

SEP 24 1996

**ORIGINAL**

Decision 96-09-097 September 20, 1996

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

Investigation on the Commission's own motion and Order to Show Cause to determine if San Diego Gas & Electric Company should be held in violation of the Commission's General Order 95 for failure to have exercised reasonable tree trimming practices and procedures.

(Filed June 8, 1994)

**OPINION**

In this decision we address proposed modifications to

General Order (GO) 95 that govern utility tree trimming around electric power lines as one aspect of the plenary review of statewide tree trimming practices which we have undertaken in this investigation. We are taking the extraordinary step of proposing adoption on an interim basis of standards proposed in a settlement made among a number of the parties in this proceeding, in the interest of immediately affording specific standards to assure public safety and electric distribution system reliability. We also provide for further proceedings to conclude this investigation and to promulgate permanent standards based upon broadened public comment.

Introduction

Several circumstances have recently converged to motivate us to propose rules modifying GO 95 as it concerns utility tree trimming. Severe rainstorms in Pacific Gas and Electric Company's (PG&E) territory during 1995 resulted in outages, hazards and system damage which appear to have been more pronounced as a result of inadequate tree trimming. Southern California Edison Company (Edison) and San Diego Gas & Electric Company (SDG&E) have also reported outages caused by foliage contacting power lines.

Over the course of the summer, the 11 western states and parts of Canada and Mexico were affected by two widespread sustained outages. Reportedly, both incidents occurred when transmission lines sagged and made contact with trees growing under the lines. In August, a fire broke out in Sonoma County that burned thousands of acres, including homes and vineyards. PG&E has assumed responsibility for the fire, reporting that it began when a tree limb contacted a 12-kilovolt (kV) power line. Officials estimate the cost of the fire to be \$10 million in lost property and fire fighting. Apparently, PG&E has recently been prosecuted criminally by local authorities as a result of fires in forested areas that started when tree branches made contact with PG&E power lines.

The California Legislature recently evinced its concern about such events. The Supplemental Report of the 1996 Budget Act directs the Commission to address various elements of electric service and safety no later than December 2, 1996, as follows:

Standards For Electric Distribution. On or before December 2, 1996, the Commission shall prepare and adopt specific, measurable, and enforceable standards for electric distribution system maintenance and operations to ensure system reliability, and to minimize or prevent service interruption due to storms, earthquakes, fire and other disasters. The standards shall specify tree trimming and brush clearing requirements, consistent with existing laws, which ensure that the electric distribution system is protected from damage.

The standards shall require the Commission to investigate and take appropriate action against utilities which fail to meet the standards. The Commission shall report to the Legislature on the adoption of these standards on or before January 1, 1997. (Emphasis added.)

The fires and outages of the past few months, and the recent legislative directive, give greater urgency to our current effort to investigate statewide tree trimming practices and

requirements. Our effort to adopt comprehensive uniform utility safety requirements as one aspect of this proceeding, which we initiated in June 1994, following the electrocution of a farmworker as he pruned trees beneath a transmission line, has been a difficult task because of the great variations in topography, vegetation, human occupancy, land use, and utility maintenance practices throughout the state. Moreover, arriving at the best solution requires careful consideration not only of the technical aspects of electric utility transmission, safety, and arboriculture, but also of the rights and interests of customers and affected property owners, and potential effects upon the natural environment.

Up to this point we have permitted those persons and organizations most directly affected—the utilities and their employees, property owners, and environmental advocates—to conduct their own discourse with the Commission's utilities safety staff in a public workshop setting in an effort to fashion a consensus for improved procedures and better standards under our tree trimming rule. This process produced the settlement proposal now before us, which represents a monumental effort by its sponsors and others over an 18-month period. It is not without controversy, however. Concerns raised by commenting parties reveal a need for closer examination of the problem before we adopt final standards or conclude the investigation. Nevertheless, we cannot ignore the fact that recent events have caught up with this proceeding and given it new dimension and direction, and we embrace the proposed settlement as a temporary solution with adequately specific, measurable, and enforceable standards to ensure system reliability and minimize or prevent service interruption until we are able to complete our work.

Procedural Background

We opened this proceeding to investigate the tree trimming practices of SDG&E after the unfortunate fatality in that utility's territory. One month later we expanded the scope of our

investigation to make all other investor-owned California electric utilities respondents for the purpose of reviewing their tree-trimming practices, to ensure that our investigation has statewide scope and effect. (Decision (D.) 94-07-033.)

We investigated the accident in SDG&E's territory and found that company's tree-trimming practices, and in August 1995 we issued D:95-08-054, which adopted a settlement between SDG&E and the Commission staff. The settlement is very specific, addressing the relevant hazards presented by the incident and SDG&E's own practices, and will expressly be superseded by any new tree-trimming rules we adopt to the extent that it may not be consistent with new requirements.

With regard to the remaining policy issues, we conducted a series of workshops under staff direction to explore tree-trimming issues generally and allow the parties an opportunity to determine whether they could reach a consensus for new rules and standards. After the completion of workshops, several of the parties filed the proposed settlement on April 8, 1996. The settlement is signed by a number of jurisdictional electric utilities, the Commission's Utilities Safety Branch (USB) and others, but several parties filed comments opposing the settlement pursuant to Rule 51 of our Rules of Practice and Procedure, and one signatory has withdrawn his support altogether.

Existing Rules for Tree Trimming Practices

Rule 35 of the Commission's GO 95 governs tree-trimming practices of electric distribution utilities. Rule 35 now sets forth our tree-trimming requirements in the following very general terms:

Where overhead wires pass through trees, safety and reliability of service demand that a reasonable amount of tree trimming be done in order that the wires may clear branches and foliage.

trimming practices of SDG&E after the accident. The utility's territory is located that they can fall into a crossing span or into any span that could

shall be removed wherever practicable.

