, or partially obstructed for the lift to work the entire portion of the tree.

**Select "Lift"** if there is no access restriction or obstruction to the portion of the tree that requires work.

**Figure 4: Conductor Voltage**



### Underbuilt Construction Guidelines

#### **Transmission with no other conductors on pole or towers:**

- select Standalone Transmission in Conductor Voltage

#### **Transmission with primary underbuilt:**

- If the tree requires pruning for both transmission and primary conductors
  1. Select Transmission in Conductor Voltage
  2. List Clearance in relation to the transmission
- If the tree requires pruning for primary underbuilt only
  1. Select Primary in Conductor Voltage
  2. List Clearance in relation to the primary conductors

#### **Transmission with open wire secondary underbuilt:**

- If the tree requires pruning for both transmission and secondary conductors
  1. Select Transmission in Conductor Voltage
  2. List Clearance in relation to the transmission
  3. List Months to Next Trim in relation to the transmission
- If the tree requires pruning for the secondary conductors **only**
  1. Select Transmission in Conductor Voltage
  2. List Clearance in relation to the transmission
  3. Select *Open 2ndary underbuilt-reqs trimming*

#### **Primary distribution with open wire secondary underbuilt:**

- If the tree requires pruning for both distribution and secondary conductors
  1. Select Primary in Conductor Voltage
  2. List Clearance in relation to the primary conductors
  3. List Months to Next Trim in relation to the primary conductors

#### **Primary distribution with open wire secondary underbuilt:**

- If the tree requires pruning for the secondary conductors **only**
  1. Select Primary in Conductor Voltage
  2. List Clearance in relation to the primary conductors
  3. List Months to Next Trim in relation to the primary conductors
  4. Select **Open 2ndary underbuilt-reqs trimming** in the Tree Tab, under the Trim Information pull down menu

Note: The canned comment *Open 2ndary underbuilt-reqs trimming* is only to be used where open wire secondary requires pruning **and** the distribution and/or transmission overbuilt **does not** require pruning for the cycle.

#### **Tree Tab Notes**

Tree tab notes are specific to the tree and are not copied to all records listed with the same property. It is important that the pre-inspector update tree notes for all records during each inspection. Notes originating from a previous inspection may no longer apply, or may require updating. If notes are no longer accurate, the pre-inspector should remove them.

Example:

- Trim Information drop down states “*Overhang requires trim*”. If the tree has been cleared of all overhangs the comment should be removed.
- Tree Alert drop down states “*Poison oak*”. If the poison oak is no longer an issue the comment should be removed.

#### **Work Requirements**

The following conditions are considered part of routine pruning maintenance. Additional canned or miscellaneous comments may need to be added by the pre-inspector to the tree record using the pull down menus.

#### **Direct Overhang**

As a general rule, all inventory trees that have limbs directly overhanging the vertical ground to sky plane above primary distribution and transmission conductors shall be listed for pruning. Use the canned comment, “*Remove direct overhang*”. An exception to this rule would be when a customer has refused an overhang to be removed and the Area Forester has entered these notes into the system. Follow the instructions in the record on how to proceed with the record.

**Figure 5: Direct Overhang** – Oak branch crossing vertical ground-to-sky plane

If you encounter trees with **old growth overhang** (limbs greater than 6 inches in diameter that cross the ground to sky vertical plane) and there are no notes in the system, contact the Area Forester for instructions on how to proceed with the record.

### **Deadwood**

Dead limbs or branches that have the potential for detaching from the tree and interrupting overhead facilities (excluding stand alone open-wire secondary and triplex wire), shall be listed for pruning using the drop down comment "*Remove dead wood*" in the Tree Page under Trim Information. This comment may be used for reliability and non-reliability trees as conditions require.

\*Always use the drop down canned comment when possible. **Do not alter canned comments** except to add date and initials where required. If the appropriate comment is not in the drop down menu create a miscellaneous comment.

## **Section 4: Location Tab Information**

### **Figure 6: Location Tab**

### **Address Guidelines**

Within VMS both the Tree Trim and Pole Brush program share the location page. Any changes to this page will affect every tree and pole sharing the same property number, street name, city and zip code. Attention to detail is paramount when entering information. If a misspelling of a street name or a street number exists and you need to edit, understand that the change will occur to all records that carry that same street name spelling and street number. Before you make a change to an address take the time to verify that no other records are going to be affected besides the one(s) you intend to change.

The Area Forester, forester assistant or the Lead will at times edit sensitive or customer information. These updates are important to make all of SDG&E's Vegetation Management personnel and contractors aware of properties with special work requirements. Customer notes need to be preserved to ensure SDG&E can get the work done as efficiently as possible. Take the time to identify correct address and owner information (name and number) for each property. This will improve the contractor's productivity and notification, and will help reduce the number of future refusals and/or sensitive customers.

### **Locating Customer Address**

- We need the actual physical address for a property. This means the number and street name in the Customer @ Transformer box, the number

on the mailbox, or the number on the house where the tree/pole is located. No additional spaces, punctuation marks or fractions allowed. If the property contains one of the following (1245A, 1245.5, 1245 1/2, or if the structure has an alpha character) insert the unique property address in the Misc. Comments in the Tree Page.

- The information in the Customer @ Transformer box is considered to be accurate, but confirmation in the field is required. If the Customer @ Transformer has a Point Loma address for the customer and you are on Mt. Laguna, obviously the address is the billing address and not the physical address where the tree/pole is located. If the Customer @ Transformer address is incorrect you will need to get the number from the house or mailbox. If there is no posted address on the house or mailbox you can also enter the meter number using the “Go to Customer” to get the correct address. If the meter does not come up with a match you will need to use a Matrix address (defined on the next page).
- Street names shall be spelled out and only approved alpha characters will be used for street, road, highway etc (see *Table 6*). Example: HARBISON CANYON RD or OLD HWY 80. For numbered streets always use the number and proper suffix; Example: 2nd, 3rd, 4th, 21st etc.

**Remember, no punctuation marks or additional spaces are allowed in the street name.** Every additional space or mark will make the property separate from the actual address. All addresses and street names must be exactly the same in order to share important property/Location Page notes. Always check the Customer @ Transformer box to make sure the street name in the system is correct. You may come across properties with driveways that are along a street different than the actual street address (ex. a driveway on Community Building Rd with an address of HWY 94). Note the correct address and street in the Address/Street field (HWY 94) and note in the Misc. Information drop down in the Location Page: *“Access property from Community Building Rd”*.

#### **Table 6: Approved Street Alpha Characters**

<b>AVE</b>	Avenue	<b>I 15</b>	Interstate 15
<b>BLVD</b>	Boulevard	<b>Ln</b>	Lane
<b>CIR</b>	Circle	<b>PKWY</b>	Parkway
<b>CT</b>	Court	<b>RD</b>	Road
<b>DR</b>	Drive	<b>ST</b>	Street
<b>FWY</b>	Freeway	<b>TERR</b>	Terrace
<b>HWY</b>	Highway	<b>TRL</b>	Trail

An example of what you may come across is a road that has more than one name. Example: HWY 76 also known as (AKA) Pala Road. Use the street that the Customer @ Transformer box indicates, (ex: 243 HWY 76), and note in the Location Page under Misc. Information: *AKA Pala Rd.*

Use Customer @ Transformer to copy and paste the customer name and phone number into the Location page under Misc. Information. If there is an existing customer name and number in the Location Page validate the name and phone number from Customer @ Transformer.

Remember, the last person to update a record owns the record and is responsible for the accuracy of the location and the notes.

### **Matrix Address**

If no address or customer information can be found follow the matrix procedure. Pre-inspector shall use the closest physical address (number) and add an "X" to the end of the number to identify the location. Example: 3036X Oak Dr. Pre-inspectors may use this matrix address for several trees or in some cases several spans until a closer posted address is reached.

Directions for all trees at a matrix address shall be added in the Tree Tab under the Tree Location pull down menu. Direction notes entered into the Tree Page should be cardinal only (N, S, E, W), and any physical landmarks used for reference must be stationary (i.e., mailbox, call box, bridge, or a starting point that is easy to find). If a posted address is not readily observable, notes should be entered to orient to the location.

