ALJ/ANW/tcg *

**Mailed 6/28/99**

Decision 99-06-080 June 24, 1999

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

| | |
|---|---|
| Application of PACIFIC GAS AND ELECTRIC COMPANY for Authority Among Other Things, to Decrease its Rates and Charges for Electric and Gas Service, and Increase Rates and Charges for Pipe Expansion Service.<br><br>(Expansion and Gas) (U 39 M) | Application 94-12-005<br>(Filed December 9, 1994) |
| Commission Order Instituting Investigation into the rates, charges, service, and practices of Pacific Gas and Electric Company. | I.95-02-015<br>(Filed February 22, 1995) |



Pam Nataloni, for Utility Safety Branch and Office of Ratepayer Advocates.
Lise Jordan and Charles R. Lewis IV, for Pacific Gas and Electric Company.
Thomas Corr, for Toward Utility Rate Normalization.

## TABLE OF CONTENTS

## TABLE OF CONTENTS
(Cont'd)

## OPINION

This opinion addresses Pacific Gas and Electric Company's (PG&E) response to the severe wind and rainstorms of December 1995. Based on the record before us, we find PG&E's response not to be unreasonable, except for unreasonable events relating to support and maintenance of its outage information systems and failure to adequately staff customer service representatives which impacted customer call service on December 12, 1995. For these events, we fine PG&E $20,000 and $5,000, respectively, under Pub. Util. Code § 2107, and the costs of the fines are to be borne by PG&E shareholders. We also find that PG&E acted unreasonably in processing some of its claims related to the storm, and fine PG&E $60,000. We order the cost of all claims related to the storm to be borne solely by PG&E's shareholders. PG&E shall not recover these costs from ratepayers in the account used for claims payment, as authorized in the general rate case, nor should these costs be used as expense forecasts in PG&E's pending GRC. We direct changes to be made to PG&E's claims procedures to prevent future customer confusion over the claims process. We order PG&E to work with the Commission's Public Advisor which will review and approve modifications to the wording on its monthly bill regarding how to file a claim. We adopt certain of the agreements as to policy, technical and procedural improvements made between Office of Ratepayer Advocates (ORA), the Consumer Services Division's Utility Safety Branch (USB), and PG&E in their Joint Testimony and PG&E's rebuttal testimony in this proceeding.[1]

[1] During the pendency of this proceeding, the Commission reorganized its staff. ORA's predecessor, the Division of Ratepayer Advocates, and Consumer Services Division USB's predecessor, Safety Division USB, were the actual participants.

Further, we determine that it is appropriate to open a rulemaking to determine the appropriate wood pole minimum safety factor for Grades "A," "B," "C," and "F" and the appropriate relationship between the safety factor and subsequent additions to wood poles. Until that proceeding concludes, the interim standard adopted in D.98-12-058 continues to apply. Finally, we direct certain safety and reliability studies be made in the areas of conductor spacing and undergrounding.

## I. Overview of 1995 Storms and Related Commission Investigations

In January and March 1995, California experienced unusually harsh rainstorms causing an estimated $1.3 billion in damages. In response to the January and March 1995 storms, PG&E repaired, replaced, or repositioned more than 7,700 spans of wire, 1,584 poles, and 980 distribution transformers. Over 1.4 million customer service outages occurred in January 1995, and over 1.3 million outages occurred in March 1995. Most lasted less than two hours with an average restoration time of five hours. Over 64,000 outages exceeded 24 hours.

Due to complaints from customers to the Commission about the outages, futile attempts to reach PG&E's service representatives over the telephone, dangerous conditions, and poor information from PG&E, and due to allegations that PG&E's system was unsafe, the assigned Commissioner issued a ruling on March 28, 1995, stating that the Commission would investigate PG&E's response to the January and March 1995 storms. Hearings were held in April 1995.

On September 7, 1995, the Commission issued Decision (D.) 95-09-073. The Commission found that the record did not demonstrate that PG&E's storm response was unreasonable or that its system management unreasonably contributed to the outages or to the damages and hazards created on PG&E's system during the storms. The Commission did find that employee reductions,

extended maintenance cycles, and a poorly designed customer service telephone system affected the efficacy of PG&E's response to the 1995 storms. (D.95-09-073, mimeo. at 13.) The Commission also adopted recommendations of the predecessor to its ORA regarding improvements to PG&E's customer service telephone system. These improvements were required to be implemented by November 7, 1995. (Id., Ordering Paragraph 1.)

In D.95-09-073, the Commission also found that the evidence raised many concerns as to the adequacy of PG&E's service during the January and March storms and the regulatory environment within which it operates. However, the Commission recognized that no operational standards existed for measurement of such service concerns. Therefore, the Commission broadened the investigation docket to make other regulated utilities respondents in order to establish uniform operational standards for evaluating regulated utilities' performance (service and safety phase).[2] This service and safety phase was later converted to Rulemaking (R.) 96-11-004.

In D.95-09-073, the Commission also declared it would consider matters regarding the adequacy of PG&E's tree trimming program in more detail in Investigation (I.) 94-06-012 pursuant to D.94-07-033. In D.96-09-096

---

[2] In D.96-09-045 (September 4, 1996), the Commission proposed reporting and recording requirements for electric utilities that cover (a) system reliability using uniform methods for assessing data on the frequency and duration of system disturbances, (b) circuits that persistently perform poorly and (c) accidents or incidents affecting reliability. Among other things, D.96-09-045 continued the proceeding to issue proposed standards on transmission and distribution system inspection, maintenance, and replacement cycles. In D.96-11-021 (November 6, 1996), the Commission adopted standards for electric distribution system inspections under Pub. Util. Code § 364 and stated that it would develop standards for operation, reliability, and safety during periods of emergency and disaster, under Pub. Util. Code § 364. These proposed emergency standards were issued in D.98-03-036 (March 12, 1998). The Commission adopted such standards in D.98-07-097. The Commission is considering additional standards and R.96-11-004 is still ongoing.

(September 20, 1996), the Commission adopted interim modifications to GO 95's Rule 35 governing tree trimming around electric power lines. In D.97-01-044 (January 23, 1997), the Commission finalized the rules to set standards specifying ascertainable clearance standards for wires or other conductors according to voltage carried, which are phased in over a two-year period. The Commission will monitor compliance and take prompt enforcement action against any utility in violation of the timetable.

On September 3, 1998, the Commission opened its investigation into PG&E's tree-trimming operations and practices, I.98-09-007. In this proceeding we will consider whether PG&E has violated Pub. Util. Code § 451 by failure to comply with tree-trimming clearances and/or vegetation control requirements, what practices led to the alleged problems, the current state of its tree-line clearance and vegetation control program, what enforcement measures, if any, should be adopted to ensure compliance and whether expenditures of safety and reliability funds under AB 1890 were accounted for properly.[3] Hearings in I.98-09-007 commenced March 16, 1999. Nothing in today's decision pre-judges any issue in that proceeding.

On December 11 and 12, 1995, a major rain and windstorm hit northern California. Peak winds reached speeds exceeding 100 miles per hour (mph) in several places within PG&E's service area. The December storm subjected a large portion of PG&E's service territory to the most severe winds experienced since the mid-1960s. PG&E experienced damage to 109 wood transmission poles, 1,490 wood distribution poles, 32 transmission towers, 940 distribution transformers,

[3] In PG&E's test year 1999 general rate case (GRC), A.97-12-020, we are reviewing a reasonable revenue requirement for tree-trimming and compliance with the AB 1890's accounting and tracking requirements.

86 miles of transmission conductor, and 435 miles of primary, secondary, and service conductor. The majority of the damage was caused by falling trees and tree limbs or other objects being blown into PG&E's electrical equipment. PG&E's system sustained over $70 million in damages. There were more customer interruptions on December 12 than on both of the worst single days of the January and March 1995 storms. The number of customer interruptions on December 12, 1995, exceeded those associated with the 1989 Loma Prieta earthquake.

Due to the hundreds of complaints about PG&E's lack of accessibility and slow response to restore service, the assigned Commissioner again issued a ruling calling for a December storm investigation as to whether PG&E could have prevented the electric outages or responded better to customer inquiries after they occurred. The assigned Commisioner's ruling also stated that the Commission would investigate whether PG&E had made the improvements timely as required by D.95-09-073 to its customer service telephone system.

In spring 1996, hearings were held to determine PG&E's compliance with the customer telephone service requirements of D.95-09-073. On November 6, 1996, the Commission issued D.96-11-014 finding that PG&E did not comply with the requirements of D.95-09-073 in the months of November and December 1995 and penalizing PG&E in the amount of $480,000. PG&E was sanctioned only for its failure to comply with our prior order for the 24 days between November 6, 1995 and November 30, 1995. The Commission found that it could not adjust the call response data to remove the effect of the December 1995 storm days. Recognizing that the standards in D.95-09-073 were measurements of a reasonable response during the periods of relative normalcy, the Commission made no findings regarding the December outages and call center performance. Instead, it left any findings regarding the reasonableness of PG&E's response to

the storm and the relationship between PG&E's management practices and the December outages to this phase of the proceeding. In D.97-11-083 (November 19, 1997) rehearing of D.96-11-014 was denied.