The state's Public Resources (PR) Code governs the utilities' responsibilities for maintaining vegetation around transmission and distribution facilities in any "mountainous land" or in forest-covered lands, brush-covered land, or grass-covered land. Section 4293 of the PR Code specifies clearances around all varieties of power lines ranging from four feet to 10 feet. The California Department of Forestry (CDF) promulgated rules to implement Section 4293 which are included in Title 14 of the California Code of Regulations, Section 1250 through Section 1258. A copy of PR Code Section 4293 is attached to this decision as Appendix A, and CDF's rules are attached as Appendix B. The Settlement was proposed to the Commission in early April 1996, and was discussed at a prehearing conference held April 15. At that time, it was not yet fully executed by the nominal signatories, nor had the Commission received all of the comments or the replies thereto. It was filed in conjunction with a report on the workshops dated March 1996, which was prepared by members of USB and the Legal Division, with the assistance of three of the utilities. The settlement identifies the workshop participants' perception of what the four major issues of the new investigation are, but its substantive provisions on their face address only one of these major issues.

The settlement agreement states that GO 95 "should be changed in three ways." These changes, as proposed in Attachment A, are principally in the nature of clarifications to the general language of current Rule 35. A table of specific clearances from Rule 37 would be modified and imported to Rule 35 to provide ascertainable minimum standards under the latter rule, and certain exceptions would be added for circumstances where compliance by the utilities was either impracticable or beyond

their control. Additional guidelines are included, but do not appear to be proposed to have any binding effect. Finally, implementation is specified to commence on the effective date of our decision adopting the settlement, but full compliance with the requirements of the clearance table would not commence until two years after that date and would be accomplished on a phased schedule to prevent hardship to the utilities and their customers. The full text of the settlement is attached as Appendix C, Protests to the Settlement.

Intervenors who commented on the settlement raised several issues relating to public safety and environmental impacts. Sevier opposes the 6' clearance proposed by the settlement on the basis that it will make power lines difficult to see and therefore present a safety hazard to children, gardeners and others who trim trees. Sevier believes that the proposed clearance leaves only two weeks of growing time for some trees during peak growing season. After that time, new growth may cause the lines to spark. Sevier proposes yearly inspections for clearances and fines for instances of sparking which occur due to utility inaction.

Adams makes similar comments. He also observes that the 6' clearance proposed by the settlement will be difficult to measure and enforce due to the movement of foliage as a result of weather conditions. Adams believes the settlement parties derived the clearances from the American National Standards Institute's standards for porcelain line insulator wet flashover voltages. He observes that these standards apply to clearances between distribution equipment that is stationary, unlike tree branches which may move substantially due to weather conditions.

Adams opposes as self-evident the proposed exception to the rules that the utilities may not always be in conformance and that the Commission may take corresponding action. Adams compares the proposed settlement to PR Code requirements and proposes their

compliance by the utilities was either impracticable or beyond

adoption. He also proposes specific changes to Rule 35 which are consistent with PR Code requirements. Bailey argues that the settlement may present significant impacts on the environment and, accordingly, the Commission must review the settlement in light of the California Environmental Quality Act (CEQA). Bailey states that the settlement will require the utilities to undertake additional tree trimming. As evidence in support of his position, he observes that the settlement anticipates additional utility costs and permits the utilities to defer implementation two years.

Bereckzky apparently mailed comments to the parties which address the settlement. His comments were not filed and are therefore not presently in the official record of this proceeding. Nevertheless, we recognize his concern that tree trimming efforts of the utilities may affect the ornamental qualities of trees. Settling Parties' Response to Intervenor Comments

Settling parties acknowledge that the proposed rules will not eliminate all accidents. They do, however, believe that the proposed rules are a reasonable accommodation that would complement existing law, including the PR Code. Settling parties believe that the proposed 6" clearance is adequate to protect the public and balances public safety with cost considerations. Settling parties do not agree with Adams that a 4" clearance is appropriate in urban settings. Specifically, settling parties believe the utilities do not have rights to trim trees on private property. Settling parties comment that the comments of Sevier and Adams lack credibility because Sevier failed to attend the workshops and Sevier because Adams initially appeared to support the settlement.

Settling parties address Bailey's contention that new rules require review under CEQA at some length. First, they argue that tree trimming activities are categorically exempt from CEQA review because they are continuing maintenance activities pursuant to rules which have been in effect for more than 60 years. Because

the rules predate the adoption of CEQA in 1970, they are exempt as "ongoing projects," according to Settling Parties. Settling parties respond that the settlement does not substantially change utility tree trimming practices, but merely clarifies utility obligations under the existing rules. They go on to state that any changes to the tree trimming rules will not cause damage to environmentally sensitive resources or scenic resources.

Settling parties argue that Berezky's comments ignore the fact that this proceeding and GO 95 address system safety, not rather than appropriate clearances for maintaining the aesthetic characteristics of privately owned vegetation. Berezky's comments

Applicability of CEQA

CEQA requires a California governmental agency to undertake a specified process of review of the effects of most decisions that may have an impact upon the environment. However, to the amendment of GO 95 over which we deliberate here is not a "project" requiring review under CEQA. Tree trimming around utility power lines is an ongoing maintenance activity that has not been required by this Commission for over 60 years, and our proposed refinement of the existing, generally phrased rule by insertion of specific and enforceable standards merely interprets and clarifies it without substantive change. Under this decision the obligation of a utility to keep its wires clear of branches and foliage remains unchanged, but that obligation is made clearer under the consensus reached by the parties themselves after comparing existing practices and will be solidified in the final order. The review process under CEQA therefore does not come into play in this instance.