Pay close attention to data populating or disappearing from the Location Page notes section. This would signify that the same matrix address is being used somewhere else. If this occurs you need to cancel out and select another matrix number address. Remember that when you remove notes in the Location Page for the tree you are updating, it will erase the note from all tree and pole records with that address. If in doubt call your Lead before deleting a note from a record.

### **Ownership Type**

When entering property information for trees, select the appropriate ownership from the drop-down menu:

- Private
- City
- County
- State
- Federal
- Cal Trans
- Trolley
- BIA (Bureau of Indian Affairs)
- BLM (Bureau of Land Management)
- US Forest Service
- CDFG (California Dept of Fish & Game)

VMS will allow one ownership type for trees within each property boundary. If there are multiple ownership types for the inventory trees within a single property boundary, select the priority from the following table.

**Table 7: Ownership Priority**

Possible Combination	Priority
Private/City	Private
Private/County	Private
Caltrans/City	Caltrans
Caltrans/County	Caltrans
Caltrans/Federal	Caltrans
Trolley/City	Trolley
State Park/Federal	State Park
State Park/County	State Park
Federal/County	Federal
BIA/County	BIA

The ownership field is tied to the address and will apply to all trees that share the same address. Enter the lower priority ownership in the Tree tab under the pull down Tree Location so that the secondary municipality or agency is identified.

Check VMA maps and Thomas Brothers Guide for boundaries. Call your Lead with any questions you may have regarding ownership.

### **Pole Numbers**

The MDT is always right when it comes to pole numbers. When updating, creating a tree record, or copying a tree within a span, always verify your pole numbers are correct. On occasion the physical tag on a pole is not correct. If a pole is numbered incorrectly in the field you must add a note under the Tree Location in the Tree Page (e.g., *Pole 1 is P21346 not P21364*).

When creating a tree you will be prompted to snap to pole one and pole two. Be sure the tree icon is placed in its correct location relative to the selected poles. When updating a tree that has been copied from one span to another where the pole numbers are incorrect follow these instructions:

- 1) Go to VM (drop down menu)
- 2) Select Trees
- 3) Select Change Poles
- 4) Snap to tree
- 5) Snap to first pole (no preference)
- 6) Snap to second pole

**Location Tab Notes**

Notes in the location tab carry over to all tree and pole records sharing the same property address. With the exception of matrix addresses, all trees/poles in the VMS System are required to have customer information and notes that pertain to the property. Customers move, phone numbers change, and some properties require special instruction, so updates are necessary to keep current with customer information. Do not remove refusal or sensitive customer information before speaking with your Lead or Supervisor. Forester notes should never be removed by a pre-inspector unless directed to do so by the Area Forester.

Below are some examples of location tab notes:

- Customer Name (First & Last), Phone  
Example: John Doe 858 277 5860
- Company Name/Business/Ranch-Misc. Comments, Phone  
Example: John Doe Enterprises or Bar None Ranch 858 555 0001
- Property specific notes-Misc. Notes  
Examples: Gate Code 12345  
Schlage key required  
Private lock call for access

**\*Reminder: Never modify a canned comment**

**Table 8: Special Characters**

Acceptable Characters	Unacceptable Characters
Dash (-)	(!) (@) (#) (\$) (%) (^)
Backslash for dates (/)	(&) (*) (()) (+) (=) (~)
	(') (l) (I) (i) (j) (\) (l) (;)
	(:) (') (") (<) (>) (,) (?)

**Owner**

If the property owner is different than the person inhabiting the home include both names and contact numbers under Miscellaneous Information in the Location Page (ex. *Tenant – Bob Jones 619 555 1234; Owner – Jane Smith 760 555 8842*).

**Customer Contact**

If a customer is present during pre-inspection confirm the contact information fields for accuracy and update as required. Include date and pre-inspector initials if owner information does not match transformer information.

**Section 5: Reliability Trees**

Hazard or reliability trees pose a threat to the safe and reliable delivery of electricity. Identifying hazard trees that have the potential to fail completely or drop limbs onto powerlines is critical to Vegetation Management operations. Trees that uproot or break out and fall into overhead utility lines can injure people and property, cause fires, power outages, power surges, and other damage to electrical facilities. Reliability trees may be located inside or outside of the utility right of way, and may or may not require pruning for compliance with clearance requirements.

A majority of tree-related outages that occur in the utility right-of-way are the result of tree or limb failure, not tree growth. A common cause of outages is palm fronds or seed pods that detach and blow into conductors. When hazards are identified the pre-inspector shall select check both the reliability and trimming required box in the Tree Tab. The proper reliability canned comment(s) located under Trim Information in the Tree Tab, or a Miscellaneous Tree Comment must also be entered. All reliability trees shall be marked with a white tag stapled to the tree that includes the tree ID, pre-inspector name, and pre-inspection date.

Reliability trees are not pruned or removed near stand-alone open wire secondary or triplex wire unless directed by the Pre-inspection Supervisor or Area Forester. Contact your Lead if clarification is required.

**Tree Hazard Checklist**

Consider these factors when evaluating trees for reliability:

- Is there a target? Can the hazard tree affect the electrical facilities?
- Are there any dead and/or detached branches in the tree that could fall and strike the pole or high voltage line?
- Does the tree have visible cavities or rotten wood along the trunk or in major branches?
- Are there indications of disease (fruiting bodies, wood rot) at the base or along the tree branches?

- Are there visible cracks or splits in the trunk or where branches are attached?
- Have any branches fallen from the tree that may indicate structural problems?
- Have adjacent trees fallen or died?
- Has the trunk developed a strong lean?
- Are there multiple vertical branches originating from one point that may indicate weak attachment?
- Are there narrow-angled branch crotches that may indicate included bark?
- Have the roots been excessively pruned, or damaged by grade change, pavement installation, sidewalk repair, or trench digging?
- Has the site recently been changed by construction, wind or water erosion, saturated soil, raising the soil level, lawn installation?
- Have the leaves prematurely developed an unusual color or size?
- Have adjacent trees been removed creating the potential for windthrow (exposure to wind causing tree failure)?
- Has the tree been topped or otherwise heavily pruned?
- Any indication of decline, disease, or structural damage from insect borers?

## Section 6: Memo Procedures

Memo trees are those that are non-compliant with minimum clearance requirements *and/or* fit the Vegetation Management criteria to be pruned within a priority timeframe. Memos are classified *same day*, *next day*, or *group*. The priority timeframe for pruning memo trees is based on voltage, clearance, and location (SRA vs. LRA VMAs). **All memos shall be documented on a Memo Sheet.**

### Same Day Memo

- Tree crew dispatched that day if called in to Help Desk by 12:30pm.
- Same day memo calls received after 12:30pm are usually issued the following day. If same day prune is absolutely necessary after 12:30pm, pre-inspector shall notify Lead and PI Area Forester for confirmation and approval.
- Help Desk cell phone is shut off after 3:30pm. If no answer, leave detailed voicemail regarding memo. Help Desk will confirm message the following business day.

### Next Day Memo

- Same day memo tree found after 12:30pm. Tree crew will be dispatched to complete pruning on the business day following inspection.

### Group Memo

- Memo trees combined for grouped issuance. PI Lead turns in group memos weekly to the Tree Help Desk. Trees are completed by pruning contractor within two weeks of being issued.

## Primary Voltage Memos:

### State Responsibility Area (SRA) VMAs

- Trees in continuous contact with primary conductors shall be called in to the Help Desk as a same day memo. If tree(s) has intermittent contact or shows signs of previous contact, the PI shall notify Lead and PI Area Forester for instruction and priority. Document on Memo Sheet.
- Trees with less than four feet of clearance from primary conductors, but not in contact, shall be documented on a Memo Sheet and turned in weekly to Help Desk to be issued as a group memo. Group memo trees are *not* to be called in to the Help Desk unless they are to be pruned with same or next day memo trees located on the same property. Contact Lead for instruction.

### Local Responsibility Area (LRA) VMAs

- Trees in continuous contact with primary conductors shall be called in to the Help Desk as a same day memo. Document on Memo Sheet.
- Trees with less than eighteen inches of clearance shall be documented as a Group Memo.