Hearings on the reasonableness of PG&E's response to the December 1995 storm were held June 17, 18, and 20, 1996, in San Francisco. This decision resolves this inquiry.

The Commission received comments on the proposed decision of ALJ Watson on February 4, 1999, and reply comments on February 9, 1999. ALJ Watson recommended several changes to the proposed decision as a result of these comments, most notably in the discussion of whether PG&E's management of its information system and claims processing was reasonable, as opposed to negligent.

## II. Pending Motions

### A. The Motion to Consolidate

On June 6, 1996, PG&E filed a motion to consolidate its 1997 base revenues filing (Application (A.) 96-04-002) (base revenue application) with this docket investigating the reasonableness of its response to the December 1995 storm. Although PG&E's base revenue requirements were set in its last general rate case (GRC) pursuant to D.95-12-005, in A.96-04-002, PG&E sought a waiver of the rate case plan to enable it to receive an increase of $156 million to its base revenue requirement. PG&E asserted that recommendations made by ORA and USB in this proceeding for improved design, maintenance and construction of its transmission and distribution systems and improvements to the call centers would require funding above the adopted levels in the last GRC decision. PG&E requested that the December storm investigation be broken into two phases so that any cost issues, resulting from ORA and USB recommendations which

would require funding, would be adjudicated in conjunction with the base revenue application.

ORA and USB did not respond to the motion to consolidate. The Utility Reform Network (TURN) opposed the motion.

We have informed PG&E, as well as all interested parties, throughout the course of this proceeding that the purpose of the instant proceeding is to determine the reasonableness of PG&E's actions relating to the December 1995 storms. This forum is an improper one in which to consider the financial ramifications of any changes in PG&E's maintenance practices, whether arising sua sponte as a result of the December storms or pursuant to agreements with certain parties in this proceeding or orders of the Commission. However, since we dismissed A.96-04-002 in D.96-12-066 (December 20, 1996), this motion is moot.

### B. The Motion to Strike Portions of TURN's Brief

In its opening brief in this proceeding, TURN asserts that PG&E chronically underspent maintenance dollars which had been authorized in rates. To support this contention, it attaches as Appendix A a data request response forwarded by PG&E to TURN in the base revenue application, A.96-04-002. TURN also attaches as Appendix B to its opening brief its own aggregation of the data contained in Appendix A. TURN admits that neither Appendix A nor B were items of evidence in the proceeding but contends they should be allowed as exhibits of counsel. TURN argues that since Appendix A is material produced by PG&E during the course of discovery, it is reliable. It asserts that because Appendix B is a numerical aggregation of the material in Appendix A, absent any computational errors, it is as reliable as Appendix A. Even though the Appendix A data request was made in A.96-04-002, TURN argues that since PG&E moved to consolidate the two proceedings, its introduction in this docket is appropriate.

Finally, TURN declares that it made the data request on May 7, 1996, and had PG&E responded prior to the conclusion of hearings on June 20, 1996, TURN would have sought to introduce Appendices A and B in the hearing record in this proceeding.

PG&E moved to strike TURN's exhibits of counsel in Appendices A and B in its opening brief. PG&E objects to the submission of the data request response and table of extrapolation therefrom without an opportunity to examine the material on the record at the hearing. It also argues that the data response is incomplete, as it does not contain revenue requirement reductions approved in 1994 and 1995, and therefore is misleading.

Finally, PG&E contends it was not dilatory in responding to TURN's data request. PG&E observes that TURN made the request in the base revenue application proceeding, not the instant docket. PG&E notes that TURN did not request that the data be provided prior to or during the course of the hearings in this proceeding. PG&E asserts that had TURN asked for the information in this data request prior to the hearings, it would have provided it. Therefore, PG&E argues there is no legal basis for the introduction of the Appendices A and B exhibits of counsel and requests that they be stricken from the record.

We find that the attempt to include Appendices A and B in the record is untimely and inappropriate. Although the adequacy of PG&E's plant maintenance and repair prior to the emergency were within the scope of this proceeding, TURN did not bring Appendices A and B to our attention in a timely manner. More importantly, the extent to which PG&E deferred maintenance in the past, and the impact of any such deferral on PG&E's current and future spending is a subject which parties addressed at length in PG&E's pending General Rate Case (GRC) (A.97-12-020). Since there is a fully developed record on this issue in the GRC, we will defer any findings on PG&E's distribution

system maintenance practices to that proceeding. Therefore, we grant PG&E's motion to strike Appendices A and B of TURN's opening brief. Any portion of TURN's opening brief or reply brief discussing Appendices A and B shall also be stricken.

### C. The Motion for an Order Accepting New Evidence

On February 4, 1999, PG&E filed a motion for a Commission order accepting three pieces of new evidence: a letter from Pacific Bell to PG&E which sets forth Pacific Bell's interpretation of GO 95, a letter from the California Independent System Operator (ISO) to PG&E adopting PG&E's maintenance practices pursuant to PU Code § 348 and the Transmission Control Agreement, and PG&E's "Spotlight" Special Edition from December 1998.

PG&E argues that during the two and one-half years since the close of hearings in this case, many changes and events have occurred which are relevant to resolution of certain issues in the proposed decision. Specifically, PG&E argues that the Pacific Bell letter is relevant to the Commission's resolution of the pole loading issue. PG&E claims that the ISO letter is relevant to the Commission's resolution of transmission maintenance issues. Finally, PG&E states that the Spotlight article is relevant to the resolution of the claims communication process. PG&E therefore requests that these documents be received into evidence.

No responses to the motion were filed, but ORA did address this motion in its reply comments. ORA urges the Commission to deny PG&E's motion, which it claims is an attempt by PG&E to impede the proposed decision and clutter the record. ORA argues that while the Commission needs to consider policy questions raised by PG&E and general revisions to GO 95, this proceeding is not the proper forum. Furthermore, ORA argues that the new evidence is untimely, without authentication, has not been subject to cross-examination, and

is unreliable. For example, ORA continues, the Pacific Bell letter purporting to describe its interpretation of GO 95 directly conflicts with information already on the record which states that Pacific Bell uses the National Electrical Safety Code standards for loading its cables and poles.

We agree with ORA. PG&E's Motion for an Order Accepting New Evidence is denied. Further, we note that, based on comments, we have modified the proposed treatment of the pole loading issue and recognized the role of the ISO in our conclusions regarding transmission services. These revisions remove any possible need for the documents PG&E requests we receive.

### D. The Motion for Official Notice

In its Motion for Official Notice, filed February 4, 1999, PG&E requests that official notice be taken of three documents: Reply Comments of the California Cable Television Association, filed July 31, 1998, in the Right of Way phase of our Local Competition proceeding, R.95-04-043/I.95-04-044; an excerpt from the ISO's FERC-approved tariff, the Tranmission Control Agreement; and a portion of PG&E's Exhibit 6 from its 1999 GRC, A.97-12-020.

PG&E argues that Rules 73 and 72 provide for the taking of official notice. It claims that the Reply Comments are relevant to the pole loading issue addressed in this proceeding. The ISO document is presumed to be offered by PG&E as relevant to the transmission services issues resolved in this docket. PG&E states that it requests official notice of the Exhibit 6 information to provide the record in this case with information concerning the percentage of poles tested in the pole test and treat program which were found to be unsuitable for treating.

In its reply comments, ORA makes the same arguments for denying this motion as it did PG&E's Motion for an Order Accepting New Evidence. We

deny PG&E's Motion for Official Notice because we do not need the information offered to arrive at our decision.

### E. The Petition for Late Intervention

On February 4, 1999, California Cable Television Association, Time Warner Entertainment-Advance/Newhouse, ICG Telecom Group Inc., and Nextlink of California, LLC (collectively, Late Petitioners) filed a petition for late intervention and comments. Late Petitioners argue that they had not intervened earlier in the proceeding for they understood the proceeding affected the rates and practices of PG&E alone. The publication of the proposed decision revealed that the Commission was considering adopting an interpretation of GO 95, specifically Rule 44.2 on pole loading standards, which could seriously affect the rights of Late Petitioners, who attach to PG&E's poles. Late Petitioners argue that absent the granting of their intervention, the interests of facilities-based telecommunications providers will not be represented.

The Late Petitioners' request is denied. As described in this decision and as anticipated in our Rights of Way decision (D.98-12-058), we will take comments in our Local Competition proceedings (R.95-04-043/I.95-04-044) on the preliminary conclusion we have reached to adopt ORA's interpretation of GO 95, which requires the loading on poles to meet or exceed the safety factor of four. Late Petitioners' interests may be represented by filing comments in the Local Competition proceeding pursuant to a schedule to be determined by the Assigned Administrative Law Judge.

