

Utility Vegetation Management



Core Plans Training

UVM-02, 03

January 10-11, 2022

AGENDA: Day 1

PRESENTERS: (Day 1)

- Bill Kotteakos: *Sr. Mgr., Compliance*
- Dave Guzman: *Mgr., VM & Forestry*
- Dave Kanealii: *VM & Forestry*
- Eric Salazar: *QA, Compliance*
- Jon Pancoast: *Mgr., VM & Forestry*
- Ralph Oleta: *VM & Forestry*
- Seth Reid: *QC, Compliance*

AGENDA

UVM Core Plans Training (Day 1)

January 10, 2022 | 8:00 a.m. – 12:00 p.m. | Facilitator: Vee Sterling

<u>Time</u>	<u>Item</u>	<u>Presenter</u>
8:00 a.m. – 8:05 a.m.	Welcome / Introductions	I Vee Sterling
8:05 a.m. – 8:15 a.m.	Safety Moment: <i>“Field Safety Tips”</i>	Jonathan Silvas
8:15 a.m. – 8:20 a.m.	UVM Program and Document Structure	Eric Salazar
8:20 a.m. – 9:35 a.m.	Understanding the TVMP (UVM-02) R6	Brian Sprinkle Bill Kotteakos
9:35 a.m. – 9:45 a.m.	10 MIN. BREAK	
9:45 a.m. – 11:00 a.m.	Understanding the DVMP (UVM-03)	David Guzman



T&D Vegetation Mgmt.

Safety Moment

January 2022

Field Safety Tips Day 1

Tools to **EMPOWER** you to own your safety!



Energy for What's Ahead®



Your health & Safety is your best tool on the job.

Preparing for field work: **Set Up. Perform. Recover.**

Take responsibility of your own safety by making it the top priority of any job.

- Know the hazards on the job
- Reduce workplace stress
- Get up and move
- Pay attention to ergonomics
- Use safe lifting techniques
- Ensure employees wear personal protective equipment
- Encourage employees to speak up

Below are the behaviors to review and discuss to assist you with your health and safety



Office Safety Resources

Office Safety Team:

Glenn Sias, Principal Manager, Safety Programs & Compliance

805-338-2147

Nicholas Magana, SR Advisor, Office Safety & Ergonomic Program Mgr

626-677-0159

- **Bernice Crocchi, H&S Advisor** **818-404-2408**
 - **Office Safety/Ergonomic Programs Administrator**
 - PIV 1/2/3, Gateway, IBC, CS Covina
- **Johnathan Silvas, H&S Advisor** **626-422-3808**
 - **Facility/IT SME**
 - General Office 1 - 5, Alhambra Telecom, Washington DC, SF
- **William "Bill" Coutts, H&S Advisor** **951-970-7576**
 - **Incident Management SME**
 - **Rancho Cucamonga/Chino Office Building/Santa Ana R/O/Westminster (Office)**

Who do I call for Safety or
Ergonomic assistance?

[Edison Safety Office Employee
Advisor Support List](#)

E-Mail – OfficeSafety@sce.com

UVM Program and Document Structure

UVM-01	Program Manual	Program Manual
UVM-02	Transmission Vegetation Management Plan	Management Plans
UVM-03	Distribution Vegetation Management Plan	
UVM-04	Hazard Tree Management Plan	
UVM-05	Integrated Vegetation Management Plan (IVMP)	
UVM-06	LiDAR Reference Guide	
UVM-07	Post Work Verification and UVM Program Oversight	Implementing Procedures
UVM-08	Vegetation Threats	
UVM-09	Inspection Manual	
UVM-10	Manage UVM Work & Events	
UVM-11	Qualification of UVM Senior Specialists	
UVM-12	Employee & Contractor Training	
UVM-13	Safety Manual	
UVM-14A	Manage Refusal Events – TVMP/DVMP	
UVM-14B	Manage Refusal Events – HTMP	
UVM-15	Critical Business Records	
UVM-16	Program Glossary of Terms	
UVM-17	UVM Invoice Review and Approval	
UVM-18	Assessment and Removal of Dead and Dying Trees	
UVM-19	Targeted Environmental Mitigations	
UVM-20	Pole Brushing	

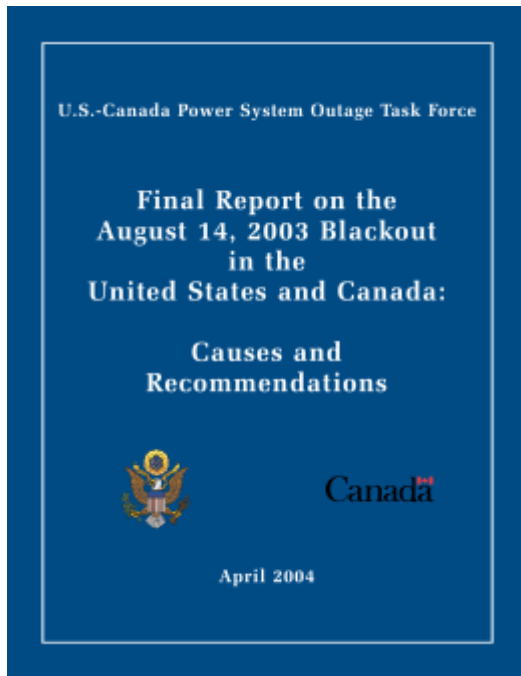
Understanding the TVMP

Transmission Vegetation Management Plan

UVM-02

August 14, 2003 Northeast Black Out

- 45 million people in the US, 10 million people in Canada lost power
- The event contributed to at least 11 deaths and cost an estimated **\$6 billion**.



<https://s.hdnux.com/photos/14/55/14/3330868/4/rawImage.jpg>

The Resulting Changes

Pre Black-Out

- Inconsistent oversight
- No standard of care
- Human error
- Inability to understand and account for line movement
- Lack of emergency communication protocols

Post Black-Out

- NERC/FERC
- FAC-003
- LiDAR
- Standardized and measurable practices
- Imminent threat procedures
- Million Dollar, per day, per tree, fines

What if WECC had a Blackout?



Western Interconnection Balancing Authorities (38)

- AESO - Alberta Electric System Operator
- AVA - Avista Corporation
- AZPS - Arizona Public Service Company
- BANC - Balancing Authority of Northern California
- BCHA - British Columbia Hydro Authority
- BPAT - Bonneville Power Administration - Transmission
- CFE - Comision Federal de Electricidad
- CHPD - PUD No. 1 of Chelan County
- CISO - California Independent System Operator
- DEAA - Arlington Valley, LLC
- DOPD - PUD No. 1 of Douglas County
- EPE - El Paso Electric Company
- GCPD - PUD No. 2 of Grant County
- GRID - Gridforce
- GRIF - Griffith Energy, LLC
- GRMA - Sun Devil Power Holdings, LLC
- GWA - NaturEner Power Watch, LLC
- HGMA - New Harquahala Generating Company, LLC
- IID - Imperial Irrigation District
- IPCO - Idaho Power Company
- LDWP - Los Angeles Department of Water and Power
- NEVP - Nevada Power Company
- NWMT - NorthWestern Energy
- PACE - PacifiCorp East
- PACW - PacifiCorp West
- PGE - Portland General Electric Company
- PNM - Public Service Company of New Mexico
- PSCo - Public Service Company of Colorado
- PSEI - Puget Sound Energy
- SCL - Seattle City Light
- SRP - Salt River Project
- TEPC - Tucson Electric Power Company
- TIDC - Turlock Irrigation District
- TPWR - City of Tacoma, Department of Public Utilities
- WACM - Western Area Power Administration, Colorado-Missouri Region
- WALC - Western Area Power Administration, Lower Colorado Region
- WAUW - Western Area Power Administration, Upper Great Plains West
- WWA - NaturEner Wind Watch, LLC

Overview of the TVMP

- **What is the purpose of a TVMP?**
- **Key Definitions**
- **Regulation Applicability**
 - Transmission & Generation Facilities (FAC-003-4)
 - Transmission Facilities (CPUC & CalFire)
- **Regulations**
 - FAC-003-4 Requirements R1 – R7
 - CPUC GO95 Rule 35
 - CalFire PRC 4292 & 4293
- **Sag/Sway & LiDAR**
- **Understanding Clearance Requirements**
 - Table 1 – High Fire
 - Table 2 – Non-High Fire
 - Restricted Areas
 - Clearance around Poles and Towers (PRC 4292)

What is the Purpose of a TVMP?

- **Every electric utility in North America subject to FAC-003 has implemented a Transmission Vegetation Management Plan (TVMP)**
- **SCE's TVMP is designed to:**
 - Maintain a reliable electric transmission system by using a Defense-in-Depth strategy to manage vegetation located on transmission Rights-Of-Way (ROW) and minimize encroachments from vegetation located adjacent to the ROW.
 - Comply with regulatory compliance requirements and improve the reliability of SCE's transmission system by establishing maintenance and inspection procedures.

Key Definitions You Need to Know and Understand

- Border Zone
- Compliance Clearance Distance (CCD)
- Grid Control Center (GCC)
- Grid Resiliency Clearance Distance (GRCD)
- Hazard Tree
- Line Sag
- Line Sway
- Minimum Vegetation Clearance Distances (MVCD)
- Maximum Line Sag
- Maximum Line Sway
- Right-of-Way (ROW)
- Subject Tree
- Trigger Clearance Distance (TCD)
- Utility Strike Zone
- Wire Security Zone
- Wire Zone

Border Zone/Wire Zone/Wire Security Zone

➤ **Border Zone**

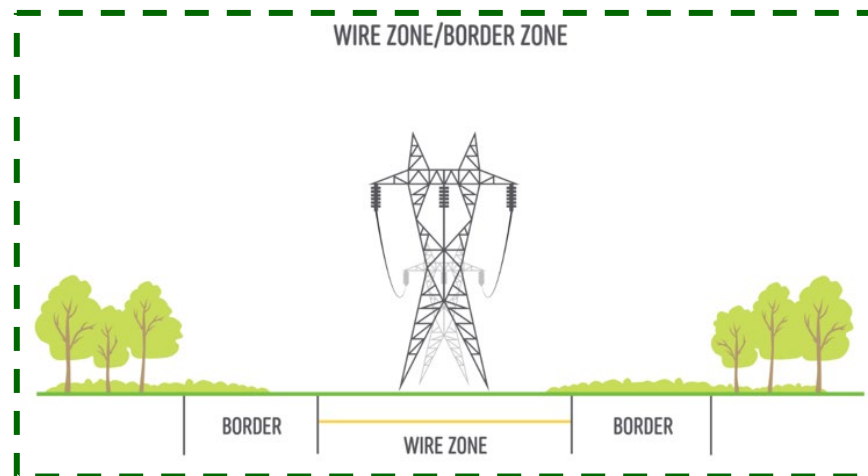
- A Clearance Zone area outside the Wire Zone from the edge of the defined ROW ground to sky.

➤ **Wire Zone**

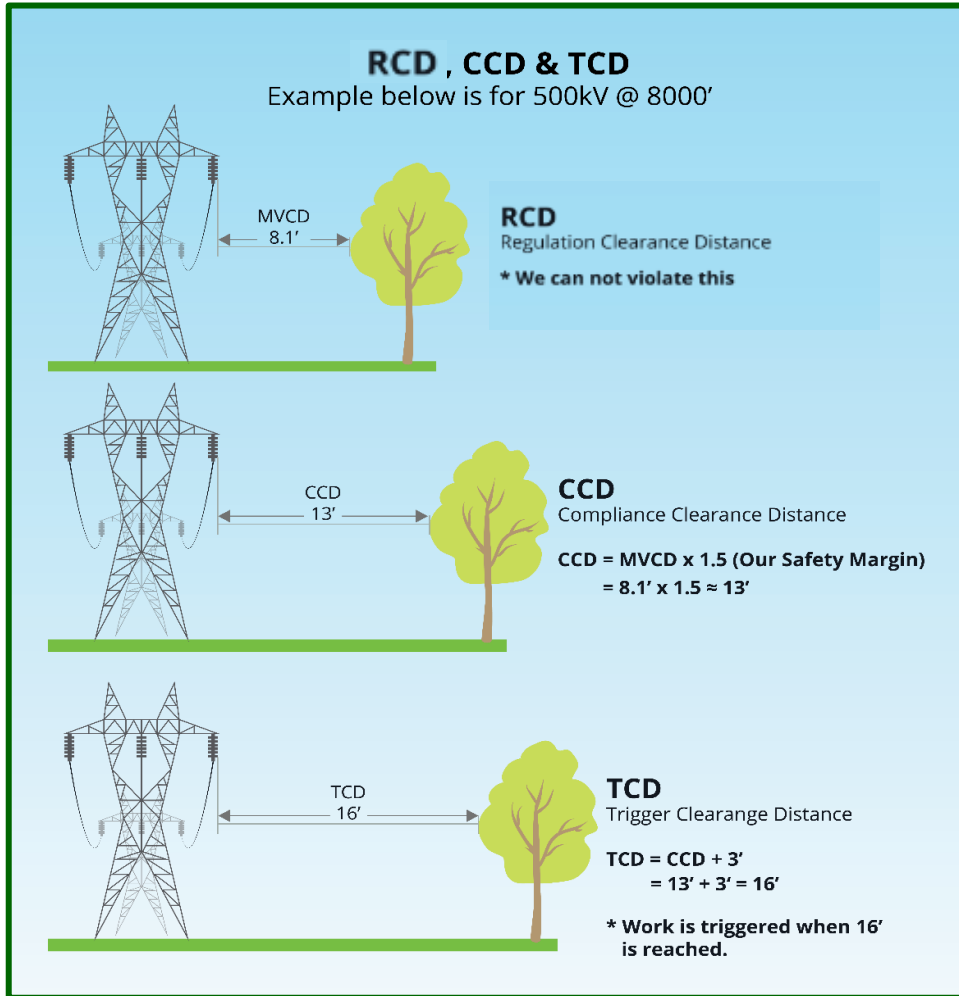
- Clearance Zone between the outside phases on a transmission tower or pole, plus the Wire Security Zone, from ground to sky.

➤ **Wire Security Zone**

- The area around the conductor into which the conductor can sag and sway.