Discussion

The settlement proposed for adoption specifies ascertainable clearance standards for wires or other conductors, that varying in extent according to the voltage carried. The suggested standards are rationally related to the well-known problems of

presented by foliage in the vicinity of energized lines, and we also understand from the accompanying motion that these parameters were developed by the workshop participants after some 18 months of his continuous and diligent effort. We have high regard for these efforts, and we do not take them lightly and to our credit.

According to recitals in the settlement document, nine workshops were held to address the issues presented by the need to trim trees in the vicinity of overhead lines. After the first and second workshops, the participants decided to establish four subcommittees, each of which would address one of the four significant issues they had identified. The subcommittee participants endeavored to have the broadest possible representation. Subcommittee Four was charged with the task of determining whether Rule 35 of LGO 95, the tree trimming rule, should be changed. The other subcommittees undertook consideration of regulations relating to tree trimming and equipment, local ordinances and private property owners' rights to bare access, and ways to increase public awareness of electrical hazards.

Subcommittee Four held a total of 11 meetings. The debate within the subcommittee was vigorous, and eight of the 11 meetings were conducted with the assistance of a facilitator at the behest of the subcommittee members, who believed that this measure would enhance the productiveness of their deliberations. At the conclusion of its work, Subcommittee Four recommended that Rule 35 and applicable provisions of Rule 37 be modified to provide a specific separation between conductors and vegetation, according to the voltage carried by the conductor. The specific recommendations for these separations are those which are proposed in the settlement and embodied in the appendices.

From our perspective, this long and intricate process consumed at least as much effort as the parties would have devoted to the formal presentation of evidence and the briefing of issues if we had held hearings on this part of our investigation from the



Of course, the settlement filed herein does not meet all of these criteria. It is not sponsored by all active parties. Three active parties (have contested the settlement by way of comments) and one has withdrawn support altogether. We also have some concern as to whether all affected interests were adequately represented in the workshop process.

Although the settlement does not meet our criteria for an "all-party" settlement, we must consider whether, on balance, it would serve the public interest. Our standard of review is whether the settlement, taken as a whole, is in the public interest (see New D.94-04-088). In so doing, we consider individual elements of the settlement in order to determine whether the settlement generally balances the various interests at stake, as well as to assure that each element is consistent with our policy objectives and the law. As we have explained, recent events which have threatened lives, property, and the overall reliability of our electric distribution system compel us to act quickly. This circumstance, coupled with the great deference which we accord the settlement process, leads us to conclude that we must adopt the material terms of the settlement as an interim device to ensure public safety and system reliability. This measure will add specific, meaningful language and standards to the current rules giving substance to its general directives. It is not the final solution, but it is a significant step in the right direction. Although we have some concern about adopting, even on an interim basis, a standard which would allow a clearance of as little as six inches, we emphasize that these are minimum clearances to be maintained at all times and not standards directing the exact amount of pruning to be performed.

Inasmuch as the settling parties have agreed that a requirement to implement the new standards immediately would work a hardship on the utilities and their customers, we elaborate upon that portion of the settlement by adding a schedule which requires

with existing laws, which ensure that the electric distribution system is protected from damage.

compliance to be achieved on a cumulative schedule in proportion to the passage of time. Although consistent with the settled terms, this new feature varies from the literal language of the settlement, and we are therefore providing an opportunity for parties and others to comment on the order.

Our action today is consistent with existing laws, and we provide that the Commission will investigate and take appropriate action against utilities that fail to meet these standards. We thus conclude that our action will serve the public interest, as well as fulfilling the Legislature's expression of intent. Because we are unable to resolve the issues raised by some of the comments, we will feel more comfortable with any final rule if we accept additional comments concerning the standards we contemplate adopting. Our order provides that we will accept those additional comments from parties and the public before adopting the final interim tree-trimming rules. Our order also provides a civil procedure to adopt final rules. We will seek comment on final rules in a schedule to be established expeditiously by the administrative law judge. Parties who comment on final rules should comment on whether the interim rules should be adopted as final rules. Parties should also comment on whether the standards set forth in the Public Resources Code should be adopted as the final rule. Our subsequent investigation in this proceeding will reflect consideration of the work of the other three subcommittees, which our order today intentionally defers.

**Findings of Fact**

Storm damage, fires, and power outages have occurred recently, resulting from contact between vegetation and utility power lines.

2. The California Legislature has directed the Commission to adopt tree-trimming standards no later than December 27, 1996. The legislative directive includes a requirement that the standards specify tree-trimming and brush-clearing requirements, consistent with existing laws, which ensure that the electric distribution system is protected from damage.

3. GO 95 contains utility responsibilities with regard to trimming trees and vegetation around power lines.

4. Rule 35 of GO 95 currently states the Commission's tree trimming requirements as follows:

Where overhead wires pass through trees, safety and reliability of service demand that a reasonable amount of tree trimming be done in order that the wires may clear branches and foliage.

Trees so located that they can fall into a crossing span or into any span that could communicate the trouble to a crossing span shall be removed wherever practicable.

5. Rule 35 requires the articulation of specific standards to ensure the public safety and reliability of the electric distribution system consistent with the amended order instituting this proceeding, and compliance with the intent of the Legislature expressed in its recent directive.

6. A proposed settlement ("settlement") was filed in this proceeding on April 8, 1996, with a motion for its adoption by the Commission.