## III. Scope of the Assigned Commissioner's Ruling on the December Storm

On December 19, 1995, in response to a multitude of consumer complaints, the assigned Commissioner issued a ruling that required hearings to explore PG&E's response during the storm of December 11 through 12, 1995. The ruling

stated that the Commission would consider whether PG&E acted reasonably in maintaining its system to ensure its integrity during rainstorms and other natural disasters, and whether PG&E's response to the December storm was reasonable. Issues to be considered at the hearing included:

customer access to customer service employees;

availability of operations and field employees;

adequacy of plant maintenance and repair prior to the emergency; and

adequacy and timeliness of plant maintenance and repair during the emergency.

Parties were permitted to address the remedies, if any, that should be available to PG&E customers as a result of PG&E's actions, including but not limited to:

reparations to customers for reduced service reliability;

penalties or fines;

adjustments to the electric revenue adjustment mechanism (ERAM) account for reduced "demand" during the outage; and

damages to customers for property loss.

In response to the assigned Commissioner's ruling, on March 22, 1996, PG&E served its report on the December storm. On May 24, 1996, ORA and USB served their reports in response to PG&E's report. Also on that date, TURN served its prepared testimony on PG&E's December 1995 storm response. At the June hearings, ORA, USB, and PG&E introduced jointly sponsored testimony, which consisted of agreements on certain recommendations made by ORA and USB in their testimony (Joint Testimony). These agreements arose out of a settlement conference which was noticed and held on June 7, 1996. TURN did not join in the Joint Testimony. The Administrative Law Judge (ALJ) permitted

ORA and PG&E to submit a late-filed exhibit, which was a supplement to the Joint Testimony, to clarify the agreements made as to some ORA recommendations. At the hearing PG&E's storm response report, ORA's report on PG&E's service response to the December 1995 storm and USB's report on the safety of PG&E's response to the December 1995 storm were introduced as evidence. Neither ORA nor USB cross-examined PG&E witnesses. There was only minimal cross-examination by PG&E of ORA and USB witnesses. The case was submitted upon the filing of reply briefs on July 25, 1996.

## IV. Summary of the Parties' Positions

### A. PG&E

In its report, PG&E contends that the December 1995 storm was much more severe than the January and March 1995 storms. It asserts that the improvements it implemented after the January and March storms but prior to the December storm helped improve its response. PG&E believes that, under extremely difficult circumstances, PG&E did an outstanding job of repairing its system and restoring power to customers safely and quickly. PG&E states that 90% of its customers had service restored within 24 hours with no reported injuries to employees or the public. PG&E contends it performed exceptionally compared to its own performance during the January and March storms, which was found by the Commission not to be unreasonable, and when compared to other utilities' responses to similar devastating storms. PG&E believes that the severity of the storm and the resulting long outages accounted for the volume of customer complaints. It asserts these do not automatically indicate the need for Commission review of its storm response.

PG&E argues that the Commission's review of its maintenance practices and progress updates, under the service and safety phase of this proceeding, now R.96-11-004, will provide ongoing assurance to the Commission

and its customers that PG&E maintains its system appropriately, even if the system is damaged due to a storm. Therefore, PG&E contends that there should be no need for retrospective reviews of its response to future storms.

PG&E declares that its emergency response procedures at both the corporate and local levels worked well under the extreme circumstances of the December storm. PG&E also asserts that its priority of "making safe first"[4] before any other power restoration activities ensured a safe restoration process both during and after the storm. PG&E states that it processed over 5,800 claims consistently, fairly, and in record time resulting in few customer complaints. PG&E points to its implementation of improvements after the January and March 1995 storms and additional improvements made after the December 1995 storm. PG&E details its improvements to its communication efforts through its call center, media and contacts with local officials, and emergency response organizations. It also cites improvements or planned improvements to its operating systems as a result of experience from the December storm. These include outage information system improvements, transmission improvements, distribution improvements, and improvements in the vegetation management program. Finally, PG&E asserts that the outage management system in place during the December storm was a reasonable system and its replacement should be treated like all other utility investments to improve customer service.

### B. ORA

ORA focuses its report on service matters. ORA's report on PG&E's December storm response states that, generally, ORA had observed continual

[4] "Making safe first" means PG&E, upon learning of an outage, dispatches an assessment crew whose first priority is to protect life and property by making the area safe. Then the crew investigates the damage to PG&E's system. At this point, the crew's findings are reported to the operations/dispatch crew, which then sends out a repair crew.

progress in PG&E's call center performance and the company's handling of other internal and external communications issues. ORA also acknowledges the severity of the December storm. It concludes that PG&E's inspection and maintenance practices appeared to be generally adequate. However, ORA cites problems in the area of overhead system integrity and recognizes the necessity of a stronger, more centralized management for PG&E preventative maintenance programs and the need for a maintenance manual.

ORA has serious concerns about excessively loaded and overstressed joint-use wood power line poles. ORA expresses concern that, as part of PG&E's inspection and maintenance program, PG&E's attempt to inspect all its wood poles over a five-year period would not be completed timely. ORA asserts that current PG&E internal guidelines for replacement and rehabilitation of deteriorating wood power line poles are inconsistent with GO 95.

ORA finds that, generally, necessary repairs and restoration of power service by PG&E during and after the December storm were adequate and timely. While personnel, vehicle, equipment and materials' movements were efficient, ORA observes that there were a low number of experienced and senior field personnel at one or two field locations visited by ORA. ORA believes that the retention of some 800 workers in 1995 improved the adequacy of construction and maintenance forces during the December storm. ORA concludes that PG&E's rate of customer restoration was adequate in light of the size and diversity of its service territory and customer base.

ORA concurs that generally the PG&E distribution system outages during the December storm reflected the storm's severity and exceeded the sum of the outages in the January and March 1995 storms. While ORA found one overvoltage condition that might be attributed to the storm, such a condition is not a common occurrence.

Despite some inherent weaknesses in PG&E's claims process, ORA declares there is no clear reason to change it. ORA suggests that the Commission direct PG&E to include information on its claims process in future customer bill inserts. ORA also contends that, if PG&E acknowledges negligence in its claims processing review or the Commission finds PG&E was negligent in this decision, the Commission may direct PG&E to record December storm claims "below the line," requiring shareholders to bear these costs.

ORA makes various recommendations discussed infra at V., for future service improvements.

### C. USB

USB focuses its report on safety matters. USB also makes a series of recommendations, discussed infra at V., after its review of PG&E's December storm response. USB concedes that much of the damage to PG&E's electric system was unavoidable. However, it cites specific safety improvements that can be made which its recommendations address.

USB reports 4.5 million calls to PG&E were attempted on December 12, 1995. Customers either could not get through or were frustrated by lack of knowledge by customer service representatives about hazardous conditions. USB believes that PG&E assesment crews should have handled more grade one[5] responses during storm situations. USB reports 40 transmission towers were damaged in the storm, with 32 of them collapsing. USB observes that out of 1,385 distribution poles that failed, 123 failed because they were deteriorated. USB finds that wind conditions caused conductors to slap or wrap together resulting in 21.3% of all equipment failures in the storm. This cause is

[5] A grade one response is one that is urgent and immediate, requiring continued action until the condition is repaired or no longer presents a potential hazard.

second, behind tree conditions, as a cause of storm-related equipment failures. USB asserts PG&E should be directed to take steps to formalize its understanding of mutual reliance during storm events with local emergency organizations and to evaluate where improvements in communications can be made.

USB states that the steady high winds with over 80 mph gusts in the December storm caused numerous trees and tree limbs to snap, travel horizontally, fall on and sever power lines, even though the limbs were treated appropriately from a tree-trimming standpoint and even though the trees were not near the lines.[6] It posits that no overhead power system can withstand such forces without extensive undergrounding in heavily-wooded, high-wind areas. USB recognizes that the Commission, in tariff Rule 20, has not required utilities to underground facilities in such areas.

### D. The ORA, USB, and PG&E Joint Testimony

The parties complied with our settlement rules by noticing a settlement conference, and ORA, USB, and PG&E arrived at an agreement. TURN, a major participant in this proceeding, however, does not concur with this agreement, and consequently this agreement cannot be categorized as an all-party settlement. ORA, USB, and PG&E elected to present their agreement as Joint Testimony, under Rule 51.10 of the Rules of Practice and Procedure, rather than as a settlement. We observe that the Joint Testimony reflects simply PG&E's acceptance of recommendations made by ORA and USB in their testimony, some of which were already accepted in PG&E's rebuttal testimony. Therefore, we will

[6] USB believed the pending tree-trimming investigation (I.94-06-012) would create changes to GO 95 to make it more stringent in this area, and, therefore did not address the tree-trimming issue herein. D.97-10-056 addressed all outstanding GO 95 issues and closed the investigation. On September 3, 1998, I.98-09-007 was opened to specifically investigate PG&E's tree-trimming practices.

analyze the Joint Testimony and the supplement to the Joint Testimony along with the original testimony in this proceeding.[7]

While we commend the parties on their settlement efforts, we note that the agreements in the Joint Testimony do not address the crux of this proceeding, an assessment of whether PG&E's storm response was reasonable. While we commend USB and ORA for focusing on future safety and service issues resulting from the storm, we are disturbed that there is no detailed review of PG&E's actual response. Only TURN focused its efforts on the true purpose of this proceeding.