TCD, CCD and Relationship to RCD

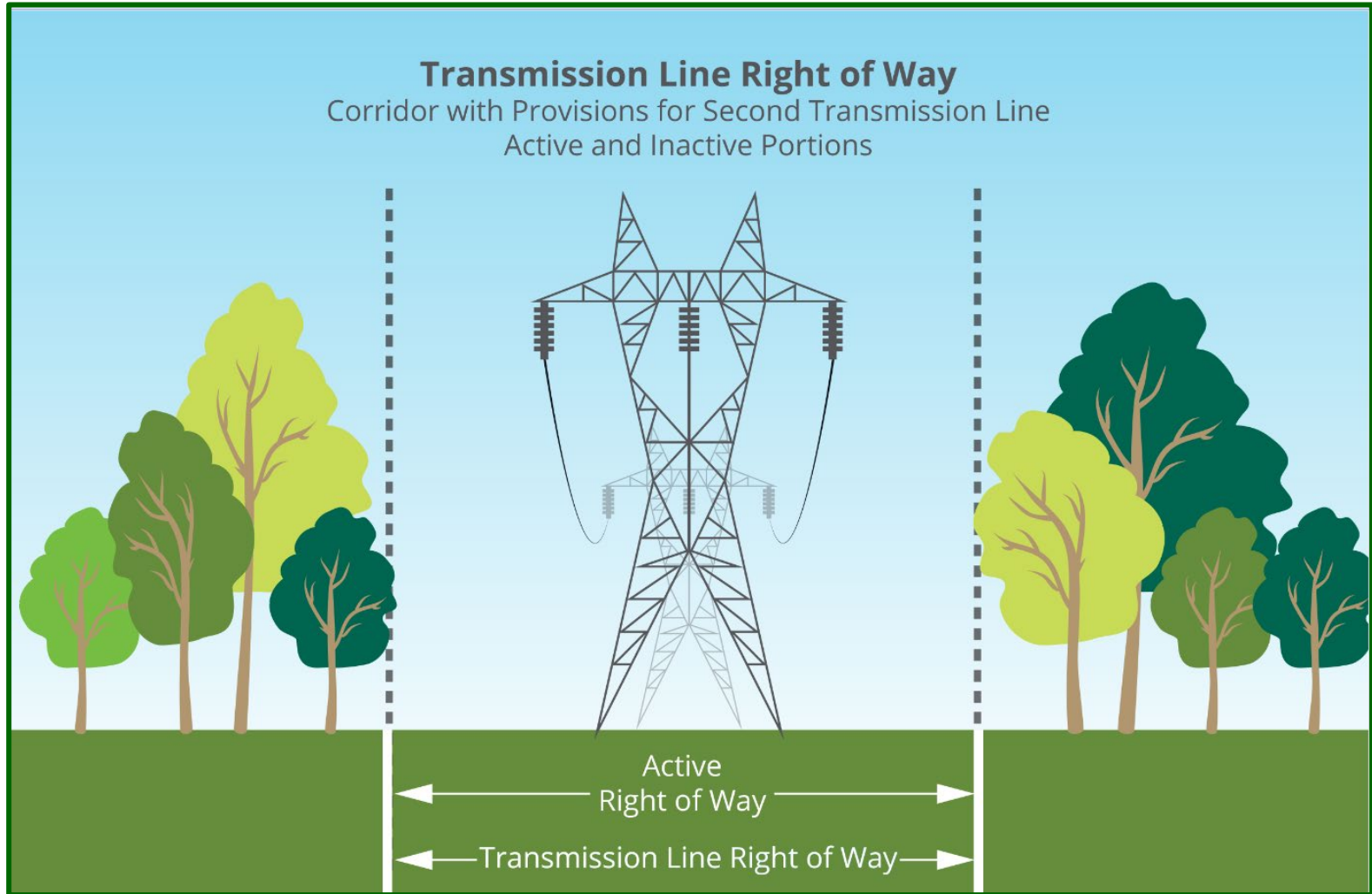


RCD = Regulation Clearance Distance

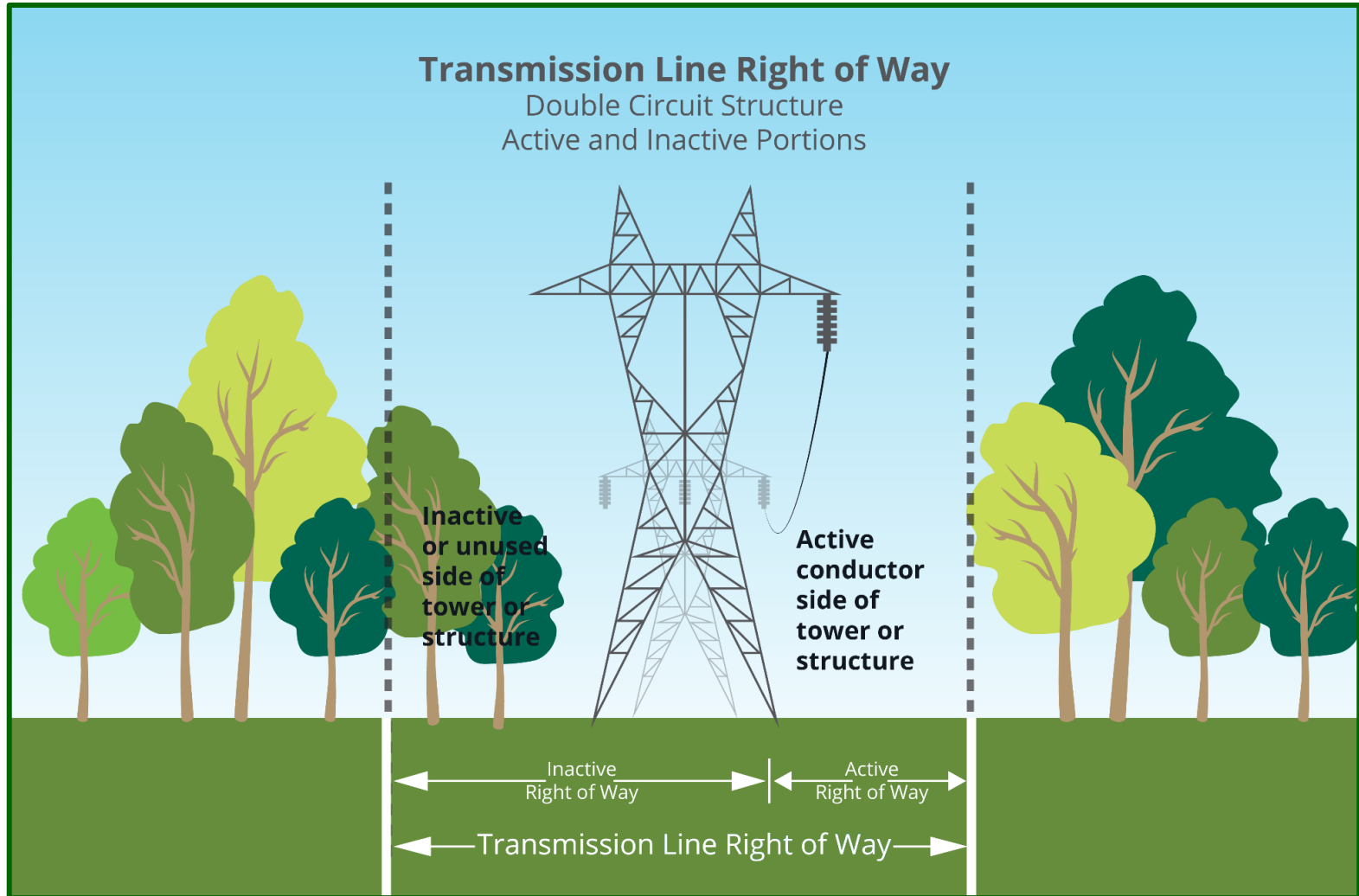
CCD = Compliance Clearance Distance

TCD = Trigger Clearance Distance

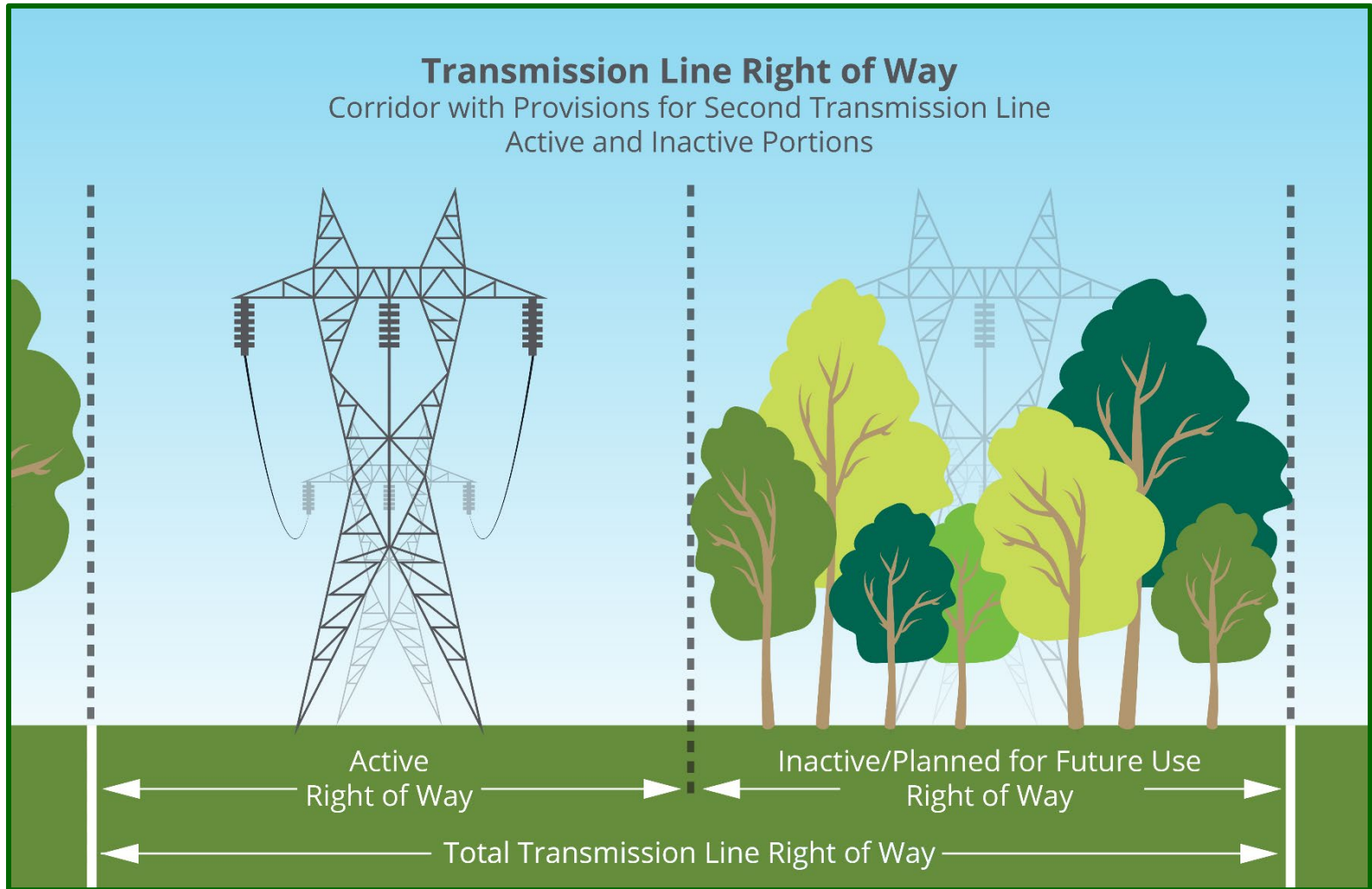
Right of Way (ROW)



Active vs Inactive ROW



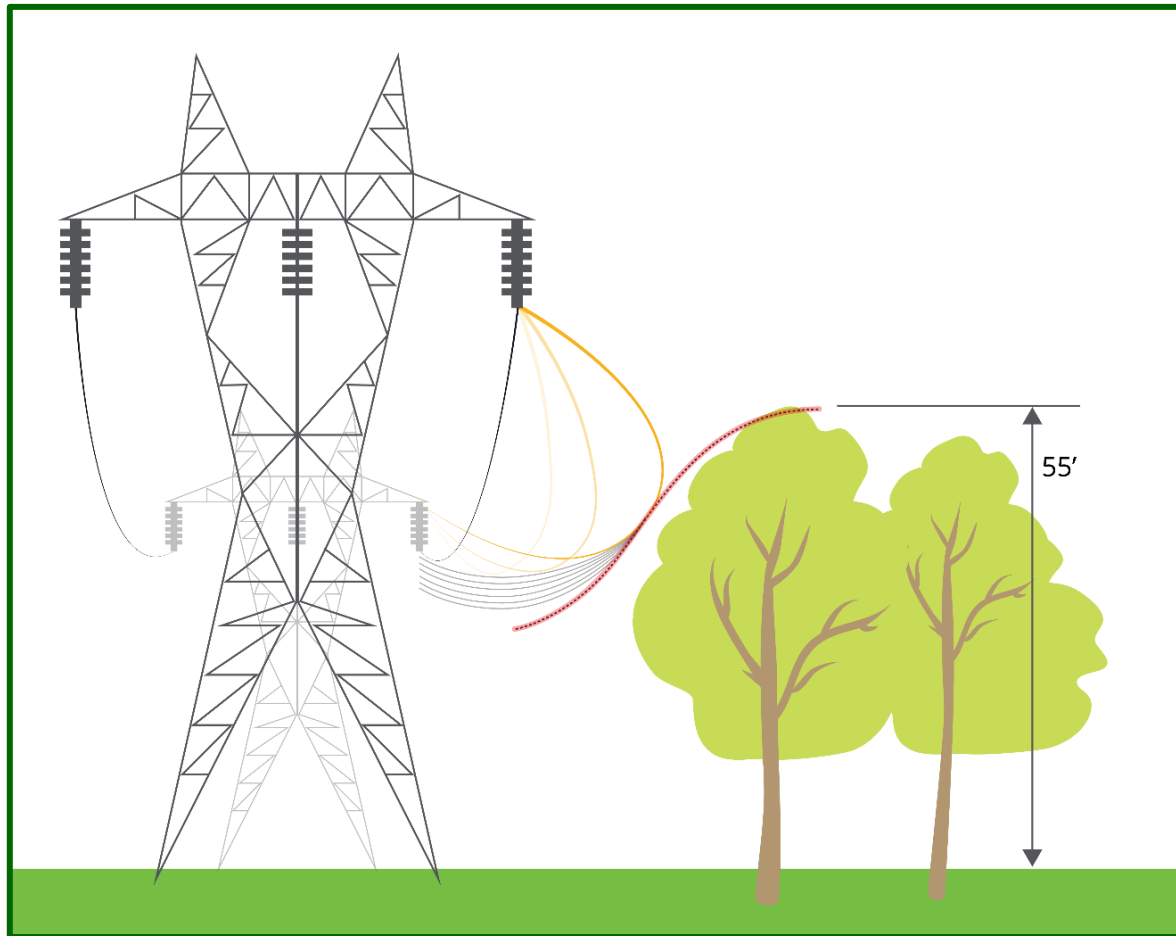
ROW vs Legal ROW



Utility Strike Zone

What is the Utility Strike Zone?

- *An area containing electric facilities from which a tree or a portion of a tree can directly strike electric facilities.*



TVMP Regulations

➤ **FAC-003-4**

- Developed as a result of the August 14, 2003 Northeast blackout
- Enforced by FERC, NERC and WECC and generally applicable to all transmission lines $\geq 200\text{kV}$ (can be sub 200kV in certain circumstances).

➤ **GO 95, Rule 35**

- Developed as a result an electrocution of an orchard worker in San Diego
- Enforced by the California Public Utility Commission (CPUC) and applicable to all energized lines (both T&D).

➤ **PRC 4292 and 4293**

- Developed as a provision of a model state fire code
- Enforced by the Cal Fire (CDF) and is applicable to all energized lines (both T&D) located in State Responsibility Areas (SRA)/Tier 2 and 3 Areas and during specified times of the year (Year-round for SCE).

Regulation Applicability: FAC-003-4

➤ **Transmission and Generation Facilities:**

SCE is a NERC registered Transmission Owner and Generator Owner.

- The TVMP only applies to transmission lines operated at 200kV and above or operated below 200kV that are an element of a Major Western Electricity Coordinating Council (WECC) Transfer Path or an element of an Interconnection Reliability Operating Limit (IROL).

➤ **Generation Facilities:**

- Those lines as defined below including, but not limited to, those that cross lands owned by federal, state, provincial, public, private, or tribal entities. Overhead transmission lines that: 1) extend greater than one mile or 1.609 kilometers beyond the fenced area of the generating station switchyard to the point of interconnection with a Transmission Owner's Facility, or; 2) do not have a clear line of sight from the generating station switchyard fence to the point of interconnection with a Transmission Owner's Facility, and are:
 - a) Operated at 200kV or higher; or
 - b) Operated below 200kV; *and*
 - c) Identified as an element of a Major WECC Transfer Path or an element of an IROL.

FAC-003-4 Requirements 1-7 (High-Level)

R1: Shall manage vegetation to prevent encroachments into the Minimum Vegetation Clearance Distance (MVCD) of its applicable lines, which are an element of an IROL or an element of a Major WECC Transfer Path.

R2: Shall manage vegetation to prevent encroachments into the MVCD of its applicable lines, which are not an element of an IROL or an element of a Major WECC Transfer Path.

R3: Shall have documented maintenance strategies or procedures or processes or specifications it uses to prevent the encroachment of vegetation into the MVCD of its applicable lines.

R4: Shall notify the control center holding switching authority for the line when the existence of a vegetation condition that is likely to cause a fault at any moment has been confirmed, without any intentional delay (Note: SCE uses GCC and switching center).

FAC-003-4 Requirements 1-7 (High-Level-cont'd)

R5: Shall take corrective action to ensure continued vegetation management to prevent encroachments into the MVCD when constrained from performing vegetation work on an applicable line.

R6: Shall perform a Vegetation Inspection of 100% of its applicable transmission lines at least once per calendar year and with no more than 18 calendar months between inspections on the same ROW.

- While preparing for the 2021 WECC Audit, SCE identified some circuits that did not meet R6 requirements. As a result, additional annual R6 compliance training is provided to RPPM scheduling personnel.

R7: Shall complete 100% of its annual vegetation work plan of applicable lines to ensure no vegetation encroachments occur within the MVCD.

TVMP Clearance Requirements

TVMP Table 1 – Fire Risk Area Clearance

All Elevations in Fire Areas					
FAC-003-4, PRC 4293 and GO 95, Rule 35, Extreme and Very High Fire Areas (Case 14)					
Nominal Voltage ¹¹	Wire Zone/Sag - Clearance Distance at Time of Maintenance GRCD-A ¹²	Border Zone/Sway - Clearance Distance at Time of Maintenance GRCD-B ¹³	WZ / BZ Clearance Distance that Triggers Work TCD	WZ / BZ Clearance Distance to be Maintained for Compliance CCD	Regulation Clearance Distance RCD
500kV	30'	Clear to the greater of the following: (1) Defined ROW Boundaries or; (2) Maximum Blowout plus 30'	18'	15'	10.0'
230kV	30'		18'	15'	10.0'
161kV	30'		18'	15'	10.0'
115kV	30'		18'	15'	10.0'
69kV	12'	Clear to the greater of the following: (1) Defined ROW Boundaries or; (2) Maximum Blowout plus 12'	9'	6'	4.0'

Table 1: Clearance Distance –Fire Areas, FAC-003-4, PRC 4293, Rule 35 (Case 14)

The clearances in Table 1 must take into consideration maximum sag and sway under all Rated Electrical Operating Conditions and vegetation movement for lines subject to NERC Reliability Standard FAC-003-4.

Note: Table 1 last update is from TVMP Revision 5.

¹¹ 161kV, 115kV, and 69kV Major WECC Transfer Path or IROL only. Reference Attachment A
¹² If GRCD-A recommended clearances cannot be achieved, required maintenance shall ensure RCD for 18 months
¹³ If GRCD-B recommended clearance (2) cannot be achieved, required maintenance shall ensure RCD for 18 months

TVMP Table 2 – Non-Fire Risk Clearance

Non-Fire Areas -Based on Elevations up to 8000' in					
FAC-003-4 and GO95 Rule 35 (Case 13)					
Nominal Voltage ¹⁴	Wire Zone/Sag - Clearance Distance at Time of Maintenance GRCD-A ^{15 16 17}	Border Zone/Sway - Clearance Distance at Time of Maintenance GRCD-B ¹⁸	WZ / BZ Clearance Distance that Triggers Work TCD	WZ / BZ Clearance Distance to be Maintained for Compliance CCD	Regulation Clearance Distance RCD
500kV	30'	Clear to the greater of the following: (1) Defined ROW Boundaries or; (2) Maximum Blowout plus 30'	18'	15'	9.6'
230kV	30'		10'	7'	4.7'
161kV	10'	Clear to the greater of the following: (1) Defined ROW Boundaries or; (2) Maximum Blowout plus 10'	8'	5'	3.2'
115kV	10'		7'	4'	2.2'
69kV	6'	Clear to the greater of the following: (1) Defined ROW Boundaries or; (2) Maximum Blowout plus 6'	n/a	3'	1.5'

Table 2: Clearance Distances – Non-Fire Areas, FAC-003-4 and GO95 Rule 35 (Case 13)

The clearances in Table 2 must take into consideration maximum sag and sway under all Rated Electrical Operating Conditions and vegetation movement for lines subject to NERC Reliability Standard FAC-003-4.

Note: Table 1 last update is from TVMP Revision 5.

¹⁴ 161kV, 115kV, and 69kV Major WECC Transfer Path or IROL only. Reference Attachment A

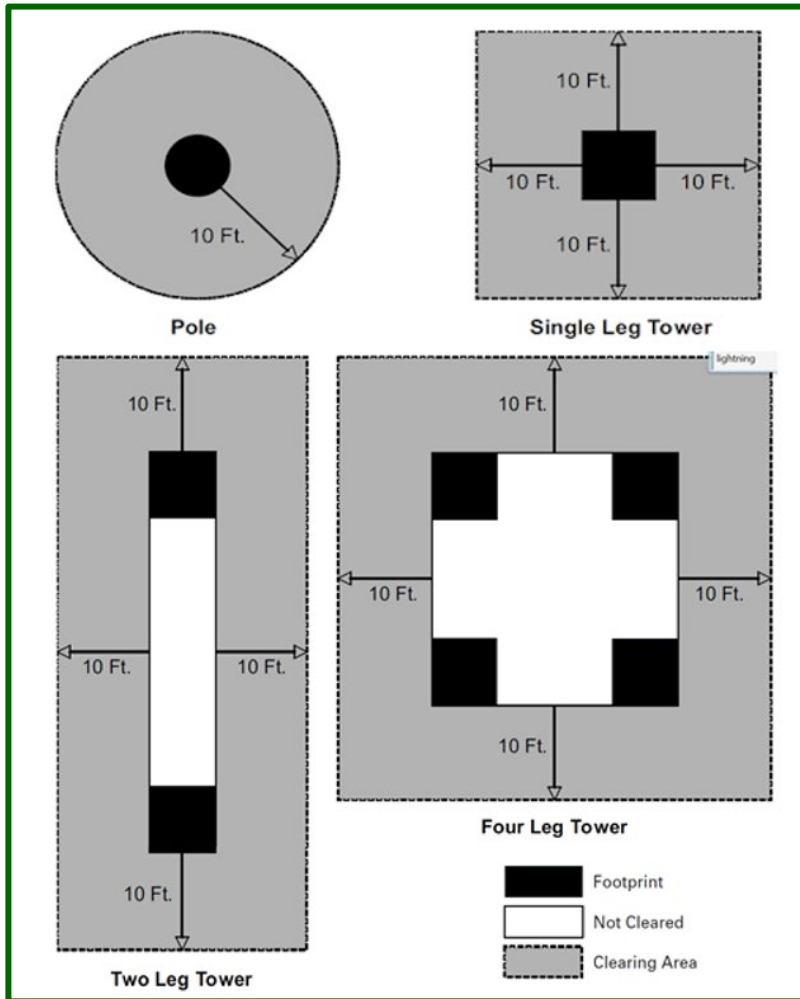
¹⁵ GO95 Rule 35 Appendix E Case 13 (non-Fire Areas) recommends 10' clearance for 110kV to 300kV

¹⁶ Although GO95 Rule 35 Appendix E Case 13 (non-Fire Areas) recommends 4' clearance for 2.4kV to 72kV, SCE is adopting a 6' clearance

¹⁷ If GRCD-A recommended clearances cannot be achieved, required maintenance shall ensure RCD for 18 months

¹⁸ If GRCD-B recommended clearance (2) cannot be achieved, required maintenance shall ensure RCD for 18 months

Clearance Requirements around Poles and Towers



PRC 4292

Restricted Areas / Constraints

When conditions such as crops, orchards, environmentally sensitive areas or lack of easements prevent UVM requirements of Tables 1 or 2 to be achieved, the following then applies:

- **GRCD-A or GRCD-B** can be modified but must be documented to address the specific circumstances or restrictions at that location.
- **CCD** must always be maintained.



