

PUC & Board Regulations related to overhead cables

Impetus:

Board Call for Regulatory Review, December 2018 – Item Received from CAL FIRE

3. 14 CCR § 1104.1 (b) Utility Right-of-Way Exemption

The Department has no specific proposed rule modification proposals for consideration at this time. However, it would seem prudent in light of the recent vegetation clearance rule revisions adopted by the California Public Utilities Commission to conduct a review of the Board's rules for utility right-of-way construction and maintenance. Concurrent with the CPUC rule changes, public utility right-of-way maintenance activities have increased significantly. The Department accordingly suggests the Board direct the Forest Practice Committee to conduct a review of the current rules for the Utility Right-of-Way Exemption, 14 CCR Section 1104.1(b).

Statutes:

PRC 4292: Except as otherwise provided in Section 4296, any person that owns, controls, operates, or maintains any electrical transmission or distribution line upon any mountainous land, or 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 fire protection of such areas, maintain 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 firebreak which consists of a clearing of not less than 10 feet in each direction from the outer circumference of such pole or tower. This section does not, however, apply to any line which is used exclusively as telephone, telegraph, telephone or telegraph messenger call, fire or alarm line, or other line which is classed as a communication circuit by the Public Utilities Commission. The director or the agency which has primary fire protection responsibility for the protection of such areas may permit exceptions from the requirements of this section which are based upon the specific circumstances involved.

PRC 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.

PRC 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.

PRC 4296: Sections 4292 and 4293 do not apply if the transmission or distribution line voltage is 750 volts or less.

PUC 8037: The commission may grant such additional time and shall inspect all work which is included in the provisions of this article, and may make such further additions or changes as the commission deems necessary for the purpose of safety to employees and the general public. The commission shall enforce the provisions of this article.

Regulations:

Board of Forestry	Public Utilities Commission
Applies in any mountainous land, forest covered land, brush covered land, or grass covered land within the State Responsibility Areas. (CCR 14 § 1252)	Applies where overhead conductors traverse trees and vegetation.
Minimum firebreak and clearance provisions are applicable during the declared fire season for a respective county. (CCR 14 § 1253)	
Clearances are applicable within an imaginary cylindrical space surrounding each pole or tower on which a switch, fuse, transformer, or lightning arrester is attached and surrounding each dead end or corner pole unless such pole or tower is exempt. (CCR 14 § 1254)	
The radius is 3.1 m (10ft) measured horizontally from the outer circumference of the specified pole or tower with height equal to the distance from the intersection of the imaginary vertical exterior surface of the cylindroid with the ground to an intersection with a horizontal plane passing through the highest point at which a conductor is attached to such pole or tower. (CCR 14 § 1254)	
Flammable vegetation located within the firebreak space shall be: At ground level – remove ground litter, duff, dead or desiccated vegetation. From 0-2.4m (0-8ft) above ground level – remove flammable trash, debris, grass, herbaceous and brush vegetation, limbs and foliage of trees removed up to 2.4m (8ft). From 2.4 (8ft) to horizontal plane of highest point of conductor attachment – remove dead, diseased, or dying limbs and foliage from living trees and any dead, diseased, or dying trees in their entirety. (CCR 1255 or PRC 4296)	
Minimum clearances not required around poles and towers where all conductors are continuous over or through a pole or tower; where all conductors are not continuous but all conductors and subordinate equipment are compression	