7. The settlement was signed, inter alia, by Edison, PG&E, SDG&E, IBEW, PPL, Sierra, William Adams, and USB (jointly, "settling parties"). Subsequently, Adams withdrew from the settlement, and he and Bailey, Sevier, and Bereczky submitted comments in opposition to a number of its features.

8. Section 4293 of the Public Resources Code governs electric utility responsibilities for maintaining vegetation around power lines in mountainous land, forest-covered land, brush-covered land and grass-covered land.

9. The provisions of the settlement would clarify the tree trimming obligations of utilities under GO 95 by adopting specific, measurable, and enforceable standards for maintenance and operation of the electric distribution system, and specific tree trimming and brush clearing requirements to protect the system from damage.

10. Requiring immediate compliance with the standards proposed in the settlement to apply to Rule 35 would impose a hardship on the utilities and their customers. An incremental compliance schedule requiring cumulative compliance of 25, 50, 75, and 100 percent, respectively, at the six, twelve, eighteen- and twenty-four month dates after initial implementation is reasonable.

11. The substance of the settlement was considered by all interests under the procedure established by the parties.

12. The settlement is reasonable in light of the whole record, consistent with law, and in the public interest.

13. It is in the public interest to adopt interim clarifications to our tree trimming requirements immediately.

14. There is a further need to examine our tree trimming requirements and resolve other issues in this proceeding. Further investigation of tree trimming should encompass all aspects of tree trimming by utilities, including the inquiries conducted by Subcommittees One, Two, and Three in the workshop process.

Conclusions of Law

1. The adoption of modifications to GO 95 which would clarify existing regulatory requirements is not a "project" as defined by CEQA.

2. The material features of the settlement taken as a whole, would effectuate the public interest.

3. Adoption of the settlement terms would carry out the Legislature's intent, as reflected in its recent directive in the Supplemental Report of the 1996 Budget Act.

4. The settlement terms are consistent with existing laws.

5. The settlement is reasonable in light of the whole record.

6. The Commission should adopt the settlement terms as an interim measure to clarify the utilities' tree trimming requirements, but should hold further proceedings as expeditiously as possible to finalize the tree trimming rules, and to conclude



Reply comments may be filed 15 days after the filing date for the opening comments under this paragraph. Following the filing of opening comments and replies, the Commission will adopt its final tree-trimming requirements. The final rule will remain in effect until superseded by a rule, regulation, or standard which may thereafter be lawfully adopted.

4. As expeditiously as possible after the decision becomes final, the assigned Administrative Law Judge shall conduct evidentiary hearings to create a formal record and conclude this investigation proceeding. The record shall include evidence concerning all issues encompassed by the amended order instituting investigation.

5. The Commission's Energy Division (formerly Utilities and Safety Branch) shall monitor the respondents' compliance with the standards applicable under this order and the terms of the settlement, and shall investigate and take prompt and appropriate enforcement action against utilities which fail to meet its standards within the specified times.

This order is effective today.  
Dated September 20, 1996 at San Francisco, California.

P. GREGORY CONLON  
President  
DANIEL W. FESSLER  
JESSIE J. KNIGHT, JR.  
HENRY M. DUQUE  
JOSIAH L. NEEPER  
Commissioners

adopt the standards set forth in the Public Resources Code as the final rule, or adopt any other standard which the commenting party endorses, with an explanation as to why it is more appropriate.

PUBLIC RESOURCES CODES

Section 4292

Power Line Clearance Required. Except as otherwise provided in sections 4292 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, shall, however, be required to clear the land.

Section 4101

"Person" Defined. "Person" includes any agency of the state, county, city, district, or other local public agency, and any individual, firm, association, partnership, business trust, corporation or company.

Note: This definition includes publicly owned utilities (e.g., REA, SMUD, LA Dept. of Water and Power, etc.). It does not include federal agencies (e.g., Bureau of Reclamation, U.S. Army Corps of Engineers, etc.)

(a) For any line which is operating at 75,000 volts or more volts, but less than 110,000 volts, six feet.

(b) For any line which is operating at 75,000 or more volts, but less than 110,000 volts, six feet.

Section 4292

Power Line Hazard Reduction. 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 of Forestry 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 of Forestry and Fire Protection 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.

Section 4293

**Power Line Clearance Required.** 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 lands, brush-covered land, or grass-covered land shall, during such times and in such areas as are determined to be necessary by the Director of Forestry and Fire Protection of 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 of Forestry and Fire Protection of 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.

Section 4294

**Aerial Cable.** Clearing to obtain line clearances is not required if self-supporting aerial cable is used. Forked trees, leaning trees, and any other growth which may fall across the line and break it shall, however, be removed.

Section 4295

Clearance Not Required. A person is not required by Section 4292 or 4293 to maintain any clearing on any land if such person does not have the legal right to maintain such clearing, nor do such sections require any person to enter upon or to damage property which is owned by any other person without the consent of the owner of the property.

Section 4296

Low Voltage Lines. Sections 4292 and 4293 do not apply if the transmission or distribution line voltage is 750 volts or less.

(END OF APPENDIX A)

equipment jumper or tap conductor to an energized main line or primary conductor.

**TITLE 14, CALIFORNIA CODE OF REGULATIONS**

**Section 1250. PURPOSE.** The purpose of Article 4 is to provide specific exemptions from electric pole and tower firebreak clearance standards, electric conductor clearance standards and to specify when and where the standards apply.