### E. ORA and USB's Separate Recommendations

Due to the Joint Testimony submitted on the first day of hearings, USB and ORA resolved almost all of their recommendations with PG&E. However, they still request that PG&E be required to record monies paid out in claims due to the December storm below the line, charged to shareholders, and that PG&E be required to continue its reservation of an 888/800 vanity number pending call volume improvement steps. ORA and USB also contest PG&E's assertion that, once the Commission monitors maintenance and inspection cycles of utilities, individual reasonableness reviews of responses to major events will not be necessary. Otherwise, in the Joint Testimony and PG&E's rebuttal testimony, ORA, USB, and PG&E have agreed as to all USB and ORA recommendations.

[7] Any references to an ORA Recommendation in the Joint Testimony also incorporate the additional agreements found in the supplement to the Joint Testimony as to ORA Recommendations 1, 4, 5, 11, and 12.

## F. TURN

TURN focuses its testimony on the failure of PG&E's outage information systems, its impact on field response, and the problems it caused at PG&E's call centers.

TURN asserts that inadequate command, control, and communication systems hampered restoration efforts and impaired communications with and from affected customers. TURN believes that a more significant contributor to the scope and duration of the customer outages was the vulnerability of PG&E's electric distribution infrastructure to the elements which it contends was prompted by a regime of deferred maintenance. TURN admits that some of the damage and some of the outages caused by the storms of 1995 were the direct result of severe weather. However, it contends that some of the damage and some of the outages, as well as the duration of some of the outages, were the consequence of PG&E's "failure to exercise reasonable diligence" as required by tariff Rule 14.

TURN criticizes the interface of PG&E's computerized trouble analysis system (CTAS), which tracks line segment outages, with the teleprocessing component of PG&E's network, noting that the CTAS suffered at least three outages during the December storm. TURN also believes that a 1995 add-on to the outage information systems, which PG&E calls CCIRF,[8] performed well below design parameters in providing circuit outage information to the call centers and voice response unit (VRU). Outputs from CTAS and CCIRF appear on the screen of PG&E customer service representatives (CSRs) in the call center so the CSRs can provide information about outages on a customer's line and

[8] This acronym does not stand for anything in particular, according to PG&E.

circuits. CCIRF information also goes to the recorded VRU, which customers can access via telephone. TURN asserts that PG&E's existing outage information systems are in dire need of replacement, and notes that PG&E is now committed to replace the CTAS. However, TURN argues that PG&E has procastinated so long over its replacement that PG&E should not be given extraordinary rate relief to complete the revamp of its outage information system. TURN requests a declaration that no ratepayer funds shall be used to finance any CTAS improvements, regardless of the convention used by PG&E to account for such expenditures.

TURN also asserts that the severity of the storm was not as great as portrayed by PG&E. Instead it argues that the estimated return period for the level of winds experienced in the December storm was from 10 to 20 years. TURN believes PG&E's pattern of deferred maintenance over the last several years led to the extent of damage experienced by the system. TURN observes that, while the frequency of routine outages on the PG&E system has declined, the duration of routine outages has increased, due to the deferred maintenance. However, TURN admits that the evidence is inconclusive as to whether the decline in interruptions and the increase in their duration demonstrate an aging and deteriorating system. TURN points to studies by PG&E consultants, Black & Veatch, of PG&E's maintenance practices to support its contention that PG&E has chronically underspent maintenance dollars to the detriment of the system.

While ORA and USB focus on future remedial measures to be undertaken by PG&E, TURN calls for a penalty against PG&E. Based on its allegation of PG&E's systematic regime of deferred maintenance for at least seven of the last nine years, TURN requests that the Commission impose a 20 basis point penalty on PG&E's authorized rate of return on equity for its electric department. This is the same penalty that TURN urged in the Commission's

investigation of the reasonableness of PG&E's responses to the January and March 1995 storms, which the Commission did not adopt in D.96-09-073. This would amount to a penalty of approximately $8.6 million on earnings (based on PG&E's combined earnings from electric and gas in 1995 of $1.34 billion), with a rate impact of approximately $15.6 million.[9]

## V. Discussion

While reasonableness reviews generally turn on issues contested between the parties, the nature of this proceeding has taken a different format. PG&E issued a report to the Commission on its response to the storm. USB and ORA responded with their own reports, which do not contest the reasonableness of PG&E's response. Instead, they focus on service and safety recommendations arising out of events occurring during or as a result of the storm. In its rebuttal to USB and ORA's reports, PG&E accepted many of their recommendations. As a result of the Joint Testimony almost all of these recommendations were resolved between these parties and there was no active participation in our review at hearings by ORA and USB. For this reason our discussion as to reasonableness centers more on a review of problem areas raised in ORA's and USB's reports and the Joint Testimony in relation thereto, rather than on contested issues. It is only in the area of management of outage information systems, which was the focus of TURN's testimony, that contested issues arise. However, due to the

[9] TURN calculates the amount of the penalty by multiplying the percentage of authorized common equity in PG&E's capital structure (48%) by its $8,946 million electric rate base times 20 basis points to arrive at a penalty of $8.588 million. Multiplying the penalty by PG&E's net-to-gross-ratio of 1.8149, TURN arrives at a reduction in the revenue requirement of $15.587 million.

severity of the storm and its widespread and long-lasting impacts on customers, we believe it is important to publicly review the PG&E, ORA, and USB reports.

### A. Severity of the December Storm versus the January and March Storms

We examine the severity of the December 1995 storm in relation to the earlier 1995 storms as part of our assessment of the reasonableness of PG&E's response. The storm's force and its effects on infrastructure and number of customer outages are factors to consider when reaching a determination on reasonableness.

Late on the night of December 11, 1995, the center of a major storm approached the central Oregon coast and tracked northeastward. Peak wind speeds greater than 40 mph were experienced in many areas from Santa Maria, California northward along the coast and from around Merced northward in the interior of California. The strong winds and heavy rain abated in northern California by approximately 4:00 p.m. on December 12. While additional periods of stormy conditions continued to bring strong winds and heavy rain to the northern third of California until December 14, the strongest winds were associated with the December 11-12 period.

Peak wind speeds ranged from 46 mph at the Moss Landing power plant to 76 mph at the Cape Mendocino Buoy around Fort Bragg and 85 mph at the Redding Airport. The estimated return period for the winds ranged from less than 10 years to more than 25 years. In approximately half these instances, these were the strongest winds that the system had seen since the mid- to late 1960s. At the Redding Airport, based on nine years of extreme wind speed records, it

was calculated that it was a 75-year return period.[10] In the Bay Area peak winds ranged from 52 mph at the Oakland Airport to 67 mph at the Golden Gate Bridge and 74 mph at the San Francisco Airport. PG&E reports that two-day rainfall totals at lower elevations generally ranged from one to three inches in the North Coast Division, two to twelve inches in the Bay Area, one to six inches in coastal sites of Monterey Bay, with much higher amounts in the Santa Cruz mountains, two to four inches in the northern Sacramento Valley, and generally less than one inch from the Los Padres division eastward across the San Joaquin Valley. PG&E notes that one-day rain amounts greater than one inch can be considered heavy.

By contrast, the peak wind speeds were significantly less in the storms of January and March 1995. In January 1995, they ranged from 44 mph in the Crescent City area to 58 mph at the Cape Mendocino Buoy and 61 mph at the Geysers. In the Bay Area, peak winds ranged from 31 mph at the Golden Gate Bridge and 35 mph at the Oakland Airport to 61 mph at the San Francisco Airport. In PG&E's North Valley Division, winds ranged from 50 mph at Artios to 58 mph at Red Bluff and 70 mph at Redding. In the Monterey Bay area, Salinas experienced a high of 30 mph, Moss Landing a high of 45 mph, and Monterey a high of 46 mph. During the January storms rainfall ranged from traces in Bakersfield to 2" to 3" at the Marin Civic Center, 5.4" at Fort Bragg, and 6.51" in Redding.

During the March 1995 storms, the North Coast Division experienced peak wind speeds from 29 mph in Arcata to 48 mph at the Cape Mendocino Buoy, 49 mph at Crescent City, and 62 mph at the Geysers. In the

[10] The Redding Airport station had not been opened until 1987, and data was not available prior to that time. It was near Redding that PG&E experienced the cascading longitudinal failure of 29 500kV towers.

Bay Area, peak wind speeds ranged from 36 mph at the Oakland Airport and 40 mph at the Golden Gate Bridge to 66 mph at the San Francisco Airport. The North Valley Division experienced the consistently highest winds with a 50 mph peak wind speed at Artios and 50 mph and 74 mph at Red Bluff and Redding, respectively. Peak wind speeds in the Monterey Bay area ranged from 24 mph at Salinas and 38 mph in Moss Landing to 41 mph at Monterey. Rainfall during the March storms again ranged from a trace at Bakersfield to 3.61" and 3.95" at the Marin Civic Center and Santa Rosa, respectively, and 6.61" at Paso Robles.