Board of Forestry	Public Utilities Commission
<p>connectors, automatic connectors, parallel groove connectors, hot line tap or clamp connectors designed to absorb expansion or contraction, Fargo GA 300 series piercing connectors for use with tree wire, flat plate connectors with not less than two bolts, tapered C-shaped member and wedge connectors, solid blade single phase bypass switches and solid blade single phase disconnect switches associated with circuit reclosers, sectionalizers and line regulators, equipment that is completely sealed and liquid filled, or current limiting non-expulsion fuses; where fire will not propagate in fields planted to row crops, plowed or cultivated fields, producing vineyards that are plowed or cultivated, fields in nonflammable summer fallow, irrigated pastureland, orchards of fruit, nut, or citrus trees, Christmas tree farms, swamp, marsh or bog land; Where vegetation is maintained less than 30.48 cm in height, is fire resistant, and is planted and maintained for the purpose of preventing soil erosion and fire ignition. (CCR 14 § 1255)</p>	
<p>Clearances shall be maintained at a right angle to the conductor axis at any location outward throughout an arc of 360 degrees and shall include:</p> <p>Any position through which the conductor may move, considering the size and material of the conductor and its span length</p> <p>Any position through which the vegetation may sway, considering the climatic conditions. (CCR 14 § 1256)</p>	<p>Radial clearances around energized conductors under normal weather conditions (not at 60 degrees, no wind):</p> <p>In High Fire Threat District: 2,400 – 72,000 volts – 12 ft 72,000 – 110,000 volts – 20 ft 110,000 – 300,000 volts – 30 ft 300,000 or more volts – 30 ft</p> <p>** do not apply to orchards of fruit, nut, or citrus trees that are plowed or cultivated, in those cases the “Outside High Fire Threat District” clearances apply.</p> <p>Outside High Fire Threat District: 2,400-72,000 volts – 4 ft 72,000-110,000 volts – 6 ft 110,000-300,000 volts – 10 ft 300,000 or more volts – 15 ft</p> <p>** it may be prudent to have larger clearances and that is at the discretion of the utility company. ** there may be additional requirements in SRA.</p>
<p>Exempted where conductors are: Insulated tree wire with a high density and abrasion resistant outer covering is intact; insulated self-supporting aerial cable is maintained with insulation intact; supported by sound and living tree trunks with no dead or decadent branches. (CCR 14 § 1256 (a)(1))</p>	<p>Exempted where conductors or aerial cables comply with Rule 57.4 C, are energized at less than 60,000 volts, where trimming and 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.</p>
<p>Exempted for mature trees whose trunks and major limbs are located more than six inches, but less than the distance required for clearance from</p>	<p>Mature trees whose trunks and major limbs are more than six inches, but less than the clearances required in Table 1, from conductors are exempt from the minimum clearance requirements under</p>

Board of Forestry	Public Utilities Commission
<p>distribution equipment. These trees must meet the following criteria: Size of the tree or limb at the conductor level must be at least 6 inches in diameter. Must not have scaffold branches below 8.5 feet from the ground. (CCR 14 § 1256 (a)(3)(A))</p>	<p>this rule. Only applies to those with strength and rigidity sufficient to prevent the trunk or limb from encroaching upon the six-inch minimum clearance under foreseeable local wind and weather conditions. Utility bears the risk of determining whether this exemption applies.</p>
<p>Utility companies with conductors in SRA shall: Inspect exempt trees annually. Maintain a database of information about exempt trees. Report the information required in an electronically researchable format annually to CAL FIRE. When constructing, installing, replacing, or maintaining equipment, prevent the creation of new exempt trees. Where there are site specific indications that a conductor has or will come into contact with an exempt tree, the condition will be corrected either by altering the tree or by applying an engineering solution. Exemptions do not apply to hazard trees as defined in the Department's Powerline Fire Prevention Field Guide. (CCR 14 § 1256 (a)(3)(B))</p>	<p>When a supply or communication company has knowledge 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, those trees or portions of trees should be removed.</p>
	<p>Energized at 750 volts or less – should be kept clear of vegetation in new construction and when circuits are reconstructed or repaired. If the company has knowledge that one of these circuits shows strain or evidences abrasion, the condition shall be corrected by reducing conductor tension or rearranging or replacing the conductor, pruning the vegetation or placing mechanical protection on the conductors.</p>
	<p>Exempted when the utility has documentation of an attempted personal contact and a written communication (certified) with no permission granted.</p>