- Trees with less than four feet clearance in Fire Threat Zones (FTZ) shall be documented as a Group Memo.

Memo removals - Notify Lead and PI Area Forester for instructions.

**Transmission Voltage Memos (SRA & LRA):**

**Trees identified near transmission conductors that do not meet the minimum arc clearance requirements per NERC FAC 003-01 (-02) (IEEE 516-2003) shall be called in to the Vegetation Management Tree Help Desk as a same day memo. A tree crew will be dispatched immediately to correct the hazard. Minimal arc clearances for transmission are defined as:**

- **2.9 feet for 138kV** (\*see revised FAC-003-2 revisions)
- **5.1 feet for 230kV**
- **14.7 feet for 500kV.**

For same day memos on 230kV, 500kV, and the 69kV tielines below, the VM Help Desk shall immediately notify the System Forester of the emergency tree pruning required. The System Forester shall notify the Grid Operations Shift Supervisor (OSS) (619.725.5411) of the situation. The OSS will determine if any switching is required, and whether to notify the California Independent System Operator is required.

- TL668 (Miramar GT – Fenton – Miramar)
- TL669 (Miramar – Scripps)
- TL6916 (Scripps – Sycamore)

Trees identified near transmission conductors that meet the [minimum arc](#) clearance requirements but are within the following clearances shall be documented on a memo sheet as a group memo and turned in weekly to the Help Desk. A tree crew will be dispatched to prune the tree(s) within two weeks.

Group memos shall be issued for trees within:

- 6 feet from 69kV conductors
- 10 feet from 138kV and 230kV conductors
- 20 feet from 500kV conductors

**Table 9:** Memo Types

<b>Conductor Voltage</b>	<b>Distance from Tree</b>	<b>Type of Memo</b>
Primary (SRA & LRA)	0	Same day
Primary (SRA or LRA-FTZ)	< 4 feet	Group

69kV and 138kV (SRA & LRA)	3 feet or less	Same day
230kV (SRA & LRA)	5 feet or less	Same day
500kV (SRA & LRA)	15 feet or less	Same day
69kV (SRA & LRA)	6 feet	Group
138kV & 230kV (SRA & LRA)	10 feet	Group
500kV (SRA & LRA)	20 feet	Group

**Processing a Memo**

- All Memo Trees shall be flagged with **green** tape and labeled with tree(s) ID.
- All memos shall be documented on a Memo Sheet and VMA map. Memo sheets shall be turned into SDG&E’s Vegetation Management Help Desk.
- Pre-inspector shall make attempt to notify all memo tree customers. If the customer is not at home a door hanger or voice message shall be left.
- In the tree record under, *Misc Tree Comments*, note “Memo submitted by” and include the following:
  - Inspector initials
  - Inspection date of memo.
  - *Example “Memo submitted by JW 8 13 06”.*
  - *Applicable canned comment(s)*
- Pre-inspector shall pursue removals on all memo trees that fit removal criteria, and document the attempt using the canned comment, “Left removal request” including date and initials.
- INSERT NON-COMPLIANT MEMO PROCECURE

When calling in memos, pre-inspector shall identify the tree ID alpha characters using the International Phonetic Alphabet.

**Table 10: International Phonetic Alphabet**

<b>A</b>	<b>Alpha</b>	<b>N</b>	<b>November</b>
<b>B</b>	<b>Bravo</b>	<b>O</b>	<b>Oscar</b>
<b>C</b>	<b>Charlie</b>	<b>P</b>	<b>Papa</b>
<b>D</b>	<b>Delta</b>	<b>Q</b>	<b>Quebec</b>
<b>E</b>	<b>Echo</b>	<b>R</b>	<b>Romeo</b>
<b>F</b>	<b>Foxtrot</b>	<b>S</b>	<b>Sierra</b>
<b>G</b>	<b>Golf</b>	<b>T</b>	<b>Tango</b>
<b>H</b>	<b>Hotel</b>	<b>U</b>	<b>Uniform</b>
<b>I</b>	<b>India</b>	<b>V</b>	<b>Victor</b>
<b>J</b>	<b>Juliett</b>	<b>W</b>	<b>Whiskey</b>
<b>K</b>	<b>Kilo</b>	<b>X</b>	<b>Xray</b>
<b>L</b>	<b>Lima</b>	<b>Y</b>	<b>Yankee</b>
<b>M</b>	<b>Mike</b>	<b>Z</b>	<b>Zulu</b>

## Section 7: Removal Guidelines

Tree removals are an important component of vegetation management. Removals reduce the need for repeated pruning, reduce the frequency of property visits, reduce overall costs, and help ensure regulatory compliance.

Pre-inspector should pursue removals of fast and very fast inventory trees and palms. For removals of green and dying reliability trees, work with your Lead to determine appropriate candidates and criteria.

- Confirm property ownership of all trees to be removed. If the tree sits on a property line all property owners must sign the removal card.
- Fill out all portions of removal card including quantity, species, address, VMA#, Tree ID, Crew type, Start/Stop Poles, Ownership, Thom Bros. Document exact DBH of each tree (with the exception of palms) on the card. Include pre-inspector name on top left corner of card.
- Property owner must sign card. Make sure printed name and phone numbers are legible. If removing more than 5 tree ID's on the same property, you must use a "*Tree Removal Authorization List Continued*" form. Property owner must sign both yellow card and continued form.
- Removal of trees 24" DBH or greater and taller than 30 feet, growing to the side of the lines, are T&E (time and equipment) and requires Lead approval. Approval must be noted on bottom of card.
- Removal of trees 36" DBH or greater growing directly under the lines will be worked on T&E and requires Lead approval. Approval must be noted on bottom of card.
- Removal of trees greater than 36" aggregate DBH growing under the primary conductors will not be performed on a T&E basis. Pre-inspector must indicate this on the card with the comment "*T&E not applicable*".
- Reliability removals – Trees must be recorded on a separate removal ticket and labeled, "RELIABILITY" on the top of removal card.
- Explain removal process to owner – wood over 3 inches in diameter will be cut into manageable lengths and left on site (*not* stacked); branch debris will be removed; stumps will be cut as close to the ground as is safely possible; resprouting stumps will be treated with an EPA-approved herbicide; stumps will *not* be ground. **Clearly set the expectation for the customer what will and will not occur during cleanup.**

- Replacement trees require Area Forester approval. If replacements are offered, indicate replacement species, quantity (up to 3), and size (up to 15 gal.) on removal card. Replacements species are chosen from the SDG&E approved list (see *Figure 19*). Explain to owner that he or she must contact the Area Forester after trees are removed to initiate replacements. SDG&E does not plant replacement trees.
- Paint a small white “X” or dot at base of tree(s) to be removed.
- Enter DBH in the Tree Tab – Removal, “*DBH is \_\_\_\_*”. Measure DBH to the nearest whole inch of diameter attained. Round down to the nearest whole number (ex: a tree measuring 12.7 inches diameter should be entered in the comments as “*DBH is 12*”, not 13 inches). Make sure the DBH specified matches the DBH range selected.
- Enter ticket ID number in the tree record removal tab. On properties with multiple removals, each tree record with the same ticket ID requires a sequential number be entered (i.e., 345479-1, 345479-2, 345479-3) in the removal tab. Enter owner name and number in the removal tab.
- Leads are to turn in removal cards and *Tree Removal Authorization List Continued* sheets to SDG&E Help Desk.

Note: If a tree is a memo removal, note on the top portion of the removal card “*MEMO*”. Removal cards for memo trees must be turned in immediately for same and next day memos, or with memo sheets for group memos.

### **Palm Removals - Species Definition and Removal Ticket Documentation**

Special consideration is given to the removal of palms. In addition to mature palms, VMS allows for the removal of brush and small palms that would otherwise not be included in the inventory because of size. Pre-inspectors can pursue the removal of brush and small palms under certain conditions.

The removal of brush and small palms should be pursued on those properties where full size palm removals are to take place. *It is otherwise not necessary to inventory brush or small palms in the MDT.*

The cost of palm removals is based on species and height. Correct species identification and documentation is essential.