The effects of these differences in wind speeds between January-March 1995 and December 1995 are exponential. The force of the wind on poles, structures, and trees is related to the square of the velocity of the wind. This means that in going from a 60 mph wind up to an 80 mph wind, the force on poles, et cetera increases by a factor of 1.78. Thus, a one-third increase in wind speed will almost double the wind's force.

ORA acknowledges the severity of the December storm. TURN also characterizes the storm as severe, but not so out of the ordinary that a well-maintained system could have survived it with less damage and fewer outages than PG&E experienced.

We agree with PG&E's conclusion that over significant portions of its service area, the December storm was stronger and more severe than any individual storm occurring during the January and March 1995 period. Therefore, the stronger wind speeds in the December storm posed a greater potential to produce damage to PG&E's system. We also concur with PG&E's assertion that there is nothing more disastrous to a utility system than wind, far exceeding earthquakes, water damage and mudslides. While we agree that customers would not want to pay the price to obtain absolute reliability of the

system, our focus is whether PG&E reacted reasonably in the face of the severity of the December 1995 storm.

### B. Adequacy of Electric Transmission and Distribution Systems' Maintenance

In the Joint Testimony PG&E agrees with ORA Recommendation 2 for submission of an organizational chart for PG&E's systemwide transmission and distribution maintenance work. In its comments, PG&E argues for changes to this and other aspects of the provisions of the Joint Testimony proposed for adoption which address transmission services. PG&E states that due to changes in regulatory responsibility for transmission services, the inspection, maintenance, and control of PG&E's transmission system now is subject to the provisions of the Independent System Operator's FERC-approved tariffs and the Transmission Control Agreement. ORA, in its reply comments, disagrees, stating that the Commission retains authority over those portions of PG&E's transmission system which are not part of the grid. ORA also points out that the Commission has jurisdiction over transmission and distribution safety issues, specifically citing GO 95 (overhead) and GO 128 (underground).

PG&E may have overstated the changes in regulatory responsibility for transmission services. The Commission continues to have jurisdiction over those parts of PG&E's system which PG&E did not transfer to the operational control of the ISO. We have taken the position with the ISO that GO 95 and GO 128 still apply to transmission facilities. We acknowledge that we have not worked out the interplay between e.g., GO 95 and the ISO's maintenance rules. These changes in regulatory responsibility do warrant some changes to our decision, but not to the full extent PG&E seeks, and not to the filing of the organizational chart. PG&E is directed to file the chart within 30 days of the date

of our decision. The chart should contain descriptions of inspection and maintenance tasks performed at every level of PG&E's organization.

Except for isolated areas discussed below, ORA concludes that PG&E's transmission and distribution systems were generally adequately inspected and maintained prior to the December 1995 storm.

### 1. Underbuilds

ORA reports that, upon examining numerous storm-impacted PG&E service area sites, it found a number of joint-use poles to be structurally overloaded. ORA asserts that it has found numerous instances of too many and too large communication cables installed under the main electric conductors, which excessively stress wood poles and their foundations. ORA specifically observed such overstress situations in Santa Cruz and Chico, two areas heavily impacted by the December 1995 storm, as well as other suspect locations in nine of PG&E's 18 divisions. As a result of ORA's findings, PG&E is investigating these areas.

ORA contends that the excessive underbuild[11] conditions violate GO 95 and tend to reduce the reliability of PG&E's power supply lines since they do not conform to our required safety factors. ORA fears that these already overstressed lines may not be able to withstand the ravages of another powerful storm and, in some cases, may not have withstood the December 1995 storm. ORA admits that PG&E and Pacific Bell agreed to correct the Santa Cruz overstresses in June 1996 and PG&E and Pacific Bell have made arrangements to fix the situation in Chico in the near future.

---

[11] "Underbuild" means wires and equipment under the main conductors on the pole.

However, ORA does not testify that specific joint pole practices and excessive underbuilds are the cause of December 1995 storm damage. Instead, ORA focuses on PG&E's interpretation of the GO 95 rules on loading of power line wood poles, contending it is inconsistent with the intent and spirit of GO 95. ORA finds that PG&E interprets the requirement that power line wood pole structures are allowed to deteriorate to two-thirds of their original strength before replacement or reinforcement is required by GO 95, regardless of the amount of underbuild on the pole. ORA asserts that this has the impact of allowing telephone, television, and other communication wires and equipment to be loaded onto PG&E joint-use poles to the point where the strength or safety factor of the structure is jeopardized, requiring replacement or reinforcement. Yet this provides little, if any, room for further deterioration of the wood pole. Therefore, ORA states the spirit and intent of Rule 44.2 of GO 95 is that the entire transverse wind loading of the pole, assessing its structural strength in light of the amount of underbuilds, necessitates a replacement or rehabilitation when the overall condition of the pole is lower than the safety factor of 2.67. ORA requests that we clarify this is our intent and that we institute investigations into underbuilds and revisions to GO 95 to cure the problem.

USB performed a more thorough field analysis of the underbuild problem. In its testimony, USB reports that although the major reasons for pole failures were uprooted trees and tree limbs falling into poles or into electrical conductors attached to poles, some poles did fail due to wind alone. PG&E's own statistics show that out of the 1,385 failed distribution poles, 123 failed due to wind because the poles had deteriorated.

USB's investigation shows that a Grade A pole with a safety factor of four, as required by GO 95, will start to break when the wind speed equals or exceeds 112 miles per hour. However, out of 98 PG&E stations which

reported peak winds, a wind speed of 112 miles per hour was exceeded at only one station. Therefore, USB assumes that if the safety factor of the poles had been maintained at four and no tree limbs and uprooted trees fell on the poles, the poles should have withstood the storm. Yet, 123 poles failed. USB does not believe that the age of the poles and the associated deterioration were the causes of such failures. Under the sample taken by USB, it finds the average age of the poles in the San Bruno/South San Francisco area was 33 years. Under GO 95's Section 44.2, due to age and deterioration of poles, the minimum safety factor may be reduced to not less than two-thirds of the original safety factor of four, or to 2.67. Poles with a safety factor of 2.67 will start to break when wind speed equals or exceeds 92 miles per hour. Wind speeds of 92 miles per hour were exceeded only at four PG&E stations out of the 98 measuring peak winds during the December storm. Therefore, USB posits that if the poles' safety factor had been maintained between 2.67 and four, the 123 poles that failed should have withstood the December storm. Thus, USB does not believe that PG&E maintained a safety factor of at least 2.67. USB contends this was caused by pole overloading due to the excessive underbuilds.

In the Joint Testimony, PG&E agrees to many of ORA's and USB's recommendations.

Section 44.2 of GO 95 allows telecommunication and electric utilities involved in a joint pole agreement to add new attachments or construction arrangements on a pole without replacing the old pole as long as the "2/3 Rule" is met. The Joint Pole Manual's Chapter 3 specifications set the standard for recalculation of the initial loading and the ultimate loading for a new arrangement on a joint pole. This calculation determines if the existing pole can handle additional loading. The recalculation allows the safety factor to be at least at the "2/3 Rule" standard before any new replacement or new class of pole

is required to replace the old pole prior to additional loading. USB's investigation determines that pole overloading was a factor in the December storm damage and that violations of GO 95 contributed to the 123 downed poles.

From the evidence before us, we conclude that underbuilds did increase the severity of the damage caused by the high winds in the December 1995 storm. However, we cannot find an outright violation of the requirements of GO 95. Instead, as pointed out by ORA and USB, it is a matter of interpretation of the existing rules.

PG&E must work to reduce the likelihood that underbuilds will, in the future, increase the severity of storm-related damage and outages. To that end, we will address the proper interpretation of GO 95. We will also place certain requirements on PG&E to satisfy ourselves that PG&E has an appropriate program for identifying and correcting possible existing excessive underbuilds. Further, we will place certain requirements on PG&E to ensure that excessive underbuilds do not occur in the future as it and other utilities make pole attachments. In placing these requirement on PG&E, we in no way attempt to prejudice any final resolutions that may be reached in R.96-11-004 on service and safety standards.

To identify and correct possible existing excessive underbuilds, we adopt the parties' agreements regarding USB Recommendation 9 and ORA Recommendation 1 that PG&E inspect its poles for overload conditions through its pole inventory program[12] as identified in Attachment A to the Joint Testimony. In the Joint Testimony, ORA states that

[12] PG&E has two ongoing programs for pole inspection. Its pole inventory program is a visual check of poles from ground level performed on a three-year cycle. Its pole "test and treat" program, discussed *infra*, involves tests on wood poles to determine their state of deterioration. This is a special program being conducted over a seven-year period.

this agreement also satisfies its concerns regarding ORA Recommendation 4. We adopt the agreement of the parties regarding ORA Recommendation 5, giving PG&E two years to complete its pole inventory program. We direct PG&E to provide the Commission with computations in checking the structural loading of the poles along with any planned corrections and a schedule for doing the remedial work quarterly.