Picture by Seth Reid



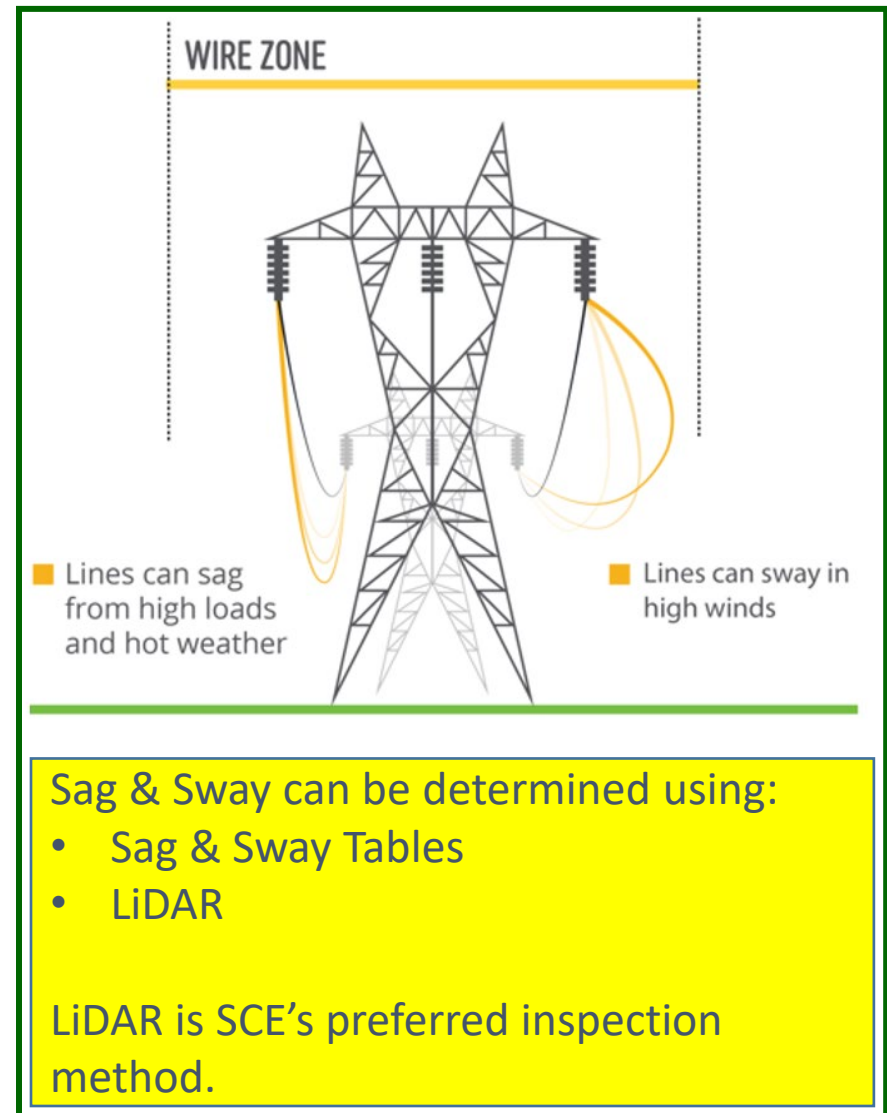
Picture by Seth Reid

SAG and SWAY

Conductor Dynamics – Sag & Sway

➤ SCE shall have documented maintenance strategies or procedures or processes or specifications it uses to prevent the encroachment of vegetation into the RCD that accounts for the following:

- Movement of line conductors (sag and sway) under their Rating and all Rated Electrical Operating Conditions (See Figure 1).
- Inter-relationships between vegetation growth rates, vegetation control methods, and inspection frequency.



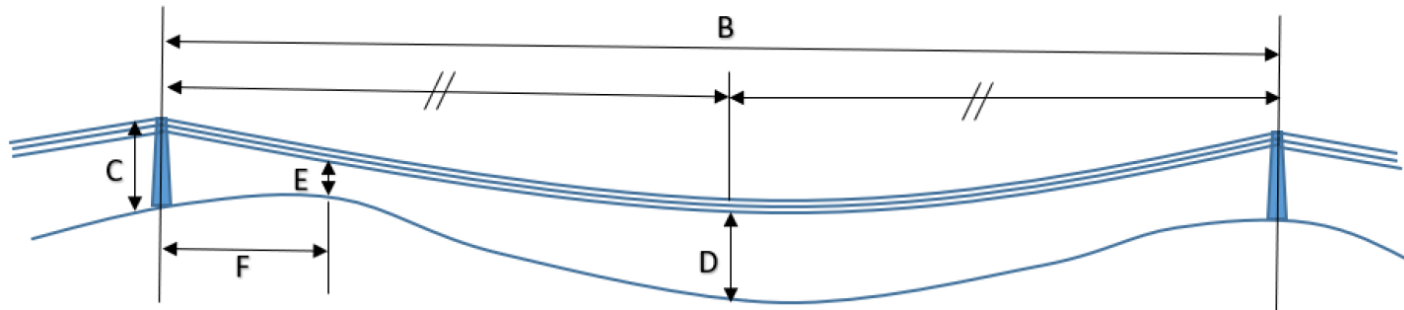
Sag and Sway

What factors influence Sag and Sway?

- Structure height
- Conductor size
- Span length
- Normal and emergency ratings of the line (loading)
- Height of conductor at center span
- Environmental factors – e.g., ambient temperature, wind, ice loading

Conductor Sag / GRCD-A Clearance

	B	C	D	E	F	G
Tower No	Distance BTW Towers	Tower Height	"Conductor to Ground" Mid Span Clearance	"Conductor to Ground" Minimum Clearance (MinC)	Distance MinC from prior Tower	Blowout (wire zone)
M1-T1						
M1-T2						



Refer to Sag & Sway Tables for values B through F

GRCD-A
115kV – 500kV = 30'
69kV = 12'

INSTRUCTIONS

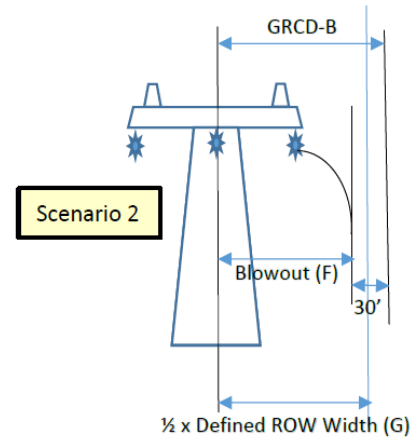
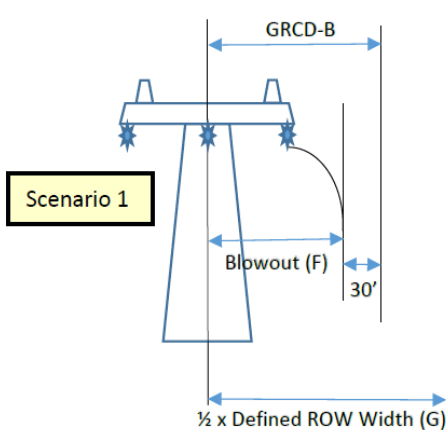
Maximum Tree Height (MTH) = (Conductor to Ground Minimum Clearance) – (Wire Zone/Sag - Clearance Distance at Time of Maintenance)

$$\text{MTH} = (E) - (\text{GRCD-A})$$

All trees directly beneath the conductors and within the calculated "sway" distance shall be pruned to the MTH or less.
Fast growing tree species should be removed

Conductor Sway / GRCD-B Clearance

	B	C	D	E	F	G
Tower No Span from STR	Distance BTW Towers	Tower Height	"Conductor to Ground" Mid Span Clearance	"Conductor to Ground" Minimum Clearance (MinC)	Distance MinC from prior Tower	Blowout (wire zone)
M1-T1						
M1-T2						



Refer to Sag & Sway Tables for value G

INSTRUCTIONS

Scenario 1. When $GRCD-B \leq$ Defined ROW Width, then manage vegetation to ROW Width Boundary

Scenario 2. When $GRCD-B >$ Defined ROW Width, then manage vegetation to GRCD-B distance. The following may be required for scenario 2:

- Permits may be required to prune distances beyond Defined ROW Width boundary
- Although GRCD-B clearance is recommended, Blowout plus RCD + 1 years growth is supported by the Regulations
- A Refusal Event is when Blowout + RCD plus 1 years growth cannot be achieved (refer to UVM-02 for RCD clearance)
- Customer refusals shall be processed in accordance with UVM-014

GRCD-B
115kV – 500kV = Blowout + 30'
69kV = Blowout + 12'

NOTE: All measurements are taken from the centerline of the tower

Sag and Sway Tables

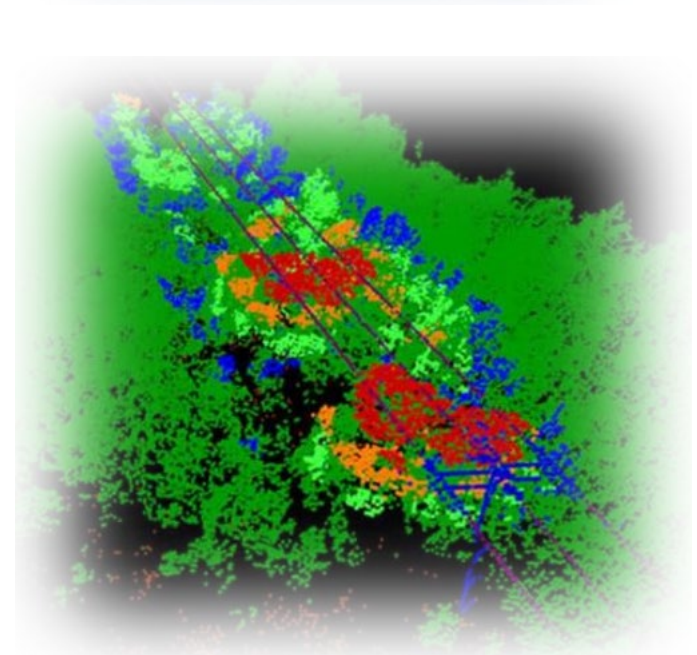
A	B	C	D	E	F	G
TOWER NO SPAN FROM STR	DISTANCE BTW TOWERS	TOWER HEIGHT	CONDUCTOR TO GROUND MID SPAN CLEARANCE	CONDUCTOR TO GROUND MINIMUM CLEARANCE	DISTANCE TO MINIMUM CLEARANCE FROM STRUCTURE (FT)	BLOWOUT (FT)
Mira Loma-Serrano No. 1						
Mira Loma Substation	601	134	82	82	286	46
M0-T1	1202	198	180	94	403	46
M0-T2	704	257	237	155	484	37
M0-T3	1676	257	165	56	1013	57
M0-T4	1092	214	183	77	520	35
M0-T5	1383	216	43	39	790	43
M1-T1	1290	192	41	38	670	42
M1-T2	1431	200	29	28	750	46
M1-T3	1064	196	39	37	669	36
M1-T4	637	161	45	45	338	33
M2-T1	691	131	118	41	337	38
M2-T2	956	137	38	35	524	43
M2-T3	885	144	123	40	434	42
M2-T4	806	149	132	43	367	40
M2-T5	884	155	130	42	428	42
M2-T6	931	158	38	37	510	37
M3-T1	549	169	54	52	322	27
M3-T2	1076	170	148	35	442	37
M3-T3	1304	196	32	32	651	48
M3-T4	1438	177	41	39	728	45
M3-T5	1547	216	38	38	801	50
M4-T1	1226	205	55	55	639	40
M4-T2	1371	204	35	34	740	45
M4-T3	1139	189	44	42	610	38
M4-T4	1096	190	46	46	610	37
M5-T1	1252	190	41	39	691	41
M5-T2	1366	202	35	32	891	45
M5-T3	1145	196	37	36	710	43
M5-T4	835	149	155	54	261	36
M5-T5	1398	204	153	37	680	46

***Note:** Sag & Sway Tables are **version controlled**. Make sure you are using the latest version. Sag and sway tables are built using LiDAR data.

LiDAR

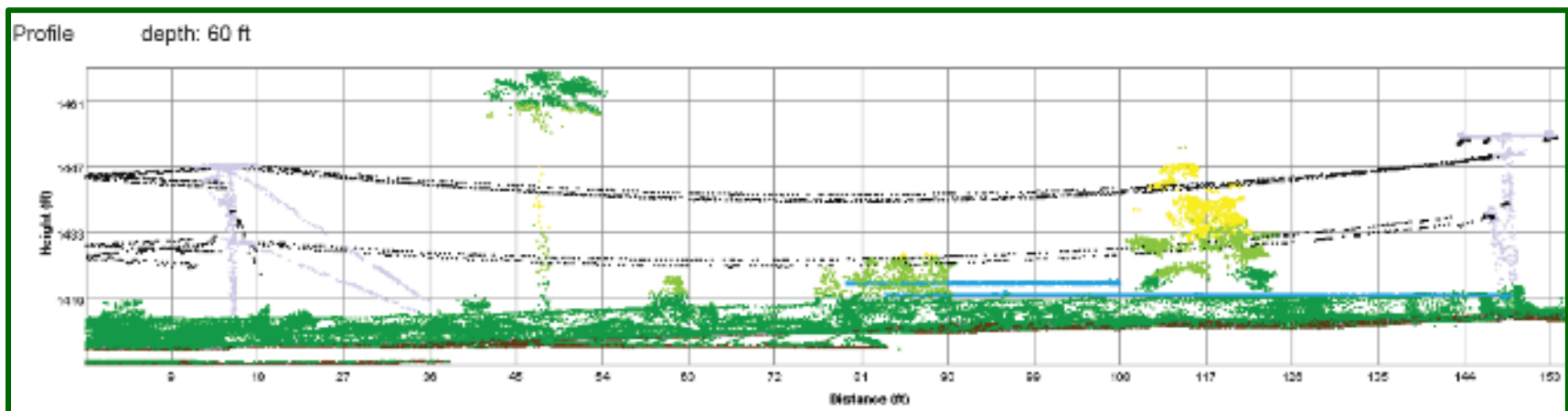
What is LiDAR?

LiDAR stands for **Light Detection and Ranging**, is a remote sensing method that uses light in the form of a pulsed lasers to measure ranges (variable distances) to the Earth. These light pulses—combined with other data recorded by the airborne system— generate precise, three-dimensional information about the shape of the Earth and its surface characteristics.

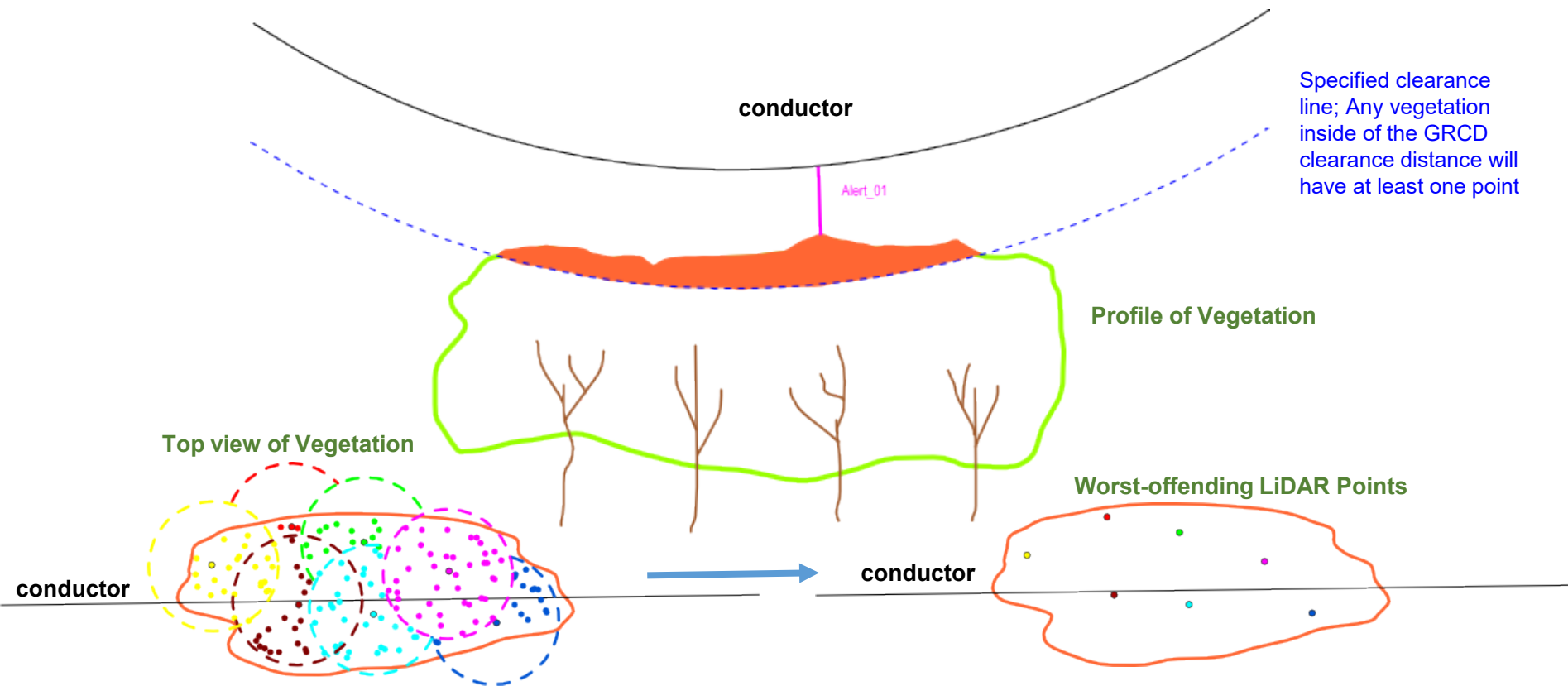


Why Use LiDAR for UVM Inspections?

- Provide exact radial clearances between vegetation and conductors (Grow-in).
- Determine whether vegetation can strike or fall over the powerlines (Fall-in).
- See what can't be seen with the naked eye to protect conductors under worst-case scenarios.
- LiDAR data is based on Engineering specifications. Vegetation is measured against conductors under maximum sag (maximum line load + maximum conductor temperature) or maximum (wind)sway conditions.