#### **GFMS Palm Species Code:**

- ***Palm-Fan*** - all fan palms with the exception of California Fan Palm
- ***Palm-Fan California / Filifera*** - California Fan Palm (*W. filifera*) only
- ***Palm-Feather*** - all feather palms with the exception of Date palms

- ***Palm-Feather Date / Phoenix*** - all date palms
- ***Brush Fast 5x5 Palm*** - all palm species whose trunk height is less than 5 feet measured from the ground to where the new fronds emerge.
- ***Small Palm (no species code in GFMS)*** - all palm species whose trunk height is 5.1 -15 feet measured from the ground to where the new fronds emerge. Use species code *Palm-Fan* or *Palm-Feather* code as appropriate.

Removal Ticket Documentation

- All palm removals shall be entered on a removal ticket separate from all other non-palm removals.
- At the top of the removal ticket where species is entered, use the generic word *palm* for all species.
- Enter Thomas Bros map # on top right hand corner of removal ticket.
- Each palm removal shall be documented in the comments section of the removal ticket with the specific identifier word next to the tree ID:

<u>Species</u>	<u>Identifier</u>
• <b><i>Palm-Fan</i></b>	<b><i>fan</i></b>
• <b><i>Palm-Fan California / Filifera</i></b>	<b><i>filifera</i></b>
• <b><i>Palm-Feather Date / Phoenix</i></b>	<b><i>date</i></b>
• <b><i>Palm-Feather</i></b>	<b><i>feather</i></b>
• <b><i>Brush Fast 5x5 Palm</i></b>	<b><i>brush</i></b>
• <b><i>small palm (No species code in GFMS)</i></b>	<b><i>small</i></b>

**Figure 14: Example of Palm Removal Ticket**

Ex: Authorization to remove 6 palms including: 1 palm (4 feet tall to the heart), 1 fan (12 feet tall to the heart), 1 California fan, 2 Queen, 1 Canary Island Date.

Document the removal ticket as:

**SDGE** EXAMPLE Ticket I.D. No 357907  
 SDG&E - Vegetation Management Program TB1149-B7  
**TREE REMOVAL AUTHORIZATION**

As the authorized agent, I John Smith (print name) do hereby authorize SDG&E to remove 6 (quantity) palm (species) located at 123 Main St. (property address, city, & zip code).  
San Diego, 92117

This work will be done by SDG&E at no cost to me. I understand that; (1) wood over 3 inches in diameter will be cut, whenever practical, into a manageable size and left at the site, unless requested otherwise, (2) branch debris will be removed from the site by SDG&E, (3) SDG&E will not grind/remove stumps.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Phone No. \_\_\_\_\_ (hm) Phone No. \_\_\_\_\_ (wk)

VMA # <u>220</u>	Tree I.D.# <u>AB12 (brush)</u>
Crew type: lift/climb (circle one)	Start pole# <u>P12345</u> Stop pole # <u>P123456</u>
Ownership: private/city/county/state/federal (circle one)	
Comments: <u>AB13 (small) AB14 (filifera) AB15 (2 feather)</u>	
<u>AB16 (date)</u>	

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Palm Removal Documentation in GFMS

- use appropriate codes as defined above
- for *small palm* removals use species code *Palm-Fan* or *Palm-Feather* code as appropriate
- for palm removals, enter trunk height to base of fronds
- it is not necessary to specify the DBH on the removal ticket or in the comments section of the tree record

All palms with fronds that sweep out of compliance are potential cycle busters and shall be pursued for removal.

**Section 8: Refusals**

Customers who refuse tree pruning can delay schedule, jeopardize compliance, require extra time and effort to resolve, and are costly to manage. Pre-inspection contractor shall attempt to resolve customer refusals unless otherwise instructed by the Supervisor or Area Forester.

Full refusal tree or pole records have an “X” over the icon in GFMS. This indicates a historic refusal location or one currently pending. In some instances all records on a property are listed as full refusals because of circumstances requiring special attention. Pre-inspectors must pay close attention to all notes relating to a refusal property.

Note: All trees will be pruned if they become non-compliant with the power lines.

Potential reasons for refusals:

- The property owner has been verbally or physically hostile to SDG&E or contractors.
- The property owner refuses to allow SDG&E to complete the work according to required clearances and/or pruning specifications.
- The property owner indicates the desire to prune the tree(s) themselves or by a third party contractor.
- The customer is a historical refusal and the Forester monitors the status of the tree(s) annually. The Forester will update the tree data during the pre-inspection cycle and schedule the work as necessary.

### **Procedure for Refusals Initiated During Pre-inspection:**

If a customer communicates the refusal to allow pruning, the pre-inspector shall make the attempt to resolve. Gather all pertinent information from the customer, actively listening to and acknowledging the customer's concerns and complaints. If unable to persuade the customer to allow pruning or brushing, the pre-inspector shall:

- Communicate the legal and safety requirements and subsequent contact steps that will be taken by pre-inspection and SDG&E supervisors.
- Provide a hard copy of the SDG&E *Refusal Fact Sheet* and fully document the refusal on the *Vegetation Management Services Refusal Form*.
- Forward the refusal to the Lead for further contact.

### **Refusal Updates in MDT:**

- When you come across a FULL REFUSAL open the record, read and follow the instructions in the refusal, location, and tree tab.
- If the instructions are unclear or there are no refusal notes, call your supervisor or the Area Forester for clarification.
- Pre-inspector is required to update the clearance of the tree(s) unless instructed not to by the supervisor or the Area Forester.
- DO NOT erase or delete any sensitive, difficult or refusal customer notes or information.
- DO NOT change the address or street name on any tree ID with sensitive customer notes.
- DO NOT skip over full refusal properties or trees without opening the tree and following the instructions.
- If a tree ID is noted on the wrong address contact your Lead about the needed correction.

Call your Lead or SDG&E Supervisor with any questions or concerns about refusal situations.

### **Major Woody Stems**

Major woody stems (MWS) are tree trunks or tree limbs that are exempted from the minimum vegetation clearance requirements in G.O. 95, Rule 35 and PRC 4293. To qualify as an exemption, the trunk or branch must be of sufficient strength and rigidity to prevent it from encroaching within 6 inches of distribution voltage conductors, and must meet all requirement criteria outlined in the *MWS Exemption Form* (see Fig. 22). Major woody stems must be reviewed by a qualified ISA Certified Arborist annually and documented on a *MWS Exemption Form*. All MWS must be recorded in the Tree Tab-Tree Alert field using the canned comment, *Major Woody Stem*.

## **Section 9: Icon Placement**

### **Placing Trees and Brush Units**

- Place Tree and Brush icons accurately in the MDT.
- Position each icon correctly within the span relative to SDG&E facilities. In some areas the facilities map in GFMS does not accurately reflect actual conditions in the field.
- Place icons as they are in relation to the facilities, not the property lines. Add a note to Tree Location to explain the discrepancy.
- Provide accurate and concise directions to the tree to help the tree contractor locate in the field.
- When several trees exist in a span, place them as accurately as possible and avoid overlapping graphics and text. The tree ID must always be legible.
- Avoid clustering trees unless high tree density requires it.

For high tree density, refer to *Units* (page 18). Keep in mind that the contractors need to be able to read the Tree ID#'s on the VMS map.

If SDG&E facility locations on the map do not accurately reflect their position in the field, place the tree graphic relative to the facility and add an explanation selected from Notes/Type and Description drop-down menus to explain.

SDG&E periodically updates the GFMS map on the MDT. The new map file may include the addition of new line extensions and the removal of lines that no longer exist. The position of SDG&E facilities may be updated as well. This may

offset previous tree icon placement. When this occurs, the tree icons will need to be moved to their proper location in the appropriate span. Contact field supervisor for further directions.

In some cases new overhead facilities will not be reflected in GFMS. Place the tree graphics as accurately as possible using street and/or property delineation, and add an explanation selected from Notes/Type and Description drop-down menus. Make sure to provide accurate and concise directions to inventory trees near new lines since the tree crew will not have the overhead facilities drawn on their maps.