To identify and correct possible existing excessive underbuilds, and to ensure that excessive underbuilds do not occur in the future, we adopt the agreement of the parties regarding ORA Recommendation 7. We direct PG&E to provide the Commission, within 30 days of the date of this decision, a report of its internal communications and control procedures, and its external communications and control procedures with Pacific Bell and other utilities regarding excessive underbuilds on power line poles. PG&E should provide ORA a simultaneous copy of the report. We direct PG&E to work with joint pole owners to improve communications and controls with respect to the elimination of excessive underbuilds on PG&E power line poles.

With respect to the proper interpretation of GO 95, we are inclined to adopt the agreement between PG&E, USB, and ORA, stated as ORA Recommendation 12. There, these three parties agreed that PG&E would amend its design practice to coincide with ORA's interpretation of GO 95. As a result, the loading on wood poles would meet or exceed the safety factor of 4 prior to deterioration of the wood poles, and PG&E would cancel its Note 7 of Construction Drawing 015203.

In its comment on the proposed decision, PG&E argues that cancellation of Note 7 and adoption of ORA's interpretation of GO 95 creates a conflict with the Commission's treatment of the pole loading issue in our Right of Way decision, D.98-12-058. PG&E further argues that it would require PG&E to

apply a different interpretation of GO 95 than other utilities arguing that this change should only be adopted with its recommendation that a GO 95 revision rulemaking be conducted. As ORA points out in its reply comments, our Right of Way decision adopted an *interim* safety standard – notably at PG&E's urging -- pending treatment of the pole loading issue in this proceeding. (See R.95-04-043/ I.95-04-044, D.98-12-058, mimeo. at 69-75, especially 74.) ORA also notes in its reply comments that PG&E was the only electric utility in California using the Note 7 design guideline, so canceling it places PG&E on an equal footing with the remainder of similarly situated electric utilities (subject to the interim standard described in D.98-12-058). Therefore, we direct PG&E to cancel Note 7 of Construction Drawing 015203 to avoid any future confusion on interpretation.

On February 10, 1999, by ALJ Ruling, all parties in R.95-04-043/ I.95-04-044 were directed to file comments on the pole loading factor of 4.0 recommended in the Proposed Decision. The general applicability of the minimum safety factor of four was addressed in these comments, as anticipated in D.98-12-058 (mimeo. at 74-75) and recounted below.[13] In those comments, all parties agree that the Commission can not or should not direct a change in the interpretation of GO 95 without conducting a proceeding where all interested parties may participate. The parties agree, with the exception of ORA, that the

[13] Comments on the adoption of the ORA's interpretation of GO 95 recommended in the Proposed Decision were filed in R.95-04-043/I.95-04-044 on March 5, 1999, by The California Coalition, which includes TWEAN, California Cable Television Association, AT&T Communications of California, Inc., NEXTLINK California, Electric Lightwave, Inc., MediaOne Telecommunications of California, Inc., and ICG Telecom Group, Inc.; Citizens Telecommunications Company of California, Citizens Telecommunications Company of the Golden State and Citizens Telecommunications Company of Tuolumne, jointly; GTE California Inc.; ORA; Pacific Bell; PG&E; and San Diego Gas & Electric Company. Reply comments were filed by San Diego Gas & Electric Company on March 12, 1999.

utilities' interpretation of GO 95 should continue. Some of the parties also raise the concern that the ORA/USB/PG&E agreed upon interpretation will increase maintenance costs or will discourage facilities-based competition in the provision of telecommunications services.

The record in this proceeding has highlighted the important safety and reliability implications of proper wood pole loading. We are reluctant to continue to indefinitely defer resolving the pole loading issue and applying the ORA interpretation of GO 95. However, we recognize that the safety loading factor for utility poles which we propose to adopt in this proceeding also has relevance to the rights-of-way rules for telecommunications carriers and to others who have expressed an interest in GO 95 in the past, but who are not parties to either this or the Local Competition proceeding. In D.98-10-058, we adopted rules governing utility pole attachments by telecommunications carriers and cable television providers as part of our program to promote a competitive local exchange market within California. In that decision, we adopted an interim safety loading factor of 2.67 for Grade A utility poles for purposes of determining the maximum pole attachments that a telecommunications carrier or cable provider may make before a pole must be replaced.

In adopting the interim 2.67 factor in D.98-10-058, we stated that the factor would be subject to change pending further action in A.94-12-005/ I.95-02-015. We stated that once a decision had been issued in this proceeding, we would solicit comments from parties in the Local Competition Dockets (R.95-04-043/I.95-04-044) concerning the general applicability for purposes of our Rights-of-Way Rules for telecommunications carriers and cable providers. Those comments have been considered here, and summarized above.

The controversy appears to rest primarily on interpretation of Rule 44.2, which addresses replacement or reinforcement, as it applies to Grade "A" utility wood poles. Rule 44.2 states, in relevant part:

> Lines or parts thereof shall be replaced or reinforced before safety factors have been reduced (due to deterioration or changes in construction arrangement or other conditions subsequent to installation) in Grades "A" and "B" construction to less than two-thirds of the construction safety factors specified in Rule 44.1[which is 4 and 3 for wood poles, respectively] and in Grades "C" and "F" construction to less than one-half of the construction safety factors specified in Rule 44.1 [which is 2 and 1 for wood poles, respectively].

Using Grade "A" construction as an example, all parties acknowledge that the Rule requires a safety factor of 4 for wood poles, but disagree on the circumstances whereby that safety factor is allowed to degrade by two-thirds, to 2.67. The comments filed in the Local Competition proceeding by telecommunications companies, especially the California Coalition and GTE California, Inc., make it clear that they believe the safety factor may be degraded to 2.67 by additional attachments to the pole, apparently regardless of the age of the pole.[14] ORA and USB are concerned that building out the pole to that safety factor leaves no allowance in the safety factor for natural deterioration of the pole. In its Report, ORA states that the focus of Rule 44.2 is the protection of

[14] See Comments of the California Coalition, filed on March 5, 1999, in R.95-05-043/I95.04-044, pp. 4-5, and Comments of GTE California, Inc., filed on March 5, 1999, in R.95-05-043/ I.95-04-044, p. 3.

power lines from deteriorating wood poles; that its focus is not to provide for adding subsequent load onto existing wood poles. (See Exh. 510, p. 5-14.)[15]

Like ORA, we are troubled that wood poles may be being built out to the 2.67 safety factor, leaving no safety cushion for natural deterioration of the pole. Given the comments we received in R.95-04-043/I.95-04-044, and our conclusion herein that excessive underbuilds contributed to the severity of the damage caused by the December 1995 storms, we will open a rulemaking. In this rulemaking, we will consider the limited issue of revision of wood pole minimum safety factors and their replacement or reinforcement. We will determine the appropriate wood pole minimum safety factor for Grades "A," "B," "C," and "F" and the appropriate relationship between the safety factor and subsequent additions to existing wood poles. Specifically, we will consider revision of Rule 44.1, *Installation and Reconstruction*, Table 4, Wood Poles and Rule 44.2, *Replacement* within GO 95, Section IV Strength Requirements of All Classes of Lines. We therefore make no change in this decision to GO 95 and we do not direct any change in interpretation of it.[16] The interim standard adopted in D.98-12-058 continues to apply.

In establishing the narrow scope rulemaking just described, we reject the agreements of the parties regarding ORA Recommendations 6 and 8 calling for the establishment of an investigation, separate from R.96-11-004, to review more broadly the design standards for electric transmission and distribution facilities set forth in GO 95. We see no need at this time for an investigation

---

[15] ORA represents that the comparable National Electrical Safety Code requirements, used by the other 49 states, are intended to protect power lines from deteriorating wood poles and not to allow additional loading onto wood poles. This representation has not been challenged.

[16] The exception to this statement is our direction to PG&E that it cancel Note 7.

separate from the right of way phase of the Local Competition proceedings (R.95-04-043/I.95-04-044) and the existing service and safety rulemaking (R.96-11-004). Possible adoption of the National Electric Safety Code (NESC) as an adjunct to or replacement for GO 95 provisions may be considered as deemed appropriate by the presiding officer in R.96-11-004.

The supplement to the Joint Testimony is also adopted as it supplements the agreements as to ORA Recommendations 1, 4, 5, and 12 regarding implementation methodology. It is attached as Appendix A to our Order.

## 2. Transmission Towers

The extreme winds of the December 11-12 storm severely impacted 500 kV lines between Round Mountain and Table Mountain, the Newark-San Mateo 230 kV line, and the Pitt-Vaca-Dixon Number 2 line.[17] A total of 40 towers were damaged, with 32 collapsed. The remaining eight towers sustained damages which ranged from minor bent crossarms to buckled legs. Below we review the reports on these towers.

### *a) Round Mountain-Table Mountain*

The Round Mountain-Table Mountain 500 kV lines, also known as the Pacific AC Intertie Number 2 line, sustained the most severe damage. This line runs primarily in a north-south direction in hilly to mountainous terrain northeast of Chico, California. These lines experienced wind speeds of over 80 mph. Along this line, 29 towers failed in a cascading or longitudinal manner. In such a failure, a series of towers collapses because of an

[17] Although USB mentions problems with the Pitt-Vaca-Dixon Number 2 line, it does not detail them in its testimony.

initial unbalanced longitudinal force caused by a broken conductor, broken insulator string or similar event. This begins a chain reaction causing a series of towers to fail, toppling in a domino effect along the transmission line. One string of cascading failures along the line consisted of 14 towers and another consisted of 15 towers.