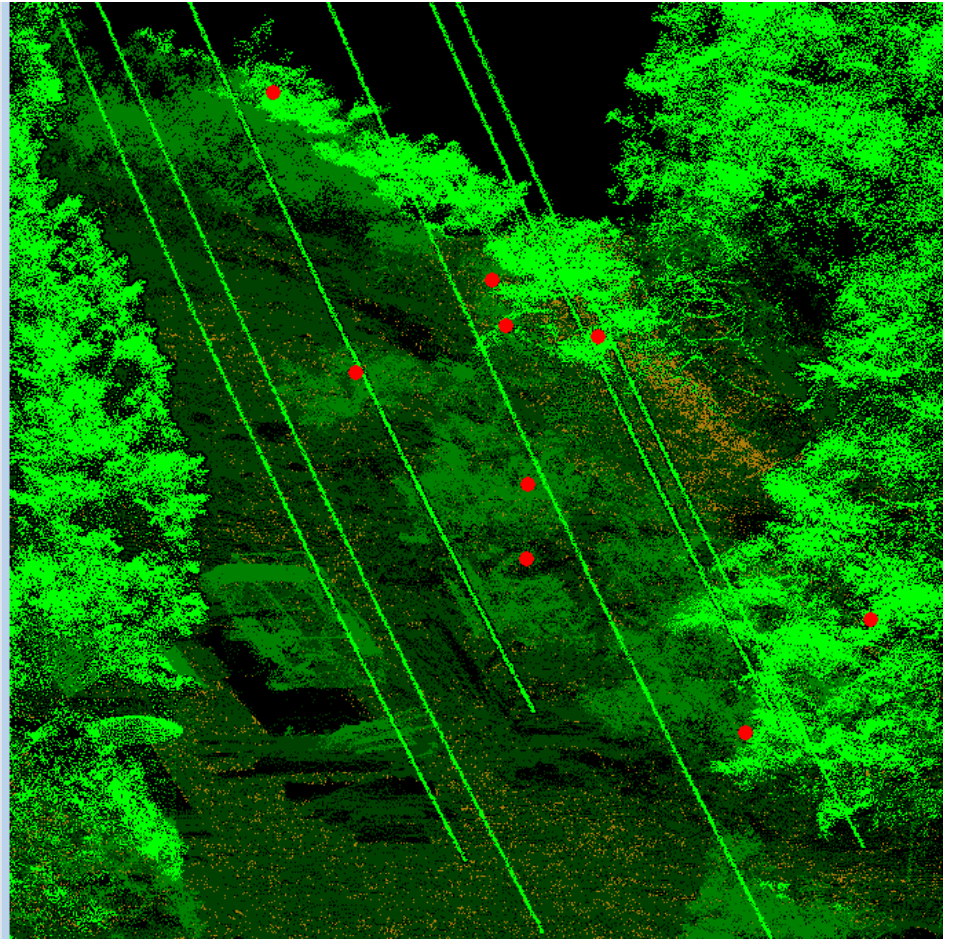
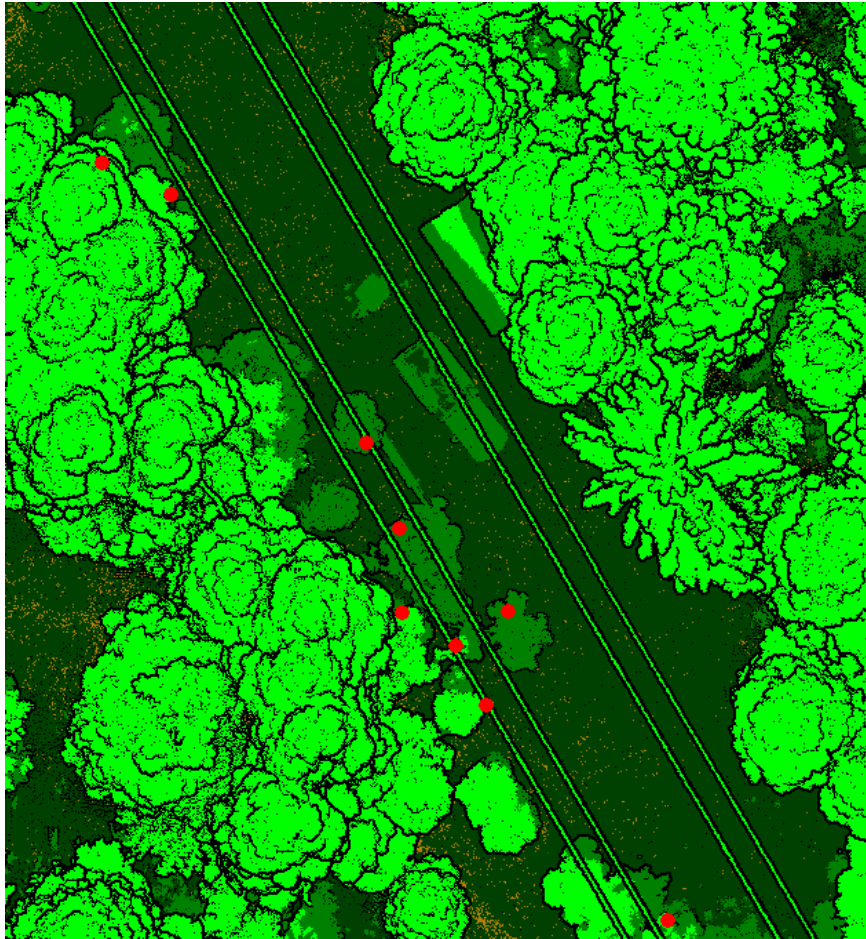
LiDAR Point Clustering



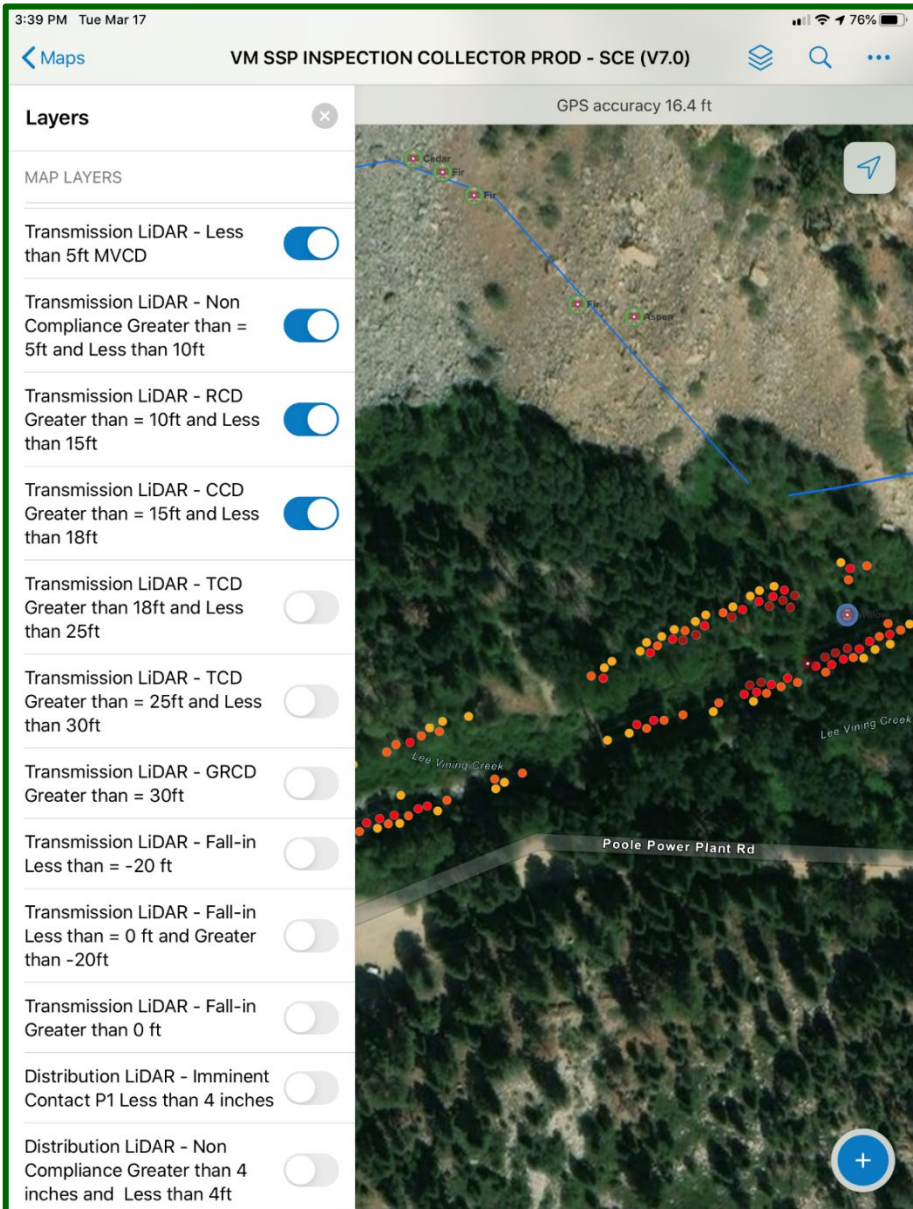
A procedure of “merging” individual LiDAR hits into clusters which keeps the worst-offending LiDAR points in an area and reduces the number of LiDAR points that need to be investigated.

How do we use the LiDAR data?

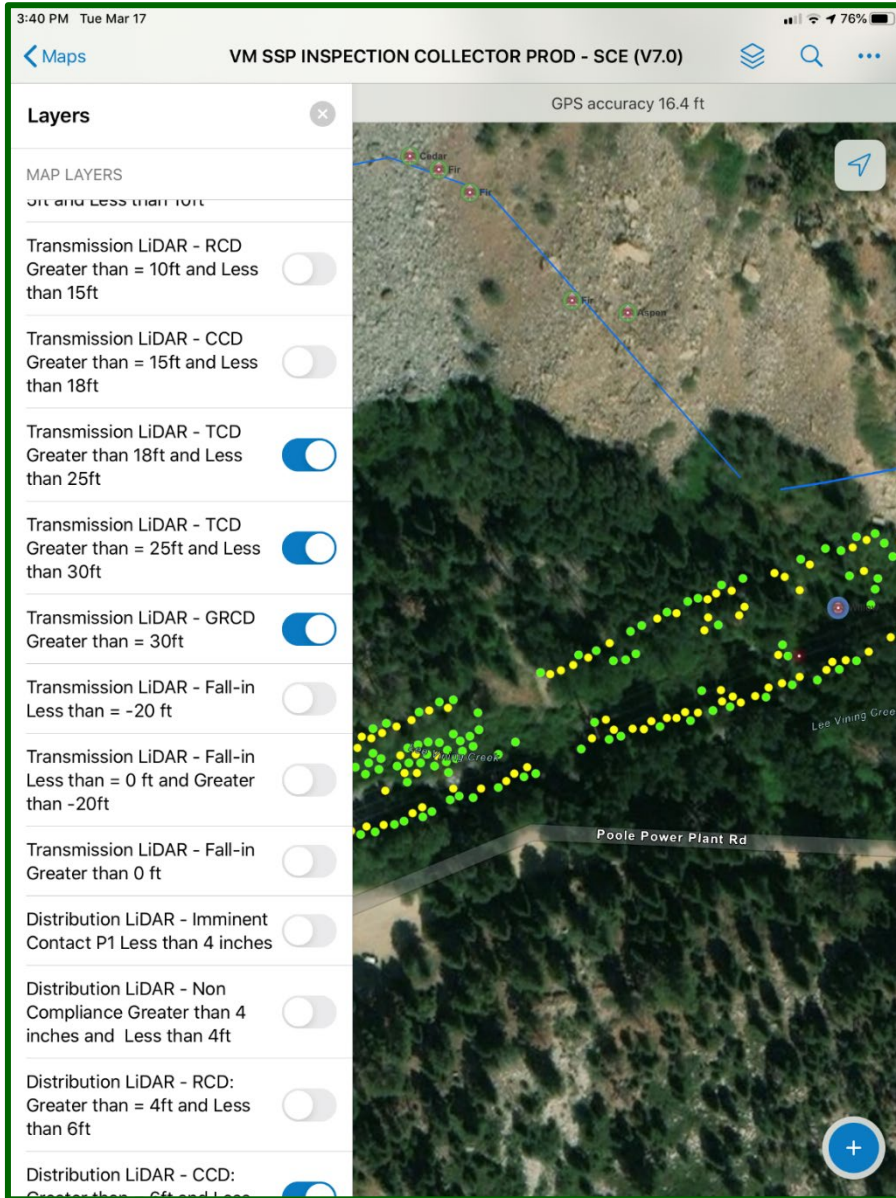
- A LiDAR Point is a series of data associated with a vegetation point in a tree/shrub.
- We distill the modeled LiDAR data to keep only the worst-offending points (maximum sag or maximum sway) within a 10 ft radius.
- We assign a status based on the radial clearance for grow-in conditions and the fall over distance for fall-in conditions.
- We perform emergency inspections and trimming on all Transmission LiDAR Points near or out of compliance under as-surveyed conditions.
- We upload the modeled data into Collector and create a photomosaic heat map to support our inspections; vegetation data is recorded directly in Collector/Survey123.
- Tree Vendors achieve compliance clearances based on LiDAR data clearances, not based on visual clearance in the field; TT cannot see LiDAR data in VM software



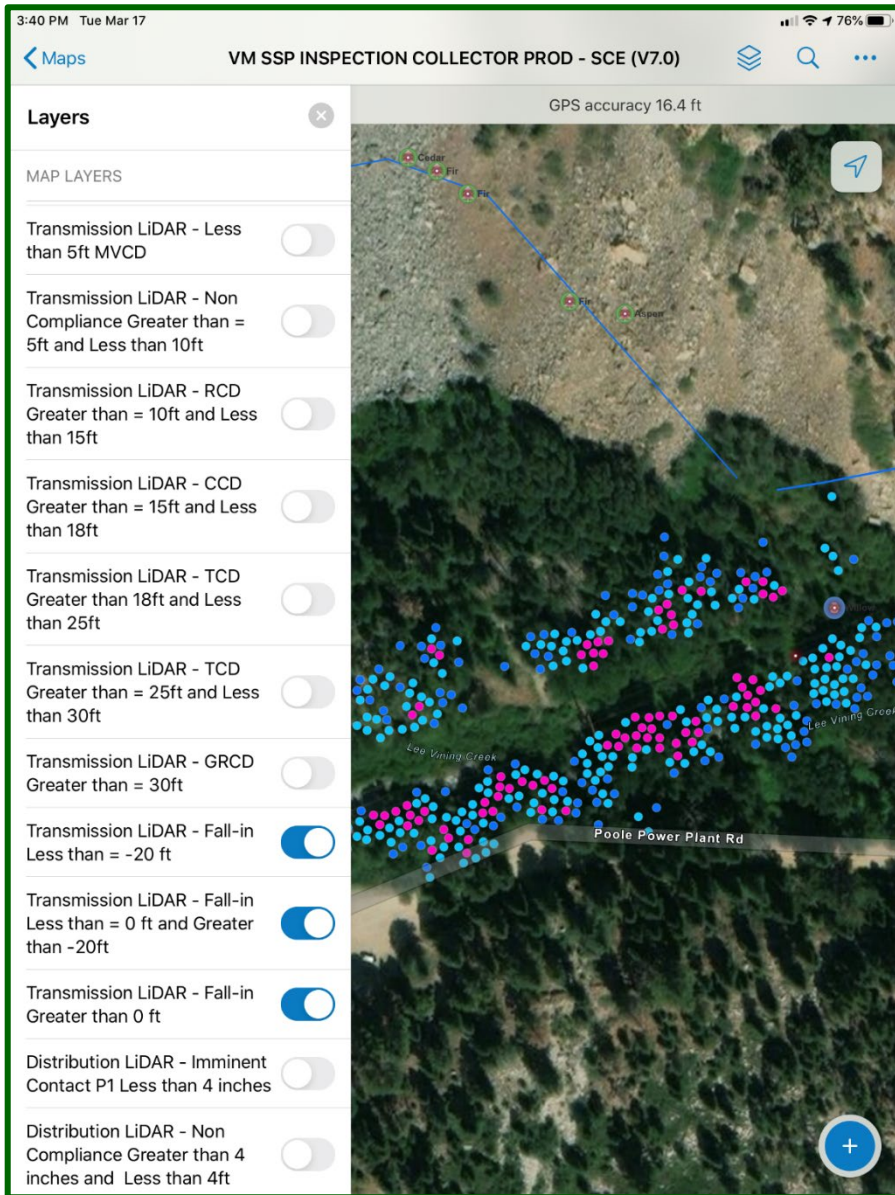
P1 Vegetation @ Sawcreek Pit Rd



- “New” 2021 LiDAR only needs to be patrolled where LPC exist.
- Older LiDAR (2019-2020) needs to be patrolled from sub to sub, but LiDAR will show you where problems exist.
 - All vegetation will be evaluated for growth since the acquisition date. Sag/Sway will remain constant.
- All trees inside of TCD (18 ft HFRA, 10 ft NonHFRA) under Sag/Sway conditions must be listed for compliance work regardless of tree species.
 - Low-growing grasses/bushes that cannot encroach RCD under sag/sway conditions, should be inventoried but not trimmed.



- All trees outside of TCD will need to be assessed for current growth conditions to determine if the tree will encroach the CCD before the next inspection cycle.
 - If a tree can encroach the CCD in the next 18 months, list the tree for work
- While we plan to inspect on an annual basis, the inspection must consider that inspections can be up to 18 months apart (or up to two growing seasons) based on the NERC-Regulation FAC-003-4.



- All fall-in trees **ON THE DESIGNATED ROW, NEED TO BE MITIGATED.**
 - A tree on the designated ROW that fails and causes a momentary outage or sustained outage is considered a Category 2 Outage and the utility is held liable
 - 500 kv = 200 ft (100 ft from centerline)
 - 220 kv= 150 ft (75 from centerline)
 - 115 kv= 100 ft? (50 ft from centerline)
 - 66 kv= 30 ft? (15 from centerline)
- If a tree can fall within the MVCD and it is located on the ROW, then we need to mitigate it by removal or directionally pruning/topping the tree so it cannot fall within the MVCD.
- All fall-in trees off the ROW will correspond with Heavy Tree inspections. Obvious hazard trees (ex. Dead and leaning) should be mitigated regardless.

Maximum Tree Height

- Maximum Tree Height (MTH) = Conductor Height - Grid Resiliency Clearance Distance (30 ft)
- ALL TREES IDENTIFIED FOR WORK MUST HAVE MTH IN THE COMMENTS!
(Tree crews cannot see LiDAR)
- Only trees requiring work need MTH recorded (both grow-in and fall-in trees)

Example 1

Height of Conductor: 35 ft

MTH: $35 \text{ ft} - 30 \text{ ft} = 5 \text{ ft}$

Example 2

Height of Conductor: 72 ft

MTH: $72 \text{ ft} - 30 \text{ ft} = 42 \text{ ft}$

Example 3

Height of Conductor: 26 ft

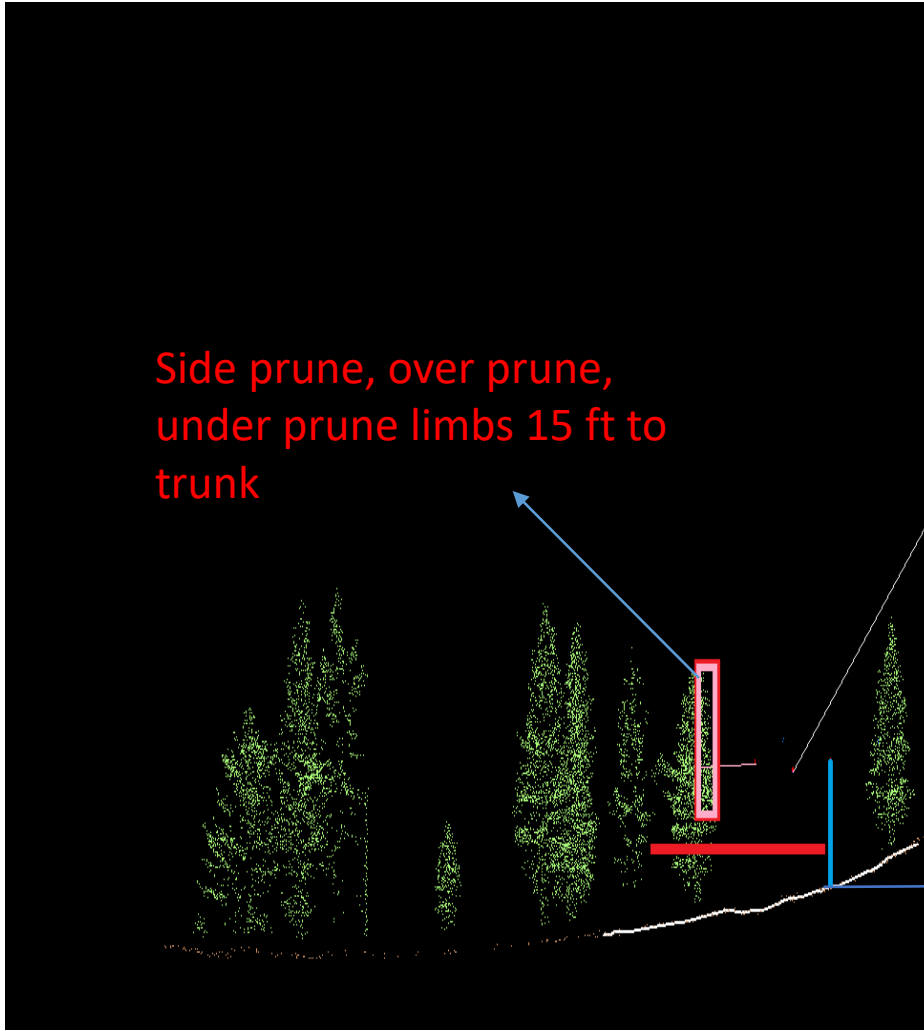
MTH: $26 \text{ ft} - 30 \text{ ft} = -4 \text{ ft}$

Action: Tree must be removed or mitigation documentation needs to be provided (e.g. Topper Program)



What if a side trim can achieve GRCD?