## Section 10: Updating VMA Map

### VMA Map Updating

Hardcopy VMA maps are provided to pre-inspectors to track progress and document completion in each VMA. Each pre-inspector is responsible to patrol every span of overhead transmission, primary, and stand alone secondary conductors, including any new line segments within the assigned VMA.

- 1) Use highlighters to indicate the progress of each day. Use different colors for different days and write the date next to each day's work.
- 2) Ensure all border sections between pre-inspectors in the same VMA are patrolled in their entirety. Write pole numbers on the map indicating start and stop position of each bordering section. **No missed or overlapped inspections.**
- 3) Write complete name and the "start date" and "end date" in the space provided on the VMA map.
- 4) Use the map to write down addresses or phone numbers as needed.
- 5) Add any new construction or line extensions to the VMA map relative to existing circuits.
- 6) Add gate codes and other useful information as a reference for subsequent inspections.
- 7) VMA maps are to be handed in to your Supervisor and checked for completeness and accuracy before being turned in to SDG&E.
- 8) Pre-inspection contractor shall complete and sign a VMA certification sheet upon completion of the VMA and turn in to the SDG&E Pre-inspection Supervisor.

## Section 11: Pre-inspector Call In

All pre-inspectors shall call in their nightly location log Monday-Friday before 7:00 p.m. The pre-inspector shall provide the following information:

- 1) VMA
  - 2) estimated # of days to complete the VMA
  - 3) last tree ID
  - 4) total hours worked
  - 5) the following day's starting tree ID
  - 6) the following day's starting property address
  - 7) the following day's starting Thomas Brothers map #
- When working in more than one VMA in a workday, the pre-inspector must specify the total hours worked in each of the VMAs.
  - Pre-inspectors are to call their Lead before leaving their VMA during working hours.
  - The Lead must authorize time spent out of the VMA during normal work hours.
  - Pre-inspection Leads are to call the Area Forester the first day in a new VMA to notify that pre-inspection has begun.

## Section 12: Tree Growth Rates – Very Fast to Slow

Each tree's growth rate will be affected by the specifics of the site, the tree's health, and pruning history.

### Very Fast = > 6 ft/yr

#### Fast = 4-6ft/yr

Ash	very fast
Cottonwood	very fast
Eucalyptus	very fast
Mulberry	very fast
Willow	very fast
Ailanthus	very fast
Avocado	fast
Bamboo	fast
Jacaranda	fast
Melaleuca	fast
Palm (Fan)	fast
Palm (Feather)	fast
Poplar	fast
Silk Oak	fast
Sycamore	fast
Tamarisk	fast
Walnut	fast
Acacia	medium
Alder	medium

### Medium = 2-4 ft/yr

#### Slow= 0-2 ft/yr

Pecan	medium
Pepper (California)	medium
Pine	medium
Pittosporum	medium
Plum	medium
Podocarpus	medium
Privet	medium
Redwood	medium
Rubber	medium
Sumac	medium
Tulip	medium
Aspen	slow
Bay	slow
Birch	slow
Bottle	slow
Bottlebrush	slow
Cow Itch	slow
Crape Myrtle	slow
Cypress	slow

Brisbane Box	medium	Deodar Cedar	slow
Camphor	medium	Fir	slow
Carob	medium	Ginkgo	slow
Carrotwood	medium	Italian Cypress	slow
Casuarina	medium	Juniper	slow
Catalpa	medium	Koelreuteria	slow
Cherry	medium	Magnolia	slow
Chinaberry	medium	Mimosa	slow
Citrus	medium	Monkey Puzzle	slow
Coral	medium	Italian Cypress	slow
Eugenia	medium	Oak	slow
Ficus	medium	Oleander	slow
Floss Silk	medium	Palo Verde	slow
Hackberry	medium	Pepper (Brazilian)	slow
Locust	medium	Pistache	slow
Maple	medium		
Mesquite	medium		
Myoporum	medium		
Olive	medium		
Orchid	medium		
Pear	medium		

**Section 13: Vegetation Management Areas**

 = LRA       = SRA

<b>210</b>	Point Loma	<b>357</b>	Lake Wohlford
<b>212</b>	Mission Bay	<b>358</b>	Valley Center East 1
<b>215</b>	La Jolla	<b>359</b>	Valley Center West 1
<b>220</b>	Mission Valley	<b>360</b>	Pauma Valley 1
<b>221</b>	Mira Mesa	<b>361</b>	Pauma Valley 2
<b>302</b>	San Marcos	<b>362</b>	Jesmond Dene
<b>304</b>	Escondido North	<b>363</b>	Hidden Meadows
<b>305</b>	Escondido Central	<b>364</b>	Couser Canyon 1
<b>306</b>	Escondido South	<b>365</b>	Ramona West
<b>309</b>	Rancho Bernardo	<b>366</b>	Rincon
<b>310</b>	Poway North	<b>367</b>	Pine Hills 2
<b>311</b>	Poway South	<b>368</b>	Pine Hills 1

<b>312</b>	Fallbrook West 1	<b>369</b>	Harrison Park
<b>313</b>	Fallbrook West 2	<b>370</b>	Palomar Mtn 2
<b>314</b>	Fallbrook West 3	<b>371</b>	Warner Springs
<b>350</b>	Lake Hodges South	<b>372</b>	Borrego
<b>351</b>	Lake Hodges North	<b>373</b>	Mesa Grande 2
<b>352</b>	San Pasqual	<b>374</b>	Mesa Grande 1
<b>353</b>	Highland Valley	<b>375</b>	Palomar Mtn 1
<b>354</b>	Ramona South 1	<b>376</b>	Lilac 1
<b>355</b>	Ramona East 1	<b>377</b>	Whispering Pines 1
<b>356</b>	Ramona North	<b>378</b>	Pala
<b>379</b>	Rainbow 1	<b>403</b>	Lemon Grove / Spring Valley
<b>380</b>	Pala Mesa	<b>405</b>	La Mesa West

### Section 13: Vegetation Management Areas cont.

 = LRA       = SRA

<b>381</b>	Winterwarm	<b>406</b>	La Mesa East
<b>382</b>	Gopher Canyon East 1	<b>408</b>	Mount Helix
<b>383</b>	Bonsall 1	<b>410</b>	El Cajon West
<b>384</b>	Fallbrook East 1	<b>412</b>	Rancho San Diego
<b>385</b>	De Luz 1	<b>414</b>	El Cajon East
<b>386</b>	Santa Ysabel	<b>416</b>	Santee
<b>387</b>	Gopher Cyn East 2	<b>420</b>	Lakeside
<b>388</b>	Rainbow 2	<b>450</b>	Blossom Valley 1
<b>389</b>	De Luz 2	<b>451</b>	Eucalyptus Hills 1
<b>390</b>	Fallbrook East 2	<b>452</b>	San Vincente
<b>391</b>	Valley Center East 2	<b>453</b>	Barona
<b>392</b>	Valley Center East 3	<b>454</b>	Dehesa

<b>393</b>	Ramona South 2	<b>455</b>	Crest
<b>394</b>	Ramona East 2	<b>456</b>	Singing Hills
<b>395</b>	Courser Canyon 2	<b>458</b>	Alpine
<b>396</b>	Lilac 2	<b>460</b>	Jamul West
<b>397</b>	Whispering Pines 2	<b>462</b>	Potrero
<b>398</b>	Bonsall 2	<b>463</b>	Jamul East
<b>399</b>	Valley Center West 2	<b>464</b>	Boulevard
<b>400</b>	Allied Garden / San Carlos	<b>465</b>	Barrett Lake
<b>466</b>	Buckman Springs 1	<b>606</b>	Vista North 1
<b>467</b>	Descanso	<b>607</b>	Oceanside North 1
<b>468</b>	Viejas	<b>610</b>	Vista South
<b>469</b>	Mount Laguna	<b>611</b>	Oceanside South
<b>475</b>	Blossom Valley 2	<b>614</b>	Encinitas South 2