The line contains mainly two types of structures, dead-end towers or high voltage dead-end towers (HVDs) and tangent suspension towers or high voltage angle towers (HVAs). While both HVAs and HVDs suffered damage, all the towers that collapsed were HVAs. HVAs are not as strong as HVDs. HVAs are internally and externally guyed with their primary function being to support vertical and transverse loads with a very limited longitudinal load-carrying capability. HVDs are designed to sustain load from a longer longitudinal transmission line. USB's investigation, along with an investigation conducted by a consultant hired by PG&E, concludes that the line failed as a result of excessive load in the longitudinal direction, causing ductile rupture on the towers' guy supports.

These towers are located in light loading districts. Their wind load tolerance under the GO 95 specifications corresponds to a wind speed of approximately 56 miles per hour. In 1990, PG&E issued a five-year study entitled *Extreme Wind Speed Estimates Along PG&E Transmission Line Corridors.* The Round Mountain-Table Mountain line was not identified as located in an extreme wind area. Although PG&E had upgraded towers in extreme wind areas to withstand 100 mph winds, no such upgrade was conducted on the Round Mountain-Table Mountain line. USB could not conclude whether an upgrade in transverse reinforcement could have prevented the line's failure because the towers failed longitudinally.

USB notes that the Round Mountain-Table Mountain HVA towers were designed with no longitudinal strength provision to cover broken wire load. It observes that they are longitudinally guyed to provide some longitudinal support, but are not designed to take anything approaching full dead-end load.[18] Therefore, USB believes conductor loads need to be balanced for the HVA towers to perform their function. USB finds the design of the Round Mountain-Table Mountain line to be unacceptable under the current Rule 61.3B of GO 95, but admits the system was designed and built prior to the introduction of the rule in 1969. Therefore, it agrees that PG&E cannot be faulted for this design and construction matter.

After the implementation of Rule 61.3B, PG&E did reconstruct certain of the towers along the Round Mountain-Table Mountain line. PG&E assured USB that the replacement towers were upgraded for higher wind loads and that Rule 61.3B was taken into consideration during the reconstruction. However, USB did not make a determination whether the replacement towers were stronger and had the ability to resist cascading failures. Therefore, USB also wants PG&E to conduct a feasibility study to lessen the problem of longitudinal cascading failures in its transmission systems and to specifically consider whether, within the next ten years, to longitudinally reinforce all HVA towers or utilize special resistance structures with sufficient longitudinal capacity at intervals to resist cascading failures.

[18] HVDs are meant to carry the tension longitudinally along the line for greater distances than HVAs. While HVAs use the load from the next tower in line to provide support, an HVD can sustain load from a series of HVAs as it comes to a dead end at the HVD. Therefore, HVDs, which are stronger, are put in a transmission line whenever there is a need to limit the tension from a series of HVAs.

PG&E's consultant, which was hired to look at the structural failures after the December 1995 storm, found that the wind speeds that the Round Mountain-Table Mountain tower line experienced exceeded GO 95 design criteria. Even though the area had not been identified as an extreme wind area in the 1990 PG&E study, after the December 1995 failures, PG&E felt it was appropriate to increase the strength of those towers during reconstruction. PG&E did so by replacing 18 of the 29 collapsed towers with stronger towers possessing greater longitudinal strength capabilities. PG&E also noted that it would examine the feasibility of retrofitting or otherwise reinforcing towers in other parts of its system. Since the December storm, PG&E has replaced the 29 HVA suspension transmission towers destroyed in the Round Mountain-Table Mountain line with the same tower type, but has reinforced them for a higher 90 mph to 100 mph transverse wind capacity. PG&E is committed to replacing any failed wood pole in high-wind areas, whatever the reason for failure, with a one-class higher strength transmission pole. In addition to replacement of the 29 towers on the Round Mountain-Table Mountain line, one angle tower with higher transverse and longitudinal capacity was inserted in place of one of the 29 suspension towers.

ORA's investigation reaches the same conclusions as USB's. Because the same tower type is also located on the Malin-Round Mountain Number 2 500 kV line, ORA believes it should be included within PG&E's longitudinal reinforcement feasibility study and the longitudinal strength of its HVA suspension towers should be increased if modification is feasible.

As to USB Recommendation 4 in the Joint Testimony, PG&E agrees to update its *Extreme Wind Speed Estimates Along PG&E Transmission Line Corridors* study to include wind data from 1990 through 1995. It will, within

the next ten years, implement a retrofit program similar to the 500 kV Modification Project which it undertook in the early 1990's to structurally upgrade all of its 500 kV systems located in extreme wind locations. As to ORA Recommendation 9, PG&E also agrees to submit to ORA a copy of its longitudinal reinforcement feasibility study and its associated designs, along with a copy to the Commission. We accept the parties' agreements as to USB Recommendation 4 and ORA Recommendation 9, and will order this to be done by 60 days and 150 days, respectively, from the effective date of this decision. In the Joint Testimony regarding USB Recommendation 5, PG&E agrees to conduct a study to determine the feasibility of reducing the number of possible longitudinal cascading failures in its entire 500 kV transmission system under operating conditions that do not exceed California design criteria. Upon completion of the study, PG&E will develop a retrofit program, to be agreed upon by USB, which would be completed within ten years. However, the parties state that the California design criteria to be used in the feasibility study are to be determined as an outcome from the examination and revision of GO 95 as part of its agreement on ORA Recommendation 6, which calls for a separate investigation to revise GO 95. We have already rejected this call for a separate investigation in ORA Recommendation 6. Therefore, we accept the parties' agreements as to USB Recommendation 5 in the Joint Testimony, but direct PG&E to conduct this study under the present California design criteria and develop the retrofit program forthwith.

***b) Newark-San Mateo 230 kV Line***

USB reports that the other transmission failures associated with the December storm occurred on the Newark-San Mateo 230 kV line. These towers are self-supporting structures. Two tower failures occurred along this line. One tower initially failed and when it fell, it brought down an

adjacent tower. This failure occurred in a segment in which towers are located in a salt pond and their foundations are in direct contact with salt water. Initial tests conducted by PG&E suggest that poor construction joints in the tower foundations may have led to salt water seeping into the tower footings and corroding the reinforcing steel. Corrosion of the steel then disabled the footings' ability to withstand wind loading. Thus, the weakened footings caused the tower to fail even though the winds were generally not as severe in this area as in the North Valley region.

As a result of these failures, PG&E is currently testing towers on the Newark-San Mateo 230 kV line by drilling through the pile caps and in the process reinforcing the towers by inserting steel dowels. Core samples have also been taken from the pile caps at random in order to perform compression tests in the laboratory. PG&E reports that 13 towers have been tested with no significant problems found. However, USB believes that it is possible towers with similar footings in other areas may have similar problems.

In the parties' agreement to ORA Recommendation 10 in the Joint Testimony, PG&E agrees to submit, within 90 days of our decision, a final report on the results of testing and reinforcement work performed to date on the 13 Newark-San Mateo 230 kV concrete tower foundations located in salt ponds. As to USB Recommendation 6, PG&E also agrees to inspect its entire service area, within the next year, for towers with footings situated in salt pond environments similar to the Newark-San Mateo 230 kV towers. The footings identified as having problems will be corrected immediately. PG&E will also develop an inspection program that addresses towers situated in bay waters. It will submit the inspection program to USB within 180 days of our decision. In the program, PG&E has agreed to identify all tower foundations in the bay water environment and to make necessary groupings based on tower age. Inspections

will then be performed on an appropriate statistical sample. PG&E will include in the program a schedule which identifies the expected completion date for all inspections. We agree with the Joint Testimony regarding ORA Recommendation 10 and USB Recommendation 6 and will adopt it in our final order.

### *c) Overall Assessment*

Our review of the record leads us to conclude that PG&E was not negligent in its maintenance and design of the failed transmission towers. Adoption of the remedial measures called for by the Joint Testimony, as modified by use of our California design criteria, will ameliorate any such future failures.

### 3. Conductor Spacing

USB reports that during the December 1995 storm, the wind conditions caused conductors to slap or wrap together. This resulted in 21.3% of all equipment failures, a condition which ranks second only to tree conditions as a cause of storm-related equipment failures. When conductors touch, they can spark, fuse together, melt in half, damage other electrical equipment, short, and cause fires.

USB contends that GO 95 does not fully guard against this condition and that only the NESC has provisions to ensure adequate horizontal clearances between conductors. USB does not accuse PG&E of designing conductor spacing in violation of the GO 95 requirements. Indeed, it admits that it is conceivable that PG&E designed above the minimum requirements outlined in GO 95 on conductor spacing. USB also acknowledges that there is no requirement for PG&E to design its pin spacing using the more stringent NESC standards. However, USB wants the Commission to order PG&E to adopt the

NESC's pin spacing requirements, to significantly reduce conductor slapping and wrapping incidents in the future.