Side prune, over prune,
under prune limbs 15 ft to
trunk



- If a tree can be successfully side-pruned to TCD, that can be an appropriate prescription when necessary (Ex. Pines that can be side trimmed to trunk).
- Inspectors must provide sufficient notes in the tree comments so crews know how far to side prune (EX. Side prune, Over prune, Under prune limbs 15 ft to trunk)
- It is always preferable to cut a tree to MTH or remove it.

Topping a pine at MTH will
make it 10 ft tall and
eliminate both grow-in and
fall-in risk

Vegetation Work Rules of Thumb:

- Prescribe removals or heavy trims to the MTH in order to assure work prescription clearances achieve GRCD based on maximum line sag and maximum line sway
- Always include MTH regardless of planned work action
- If GRCD clearances are not permitted or achievable, a tree must be pruned at a minimum to TCD clearances (18 ft) in HFRA or 15 ft in NonHFRA based on sag/sway conditions.
 - EX. HFRA; Height of Conductor = 60 ft; MTH = 30 ft; Owner says no! Reduce MTH by +12 ft to get to TCD clearance. Adjusted MTH = 42 ft
 - EX. NonHFRA; Height of Conductor = 60 ft; MTH = 30 ft; Owner says no! Reduce MTH by +15 ft to get to TCD clearance. Adjusted MTH = 45 ft
- If MTH is not achievable, but an adjusted MTH is achievable, record both MTH and Adjusted MTH in the tree comments

What If Agencies/Homeowners Won't Let Crews Achieve MTH or adjusted MTH clearances?

- A tree must be pruned at a minimum to TCD clearances under sag/sway conditions to be in conformance with SCE's program.
- If agencies/owners refuses the adjusted MTH and we cannot prune a tree to achieve 18 ft clearance in HFRA or 15 ft clearance in NonHFRA; then the location is a refusal and needs to go through the refusal process.
- Any vegetation pruning that deviates from MTH/GRCD clearances needs to be documented in the work management system.
 - Mark TCD in the clearance and provide reason for not achieving GRCD
 - Ex. Agency or homeowner would not allow removal or GRCD

Key Takeaways Related to LiDAR

- LiDAR is an important tool to help prevent vegetation/tree line conflicts
- LiDAR provides exact radial clearances between vegetation and conductors under as-surveyed, maximum sag, and maximum sway conditions.
- Maximum Tree Height (MTH) = Conductor Height - Grid Resiliency Clearance Distance (30 ft)
- Inspectors must provide MTH in the comments
- A tree must be pruned at or below MTH to achieve GRCD
- If GRCD clearances are not permitted or achievable, a tree must be pruned at a minimum to TCD clearances under sag/sway conditions, or the tree must go through the refusal process
- If you need additional LiDAR training, please contact seth.t.reid@sce.com

Unacceptable Conditions

Unacceptable Conditions #1



Key Takeaways

- Affects both T&D
- Wind Sway-Dead Fronds
- Multiple Circuits

Unacceptable Conditions #2



Key Takeaways

- Grown above Lines
- Reliability Concern
- Substation Property

Unacceptable Conditions #3



Key Takeaways

- Maintained for D-Compliance
- Not Maintained for T-Reliability

Acceptable Conditions



Key Takeaways

- Proper Maintenance for T-Reliability
- No Blow into or Breaking Limb Conditions

Reliability Concern – High Fire Area



Reliability Concern and Climber Safety Reliability



Key Take-Aways

- Understand and implement required clearances. Don't just cut to historic trims!
 - Document and notify where required clearances cannot be achieved or are restricted by land-owners.
- What else do you see that could impact the line?
 - Dead/dying/damaged, leaning, poor site conditions.
BE PROACTIVE!
- Contact SSP/environmental regarding special work locations.
(public land, nesting birds, orchards, etc.)

JOKE BREAK!



"IT WAS EITHER BURY THE POWER LINES OR CUT DOWN THE TREES. WE TOOK THE CHEAPER WAY OUT!"

Understanding the DVMP Distribution Vegetation Management Plan “UVM-03”

Overview of DVMP

- **California Wildfire Risk**
- **Background**
- **Key Definitions**
- **Regulations**
 - CPUC GO 95 Rule 35
 - Appendix E
 - Cal Fire PRC 4292, 4293, 4295.5
- **Understanding Clearance Requirements**
 - Table 1 – Fire Areas
 - Understanding Blow-in, Grow-in, Side Grow-in
 - Table 2 – Non-Fire Areas
 - Restricted Areas
 - Clearance around Poles (PRC 4292)

Background

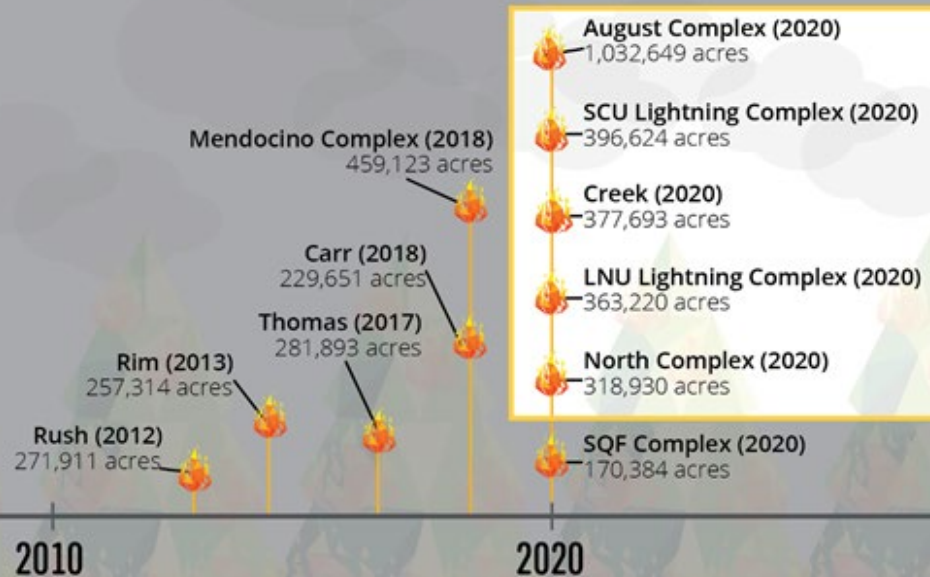
SCE's DVMP is designed to improve the reliability of SCE's distribution system and to comply with regulatory requirements established by the California Public Utilities Commission (CPUC) General Order (GO) 95, California Public Resource Codes (PRC), and Title 14 California Code of Regulations (CCR) by establishing maintenance and inspection procedures to:

- Manage vegetation to prevent vegetation encroachment into the clearance zones under normal conditions as stated in the following regulations, as applicable.
 - Take into consideration 1) vegetation movement during high winds (tree dynamics); and 2) the interrelationships among vegetation growth rates, control methods, and inspection frequency.
- Document the maintenance procedures and processes used to manage vegetation to prevent the encroachment into regulatory clearance requirements.

2020 WILDFIRE SEASON

California's wildfires in 2020 were the worst on record, with dry vegetation and strong winds threatening our communities during an unprecedented fire season

**5 OF THE 6
LARGEST CALIFORNIA
WILDFIRES
HAVE HAPPENED IN
2020***

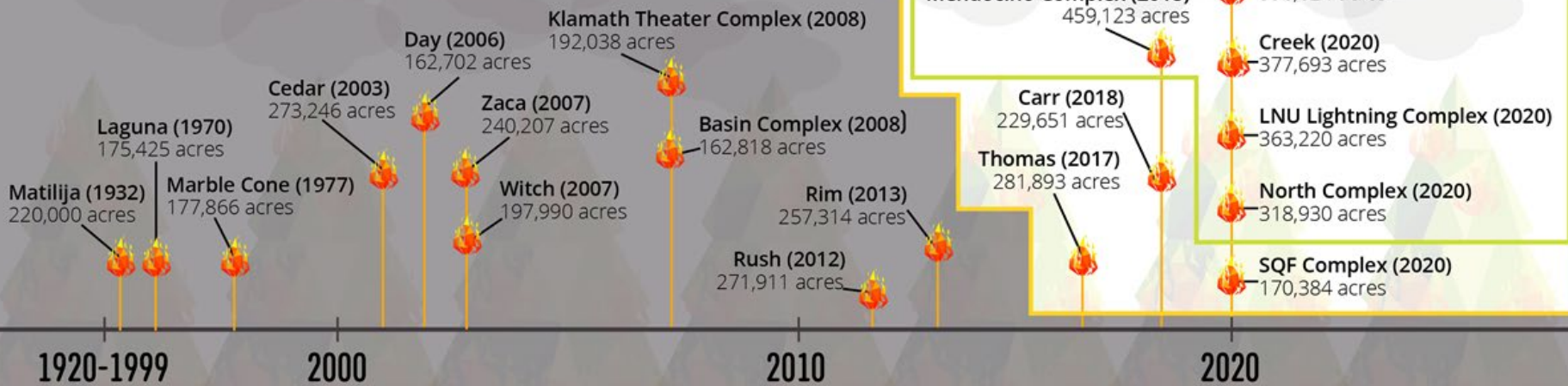


Source: https://www.fire.ca.gov/media/4jandlhh/top20_acres.pdf

LARGEST CALIFORNIA WILDFIRES

9 OF THE 20 LARGEST CALIFORNIA WILDFIRES
HAVE HAPPENED SINCE 2017*

5 OF THE 6
LARGEST CALIFORNIA WILDFIRES
HAVE HAPPENED IN 2020*



Source: https://www.fire.ca.gov/media/4jandlhh/top20_acres.pdf

Key Definitions

Grow-In Zone – *Clearance Zone between the outside phases on a distribution tower or pole, to the horizontal plane defined by the top of the tower or pole. (Maintaining Clearance Requirements)*

Side Grown-In Zone – *Clearance Zone located on either side of a Distribution Line where vegetation can grow into the conductors. (Maintaining Clearance Requirements)*

Blow-In Zone – *A Clearance Zone outside the Grow-in Zone on a Distribution Line which only considers tree dynamics for Line Clearance (Slopes w/No Roll-Back, Palm Fronds, Dead or Weak Branch Attachments)*

Drop-In Zone – *Clearance Zone above the high-voltage conductors. (Over-Hangs, Weak Branch Attachments, Dead, Dying, or Diseased Tree)*

DVMP Definitions

- **Pre-Approved Heavy Tree Work:** *Tree work that includes cutting into branches, limbs, and or trunks 6" or less in diameter and or up to six' beyond the old cuts.*
- **Approved Exception Trees:** *Trees that don't require 12' of clearance at the time of trim. These tree species include Oaks, Conifers, & Historical Trees. Approved exception trees should be trimmed to a minimum of 6' of clearance at the time of trim. NOTE: 4' isn't acceptable.*
- **Additional Compliance Work:** *Overhangs, Pole Clearing, Service Drop Clearing, Secondary Clearing, Span Guy Clearing, Down Guy Clearing.*

DVMP Definitions

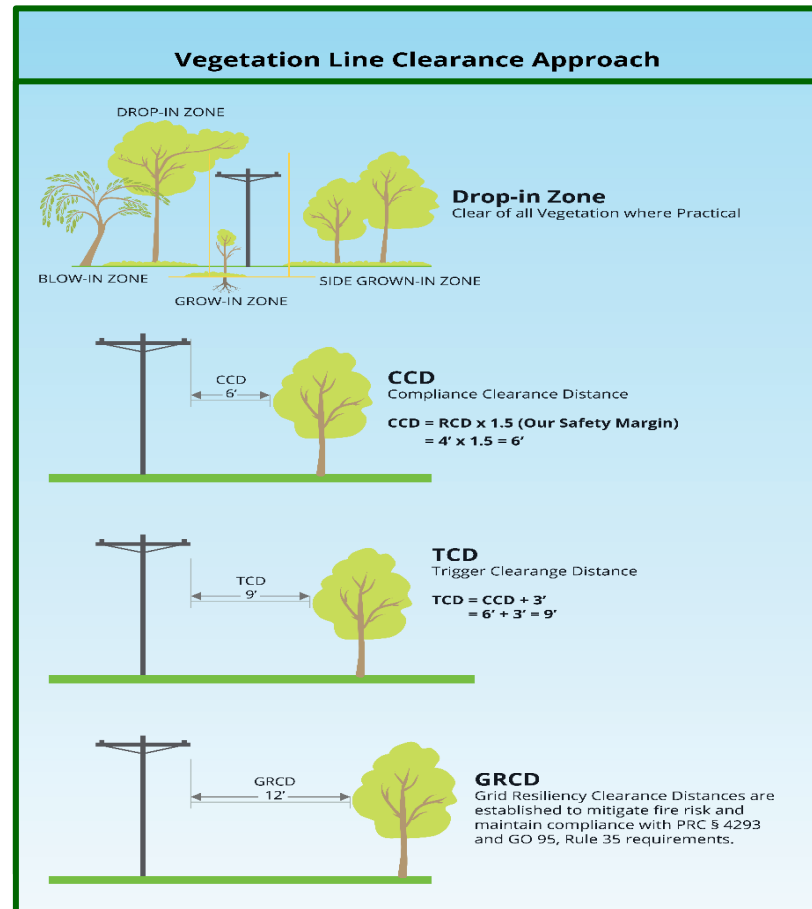
- **Priority 1 Permanent Resolution:** *Any tree assessed as a P1 condition must be removed or trimmed to ensure the P1 condition doesn't occur again. Any refusal to a permanent resolution work plan must be documented on the abnormal field condition report:*
 - Pre-inspectors who identify a P1 condition, prior to the tree crew's arrival if permission is required shall make customer contact to advise of our intention to gain greater clearances or a removal . If the pre-inspector is unable to obtain permission prior to the crews arrival the tree contractor shall make the location safe. If a Palm tree is found in a P1 condition and permission for greater clearance or removal can't be obtain prior to the crews arrival. The tree crew shall heavy top the palm tree beyond the palm heart.
- **Removal Criteria:** *Any tree that can't obtain 12' of clearance at the time of trim. Any tree that can't maintain 9' of clearance. Any tree that has been in the Priority 1 status. Any fast-growing tree species. All Palm Trees. Any tree that has previously caused a distribution outage. Any tree that is directly under the primary conductors that must be topped. Any tree that can't be pruned to meet ANSI A300 Tree Pruning Standards.*

DVMP Clearance Requirements

Clearance Requirements

Clearances are different for HFRA versus Non-HFRA. Refer to DVMP Tables 1 & 2 for RCD, CCD, TCD & GRCD.

- **RCD** is the regulatory clearance distance
- **CCD** is required at all times (SCE's Standard)
Click to add text
- **TCD** Triggers Maintenance work (pruning)
- **GRCD** is to be established at "time of maintenance," when achievable. YOU ARE REQUIRED TO DOCUMENT WHEN GRCD CANNOT BE ACHIEVED



DVMP Table 1 – Fire Areas

Fire Areas						
PRC 4293 and GO 95, Rule 35, Extreme and Very High Fire Areas (Case 14)						
Nominal Voltage	Grow-in Zone Clearance Distance at Time of Maintenance GRCD-A	Blow-in Zone Clearance Distance at Time of Maintenance GRCD-B	Grow-in & Blow-in Zones Clearance Distance that Triggers Work TCD	Grow-in & Blow-in Zones Clearance Distance to be Maintained for Compliance CCD	Drop-in Zone	Regulation Clearance Distance RCD
2.4 - 69kV	12 ⁵	12'	9'	6'	Clear of all Vegetation where Practical	4.0'
2.4 – 12kV Aerial Cable	4'	4'	Strain or abrasion	n/a	n/a	No strain or abrasion
≤ 750 volts Open Wire, Aerial and Bundled	4'	4'	Strain or abrasion	n/a	n/a	No strain or abrasion

Table 1: Clearance Distances – Fire Areas

⁵ GO 95 Rule 35 Appendix E recommended clearance (Case 14)

Note: Table 1 last update is from DVMP Revision 4.

DVMP Table 2 – Non-Fire Areas

Non-Fire Areas						
GO 95, Rule 35 (Case 13)						
Nominal Voltage	Grow-in Zone Clearance Distance at Time of Maintenance GRCD-A	Blow-in Zone Clearance Distance at Time of Maintenance GRCD-B	All Zones Clearance Distance that Triggers Work TCD	All Zones Clearance Distance to be Maintained for Compliance CCD	Drop-in Zone	Regulation Clearance Distance RCD
2.4 - 69kV	6 ⁶⁷	6'	n/a	3'	Clear of all Vegetation where Practical	1.5'
2.4 – 12kV Aerial Cable	4'	4'	Strain or abrasion	n/a	n/a	No strain or abrasion
≤ 750 volts Open Wire, Aerial and Bundled	4'	4'	Strain or abrasion	n/a	n/a	No strain or abrasion

Table 2: Clearance Distances – Non-Fire Areas

⁶ Although GO95 Rule 35 Appendix E Case 13 (non-Fire Areas) recommends 4' clearance for 2.4kV to 72kV, SCE is adopting a 6' clearance

⁷ Required vegetation maintenance shall ensure RCD for 12 months

Note: Table 1 last update is from DVMP Revision 4.

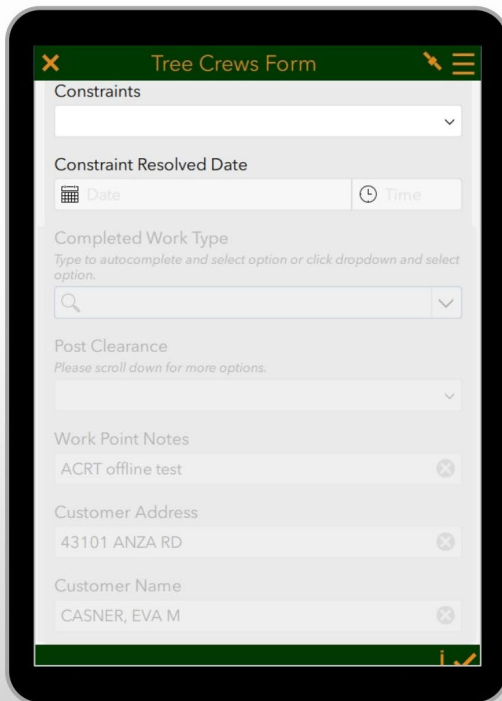
Restricted Areas / Constraints

When conditions such as crops, orchards, environmentally sensitive areas or refusals/no access prevent UVM requirements of Tables 1 or 2 to be achieved, the following then applies:

- **GRCD** can be modified but must be documented to address the specific circumstances or restrictions at that location.
- **CCD** must always be maintained.

Restricted Areas / Constraints

Work Point Information: Constraint Fields, 1



The screenshot shows a mobile application interface for a 'Tree Crews Form'. The form is displayed on a tablet-like device. At the top, there is a green header with a close button (X), the title 'Tree Crews Form', and a menu icon (three horizontal lines). Below the header, the form contains several sections:

- Constraints:** A dropdown menu.
- Constraint Resolved Date:** A date and time selection field with a calendar icon for 'Date' and a clock icon for 'Time'.
- Completed Work Type:** A dropdown menu with a search icon and a note: 'Type to autocomplete and select option or click dropdown and select option.'
- Post Clearance:** A dropdown menu with a note: 'Please scroll down for more options.'
- Work Point Notes:** A text input field containing 'ACRT offline test' and a clear button (X).
- Customer Address:** A text input field containing '43101 ANZA RD' and a clear button (X).
- Customer Name:** A text input field containing 'CASNER, EVA M' and a clear button (X).