**Section 1251. DEFINITIONS.** The following definitions apply to this article unless the context requires otherwise.

a. **Agency which has primary responsibility for fire protection** means the public agency which is the primary agency responsible for fire prevention and suppression on mountainous or forest covered land, brush covered land or grass covered land within its respective jurisdiction.

b. **Conductor** means a wire, or a combination of wires designed and manufactured for use in the transmission and distribution of electrical current.

c. **Connector** means a splice or splicing device approved for energized electrical connections.

d. **Duff** means partially decayed leaves, needles, grass or other organic material accumulated on the ground.

f. **Firebreak** means a natural or artificial barrier usually created by the removal or modification of vegetation and other flammable materials for the purpose of preventing the ignition or spread of fire.

g. **Hot line tap, or clamp, connector** means a connector designed to be used with a Grip-All Clamp stick (Shotgun) for connecting

(b) When, pursuant to PRC 4122-4128, the Board revises state responsibility area boundaries, the Director will forward a legal description of a boundary change(s) to the respective electric utility(s) serving the area(s).

**Section 1252.2. Boundary location - Roads, Etc.** Where the boundaries of areas described in 14, CCR 1252, are along roads, highways, streets,

equipment jumper or tap conductors to an energized main line or running conductor.

h. Outer Circumference means the exterior surface of a pole or tree at ground level or a series of straight lines tangent to the exterior of the legs of a tower at ground level.

i. Self-supporting aerial cable means an assembly of abrasion resistant insulated conductors supported by a messenger cable which is normally grounded, designed, and manufactured to carry electrical current for installation on overhead pole lines or other similar overhead structures.

Tree wire means an insulated conductor covered with a high abrasion resistant, usually non-metallic outer covering, designed and manufactured to carry electrical current for installation on overhead pole lines or other similar overhead structures.

Section 1252. Locations where, PRC 4292, 4293 Apply. The minimum firebreak and clearance provision of PRC 4292-4296 are applicable upon any mountainous or forest covered land, brush covered land, or grass covered land within state responsibility area unless specifically exempted by 14 CCR, sections 1255 and 1257.

Section 1252.1 Official Area Maps Areas where the provisions of PRC 4292-4296 apply are delineated on maps for state responsibility areas, as "Official Map State Responsibility Area for Fire Protection" filed in the Office of the Director, Fire Protection Section, 1416 Ninth Street, Sacramento, California 95814.

(a) The official maps are available during normal business office hours for viewing and copying.

(b) When, pursuant to PRC 4125-4128, the Board revises state responsibility area boundaries, the Director will forward a legal description of a boundary change(s) to the respective electric utility(s) serving the area(s).

Section 1252.2. Boundary Location - Roads, Etc. Where the boundaries of areas described in 14, CCR 1252, are along roads, highways, streets,

boundaries, shall be the centerline of the course of such roads, highways, streets, railroads, streams, canals and rivers.

**Section 1252.3 Boundary Location Section Lines, Etc.** Where the boundaries of the area described in 14, CCR, 1252, are on section, township or range lines, or on powerline rights-of-way, the poles, towers and conductors located thereon are within the area described.

**Section 1253. Time When PRC 4292-4296 Apply.** The minimum firebreak and clearance provisions of PRC 4292-4296 are applicable when vegetation, whether living or dead, is flammable and will propagate fire (see figure 2, page 80).

(a) From May 1 through November 15 of each year in the counties of Butte, Colusa, Del Norte, Glenn, Humboldt, Lake, Lassen, Marin, Mendocino, Modoc, Napa, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Solano, Sonoma, Sutter, Tehama, Trinity, Yolo and Yuba;

(b) From April 15 through November 30 of each year in the counties of Alameda, Alpine, Amador, Calaveras, Contra Costa, El Dorado, Fresno, Kings, Madera, Mariposa, Merced, Monterey, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Stanislaus, Tulare and Tuolumne;

(c) From January 1 through December 31 of each year in the counties of Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara and Ventura.

**Section 1254. Minimum Clearance Provisions -**

The firebreak clearances required by PRC 4292 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 from minimum clearance requirements by provisions of PRC 4296. The radius of the cylindrical space is 3 diameters (10 feet) 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 surface of the cylinder 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. (See figure 3, page 81) Flammable vegetation and materials located wholly or partially within the firebreak space shall be treated as follows:

(a) At ground level, remove flammable materials, including but not limited to, ground litter, duff and dead or desiccated vegetation that will propagate fire and;

(b) From 0-2.4 m (0-8 feet) above ground level - remove flammable trash, debris or other materials, grasses, herbaceous and brush vegetation. All limbs and foliage of living trees shall be removed up to a height of 2.4 m (8 feet).

(c) From 2.4 m (8 feet) to horizontal plane of highest point of conductor attachment - remove dead, diseased or dying limbs and foliage from living sound trees and any dead, diseased or dying trees in their entirety.

Section 1255. Exemptions to Minimum Clearance

Provisions of PRO 4292. The minimum clearance provisions of PRO 4292 are not required around poles and towers, including line junction, corner and dead end poles and towers;

- (a) Where all conductors are continuous over or through a pole or tower;
- (b) Where all conductors are not continuous over or through a pole or tower, provided, all conductors and subordinate equipment are of the types listed below and are properly installed and used for the purpose for which they were designed and manufactured;

- (1) Compression connectors;
- (2) Automatic connectors;
- (3) Parallel groove connectors;
- (4) Tap or clamp connectors that were designed to absorb any expansion or contraction by applying spring tension on the main line or running conductor and tap connector.
- (5) Series piercing connectors applied pole or tower with height equal to the radius of the insulator.

(6) Flat plate connectors installed with not less than two bolts.

(7) Tapered c-shaped member and wedge connectors (Fig. 30)

(8) Solid blade single phase bypass switches and solid blade single phase disconnect switches associated with circuit reclosers, sectionalizers and line regulators.

(9) Equipment that is completely sealed and liquid filled.

(10) Current limiting, non-expulsion fuses.