### Section 13: Vegetation Management Areas cont.

 = LRA       = SRA

<b>477</b>	Eucalyptus Hills 2	<b>616</b>	Oceanside North 2
<b>479</b>	Buckman Springs 2	<b>623</b>	Encinitas North 2
<b>510</b>	Mission Hills	<b>624</b>	Vista North 2
<b>512</b>	State College	<b>651</b>	Rancho Santa Fe South 1
<b>513</b>	Center City	<b>652</b>	Rancho Santa Fe North 1
<b>514</b>	East San Diego	<b>653</b>	Rancho Santa Fe North 2
<b>518</b>	National City	<b>654</b>	Buena Vista 1
<b>519</b>	Paradise Hills	<b>655</b>	Gopher Canyon West
<b>520</b>	Chula Vista West	<b>670</b>	Buena Vista 2
<b>521</b>	Chula Vista East	<b>673</b>	Rancho Santa Fe South 2
<b>527</b>	Coronado -Imp	<b>674</b>	Rancho Santa Fe South 3

552	Bonita	701	San Clemente
553	Otay Mesa	702	Dana Point 1
601	Del Mar	703	San Juan Capistrano
602	Solana Beach	707	Laguna Hills
603	Encinitas South 1	708	Dana Point 2
604	Encinitas North 1	752	Ortega
605	Carlsbad		

## Section 14: Approved Abbreviations

Abbreviation	Translation
1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> , 4 <sup>th</sup> , etc...	First, second, third, fourth
1 <sup>st</sup> O:	Primary Owner (where the majority of the pole sits)
2 <sup>nd</sup> O:	Second Owner
3 <sup>rd</sup> O:	Third Owner
4 <sup>th</sup> O:	Fourth Owner
A/F	Across From
AKA	Also known as
Appt	Appointment
AVE	Avenue
Avo grove	Avocado grove
BLVD	Boulevard
C/O	Corner Of

CDF	California Department of Forestry
C-	Cell phone, avoid ( ) use – or blank space to separate numbers
Cir	Circle
Cit grove	Citrus grove, fruit grove
CT	Court
DR	Drive
ESA	Environmentally Sensitive Area
FS	Fire Station
FT	Feet
FWY	Freeway
HQ	Headquarters
H-	Home phone, avoid ( ) use – or blank space to separate numbers
HWY	Highway
I/O	Intersection of
I-15	Interstate 15, replace the number keep I- as the standard

### Section 14: Approved Abbreviations cont.

Abbreviation	Translation
Jnct	Junction
Lg Vol	Large Volume
Ln	Lane
Mi	Mile
MM	Mile Marker
N, E, W, S	North, East, West, South
N/O E/O W/O S/O	North of, East of, West Of, South Of
NE NW SE SW	North East, North West, South East, South West
PKWY	Parkway
PL	Place
RD	Road
Rdside	Roadside
ST	Street
Tenant:	Tenant information. (Not the owner but they may have special requests, i.e. call first for access to property, or animal concerns)
Terr	Terrace

TRL	Trail
YD YDs	Yard, Yards
W-	Work phone, avoid ( ) use – or blank space to separate numbers

Table 11.1: VMA Schedule (Northern SDG&amp;E Territory)

VMA	North	VMA Name	Estimated Trees	Pre-inspection Start	Pre-inspection Audit Start	Tree Trim Start	Tree Pruning Finish
378	N E	Pala	1,559	July	August	September	November
379	N E	Rainbow 1	2,736	July	August	September	November
388	N E	Rainbow 2	2,131	July	August	September	November
702	N W	Dana Point 1	943	July	August	September	November
703	N W	San Juan Capistrano	2,104	July	August	September	November
707	N W	Laguna Hills	1,288	July	August	September	November
708	N W	Dana Point 2	932	July	August	September	November
752	N W	Ortega	946	July	August	September	November
360	N E	Pauma Valley 1	4,176	August	September	October	December
361	N E	Pauma Valley 2	1,797	August	September	October	December
364	N E	Courser Canyon 1	3,465	August	September	October	December
370	N E	Palomar Mtn 2	2,683	August	September	October	December
375	N E	Palomar Mtn 1	2,579	August	September	October	December
607	N W	Oceanside North 1	2,882	August	September	October	December
611	N W	Oceanside South	2,432	August	September	October	December
616	N W	Oceanside North 2	2,541	August	September	October	December
701	N W	San Clemente	2,083	August	September	October	December
371	N E	Warner Springs	4,106	September	October	November	January
374	N E	Mesa Grande 1	3,196	September	October	November	January
386	N E	Santa Ysabel	4,084	September	October	November	January
604	N W	Encinitas North 1	2,729	September	October	November	January
605	N W	Carlsbad	5,399	September	October	November	January
357	N E	Lake Wohlford	4,596	October	November	December	February
366	N E	Rincon	2,509	October	November	December	February
373	N E	Mesa Grande 2	1,093	October	November	December	February
603	N W	Encinitas South 1	1,959	October	November	December	February
614	N W	Encinitas South 2	1,338	October	November	December	February
652	N W	Rho S Fe N 1	3,605	October	November	December	February
358	N E	Vly Center East 1	2,561	November	December	January	March
391	N E	Vly Center East 2	3,348	November	December	January	March
651	N W	Rho S Fe S 1	3,555	November	December	January	March
673	N W	Rho S Fe S 2	2,552	November	December	January	March
674	N W	Rho S Fe S 3	1,643	November	December	January	March
350	N E	Lk Hodges South	3,780	December	January	February	April
351	N E	Lk Hodges North	3,150	December	January	February	April
610	N W	Vista South	2,307	December	January	February	April
623	N W	Encinitas North 2	2,218	December	January	February	April
653	N W	Rho S Fe N 2	3,269	December	January	February	April
363	N E	Hidden Meadows	5,480	January	February	March	May
606	N W	Vista North 1	2,973	January	February	March	May
654	N W	Buena Vista 1	2,798	January	February	March	May
670	N W	Buena Vista 2	2,041	January	February	March	May
304	N E	Escondido North	3,512	February	March	April	June
305	N E	Escondido Central	4,227	February	March	April	June
398	N E	Bonsall 2	2,266	February	March	April	June
624	N W	Vista North 2	2,684	February	March	April	June
655	N W	Gopher Cyn West	3,171	February	March	April	June
306	N E	Escondido South	2,521	March	April	May	July
362	N E	Jesmond Dene	4,479	March	April	May	July
382	N W	Gopher Cyn East 1	3,765	March	April	May	July
383	N W	Bonsall 1	1,545	March	April	May	July
387	N W	Gopher Cyn East 2	3,450	March	April	May	July
359	N E	Vly Center West 1	3,489	April	May	June	August
380	N W	Pala Mesa	4,177	April	May	June	August

Table 11.1: VMA Schedule (Northern SDG&amp;E Territory) cont.

VMA	North	VMA Name	Estimated Trees	Pre-inspection Start	Pre-inspection Audit Start	Tree Trim Start	Tree Pruning Finish
384	N W	Fallbrook East 1	4,401	April	May	June	August
392	N E	Vly Center East 3	3,711	April	May	June	August
302	N E	San Marcos	4,609	May	June	July	September
312	N W	Fallbrook West 1	2,092	May	June	July	September
313	N W	Fallbrook West 2	3,077	May	June	July	September
314	N W	Fallbrook West 3	2,487	May	June	July	September
390	N W	Fallbrook East 2	3,518	May	June	July	September
399	N E	Vly Center West 2	4,340	May	June	July	September
376	N E	Lilac 1	2,325	June	July	August	October
381	N W	Winterwarm	4,468	June	July	August	October
385	N W	De Luz 1	2,323	June	July	August	October
389	N W	De Luz 2	3,058	June	July	August	October
395	N E	Courser Canyon 2	3,156	June	July	August	October
396	N E	Lilac 2	1,930	June	July	August	October

Table 11.2: VMA Schedule (Southern SDG&amp;E Territory)