At the bottom of the form, there are three small icons: a pencil, a checkmark, and a plus sign. On the right side of the tablet, there are three circular navigation buttons: a plus sign, a plus sign, and a minus sign. The bottom right corner of the tablet shows the number '19' and the text 'Windows Ink Workspace'.

- Constraints
 - Refusal – Customer said “No”
 - No Access or Contact – The tree is inaccessible (e.g. locked gate, customer not home)
 - Permitting – Anything city-related that does not allow you to do your job
 - Environmental – (eg. birds nest, environmental layer)
 - Other
- Constraint Resolved Date: entered in when the situation is resolved, by the person who resolved it

Regulations

CPUC GO95 Rule 35

Where overhead conductors traverse trees and vegetation, safety and reliability of service demand that certain vegetation management activities be performed in order to establish necessary and reasonable clearances the minimum clearances set forth in Table 1, Cases 13 and 14, measured between line conductors and vegetation under normal conditions, shall be maintained. (Also see Appendix E for tree trimming guidelines.) These requirements apply to all overhead electrical supply and communication facilities that are covered by this General Order, including facilities on lands owned and maintained by California state and local agencies.

When a supply or communication company has actual knowledge, obtained either through normal operating practices or notification to the company, that dead, rotten or diseased trees or dead, rotten or diseased portions of otherwise healthy trees overhang or lean toward and may fall into a span of supply or communication lines, said trees or portions thereof should be removed.

Communication and electric supply circuits, energized at 750 volts or less, including their service drops, should be kept clear of vegetation in new construction and when circuits are reconstructed or repaired, whenever practicable. When a supply or communication company has actual knowledge, obtained either through normal operating practices or notification to the company, that its circuit energized at 750 volts or less shows strain or evidences abrasion from vegetation contact, the condition shall be corrected by reducing conductor tension, rearranging or replacing the conductor, pruning the vegetation, or placing mechanical protection on the conductor(s). For the purpose of this rule, abrasion is defined as damage to the insulation resulting from the friction between the vegetation and conductor. Scuffing or polishing of the insulation or covering is not considered abrasion. Strain on a conductor is present when vegetation contact significantly compromises the structural integrity of supply or communication facilities. Contact between vegetation and conductors, in and of itself, does not constitute a nonconformance with the rule.

Note: Revised January 13, 2006 by Decision No. 05-01-030, August 20, 2009 by Decision No. 09-08-029 and January 12, 2012 by Decision No. 12-01-032

EXCEPTIONS:

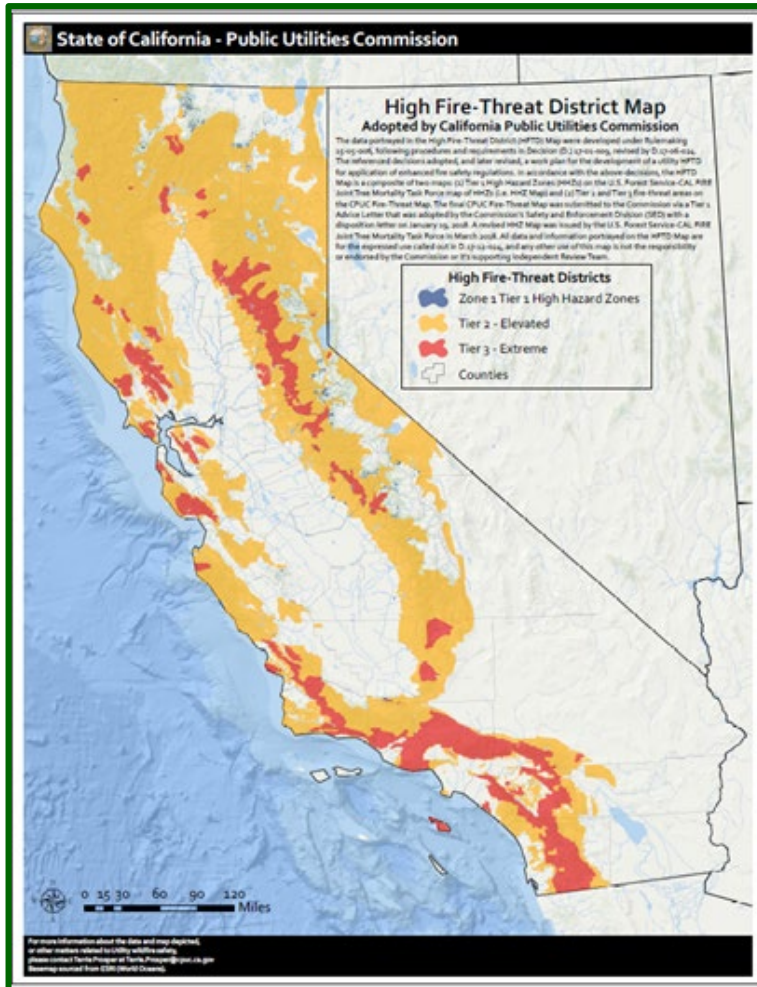
- (1)** Rule 35 requirements do not apply to conductors, or aerial cable that complies with Rule 57.4-C, energized at less than 60,000 volts, where trimming or removal is not practicable and the conductor is separated from the tree with suitable materials or devices to avoid conductor damage by abrasion and grounding of the circuit through the tree.
- (2)** Rule 35 requirements do not apply where the supply or communication company has made a “good faith” effort to obtain permission to trim or remove vegetation but permission was refused or unobtainable. A “good faith” effort shall consist of current documentation of a minimum of an attempted personal contact and a written communication, including documentation of mailing or delivery. The written communication may include a statement that the company may seek to recover any costs and liabilities incurred by the company due to its inability to trim or remove vegetation. However, this does not preclude other action or actions from demonstrating “good faith”. If permission to trim or remove vegetation is unobtainable and requirements of exception 2 are met, the company is not compelled to comply with the requirements of exception 1.
- (3)** The Commission recognizes that unusual circumstances beyond the control of the utility may result in nonconformance with the rules. In such cases, the utility may be directed by the Commission to take prompt remedial action to come into conformance, whether or not the nonconformance gives rise to penalties or is alleged to fall within permitted exceptions or phase-in requirements.

Note: Revised November 6, 1992 by Resolution No. SU-15, September 20, 1996 by Decision No. 96-09-097 and January 23, 1997 by Decision No. 97-01-044.

- (4)** Mature trees whose trunks and major limbs are located more than six inches, but less than the clearance required by Table 1, Cases 13E and 14E, from primary distribution conductors are exempt from the minimum clearance requirement under this rule. The trunks and limbs to which this exemption applies shall only be those of sufficient strength and rigidity to prevent the trunk or limb from encroaching upon the six-inch minimum clearance under reasonably foreseeable local wind and weather conditions. The utility shall bear the risk of determining whether this exemption applies, and the Commission shall have final authority to determine whether the exemption applies in any specific instance, and to order that corrective action be taken in accordance with this rule, if it determines that the exemption does not apply.

CPUC GO95 Rule 35, Appendix E

On December 21, 2017, the CPUC issued [Decision \(D.\) 17-12-024](#) adopting regulations to enhance fire-safety in the HFTD. **Appendix E establishes SCE's GRCD.**



High Fire Threat District - Expansion of Extreme and Very High Fire areas, Tiers 1, 2, & 3

Appendix E Revision – Greater Clearances at time of trim

Appendix E – Guidelines to Rule 35

Appendix E Guidelines to Rule 35

The following are guidelines to Rule 35.

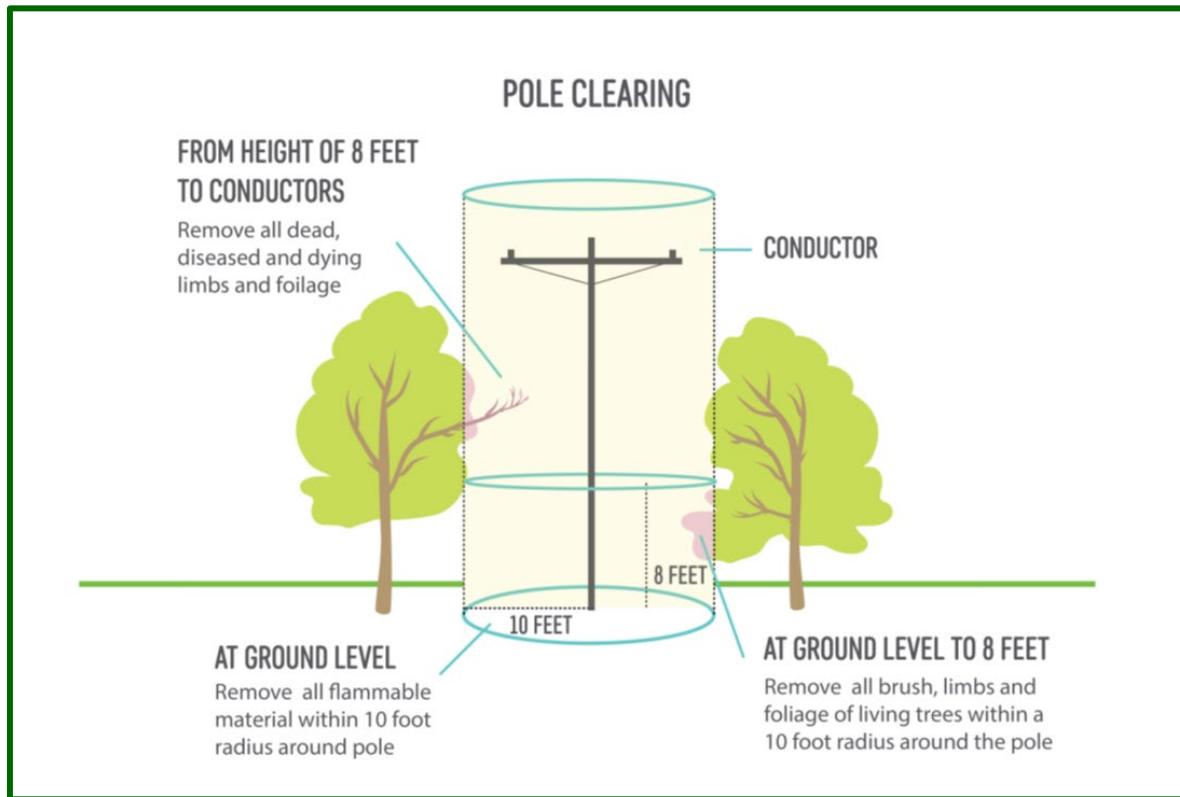
Voltage of Lines	Case 13 of Table 1	Case 14 of Table 1
Radial clearances for any conductor of a line operating at 2,400 or more volts, but less than 72,000 volts	4 feet	12 feet
Radial clearances for any conductor of a line operating at 72,000 or more volts, but less than 110,000 volts	6 feet	20 feet
Radial clearances for any conductor of a line operating at 110,000 or more volts, but less than 300,000 volts	10 feet	30 feet
Radial clearances for any conductor of a line operating at 300,000 or more volts	15 feet	30 feet

12 Note: Added November 6, 1992 by Resolution SU-15. Revised September 20, 1996 by Decision No. 96-09-097, August 20, 2009 by Decision No. 09-08-029, January 12, 2012 by Decision No. 12-01-032, and December 14, 2017, by Decision D. 17-12-024.



PRC § 4292

- Requires vegetation maintenance around and adjacent to any pole or tower which supports a switch, fuse, transformer, lightning arrester, line junction, or dead end or corner pole, a clearance of 10 feet in each direction of such pole or tower. Excludes those with communications equipment.



PRC § 4293

Section 4293. (Amended by Stats. 1976, Ch. 1300.)

Cite as: Cal. Pub. Res. Code §4293.

Except as otherwise provided in Sections 4294 to 4296, inclusive, any person that owns, controls, operates, or maintains any electrical transmission or distribution line upon any mountainous land, or in forest-covered land, brush-covered land, or grass-covered land shall, during such times and in such areas as are determined to be necessary by the director or the agency which has primary responsibility for the fire protection of such areas, maintain a clearance of the respective distances which are specified in this section in all directions between all vegetation and all conductors which are carrying electric current:

(a) For any line which is operating at 2,400 or more volts, but less than 72,000 volts, four feet.

(b) For any line which is operating at 72,000 or more volts, but less than 110,000 volts, six feet.

(c) For any line which is operating at 110,000 or more volts, 10 feet.

In every case, such distance shall be sufficiently great to furnish the required clearance at any position of the wire, or conductor when the adjacent air temperature is 120 degrees Fahrenheit, or less. Dead trees, old decadent or rotten trees, trees weakened by decay or disease and trees or portions thereof that are leaning toward the line which may contact the line from the side or may fall on the line shall be felled, cut, or trimmed so as to remove such hazard. The director or the agency which has primary responsibility for the fire protection of such areas may permit exceptions from the requirements of this section which are based upon the specific circumstances involved.

PRC § 4295.5 (Applies to HFRA and SRA)

State of California Assembly Bill No. 2911

An act to amend Sections 51179, 51189, and 65302.5 of, and to add Section 65040.21 to, the Government Code, and to amend Sections 4291 and 4291.3 of, and to add Sections 4290.5 and **4295.5** to, the Public Resources Code, relating to fire safety.

[Approved by Governor September 21, 2018. Filed with Secretary of State September 21, 2018.]

4295.5.

(a) Notwithstanding any other law, including Section 4295, *any person who owns, controls, operates, or maintains any electrical transmission or distribution line may traverse land as necessary, regardless of land ownership or express permission to traverse land from the landowner, after providing notice and an opportunity to be heard to the landowner, to prune trees to maintain clearances pursuant to Section 4293, and to abate, by pruning or removal, any hazardous, dead, rotten, diseased, or structurally defective live trees. The clearances obtained when the pruning is performed shall be at the full discretion of the person that owns, controls, operates, or maintains any electrical transmission or distribution line, but shall be no less than what is required in Section 4293.* This section shall apply to both high fire threat districts, as determined by the California Public Utilities Commission pursuant to its rulemaking authority, and to state responsibility areas.

(b) Nothing in subdivision (a) shall exempt any person who owns, controls, operates, or maintains any electrical transmission or distribution line from liability for damages for the removal of vegetation that is not covered by any easement granted to him or her for the electrical transmission or distribution line.

What does this mean for UVM? It's the authority to make it safe in UVM-14A/B

END OF DAY ONE!

Q&A

You have

Questions

We have

Answers



Utility Vegetation Management



Core Plans Training

UVM-04, 07, 08, 14 A/B

January 10-11, 2020

AGENDA: Day 2

PRESENTERS: (Day 2)

- Eric Salazar: QA, Compliance
- Kristina Chen: *VM, Planning*
- Jonathan Contreras: *VM, Planning*
- Gerry Avila: *VM & Forestry*
- Jerome Dillard: *VM & Forestry*
- Seth Reid: *QC, Compliance*

AGENDA

UVM Core Plans Training (Day 2)

January 11, 2022 | 8:00 a.m. – 12:00 p.m. | Facilitator: Vee Sterling

<u>Time</u>	<u>Item</u>	<u>Presenter(s)</u>
8:00 a.m. – 8:05 a.m.	Welcome / Introductions	Vee Sterling
8:05 a.m. – 8:15 a.m.	Safety Moment: “Office Safety Tips”	Jonathan Silvas
8:15 a.m. – 9:00 a.m.	Understanding the HTMP (UVM-04)	Kristina Chen Jonathan Contreras
9:00 a.m. – 9:30 a.m.	Understanding Defense in Depth Oversight Strategy (UVM-07)	Eric Salazar Gerry Avilla Seth Reid
9:30 a.m. – 9:40 a.m.	10 MIN. BREAK	
9:40 a.m. – 10:00 a.m.	Understanding Vegetation Threat Management (UVM-08)	Jerome Dillard
10:00 a.m. – 10:20 a.m.	Understanding Refusal Events (UVM-14A/B)	David Kanealii





T&D Vegetation Mgmt.

Safety Moment

January 2022

Office Safety Tips Day 2

Tools to **EMPOWER** you to own
your safety!

Energy for What's Ahead®



Safety Observation Program for the Office/Telework environment

Conducting Focused Observations **Set Up. Perform. Recover.**

Recommended monthly schedule to perform ergonomic focused observations.

- Leverage MS Team meetings to conduct the observation with your peers and supervisor
- Share resources
- Ask them what they are doing to own their safety
- Tell the story of how you personally are doing this. This is guidance only, please adapt to fit your needs.

Below are the behaviors to review and discuss to assist you with your health and safety



Keep Safety Top of Mind

As a safety leader, you influence Edison's culture, not only by what you do and what you say -- but also by what you don't do and don't say. Safety is fundamental. It's the foundation of overall well-being and good business

Ask Yourself

- How can I manage distraction?
- How can I keep safety top of mind?
- How can I reframe my thoughts when I'm anxious to complete an assignment, finish a project or meet a goal?

What You Can Do

- Ask yourself "what's important now" to help focus your attention. Focus on what's important now
- Identify your goal and align what you think/feel/do to achieve your goal. Avoid unhelpful thoughts, feelings, and actions
- Identify red frames that don't support your goals and choose a frame that is more helpful. Take break to clear your head

Office Safety Resources

Office Safety Team:


Glenn Sias, Principal Manager, Safety Programs & Compliance

805-338-2147

Nicholas Magana, SR Advisor, Office Safety & Ergonomic Program Mgr

626-677-0159

- **Bernice Crocchi, H&S Advisor** **818-404-2408**
 - **Office Safety/Ergonomic Programs Administrator**
 - PIV 1/2/3, Gateway, IBC, CS Covina
- **Johnathan Silvas, H&S Advisor** **626-422-3808**
 - **Facility/IT SME**
 - General Office 1 - 5, Alhambra Telecom, Washington DC, SF
- **William "Bill" Coutts, H&S Advisor** **951-970-7576**
 - **Incident Management SME**
 - **Rancho Cucamonga/Chino Office Building/Santa Ana R/O/Westminster (Office)**



Who do I call for Safety or
Ergonomic assistance?