(11) On the following areas if fire will not propagate thereon:

(1) Fields planted to row crops.

(2) Plowed or cultivated fields.

(3) Producing vineyards that are plowed or cultivated.

(4) Fields in nonflammable summer fallow.

(5) Irrigated pasture land.

(6) Orchards of fruit, nut or citrus trees that are plowed or cultivated.

(7) Christmas tree farms that are plowed or cultivated.

(8) Swamp, marsh or bog land.

(9) Where vegetation is maintained less than 30.48 cm (12 inches) in height, is fire resistant, and is planted and maintained for the specific purpose of preventing soil erosion and fire ignition.

Section 1256. Minimum Clearance Provisions - PRC 4293

Minimum clearance required by PRC 4293 shall be maintained with the specified distances measured at a right angle to the conductor axis at any location outward throughout an arc of 360 degrees.

Clearance shall include any position through which the conductor may move considering the size and material of which the conductor is made, span

length, foreseeable wind velocities for any location and height, species and flammability of adjacent vegetation.

11. Section 1257. Exempt Minimum Clearance Provisions  
- PRC 4293. The minimum clearance provisions of PRC 4293 are not required.

(a) Where conductors are:

(1) Insulated tree wire maintained with the high density, abrasion resistant outer covering intact, or,

(2) Insulated self-supporting aerial cable, maintained with the insulation intact, or,

(b) On areas described in 14, CCR, 1255 (c);

(c) Except:

(1) Dead and decadent or rotten trees, trees weakened by decay or disease, leaning trees and portions thereof that are leaning toward conductor(s) and any other growth which may fall across the conductor and break it are removed or trimmed to remove such hazard.

(2) The trunk of any tree is not required to be removed when sound and living, and is the supporting structure to which conductor(s) are attached.

12. Section 1258. Tree Lines When electric conductors and subordinate elements are fastened to living sound trees, commonly referred to as tree lines, the requirements of PRC 4292 and 4293 shall apply the same as to a pole or tower line.

Section 1256. Minimum Clearance Provisions - PRC 4293. Minimum clearance required by PRC 4293 shall be maintained with the specified distances measured at a right angle to the conductor axis at any location outward throughout an arc of 360 degrees.

Clearance shall include any position through which the conductor passes. (END OF APPENDIX B) Considering the size and material of which the conductor is made, span

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

request of various interested parties, that workshops be conducted in an effort to achieve a negotiated resolution of the issues presented in Phase II. The first of nine such workshops took place on September 22, 1994. By the second workshop, the

- Investigation on the Commission's own motion and Order to Show Cause to determine if San Diego Gas & Electric Company should be held in violation of the Commission's General Order 95 for failure to have exercised reasonable tree trimming practices and procedures.

restrictions on pruning imposed by governmental agencies and with customers who do not give the utilities access to trees located on their property?

The parties to this settlement (the "Settling Parties") are the Utilities Safety Branch ("USB") of the Safety and Enforcement Division of the California Public Utilities Commission ("Commission"), Pacific Gas and Electric Company ("PG&E"), Southern California Edison Company ("SCE"), San Diego Gas & Electric Company ("SDG&E"), Pacific Power and Light ("PPL"), Sierra Pacific Power Company ("SPPC"), International Brotherhood of Electrical Workers ("IBEW"), Los Angeles Department of Water and Power ("LADWP") and Sacramento Municipal Utilities District ("SMUD").

BACKGROUND

On June 8, 1994, the Commission issued an Order instituting Investigation and Order to Show Cause in response to the electrocution in 1992 of a farm worker in the service territory of SDG&E. On July 8, 1994, in Decision (D.) 94-07-033, the Commission divided this proceeding into two phases. Phase I would deal with the farm worker's electrocution and Phase II with tree trimming by all electric utilities in California. Phase I was resolved by a settlement between SDG&E and USB which the Commission approved in D.95-08-054.

At a Prehearing conference held on August 10, 1994, the Presiding Administrative Law Judge ("ALJ") directed, at the request of various interested parties, that workshops be conducted in an effort to achieve a negotiated resolution of the issues presented in Phase II. The first of nine such workshops took place on September 29, 1994. By the second workshop, the participants determined that their efforts should focus on four specific questions:

- 1) Can legislation be enacted to reduce the number of accidents each year caused by long handled hand held tools coming into contact with overhead electrical lines?
- 2) Are additional ways available for utilities to deal with restrictions on pruning imposed by governmental agencies and with customers who do not give the utilities access to trees located on private property?
- 3) How can the public, especially tree trimmers and agricultural workers, be made more aware of the dangers of overhead electrical lines?
- 4) Should Rule 35 of General Order (GO) 95 be changed?

By November 30, 1994, the participants agreed that the workshops would be enhanced if a subcommittee were established to address each of these four matters in detail. The participants decided that each subcommittee should have five members. One member would be from USB, one from a utility in Northern California, one from a utility in Southern California, one from another public agency and one from among the various intervenors participating in the workshops.

Subcommittee Four was formed to address changes to General Order 95. It consisted of representatives from the IBEW, PG&E, SMUD, SDG&E and USB. Representatives from the other parties were invited to attend the subcommittee's meetings but could not vote.

Subcommittee Four held eleven meetings.

On February 21, 1995, the members of Subcommittee Four agreed that their deliberations would be enhanced by the participation of an independent facilitator. It then selected a professional facilitator who had assisted in other proceedings.

before the Commission. He acted as a facilitator for eight of the Subcommittee's meetings.