VMA	North	VMA Name	Estimated Trees	Pre-inspection Start	Pre-inspection Audit Start	Tree Trim Start	Tree Pruning Finish
462	S E	Potrero	4,264	July	August	September	November
464	S E	Boulevard	2,802	July	August	September	November
520	S W	Chula Vista West	3,846	July	August	September	November
521	S W	Chula Vista East	3,189	July	August	September	November
527	S W	Coronado -Imp	1,988	July	August	September	November
553	S W	Otay Mesa	1,016	July	August	September	November
460	S E	Jamul West	4,109	August	September	October	December
463	S E	Jamul East	3,109	August	September	October	December
518	S W	National City	3,647	August	September	October	December
519	S W	Paradise Hills	2,906	August	September	October	December
552	S W	Bonita	2,654	August	September	October	December
412	S W	Rancho San Diego	5,075	September	October	November	January
414	S W	El Cajon East	2,991	September	October	November	January
465	S E	Barett Lake	3,107	September	October	November	January
466	S E	Buckman Sprgs 1	1,968	September	October	November	January
475	S E	Blossom Vly 2	1,203	September	October	November	January
479	S E	Buckman Sprgs 2	2,568	September	October	November	January
210	S W	Point Loma	4,515	October	November	December	February
455	S E	Crest	2,267	October	November	December	February
456	S E	Singing Hills	4,266	October	November	December	February
510	S W	Mission Hills	2,774	October	November	December	February
513	S W	Center City	2,430	October	November	December	February
405	S W	La Mesa West	3,550	November	December	January	March
420	S E	Lakeside	5,334	November	December	January	March
450	S E	Blossom Valley 1	1,647	November	December	January	March
452	S E	San Vicente	1,849	November	December	January	March
512	S W	State College	2,503	November	December	January	March

Table 11.2: VMA Schedule (Southern SDG&amp;E Territory) cont.

VMA	North	VMA Name	Estimated Trees	Pre-inspection Start	Pre-inspection Audit Start	Tree Trim Start	Tree Pruning Finish
514	S W	East San Diego	4,419	November	December	January	March
212	S W	Mission Bay	4,069	December	January	February	April
220	S W	Mission Valley	5,473	December	January	February	April
453	S E	Barona	808	December	January	February	April
454	S E	Dehesa	3,986	December	January	February	April
458	S E	Alpine	3,197	December	January	February	April
367	S E	Pine Hills 2	1,850	January	February	March	May
369	S E	Harrison Park	896	January	February	March	May
400	S W	Allied Gd San Carlos	2,512	January	February	March	May
410	S W	El Cajon West	3,009	January	February	March	May
416	S W	Santee	1,926	January	February	March	May
467	S E	Descanso	2,470	January	February	March	May
469	S E	Mt Laguna	3,855	January	February	March	May
368	S E	Pine Hills 1	2,944	February	March	April	June
372	S E	Borrego	2,495	February	March	April	June
377	S E	Whispering Pines 1	2,286	February	March	April	June
397	S E	Whispering Pines 2	3,613	February	March	April	June
403	S W	Lem Grv-Sp Vly	3,111	February	March	April	June
408	S W	Mount Helix	3,383	February	March	April	June
309	S W	Rancho Bernardo	2,489	March	April	May	July
355	S E	Ramona East 1	1,846	March	April	May	July
393	S E	Ramona South 2	1,953	March	April	May	July
394	S E	Ramona East 2	3,143	March	April	May	July
451	S W	Eucalyptus Hills 1	1,960	March	April	May	July
477	S W	Eucalyptus Hills 2	1,472	March	April	May	July
601	S W	Del Mar	2,575	March	April	May	July
311	S W	Poway South	4,745	April	May	June	August
353	S W	Highland Valley	5,475	April	May	June	August
354	S E	Ramona South 1	2,913	April	May	June	August
468	S E	Viejas	4,385	April	May	June	August
215	S W	La Jolla	4,118	May	June	July	September
310	S W	Poway North	2,841	May	June	July	September
356	S E	Ramona North	3,595	May	June	July	September
365	S E	Ramona West	3,295	May	June	July	September
602	S W	Solana Beach	1,647	May	June	July	September
221	S W	Mira Mesa	4,969	June	July	August	October
352	S E	San Pasqual	5,666	June	July	August	October
406	S W	La Mesa East	4,139	June	July	August	October

Figure17: Refusal Form



A Semptra Energy utility™

26137

## Vegetation Management Services

### REFUSAL FORM

VMA Number \_\_\_\_\_

*To be filled out after property owner/agent refuses permission to enter property or to complete required work.*

**Important: San Diego Gas & Electric is required by law to maintain safe distances between trees and powerlines. Refusal of necessary line clearance work increases the risk of safety hazards on your property such as power outages, electrocution, and fires.**

PROPERTY OWNER 
AGENT

PROPERTY OWNER			CONTRACTOR INFORMATION	
NAME OF PERSON REFUSING			CONTRACTOR NAME	
STREET	CITY	ZIP	CONTRACTOR'S REPRESENTATIVE	TITLE
( )			( )	
PHONE NUMBER		T.B. MAP#	PHONE NUMBER	
SIGNATURE	DATE	SIGNATURE	DATE	

**DESCRIPTION OF VIOLATION (Required):**

CODE VIOLATION (Please Circle One)   PRC 4293   PRC 4292   G.O. 95   Other \_\_\_\_\_

Tree(s) clearance to nearest primary conductors \_\_\_\_\_ ft (If more than one tree enter the range e.g. 4-6 ft)

Tree(s) species \_\_\_\_\_

Tree ID number(s) \_\_\_\_\_

Facility numbers \_\_\_\_\_

**DISCUSSION WITH PROPERTY OWNER:**

Representative / Company	Date	Type of Contact	Reason for Refusal

Original = SDG&E
Yellow = Contractor
Pink = Property Owner

**Figure 18: Tree Removal Authorization List Continued**

VMA \_\_\_\_\_

TICKET # \_\_\_\_\_

**TREE REMOVAL AUTHORIZATION LIST CONTINUED**

This work will be done by SDG&E at no cost to me. I understand that; (1) wood over 3 inches in diameter will be cut, whenever practical, into a manageable size and left at the site, unless requested otherwise, (2) branch debris will be removed from the site by SDG&E, (3) SDG&E will not grind/remove stumps.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

#	TREE ID#	START POLE	END POLE	UNIT #	SPECIFIC DBH
1					
2					
3					
4					
5					
6					
7					
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9					
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32					
33					

Figure 19: Tree Replacement List



**SDGE**  
A Sempra Energy™ company

# TREE PLANTING LIST

## Trees Acceptable for Planting Under / Near Overhead Power Lines (up to 12kV)

(These trees may not be acceptable where hardware / lines sag or are low due to construction / terrain. This list not intended to be all-inclusive.)

***Acacia cultriformis* (Knife Acacia)** Drought tolerant  
 FOLIAGE: Evergreen, Gray leaves.  
 HEIGHT: Fast growing to 10'-15'.  
 FLOWER: Yellow Jan. - Mar.  
 COMMENTS: Best in full sun. Tolerates wind, drought, and most soils.

***Eucalyptus torquata* (Coral Gum)** Moderately drought tolerant  
 FOLIAGE: Evergreen. Gray green.  
 HEIGHT: Moderately fast growth to 20'.  
 FLOWER/FRUIT: Yellow & red. Blooms from Oct. - June. Cup shaped seed capsules follow.  
 COMMENTS: Best in full sun.

***Bauhinia blakeana* (Hong Kong Orchid Tree)** Moderately drought tolerant  
 FOLIAGE: Partially deciduous for a short period. Gray-green twin lobed leaves.  
 HEIGHT: Moderate growth to 20'.  
 FLOWER: White 5"-6" long. Bloom appears in winter.  
 COMMENTS: Grow in full sun. No significant pest problems.

***Lagerstroemia indica* (Crape Myrtle)** Drought tolerant  
 FOLIAGE: Deciduous. Deep glossy green leaves, fall color is yellow. Some trees turn orange or red.  
 HEIGHT: Slow growth to 10'-25'.  
 FLOWER: Many colors: white, pink, red, purple, etc. Blooms July - Sept.  
 COMMENTS: Grow in full sun. Trees have a problem with mildew in the mild climate areas of County.

***Cassia leptophylla* (Gold Medallion Tree)** Drought tolerant  
 FOLIAGE: Semi-evergreen, medium green, pinnately compound leaves.  
 HEIGHT: Fast growth to 20'-25'.  
 FLOWER/FRUIT: Deep yellow. Blooms July - Aug. 16" long seedpods present a litter problem.  
 COMMENTS: Grow in full sun. No significant pests.