[Edison Safety Office Employee
Advisor Support List](#)

E-Mail – OfficeSafety@sce.com



Understanding the Heavy Tree Hazard Tree Management Plan “UVM-04”

Overview of Heavy Tree

- Background
- Key Definitions
- Tree Risk
- Tree Assessment Overview
- Hazard Tree Characteristics / Site Conditions
- Performing the assessment
 - Level 1 Assessment
 - Level 2 Basic assessment
 - Level 3 Advanced assessment
- Mitigation Levels
 - Complete Removal
 - Make Safe / Property Owner Make Safe
 - Monitoring

Background

- SCE has strategies to identify, document, and mitigate trees located within the Utility Strike Zone that pose a risk to electric facilities based on the tree's observed structural condition.
- SCE's Hazard Tree Maintenance Program (Heavy Tree) aims to mitigate the potential risk to SCE's electric facilities and reduce ignition sources from structurally unsound trees that can fail in total or in part, and palm trees that can dislodge palm fronds during high winds.
- By exercising good professional judgment and using a systematic approach to assessment, it is possible to significantly reduce the risk of tree failures that can damage electric facilities.
- Wildfire Mitigation Goal for 2022: 330 Circuits patrolled.
- Corporate Goal for 2022: Remove 92% of trees within 180 days

Key Definitions

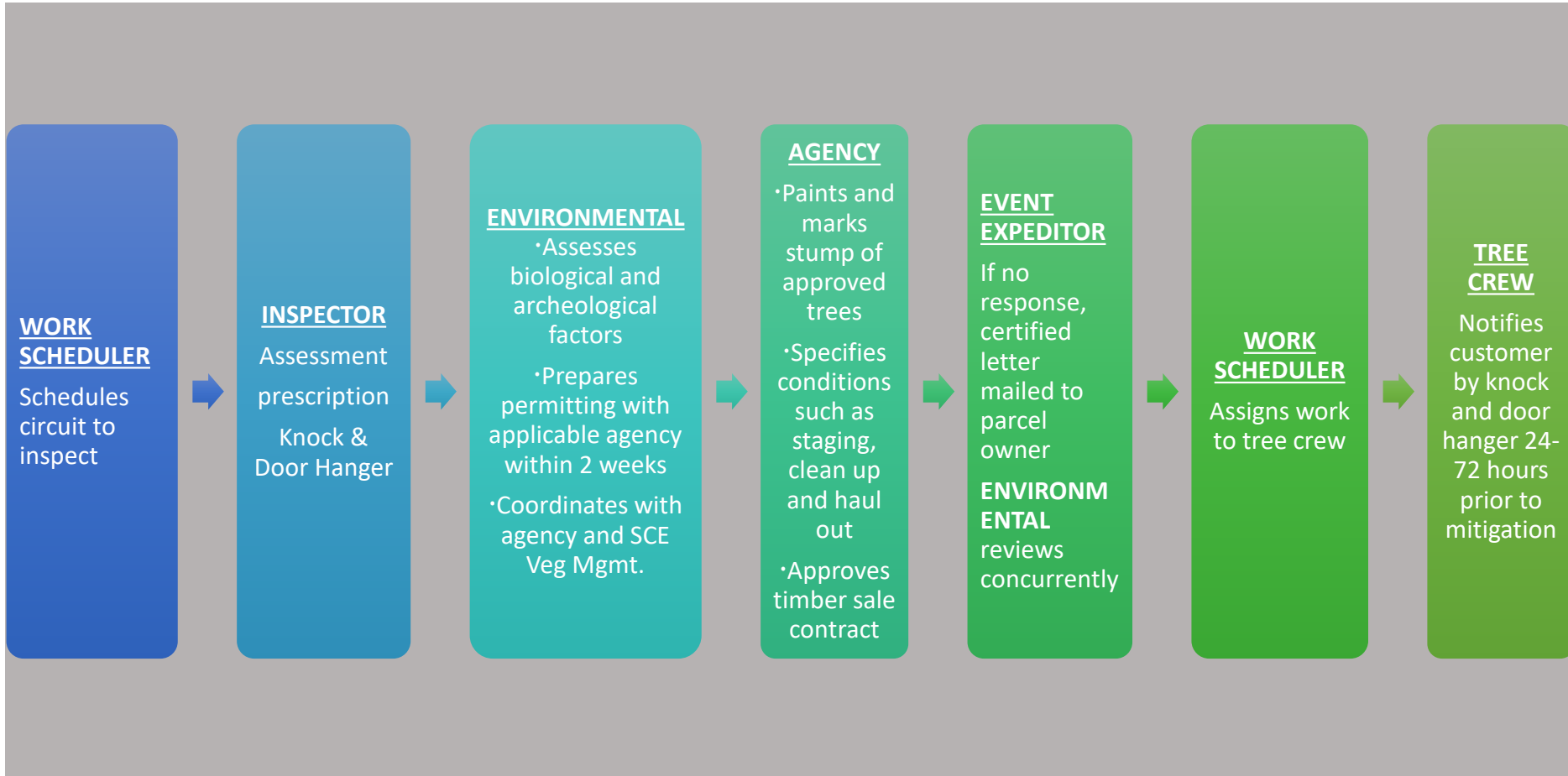
Tree Risk Assessment – *a systematic process used to identify, evaluate and, quantify, Tree Risk*

Subject Tree – *a tree that is located within the Utility Strike Zone*

Hazard Tree – *a tree identified during a Level 1 or Level 2 Assessment that is located within the Utility Strike Zone and is expected to pose a risk to electric facilities based on its structural condition*

Utility Strike Zone - *An area containing electric facilities from which a tree or a portion of a tree can directly strike electric facilities*

Customer Notification Process



**Emergency work will follow a similar process with exception of agency permitting. Agencies are notified after emergent work is completed due to the 24-hour time constraint.*

HAZARD TREE FACTS

WHY IS SCE REMOVING TREES?

The safety of our customers, communities and employees is our No. 1 priority. State regulations require utilities to trim or remove trees and vegetation so they don't grow or fall into high-voltage power lines, which could not only cause a power outage but could spark a fire or be a danger to the public. Trained SCE personnel have inspected trees throughout SCE's service area and have identified site and/or tree conditions that pose a hazard. Trees that pose a hazard must be mitigated which can mean complete removal.



WHAT IS A HAZARD TREE?

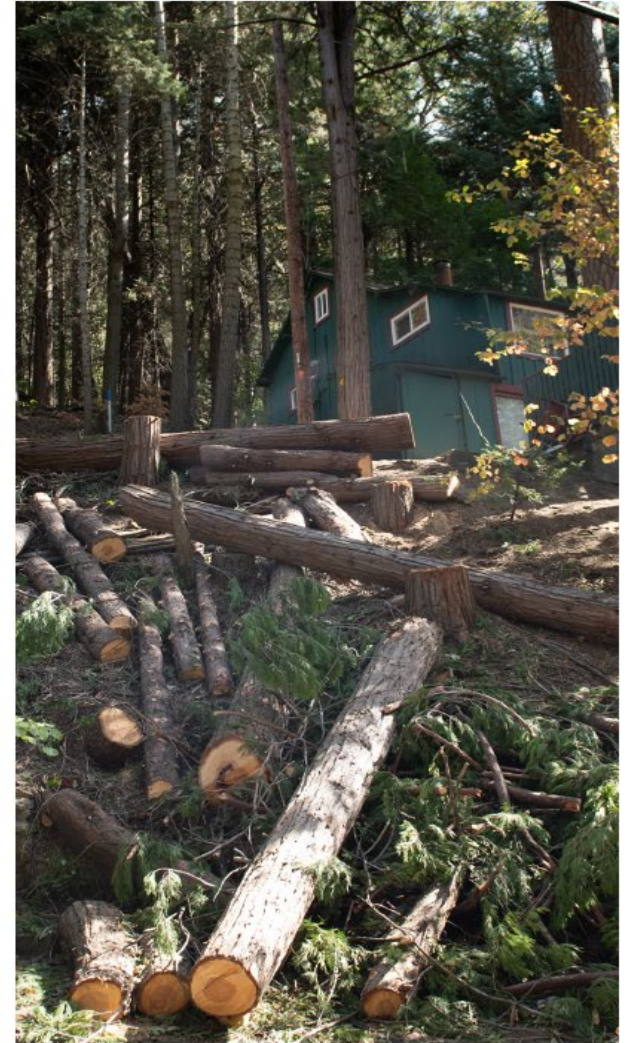
Hazard trees are trees, or portions of trees, that may strike our overhead equipment. Tree, site and environmental conditions are all considered when assessing whether a tree is a hazard. Every tree in a high fire risk area that is within striking distance of our overhead equipment will be assessed for its potential to fail or make contact with our equipment.



WHY IS SCE REMOVING SO MANY TREES AT ONE TIME?

SCE understands that removing trees can be disruptive to the community, but the work is necessary in high fire risk areas for public safety. Based on a hazard assessment tool created by certified arborists, SCE assesses each tree within striking distance of SCE equipment to determine if the tree is deemed a hazard. Tree removal crews specially trained to work near power lines will remove the tree.

Please note that in addition to the hazard tree mitigation crews, there may also be routine tree maintenance crews tasked with maintaining clearance requirements also working nearby.



Utility Tree Risk

The Heavy Tree Program uses the concept of risk and considers the potential likelihood of a tree failure, or portions thereof, occurring that can adversely affect SCE's infrastructure, and the severity of the potential consequences.



Photo by: Inside Edison



Levels of Risk Assessment

Tree Risk Assessment Overview

During the Heavy Tree assessment process, tree and site conditions are assessed to determine tree risk and if work is required to mitigate the identified risk. Heavy Tree assessors evaluate subject trees to identify Hazard Trees and Site Attributes for Reliability Trees. Heavy Tree assessors are required to be ISA Certified Arborists.

Heavy Tree parameters for inspection and identification of hazard trees takes over where Compliance inspections leave off Typically the 12' mark from overhead primary. Both hazard tree and site attributes may impact the stability of a tree and should be considered when performing a tree risk assessment.

The tree assessment will yield a risk ranking score and a priority condition for tree risk mitigation.

Palm trees outside the USZ are assessed to determine risk associated with palm frond blow-in and/or where historical records exist of prior palm frond line contact.

Risk Matrix

1	11	21	31	41	51	61	71	81	91
2	12	22	32	42	52	62	72	82	92
3	13	23	33	43	53	63	73	83	93
4	14	24	34	44	54	64	74	84	94
5	15	25	35	45	55	65	75	85	95
6	16	26	36	46	56	66	76	86	96
7	17	27	37	47	57	67	77	87	97
8	18	28	38	48	58	68	78	88	98
9	19	29	39	49	59	69	79	89	99
10	20	30	40	50	60	70	80	90	100

50 - 63 Within 90 days

64 - 79 Within 60 days

80 - 100 Within 30 days

HT Assessment Guide:

https://edisonintl.sharepoint.com/:b:/r/teams/Vegetation%20Management/Documents/Heavy%20Tree%20Program/Job%20Aids/Heavy%20Tree%20Assessor%20Guide_FinalVer1_20210402.pdf?csf=1&web=1&e=lg9R52

Performing a Level 1 Assessment

- A Level 1 assessment is the first part of the inspection process.
- Level 1 assessment consists of a visual, one-sided look at the tree.
- If within USZ, then a Level 2 Basic Assessment of the tree will be conducted to identify Hazard Tree characteristics beyond the Level 1 assessment.

Performing a Level 2 Assessment

- This is a detailed 360° ground-based visual assessment of a tree and its surrounding site.
- A Level 2 assessment includes walking completely around the tree—looking at the site, buttress roots, trunk, and branches.
- Many trees that pose a potential risk to electric facilities are located on private property and beyond the edge of the utility ROW, which may restrict access. Severe terrain or other constraints may also prevent access. As such, there may be a limited opportunity or ingress to perform a 360° assessment of an individual tree.

Performing a Level 3 Assessment

- This is an assessment of a tree to provide detailed information about specific tree parts, defects, targets, site considerations, or any combination of these
- Assessment is deemed level 3 anytime any special equipment is used to identify defects.
- SCE's Tree Risk Calculator is used to collect, analyze and provide a risk score of the tree assessed.

***Note:** SCE does not utilize any Level 3 assessments.

Tree Risk Matrix and Calculator

Risk Matrix

1	11	21	31	41	51	61	71	81	91
2	12	22	32	42	52	62	72	82	92
3	13	23	33	43	53	63	73	83	93
4	14	24	34	44	54	64	74	84	94
5	15	25	35	45	55	65	75	85	95
6	16	26	36	46	56	66	76	86	96
7	17	27	37	47	57	67	77	87	97
8	18	28	38	48	58	68	78	88	98
9	19	29	39	49	59	69	79	89	99
10	20	30	40	50	60	70	80	90	100

Mitigation Work

Risk Rank Score

61

Suggested Work Prioritization

Priority 2- mitigate risk within 90 days

Suggested Treatment

Remove

To leave customer instructions or notes for the Tree Crew, use the 'Access/Customer Notes' field in the Notification section.

Selected Work Prioritization

Priority 2- mitigate risk within 90 days

Suggested Treatment Change Log

(Seth Reid - Remove - 2020-04-28 15:16:22)

< Back

Risk Assessment

Assessor Name

Tester

Risk Assessment Date

April 28, 2020

Risk Calculator

Overall Tree Condition

Moderate defects

Tree Defects

Moderate codom top (1/2-3/4 of tree height), Fungal fruiting bodies, Dead branches/dead top

Site Conditions

Fire damage

Tree Lean

Moderate lean (8-25 degrees lean)

Tree Height Factor

2x +

Likelihood of Line Impact

Likely

Mitigation Work

Risk Rank Score

Suggested Work Prioritization

Suggested Treatment

To leave customer instructions or notes for the Notification section.

Selected Work Prioritization

Suggested Treatment Change Log

Tree Defects

Q Search

Dieback of twigs or branches

Small codom top (top 1/4 of tree height)

Moderate codom top (1/2-3/4 of tree height) ✓

Large codom top (5ft to 1/2 tree height)

Multiple trunks, very low codom (below 5ft)

Nuisance insect or mistletoe

Moderate insect or mistletoe *

Severe insect or mistletoe infestation

Dead branches/dead top ✓

Fungal fruiting bodies ✓

Minor rot

Moderate rot

Prevalant rot

Major rot

Minor included Bark

Hazard Tree Characteristics and Site Attributes (examples)

Hazard Tree Attributes
Basal wound
Bleeding and/or resinous
Bulges and/or swellings
Cankers, including bleeding & gall rust
Cavities
Codominant or multiple stems from base or higher on trunk
Conks indicating heart rot, root rot, sap rot or canker rot
Cracks including shear
Dead branches and/or top
Dieback of twigs and/or branches
Embedded wires or cables
Excessive lean toward a power line or excessive bow
Fire damage
Foliage – off-color, flagging or loss
Hazard beam
History of limb failure(s) on tree
Included bark
Insect activity such as frass from termites, bark beetles or carpenter ants
Branches overhanging power line in fire areas
Lightning damage
Live crown ratio below 30%
Mistletoe – dwarf or broad-leaf
Nesting holes – birds, mammals, insects
Dead palm fronds that can dislodge during high winds
Past poor pruning practices
Roots injured, exposed, undermined or uplifted
Seam
Species failure patterns
Unnatural or structurally unsound canopy weight distribution
Weak, unsound branch attachments

Site Attributes
Areas known to be affected by introduced tree pathogens
Areas of recent clearing/new edge
Change in drainage
Change in grade
Construction – including trenching, paving or road construction
Cultural disturbance to landscape - natural or unnatural
Diseased center – dead tree in middle and dying trees around it
High stand density with single species composition
High Winds (fire watch)
History of failure(s) at site
History of repeated outages on circuit
Fire damage
Recent thinning or logging
Slope (by grade or percentage)
Soils prone to slides
Specific conditions like high winds
Storm damage

A complete list of Hazard Tree Attributes and Site Condition Attributes is contained in the Tree Risk Calculator.

Mitigation Levels

➤ **Complete Removal**

In some situations a complete tree removal may not be required to mitigate the risk the tree poses to electric facilities.

➤ **Make Safe**

If appropriate conditions exist, portions of a tree can be pruned or removed to mitigate the risk.

➤ **Property Owner Make Safe**

Only specially-trained and certified tree crews can work near high-voltage an electric facility, which is defined as within 10-feet.

- Property owners who hire their own tree workers to prune or remove trees near electric facilities should first notify SCE
- SCE will assess and remove portions of trees to a level that would allow workers that are not qualified to work within 10-feet of high-voltage electric facilities to remove or prune the remainder of the tree.

➤ **Monitor**

Assessed trees may be monitored when they are considered stable and are not expected to pose immediate risk to electric facilities.

Understanding Defense in Depth Oversight Strategy “UVM-07”

Three Levels of Oversight

- To provide reasonable assurance the SCE UVM program is functioning at a high level of compliance, and to provide reasonable assurance SCE is meeting the applicable Federal, State and California Fire Requirements
- SCE is implementing a three-tiered oversight strategy intended to ensure a robust program built on defense-in-depth oversight
- The three levels of oversight are:
 - Post Work Verification (performed by SSPs)
 - Quality Control Inspections (performed by independent QC inspectors)
 - Quality Assurance Reviews (performed by QA personnel)

Oversight Level 1

SSP Post Work Verification

SSP Role – Post Work Verifications

Post Work Verifications are performed by SCE UVM SSPs and are the initial reviews performed to validate documentation and field work accuracy

SSs perform two reviews: (1) Desktop Review, and (2) Field Review

(1) Post Work Documentation Review – Desktop Review

- Submitted work is reviewed for accuracy/completeness according to prescriptions in the WMS
- After satisfactory review, work process is approved and SSP Post Work Field Validation is planned
 - Errors identified through the review process are communicated to the responsible work crew, as applicable
 - Documentation errors are corrected

SSP Role – Post Work Field Validation – Field Review

(2) Post Work Verification Field Review

- Approximately 5% of grid/circuit inventory is reviewed by the SSP for his/her area of responsibility

Review criterion includes but is not limited to:

- Ensuring clearances required by the TVMP or DVMP have been achieved
- Assessment of any incomplete work submitted by the contractor
- Appropriate ANSI utility tree pruning criteria
- Complete and accurate inventory, species, and overall WMS data
- Ensuring the accuracy of pre-inspections that may have missed trees needing work
- After satisfactory review, the work process is approved
 - Errors identified through the field validation/review process are communicated to the responsible work crew supervision, and reassigned in the WMS
 - Clearance violations are remediated
 - Objective evidence validating remediation is provided to the SSP, or the SSP must field validate

Oversight Level 2

Quality Control Inspections

Quality Control Inspector Role

Quality Control – Quality control measures are aimed at checking, measuring, or inspecting a sample of one or more product characteristics and evaluating the results against requirements to confirm compliance.

- QC inspectors will be assigned work by the QC scheduler in alignment with the circuit mileage sample targets.
- For Compliance Programs: QC inspection criteria will include but not be limited to: Ensuring required clearances for TVMP or DVMP are achieved; Verifying complete and accurate inventory, species, identification.
- For Heavy Tree: QC inspection involves performing an independent Tree Risk assessment using the Tree Risk Calculator and verifying prescription was completed (prune or removal); ANSI criteria was met on prune; mitigation did not impact other trees; site conditions are stable.
- If significant inspection criteria violations are identified, the QC inspector (or their representative) must provide timely notification to the applicable SSP(s) and applicable QC scheduler for potential scope expansion, feedback to the work contractor, or other action as deemed appropriate.

Scheduling QC Inspections

Circuit mileage selected by the QCS has a dependency on the UVM work scheduling and completion for TVMP, DVMP, and HTMP. QCI's will be scheduled based on confirmation of completed Work Assignments by UVM Work Schedulers and Contractors.

QCI scheduling and mileage selection should be consistent with the workflow and processes defined in the UVM operational schedules. Although circuit mileage is the measurement for QC review and oversight, QCI's will be scheduled by VM Grid Polygon (Grid ID) and/or Transmission Circuit to ensure efficiency and maintain a uniform work process. Other factors, such as risk area and maintenance cycles, will be taken into consideration for scheduling of QCI's.

- 80% +/- 5% (approx.) of mileage for work completed within 60 days of work completion
- 20% +/- 5% (approx.) of mileage for work completed greater than 60 days after work completion

Sampling Strategy

- SCE UVM uses Judgmental sampling (not random) QC to mitigate risk. Circuit miles are selected for inspection and vegetation within the selected circuit miles is inspected
- In 2019 through 2021, High Fire Risk Areas (HFRA) risk-consequence models such as REAX Engineering risk data was used to select circuit mileage for inspection. In 2022, QC is changing its risk model and mileage targets indicated in the table below will be changing.

Sampling Strategy

- Table 1 below identifies the four risk categories and planned circuit miles to be inspected for Distribution. Sampling includes both HF & NHF.
- 100% of the Category A High Fire Risk miles (1600) shall be inspected, when practical
- Category B, C & D areas shall include inspection of a minimum 50% HFRA circuit mileage

TRI Category	High Fire Miles	Non-High Fire Miles	Total Miles	CL/CI %	Miles Inspected
A	1600	3568	5168	99/1	3944
B	2533	8395	10928	99/2	3740
C	3865	7913	11778		
D	2633	11676	14309		
Total	10631	31552	42182	N/A	7684

There are approximately 13,000 total Transmission miles in SCE’s service territory. QC plans to inspect using a CL/CI of 99/5% (approximately 600 miles) with concentration on HF miles, when practical.