At the conclusion of these facilitated meetings, Subcommittee Four presented its findings and recommendations to the other participants. Its primary recommendation was that Rule 35 and applicable provisions of Rule 37 of General Order 95 be modified to provide a specific separation between conductors and vegetation according to voltage. The Settling Parties agree to this recommendation as set forth below.

**AGREEMENT**

**A. Changes to General Order 95**

General Order 95 should be changed in three ways. First, Rule 35 should be revised to clarify the responsibilities of each electric utility when its pruning or removal of encroaching trees is not practicable and when it cannot obtain permission to prune encroaching trees located on private property. Second, Rule 35 should provide that, when unusual circumstances would make performance impracticable, the utility may be directed by the Commission's staff to take prompt remedial action. Third, Rule 37, Table 1, should be revised to add Proposed Case 13, establishing (a) a minimum separation of six inches between line conductors and vegetation under normal conditions for circuits energized with more than 750 volts to 35,000 volts and (b) a range of additional separations for circuits energized with more than 35,000 volts. A copy of the proposed changes to General Order 95 is included as Attachment A.

**B. Implementation**

The immediate implementation of these revisions would present a substantial hardship to California's electric utilities and their ratepayers. Accordingly, the Settling Parties agree that Revised Rule 35 should commence on the effective date of the Commission's decision approving this settlement, but that the requirements in established Rule 37, Case 13, should commence two years after that date.

before the Commission. He acted as a facilitator for eight of

**C. Monitoring of Electrical Accidents**

At the conclusion of these fact-finding proceedings, the Commission's report on the monitoring of electrical accidents is not addressed in this settlement because it is under consideration in Off (I.) 95-02-015.

**D. Consequences for Rate-making**

The costs of complying with Revised Rule 35 should not now be determined but instead be deferred to later proceedings which each utility deems appropriate.

**E. Protection of Parties Against Liability**

The Settling Parties agree that no signatory hereto nor any member of the Commission's staff assumes any personal liability as a result of this Settlement. The Settling Parties agree that no legal action may be brought in any state or federal court, or in any other forum, against any individual signatory representing the interests of any individual settling party, its staff or its attorneys regarding this settlement. All their rights and remedies are limited to those available before the Commission.

**Best Efforts** (a) A minimum separation of conductors and vegetation under normal conditions for circuits. The Settling Parties agree to extend their best efforts to ensure the adoption of these recommendations by the Commission, including actively defending the Settlement with mutually acceptable defenses if its approval is opposed.

**G. Execution**

The undersigned, on behalf of the Settling Parties they represent in this proceeding, hereby agree to abide by the conditions and the recommendations set forth herein. The Settling Parties agree that this Settlement may be executed in counterparts. The Settlement shall be considered executed as of the date that the last party has signed it. This constitutes the entire agreement of the parties.

Respectfully submitted,

Respectfully submitted,

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California Public Utilities Commission

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I.94-06-012

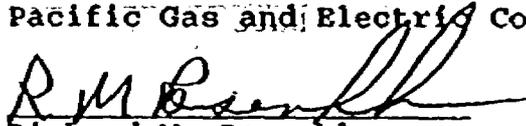
APPENDIX C  
Page 7

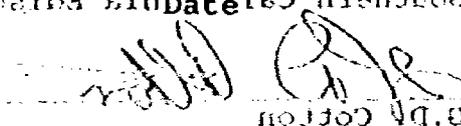
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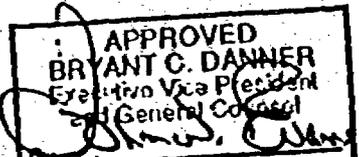
Shan Bhattacharya Vice President Technical and Construction Services Pacific Gas and Electric Company	Shan Bhattacharya Vice President Technical and Construction Services Pacific Gas and Electric Company
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Bill Eaquinto Assistant Vice President of Customer Operations Pacific Power and Light	Bill Eaquinto Assistant Vice President of Customer Operations Pacific Power and Light
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David Norris Attorney for Sierra Pacific Power Company	David Norris Attorney for Sierra Pacific Power Company
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APPROVED  
 BRYANT C. DANNER  
 Executive Vice President  
 General Counsel  
  
 Attorney  
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 California Public Utilities Commission

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Attorney for  
Bill Adams  
Date

Party \_\_\_\_\_  
Date \_\_\_\_\_

Party \_\_\_\_\_  
Date \_\_\_\_\_

Party \_\_\_\_\_  
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Party \_\_\_\_\_  
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Date 03/27/96

Party

Date

Party

Date

**PROPOSED - RULE 35****35. TREE TRIMMING**

Where overhead wires pass through trees, safety and reliability of service demand that a reasonable amount of tree trimming be done in order that the wires may clear branches and foliage. The minimum clearances established in Table 1, Case 13, measured between line conductors and vegetation under normal conditions, shall be maintained. (Also see Appendix E for tree trimming guidelines).

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

Communication and electric supply circuits, energized at 750 volts or less, including their service drops should be kept clear of limbs and foliage, in new construction and when circuits are reconstructed or repaired, whenever practicable. When a utility has actual knowledge, obtained either through normal operating practices or notification to the utility, that any circuit energized at 750 volts or less shows strain or evidences abrasion from tree contact, the condition shall be corrected by slacking or rearranging the line, trimming the tree or placing mechanical protection on the conductor(s).

**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 utility 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. 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 utility 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 non-conformance with the rules. In such cases, the utility may be directed by the Commission to take prompt remedial action to come into conformance.