***Magnolia grandiflora* 'Little Gem' (Little Gem Magnolia)** Moderately drought tolerant  
 FOLIAGE: Evergreen. Dark green glossy above, rusty underneath.  
 HEIGHT: Slow growth to 15'-20'.  
 FLOWER: White 5"-6", blooms summer - fall.  
 COMMENTS: Best in full sun.

***Cercis occidentalis* (Western Redbud)** Drought tolerant  
 FOLIAGE: Deciduous. Leaves are round & medium green.  
 HEIGHT: Moderate growth to 20'.  
 FLOWER: Magenta. Blooms March - April.  
 COMMENTS: Grows in full sun or part shade. Needs a well-drained soil. Calif. native

***Pittosporum phillyraeoides* (Willow Pittosporum)** Drought tolerant  
 FOLIAGE: Evergreen. Leaves medium green.  
 HEIGHT: Slow growth to 20'.  
 FLOWER: Light yellow. Blooms winter - spring. Fragrant.  
 COMMENTS: No significant pests. Best in full sun.

***Dodonaea viscosa* 'Purpurea' (Purple Hopbush)** Drought tolerant  
 FOLIAGE: Evergreen. Willow-like bronzy/purple and green leaves. Foliage a deeper purple in full sun, more green in shade.  
 HEIGHT: Fast growing to 12'-15'.  
 FLOWER: Insignificant.  
 COMMENTS: Tolerates any soil, wind and heat.

***Rhaphiolepis indica* 'Majestic Beauty' (Indian Hawthorn)** Drought tolerant  
 FOLIAGE: Evergreen. Dark green, large leaves 4" long.  
 HEIGHT: Moderate growth to 15'.  
 FLOWER: Light pink, fragrant. Blooms late fall - late spring.  
 COMMENTS: Grow in full sun to light shade. Tolerates many soil types.

***Eriobotrya deflexa* (Bronze Loquat)** Moderately drought tolerant  
 FOLIAGE: Evergreen. Large leathery leaves. Bronze new growth turns med. green.  
 HEIGHT: Moderate to fast growth to 25'.  
 FLOWER: Creamy white, fragrant. Blooms Dec. - March.  
 COMMENTS: Grow in full sun or partial shade.

***Rhus lancea* (African Sumac)** Drought tolerant  
 FOLIAGE: Evergreen. Leaves dark green.  
 HEIGHT: Slow growing to 25'.  
 FLOWER: Inconspicuous.  
 FRUIT: Yellow or red, pea sized, berry like. Can be messy on concrete.  
 COMMENTS: Trees have an open, graceful, weeping shape. Tolerates heat, arid conditions, drought, & poor soil.

## REMEMBER TO ALWAYS PLANT THE "RIGHT TREE IN THE RIGHT PLACE"

Figure 20: Refusal Handout (page 1)



A  Sempra Energy company

San Diego Gas & Electric  
8315 Century Park Court Suite 22C  
San Diego, CA 92123-1550

**PLEASE READ THIS IMPORTANT INFORMATION  
NOTICE ABOUT REFUSING TO ALLOW TREE  
TRIMMING NEAR HIGH VOLTAGE POWERLINES**

The purpose of this notice is to inform property owners about the requirements of maintaining safe distances between vegetation and high voltage power lines. San Diego Gas & Electric Company's Vegetation Management Program, ensures the safety of the public by reducing the risks of fires and personal injuries from overgrown vegetation coming in contact or growing near electric facilities. SDG&E contractors will trim trees on your property that present a hazard, at no cost to you.

**It's The Law!**

State Law requires utility companies to maintain specific clearances (depending on the voltage running through the line) between electric power lines and all vegetation.

- **CPUC General Order 95, Rule 35-** requires SDG&E to maintain minimum clearances between vegetation and high voltage power lines. To minimize repeated trimming on a tree, utilities need to achieve at least one year of clearance.
- **Public Resource Code, Section 4293-** requires SDG&E to maintain minimum clearances, for fire prevention purposes, for those areas under the responsibility of the State California Department of Forestry and Fire Protection.
- **Cal OSHA, Title 8, Article 37-** States that no person shall come within 6' to 16' of energized high voltage power lines, and that no boom type of lifting or hoisting equipment shall come within 10' to 20', depending on the voltage of the high voltage power lines. This also means, there cannot be personnel or equipment in trees, such as Avocado or other fruit trees, six (6) feet or less from the high voltage power lines.

( over )

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Figure 21: Refusal Handout (page 2)

You Are Responsible!

Property owners have an obligation to allow SDG&E the ability to maintain its facilities. Penal Code, Section 420.1 states that no one can restrict another's right to access or maintain their easement. SDG&E has the right to access and maintain its facilities through direct or secondary easements, franchise and prescriptive rights, which include the right to trim and / or remove trees and the right of ingress / egress over private land to reach those facilities.

As the property owner, you must realize the liability you are accepting by placing personnel and property in danger by delaying any required tree trimming to be performed by SDG&E. In the event your tree(s) cause damage to SDG&E property, the property of others, or bodily injury, SDG&E will seek reimbursement for all damages directly from you. Any third parties who have sustained damages as a result of your denying the tree trimming activity to be performed, will be referred directly to you for recovery of their losses. If you have liability insurance coverage, SDG&E strongly suggests that you advise your insurance carrier that SDG&E has placed you on notice of a potentially hazardous condition created by your refusal to allow its contractors to trim the trees. You may wish to contact your attorney, and obtain any advice they may have regarding your liability exposure.

Should you continue to deny SDG&E access and the ability to maintain its facilities, SDG&E will provide an escort for its contractors to ensure proper exercise of its easement rights, to restore public safety around its facilities. This escort will be comprised of personnel from SDG&E Security Operations and/or the local law enforcement agency.

Please contact the SDG&E area representative to discuss any concerns, or to answer any questions that you might have.

**DO NOT ALLOW YOUR TREES TO BE THE CAUSE OF  
FIRES, INJURIES OR DEATHS! LET'S MAKE YOUR  
PROPERTY SAFE!**

**Figure 22: Major Woody Stem Exemption Form**

**Major Woody Stem (MWS) Exemption Form**

The following criteria shall be applied to any tree being considered for MWS exemption\*. Each condition below must exist for the tree to qualify for exemption. Exemption status shall be reviewed and documented annually by a qualified ISA Certified Arborist. MWS are those trees that meet the exemption criteria where clearances are within 4 feet but greater than 6 inches of primary conductor in the State Responsibility Area (SRA) of SDG&E territory; and within 18 inches but greater than 6 inches of primary conductor in the Local Responsibility Area (LRA) of SDG&E territory\*\*.

Inspector / Company \_\_\_\_\_ Date \_\_\_\_\_

Vegetation Management Area (VMA) \_\_\_\_\_

Tree ID \_\_\_\_\_

Species \_\_\_\_\_

Tree Address \_\_\_\_\_

Current Clearance to Primary Conductor \_\_\_\_\_

Date of digital photo \_\_\_\_\_

Please check box for each condition that applies:

- Tree is at least 10 inches diameter at breast height (DBH)
- Tree limb or trunk is at least 6 inches diameter at line height (DLH)
- Tree has been established for at least ten years.
- Tree is sufficiently rigid so as not to encroach within 6 inches of primary during wind or storm event.
- Tree is healthy, showing no signs of decay, disease, structural defect, or lean.
- Tree does not show signs of previous contact with the conductor.

\*MWS exemption applies only to primary voltages.  
 \*\*MWS exemption for SRA is an interim rule which expires December 31, 2008. The State Board of Forestry will then review the process to determine whether the exemption shall continue.

(3/07)

DOCUMENT OWNERSHIP

	Name	Date
ISSUED BY: Vegetation Management – Forester		
REVIEWED BY: Vegetation Management – System Forester		
APPROVED BY: Director of Construction Services		
Issued by: Vegetation Management – Program Manger		

VERSION HISTORY

Issued by:	Description of Change	Change type