Oversight Level 3 Quality Assurance

Quality Assurance Role

Quality Assurance – Typically assesses a process through analysis of objective evidence that supports the program or process for adherence and/or compliance with specific requirements

Internal Quality Review – An annual internal quality review will be performed to assess the design of, and provide reasonable assurance of compliance to established UVM procedures, and to provide recommendations for continuous improvement.

Compliance Review – An annual QA Compliance review performed by T&D QA (independent department) to provide reasonable assurance of compliance to Federal and State requirements, as applicable. This review includes an assessment of compliance evidence and documentation, and key controls testing.

Understanding Vegetation Threat Management “UVM-08”

Understanding Vegetation Threat Management

- Background
- Priority Conditions
- Remediation Timelines
- Priority 1 Stay Onsite Requirements
- Priority 1 Dispatch Protocol
- Priority 1 Documentation & Clearing
- Priority 2 & 3 Documentation & Clearing

Background

- The Vegetation Threat Procedure identifies the methods of prioritization for identified threats discovered through the UVM Program's TVMP, DVMP and Heavy Tree (Previously HTMP).
- Identified vegetation threats to public safety and/or electric system reliability are mitigated in accordance with this procedure.
- Any qualified SCE employee or vendor may identify a potential vegetation threat and follow this procedure to ensure the appropriate mitigation action(s) are taken.

Priority Conditions

Priority 1 Conditions

- Any observed tree, or parts thereof, that is expected to imminently fail and contact electric facilities
- Any observed tree, or parts thereof, where vegetation contact or arcing with bare-wire conductors is highly probable to occur in a high-wind event due to vegetation proximity to power lines
- Any observed vegetation condition where it appears that contact has occurred with primary electric facilities
- Any observed vegetation condition where it appears that strain or abrasion has occurred with secondary bare open wire

UVM P2 and E1P2 Conditions (refer to Tables 1 & 2)

- Any observed tree, or parts thereof, that is not a Priority 1 condition and is currently stable but the likelihood of failure and/or contact with primary electric facilities is plausible but not imminent
- Any observed vegetation condition, that is not a Priority 1 condition and is currently stable but where it appears that vegetation may cause a failure of electric facilities (i.e., a condition that changes pole loading conditions such as excessive strain on a down guy or communication wires)
- Any observed tree, or parts thereof, that is not a Priority 1 condition but is within the TCD, CCD or RCD (including strain or abrasion at the secondary level that is not a Priority 1 condition)
- RCD, CCD or TCD vegetation encroachments identified by VM pre-inspection crews during scheduled work are not considered P2 threat conditions under UVM-08 but are remediated during the normal scheduling process in accordance with UVM-08 timelines (30-90 days)
- Any Vegetation with an HTMP Risk score of 50 – 100

Priority 3 Conditions (HTMP Only)

- Any tree assessed through the HTMP process and assigned a risk-score of less than 50
- Priority 3 conditions are added to the HTMP inventory as subject trees for future monitoring

Remediation Timelines

Table 1: Remediation Timelines – TVMP/DVMP

Priority	TVMP/DVMP (Encroachment Zones)	Remediation Timeline
1	Priority 1	Remediate within 24 hours
2 E1P2	Near term failure of tree (or part of tree) Vegetation at RCD or less	30 days
	Vegetation within CCD or TCD	90 days

Remediation timelines are contingent on having appropriate access and authorization to perform the prescription

Table 2: Remediation Timelines – HTMP

Priority	HTMP (Risk Score)	Remediation Timeline
1	Priority 1	Remediate within 24 hours
2	50 – 100	Target 180 days
3	1 – 49	Evaluate on next HTMP inspection cycle

Risk Ranking by Priority – Performed in Fulcrum Application

Priority 1 – Stay Onsite Requirement

- If determined to be a Priority 1 condition, perform the following: Secure the area for public safety
- Remain on-site until the condition is corrected or they are relieved by an authorized SCE representative (see note below)
- P1 conditions identified via the trouble order process require the initiator to call the Environmental Services Department at (833) SCE-2ENC or (833) 723-2362 for approval to remediate
- Perform P1 Vegetation Dispatch Protocol

NOTE: Observers/Contractors are not required to stay on site for the following P1 conditions:

- When contact is with a covered conductor
- When contact is with a clearly discernible neutral wire in non-HFRA areas only
- When contact is with a secondary bare wire conductor of 750 Volts or less in non-HFRA areas only
- When contact is highly probable to occur during a high-wind event, but there is no evidence contact has yet occurred

Priority 1 – Dispatch Protocol

Performing P1 Vegetation Dispatch Protocol – When Identified by SCE Personnel/Qualified Observer

When a P1 condition is identified, the qualified observer shall perform the following:

- Contact the Work Scheduler, or applicable Senior Specialist (SSP) to contact the General Foreman to dispatch a VM work crew to perform the remediation
- Notify the SSP and/or applicable Vegetation Manager for that assigned area that a P1 condition has been identified
- Provide relevant information to the General Foreman or dispatcher to ensure response to the correct location. Information to be provided may include but is not limited to the following:
 - Location of P1 condition
 - Bounding Towers or Poles
 - Line Number / Circuit Name
- Contact the Grid Control Center (GCC), if practical, to determine what system protection is available and appropriate for the section of the line in question

Priority 1 – Documentation and Clearing

Documenting and Clearing P1 Vegetation Events – SHALL BE PERFORMED WITHIN 24 HOURS

All P1 Vegetation Events are entered into SAP as a UVM P1 Notification.

Remediation of the P1 condition takes priority over waiting for the Notification to be created

- Upon notification of a P1 condition, the Event Expeditor will create a UVM P1 Notification in SAP
 - SCE UVM personnel may call or e-mail the Event Expeditor at VMinfomailbox@sce.com to create the P1 Notification
 - Contractors send email notification to the SCE Event Expeditor at VMinfomailbox@sce.com informing of the P1 condition (and cc the applicable SSP)
 - Email notification(s) shall provide a clear description and location of the P1 condition
- The work crew shall perform a tree and site assessment of the location for other conditions that may pose a threat
- Within 24 hours, the work crew general foreman provides confirmation via the Work Management System and objective evidence (photograph) via email at VMinfomailbox@sce.com informing the Event Expeditor and SSP the P1 condition has been cleared
- Event Expeditor performs the following tasks related to the UVM P1 condition:
 - Closes the P1 Notification contingent of acceptable objective evidence
 - Ensures the P1 Notification is referenced to the WMS prescription

Priority 2 & 3 – Documentation and Clearing

Documenting and Clearing P2 Vegetation Events

- P2 conditions for TVMP/DVMP are remediated within 30 days for: (1) Vegetation at RCD or less; (2) near term failure of tree (or part of tree), and 90 days for vegetation within CCD or TCD
 - Documentation is maintained in Survey 123
- P2 conditions for HTMP are typically remediated within 180 days contingent on having appropriate access, authorization, and resources to perform the removal
 - Documentaiton is maintained in Fulcrum





Picture by Seth Reid

Understanding Refusal Management “UVM-14A/B”

Refusals

Imminent Threat/P1 conditions in HFRA & non-HFRA are processed in accordance with UVM-08, “Vegetation Threat” procedure and not in accordance with the refusal process.

Any time while following the steps detailed in UVM-14A and/or UVM-14B the vegetation condition causing the refusal becomes an imminent threat/P1 condition, then the vegetation threat shall be processed and mitigated in accordance with UVM-08, “Vegetation Threat.”

A refusal from the customer and/or property owner may occur at one or multiple points during the vegetation maintenance cycle such as:

Pre-Inspection and/or notification activities

- Tree pruning or removal activities
- Hazard Tree Management Plan
- Quality Control

What is a “Refusal Event”

UVM-14A (TVMP / DVMP)

Customer refusal to perform a prescription or prescribed pruning to achieve RCD plus one year’s growth. NOTE: It is UVM’s goal to achieve TVMP and/or DVMP GRCD-A & GRCD-B clearance distances at time of maintenance. However, the customer may object to the clearance distances SCE is attempting to achieve.

During the interactions and escalation process, UVM personnel should attempt to achieve: GRCD-A/B first, then TCD, then CCD, then RCD plus 1 years-growth. When the RCD plus 1 years’ growth cannot be achieved, then the issue is escalated to the RPPM Event Expeditor as a Vegetation Refusal Event

Allowable exceptions are not considered Vegetation Refusals.

Examples of allowable RCD exceptions to prescribed work include:

(1) Major Woody Stem Exception – clear to 6” of trunk or mature branch that will not sway in the wind; (2) Mature overhang exception; (3) Historic trees

UVM-14B (Heavy Tree) – Heavy Tree is HFRA only

Customer refusal to perform Hazard Tree mitigation in HFRA’s.

Refusal Letters

Refusal Events will initiate the sending of registered letters to the customer

In HFRA (1 registered letter is sent)

- A registered letter is sent to the customer informing them of the safety hazard and cites PRC 4295.5
- Customer is asked to respond and given 10 days to respond to SCE
- Failure to respond will initiate a “Force Prune”

In Non-HFRA (2 registered letters may be sent)

- The first registered letter is sent to the customer informing them of the safety hazard. The letter mentions *service disconnection*
- The customer is asked to respond and given 15 days to respond to SCE
- Failure to respond results in issuance of the second letter. The letter gives the customer 15 days to respond and threatens *service disconnection*
- Failure to respond results in the matter being forward to Consumer Affairs to follow-up with additional correspondence and ultimately *service disconnection*.

When can we “Force Prune”

NOTE: Only the following conditions can result in a “Forced Prune Event,” following exhausting all UVM-14A/14B escalation steps:

UVM-14A

P1 Condition in HFRA or non-HFRA

When RCD plus 1 years-growth cannot be achieved in HFRA only

UVM-14B

Hazard Tree in HFRA only, which is found to contain one or more of the following conditions:

- Dead
- Dying
- Diseased
- Structurally defective

Manage Refusal Events TVMP / DVMP

SCE	Legal, Regulatory, and Compliance	Transmission & Distribution Utility Vegetation Management Program	Procedure	Doc. No.	UVM-14A
				Version	4
Effective Date		5/12/20			
Supersedes		Version 3			



Manage Refusal Events – TVMP / DVMP

Section 4.3.1 describes the actions required by the EE for HFRA's. Section 4.3.2 describes the actions required by the EE for non-HFRA's.

Vegetation refusals are resolved via submittal of registered letters to the property owner. For HFRA, one (1) letter is required, for non-HFRA, two (2) letters are required.


4.3.1 HFRA refusals shall require the following steps:

- EE sends certified letter (Attachment B) to property owner within 7 business days of being notified of the refusal
 - EE works with the C&S Work Scheduler to determine a date for tree maintenance that will be specified on the letter, including the required prescription
- Response from the property owner is required to be received within 10 calendar days of the letter post mark date
 - If response is received and the property owner agrees to the prune, schedule work in accordance with UVM-10
 - If no response, refusal, or property owner wants to meet, then the EE will send a Notifier to meet with the property owner
 - EE will notify the work scheduler to cancel scheduled work
 - Notifier shall take photographs of all vegetation prior to any work being performed
 - To the extent possible, Notifier shall meet with the property owner and explain the regulations and need for the prune
 - Notifier may offer property owner approved options for mitigation such as free removal of tree if heavy prune is prescribed
 - If refusal is resolved, schedule work in accordance with UVM-10
 - Notes and photographs shall be sent to the EE
 - If refusal is not resolved, inform property owner SCE will exercise our right to maintain equipment and vegetation clearances pursuant to PRC §4295.5 and inform the EE of pending force prune event (refer to UVM Refusal Decision Tree)
 - UVM personnel shall inform the appropriate SCE entities and/or local law enforcement agencies of the details for the pending force prune (Refer to UVM Event Playbook)

4.3.2 Non-HFRA refusals for RCD clearance violations shall require the following steps:

- EE sends 1st certified letter (Attachment C) to property owner within 7 business days of being notified of the refusal

Manage Refusal Events TVMP / DVMP (cont.)

SCE	Legal, Regulatory, and Compliance	Transmission & Distribution Utility Vegetation Management Program	Procedure	Doc. No.	UVM-14A	 SOUTHERN CALIFORNIA EDISON Energy for What's Ahead™
				Version	4	
Effective Date		5/12/20				
Supersedes		Version 3				
Manage Refusal Events – TVMP / DVMP						
<ul style="list-style-type: none"> • Response from the property owner is required to be received within 15 calendar days of the letter post mark date <ul style="list-style-type: none"> ○ If response is received and property owner agrees to the prune, schedule work in accordance with UVM-10 ○ If no response is received or property owner continues to refuse, the EE shall perform the following steps: <ul style="list-style-type: none"> ▪ Send 2nd certified letter (Attachment D) to the property owner within 7 business days of the 1st letter response due date ▪ Response from the property owner is required to be received within 15 calendar days of the 2nd letter post mark date ○ If response is received and property owner agrees to the prune, schedule work in accordance with UVM-10 ○ If no response is received or the property owner continues to refuse, then EE forwards all refusal details and correspondence to the Senior Manager and designated Advisor in Consumer Affairs for Electric Disconnect initiation. Consumer Affairs will send appropriate notices to customer following all applicable regulations and tariffs 						
5. EVIDENCE						
Items to retain for Vegetation Refusals:						
<ul style="list-style-type: none"> • Vegetation Work Prescription • Before photographs of site and vegetation prior to prescribed work • Documented conversations between SCE and/or Contractor personnel and customer/property owner • Copies of letter(s) sent to property owner regarding subject address • Proof of Certified Mail receipt • After photographs of site and vegetation once prescription has been completed 						
6. APPROVALS						
Program Manager		Signature			Date	
Melanie Jocelyn, Principal Manager		<i>Melanie Jocelyn</i> / Approved by E-mail			5/12/21	
<small>For Internal Use Only – Southern California Edison Printed copies of this document are uncontrolled. In the case of a conflict between printed and electronic versions of this document, the controlled version published on the Company portal prevails. Page 8 of 18</small>						

6. An easement for UNDERGROUND ELECTRICAL SUPPLY SYSTEMS, COMMUNICATION SYSTEMS and incidental purposes, recorded December 07, 1989 as INSTRUMENT NO. 89- [REDACTED] of Official Records.

In Favor of: SOUTHERN CALIFORNIA EDISON COMPANY, A CORPORATION

Affects: WITHIN 6 FEET OF ALL FRONT LOT LINES, ALSO WITHIN 3 FEET OF ALL SIDE LOT LINES

7. A deed of trust to secure an original indebtedness of [REDACTED] recorded May 18, 2012 as INSTRUMENT NO. [REDACTED] OF OFFICIAL RECORDS.

Dated: May 10, 2012

Trustor:

[REDACTED]

Trustee:

Beneficiary:

MORTGAGE ELECTRONIC REGISTRATION SYSTEMS, INC.

LENDER:

SUNTRUST MORTGAGE, INC.

8. Any defects, liens, encumbrances or other matters which name parties with the same or similar names as [REDACTED]. The name search necessary to ascertain the existence of such matters has not been completed. In order to complete this preliminary report or commitment, we will require a statement of information.

9. The new lender, **if any**, for this transaction may be a Non-Institutional Lender. If so, the Company will require the Deed of Trust to be signed before a First American approved notary.

Claim Form

CLAIM FORM

Please fill out, print and mail to:

Southern California Edison Company
P.O.Box 900
Rosemead, CA 91770

(800)251-3311 - Fax (626) 569-2573
Web Site: www.sce.com/claims
E-mail : claims@sce.com

SCE Customers (Residential)

If you are an SCE customer, please enter your Service Account number below. If you have multiple Service Accounts, please select the one associated with this claim. If you don't know your account number, just select that option.

Service Account Number

3- _____

I don't know my account number.

Contact Information

Please check your contact information below and make any updates necessary. If we have any questions about your claim, we will use this information to reach you.

First Name _____ Last Name _____

Mailing Address _____ Apartment # _____

City _____ State _____ Zip Code _____ Primary Phone # _____

E-mail Address _____ Alternate Phone # _____

Non - SCE Customers

If you are not an SCE customer, you may still use this form to file your claim.

I am not an SCE customer.

When did the incident occur?

Please tell us the approximate date and time of the incident.

Date _____ Time _____ am pm

Trouble Order or Sequence Number

Has SCE already provided a Trouble Order or Sequence Number? If so, please enter it here.

Trouble Order or Sequence Number _____

Location Information

Please enter the location where the incident occurred. If you're not sure about the exact location, just provide as much detailed information as possible in the Incident Description area below.

Same as Customer Contact Information.

Street Address _____ Apartment # _____

City _____ State _____ Zip Code _____

NOTICE TO LAW ENFORCEMENT OFFICERS

California Law Regarding Vegetation Near Power Lines

Both the California Public Resources Code and the California Public Utilities Commission (CPUC) require certain minimum clearance distances between vegetation and power lines be maintained. In addition, Southern California Edison (“SCE”) is required to prune or remove all hazardous, dead, rotten, diseased, or structurally defective live trees.

These are statewide laws and regulations that apply throughout the State of California, and are designed to protect the public from wildfires, downed powerlines, and other safety concerns caused by powerlines coming into contact with vegetation.

California Public Resources Code section 4293 requires a 4-foot minimum clearance be maintained for power lines between 2,400 and 72,000 volts, and a 10-foot clearance for conductors 115,000 volts and above. PRC section 4293 also requires the removal or trimming of dead, diseased, defective and dying trees or limbs that could fall into the lines. This applies in the State Responsibility Area during fire season.

General Order 95, issued by the CPUC, requires a minimum clearance of four feet year-round distance between high-voltage power lines in the CPUC-designated High Fire-Threat Districts and 18 inches in Non High Fire-Threat Districts. These distances are the minimum to be maintained throughout the year at all times.

In addition to maintaining clearances, SCE must remove any hazardous, dead, rotten, diseased, or structurally defective live trees to prevent them from making contact with high voltage power lines. This applies in both in State Responsibility Area and also in High Fire Threat Districts.

California Public Resources Code section 4295.5 states the following:

“(a) Notwithstanding any other law, including Section 4295, any person who owns, controls, operates, or maintains any electrical transmission or distribution line may traverse land as necessary, regardless of land ownership or express permission to traverse land from the landowner, after providing notice and an opportunity to be heard to the landowner, to prune trees to maintain clearances pursuant to Section 4293, and to abate, by pruning or removal, any hazardous, dead, rotten, diseased, or structurally defective live trees. The clearances obtained when the pruning is performed shall be at the full discretion of the person that owns, controls, operates, or maintains any electrical

Notice to Law Enforcement Officers



transmission or distribution line, but shall be no less than what is required in Section 4293. This section shall apply to both high fire threat districts, as determined by the California Public Utilities Commission pursuant to its rulemaking authority, and to state responsibility areas”



SCE Requires Your Assistance To Maintain Public Safety

SCE is committed to protecting public safety, maintaining electric reliability, and reducing the risks of wildfire. As a result of detailed inspections, SCE has determined that vegetation exists on the property at issue, _____, that poses significant risks and/or violates vegetation laws and regulations referenced above.

SCE requests your assistance in permitting SCE to gain access to the property at issue in order for SCE employees or contractors to address the vegetation hazard. Please note that under *California Public Resources Code section 4295.5*, in High Fire-Threat Districts, SCE has the legal right to traverse private property in order to do such work after providing notice to the property owner and the right to be heard.

In addition, SCE requests your assistance to avoid any risks to SCE employees or contractors that may arise out of SCE's actions.

Notice to Law Enforcement Officers (cont.)

END OF DAY TWO!

Helpful Information

☐ **CEU COURSE CODE:**

TO FOLLOW...

"UVM Core Plans Training"

Number of granted CEUs: 3.5

☐ **SAFETY MOMENT: Day 1/2**

[Field and Office Safety tips - Supplemental Slides](#)

For any Vegetation Management Compliance Training
needs:

Contact **Vee Sterling** @ veesterling@sce.com