PROPOSED - RULE 37

PROPOSED RULE 37

THEE THIMING 32

**37.0 MINIMUM CLEARANCES OF WIRES ABOVE RAILROADS, THOROUGHFARES, BUILDINGS, ETC.**

Clearances between overhead conductors, guys, messengers or trolley span wires and tops of rails, surfaces of thoroughfares or other generally accessible areas across, along or above which any of the former pass; also the clearances between conductors, guys, messengers or trolley span wires and buildings, poles, structures, or other objects, shall not be less than those set forth in Table 1 at a temperature of 60° F. and no wind.

The clearances specified in Table 1, Case 1, Columns A, B, D, E and F, shall in no case be reduced more than 5% below the tabular values because of temperature and loading as specified in Rule 43. The clearances specified in Table 1, Cases 2 to 10 inclusive, shall in no case be reduced more than 10% below the tabular values because of temperature and loading as specified in Rule 43.

The clearance specified in Table 1, Case 1, Column C (22 1/2 feet), shall in no case be reduced below the tabular value because of temperature and loading as specified in Rule 43.

The clearances specified in Table 1, Cases 11, 12 and 13, shall in no case be reduced below the tabular values because of temperatures and loading as specified in Rule 43.

**EXCEPTIONS**

Where supply conductors are supported by suspension insulators at crossings over railroads which transport freight cars, the initial clearances shall be sufficient to prevent reduction to clearances less than 95% of the clearances specified in Table 1, Case 1, through the breaking of a conductor in either of the adjoining spans.

Where conductors, dead ends, and metal pins are concerned in any clearance specified in these rules, all clearances of less than 5 inches shall be applicable from surface of conductors (not including tie wires), dead ends, and metal pins, except clearances between surface of crossarm and conductors supported on pins and insulators (referred to in Table 1, Case 9) in which case the minimum clearance specified shall apply between center line of conductor and surface of crossarm or other line structure on which the conductor is supported.

All clearances of 5 inches or more shall be applicable from the center lines of conductors concerned.

Exception 1 of exception 2 is not applicable to the utility as it is not covered by Resolution E-3076, adopted January 8, 1950 by Decision No. 31186 and March 9, 1950 by Resolution E-3076.

3. The Commission recognizes that unusual circumstances beyond the control of the utility may result in non-compliance with the rules. In such cases, the utility may be directed by the Commission to take prompt remedial action to come into compliance.

PROPOSED CHANGE TO TABLE 1

Case No.	Nature of Clearance	A Span Wires (other than trolley span wires) overhead guys and messengers	B Communication conductors (including open wire, cables and service drops), supply service drops of 0-750 volts	C Trolley contact, feeder and span wires, 0-5,000 volts	D Supply conductors of 0-750 volts, and supply cables treated as in Rule 57.8	E Supply conductors and supply cables 750-22,500 volts	F Supply conductors and supply cables 22.5-300 kv	G Supply conductors and supply cables 300-550 kv (mm)
13 (See Note 1)	Radial clearance of bare line conductors from tree branches or foliage. (aaa)	.....	.....	6 in. (bbb)	.....	6 in. (bbb)	1/4 Pin spacing shown in Table 2, Case 15 (bbb)	1/2 Pin Spacing shown in Table 2, Case 15

(aaa): Special requirements for communication and supply circuits energized at 0-750 volt.....

(bbb): May be reduced for conductors of less than 60,000 volts when protected from abrasion and grounding by contact with the tree.....

Note 1: Per resolution Number \_\_\_\_\_, this case to be implemented on \_\_\_\_\_

**PROPOSED - APPENDIX E**

**APPENDIX E**

The following are guidelines to Rule 35.

The radial clearances shown below are minimum clearances that should be established, at time of trimming, between the vegetation and the energized conductors and associated live parts where practicable. Vegetation management practices may make it advantageous to obtain greater clearances than those listed below:

- A) Radial clearance for any conductor of a line operating at 2,400 or more volts, but less than 72,000 volts..... 4 feet
- B) Radial clearance for any conductor of a line operating at 72,000 or more volts, but less than 110,000 volts..... 6 feet
- C) Radial clearance for any conductor of a line operating at 110,000 or more volts, but less than 300,000 volts..... 10 feet
- D) Radial clearance for any conductor of a line operating at 300,000 or more volts..... 15 feet

Note 1: See regulation number \_\_\_\_\_ this code is for the purpose of  
with the line  
with distances from vegetation and surrounding live parts  
May be reduced for conductors of less than 60 (N/A) volts  
conductor for 120 volt  
250000 requirements for communication and other services

(END OF APPENDIX C)

No. 13	Minimum clearance of parts	300-220 KV substation conductors and equipment	300-220 KV substation conductors and equipment	300-220 KV substation conductors and equipment	300-220 KV substation conductors and equipment
No. 14	Minimum of Clearance	100-120 KV substation conductors and equipment	100-120 KV substation conductors and equipment	100-120 KV substation conductors and equipment	100-120 KV substation conductors and equipment
No. 15	Minimum of Clearance	72-110 KV substation conductors and equipment	72-110 KV substation conductors and equipment	72-110 KV substation conductors and equipment	72-110 KV substation conductors and equipment
No. 16	Minimum of Clearance	2400-72000 substation conductors and equipment	2400-72000 substation conductors and equipment	2400-72000 substation conductors and equipment	2400-72000 substation conductors and equipment
No. 17	Minimum of Clearance	72000-110000 substation conductors and equipment	72000-110000 substation conductors and equipment	72000-110000 substation conductors and equipment	72000-110000 substation conductors and equipment
No. 18	Minimum of Clearance	110000-300000 substation conductors and equipment	110000-300000 substation conductors and equipment	110000-300000 substation conductors and equipment	110000-300000 substation conductors and equipment
No. 19	Minimum of Clearance	300000 or more substation conductors and equipment			

STANDARD OF ELECTRICITY

APPENDIX E