As part of the Joint Testimony as to USB Recommendation 13, PG&E and USB agree that the Commission should establish an investigation, separate from R.96-11-004 on service and safety standards, to review the design standards for electric distribution facilities set forth in GO 95, including appropriate loading criteria for wood poles and whether other standards such as the NESC should be adopted in California in conjunction with or instead of GO 95. As we have previously noted, we do not think this proceeding, which should be focused on the reasonableness of PG&E's response to the December 1995 storm, should be used as a forum to broaden R.96-11-004. Therefore, we will reject this portion of the Joint Testimony. We also find no evidence in the record to support a finding that PG&E was negligent in designing its conductor spacing or did not comply with GO 95's requirements, regardless of the number of December storm equipment failures related to conductors slapping or wrapping together. We direct USB to monitor whether the GO 95 standard for conductor spacing is a significant contributor to equipment failure, and to survey other states to determine 1) how many use the NESC conductor spacing standard, or a more stringent standard; and 2) whether applying the NESC standard or more stringent standard has, in those states' views, significantly reduced equipment failures. USB should report its findings to the Commission one year from the effective date of this decision.

### 4. Pole Inspection

As part of PG&E's inspection and maintenance program, PG&E is inspecting its wood poles over a five-year period. We have already addressed ORA's concerns and the Joint Testimony regarding replacement of wood poles. ORA's remaining concern is that progress to date does not indicate

to ORA that the test-and-treat inspection program will be completed within the five-year period.

As part of its rebuttal testimony, PG&E asserts that it is committed to completing its pole test-and-treat program on schedule by the end of 1999. This program is separate from and in addition to PG&E's overhead inspection program. As of the date of the hearings, approximately 245,000 poles had been inspected and only 8,100 had been rejected, that is, found to be untreatable. PG&E reports that the rejection rate of 3.3% found so far in its inspection program is significantly below the previously expected rejection rate of 10-15%.

ORA's Recommendation 3 is that PG&E indicate its progress relative to accomplishing the inspection within the five-year period, and that it submit annual progress reports to the Commission with a copy to ORA and any other party that requests it. In the Joint Testimony, PG&E agrees to do so. We accept this agreement as to ORA Recommendation 3 with the caveat that nothing adopted in this decision supersedes the decisions made regarding electric distribution system inspections in D.96-11-021 (November 6, 1996). We observe that in D.96-11-021, we ordered all electric utilities to be subject to an annual patrolling cycle in urban areas and a two-year patrolling cycle in rural areas for simple visual inspections of utility systems. (D.96-11-021, mimeo. at 13.)[19] Also, consistent with our decision to require intrusive testing of wood poles every ten years (D.97-03-070), we will require PG&E to complete the first cycle by the end of 2004, rather than 1999.

[19] For this reason, the Joint Testimony's agreement that R.96-11-004 on service and safety standards should address USB Recommendation 14 on a patrolling cycle for overhead distribution systems is moot.

### 5. Tree Trimming

The majority of damage to PG&E's system arose from falling trees and limbs. This raises concerns over the adequacy of PG&E's tree-trimming program. However, we are disappointed that the record placed before us does not permit us to assess its adequacy in this docket. Below we review the portions of the reports on PG&E tree trimming in relation to the December storm.

PG&E reports that, in April 1995, it conducted a field survey of its electric power lines. It found that record winter rains, coupled with hot summer weather, had stimulated tree growth throughout Northern California forests. As a result of this survey, PG&E concluded that its prior estimate that 4 million to 4.5 million trees needed to be trimmed was low. Instead, inspections indicated that the appropriate number was approximately 6 million trees. To respond to these circumstances, PG&E increased its tree pruning and vegetation management efforts after the January and March 1995 storms.

All of PG&E's line-clearance efforts are conducted by outside contractors who are specialists in managing vegetation growth and are supervised by PG&E personnel. Historically, PG&E has spent approximately $50 million a year over the last ten years to trim approximately one million trees annually through the work of roughly 800 workers. After the April 1995 survey, PG&E increased its tree-trimming crews by 22%, to 975 workers. PG&E increased its efforts again beginning on August 1, 1995, by increasing tree-trimming crews through the end of January 1996 to over 1,750 workers. By November 30, 1995, prior to the December storm, a record number of trees, 1,163,022, had been trimmed or removed by PG&E in an 11-month period.[20] To

[20] 1.3 million trees were trimmed by December 31, 1995.

accomplish this, PG&E lengthened the work weeks of its existing crews and brought in more than 300 additional qualified tree crews from other states and Canada.

At the time of the December 1995 storm, Rule 35 of GO 95 stated, "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 the branches and foliage." Appendix E of that rule recommends a minimum radial clearance of four feet for conductors of a line operating at 2,400 volts to less than 72,000 volts at the time of trim. This spacing is maintained between the vegetation and energized conductors and associated live parts, where practicable. The minimum clearance for conductors of a line operating at 72,000 volts to less than 110,000 volts increases to six feet, for conductors of a line operating at 110,000 volts or more to ten feet, and for conductors in excess of 300,000 volts to 15 feet at the time of trim. The same rules apply under Public Resources Code Section 4293 in areas under the jurisdiction of the California Department of Forestry (DOF). In some rural areas greater clearances may be required by the DOF.

During the December storm, the majority of PG&E's damage was caused by falling trees and major tree limbs or other objects blown into PG&E's overhead lines. The storm resulted in approximately 12,872 pieces of damaged equipment. Post-storm investigations of 7,165 pieces of equipment damaged by tree-related events showed that 96% of the tree-related outages to which crews responded during the storm were unavoidable because a tree or major limb fell into PG&E's facilities from a location outside its trim zone.[21]

[21] The trim zone is that required by GO 95 and Public Resources Code Section 4293.

Many of the trees that fell into or were blown into PG&E facilities were originally 50 to 100 feet away from them. Therefore, PG&E contends that increased tree trimming would have had no impact on the December storm damage caused by trees. By the time of the hearings in this investigation, the acceleration of tree trimming had ended, and PG&E had reduced the number of crews to a base of 547 crews or approximately 1300 workers. This represents approximately 500 workers above the 1995 historical level.

The tree inventory system initiated in 1995 uses hand-held computers to track all trees near power lines in PG&E's service territory. Inventory will provide an accurate count of the number of trees affecting PG&E's electric overhead distribution facilities, the species of the trees, and the growth patterns. Inventory was to be complete by August 31, 1996. PG&E is now reviewing the typical growth cycle and trimming amounts with professional arborists to establish or confirm that sufficient clearance can be sustained between trimmings, based on the data received under the tree inventory program.

None of the parties in this investigation assert any violations of GO 95's Rule 35 under PG&E's tree-trimming program.[22] Therefore, we cannot assess whether failure to adequately trim trees was a factor in the extensive storm damage related to trees. That will be determined in I.98-09-007 and A.97-12-020. Based on the record before us in this proceeding, we find that PG&E acted reasonably in accelerating its tree-trimming operations after the January and March 1995 storms and can find no violations of Rule 35 clearance requirements based on the record before us. Therefore, while we have concerns over what may

[22] This does not preclude any such assertions in I.98-09-007 or A.97-12-020.

have been deferred maintenance relating to PG&E's tree-trimming practices, we have no evidence in this docket upon which to base any findings as to the adequacy of its tree-trimming program and practices. We agree with PG&E's assertion that the nature of the December storm went beyond what tree trimming tends to deal with, which is the 40% of everyday outages related to tree problems rather than storm outages. However, we cannot assess whether tree-related damage was exacerbated by PG&E tree-trimming practices based on the paucity of the record. A more complete record will be produced in I.98-09-007 and A.97-12-020. Nothing in today's decision prejudges any issues relating to tree-trimming in either proceeding.

### C. Adequacy of Management of Outage Information Systems

The majority of problems experienced by PG&E and its customers as a result of the December storm arose in the area of PG&E's management of its internal information systems. The management of the information systems affected the data available to CSRs in the PG&E call centers, which were overwhelmed by millions of calls. Because the call center response to customers and the outage information systems are so linked, we shall review them in tandem. While ORA and USB assert additional call center improvements are needed, they do not find PG&E's response unreasonable. TURN, however, asserts PG&E was negligent in its handling of call center and related outage management operations.

#### 1. Call Processing Levels

ORA's report acknowledges PG&E made improvements in its call centers as a result of the January and March 1995 storms. However, ORA concludes that the December 1995 storms demonstrated a need for additional improvements. ORA observes that PG&E did not have sufficient resources to handle more than 250,000 calls on December 12 when callers made 4.5 million

attempted calls. However, ORA does not assert that PG&E's call center operations were unreasonable. ORA notes that PG&E now has the potential to raise its call-answering capacity by a factor of 100, from the existing 10,000 calls per hour to 1,000,000 calls per hour, during major outages and has plans for improving both internal and external communications. ORA believes such improvements should enable PG&E to process the level of calls expected in outages similar to the December 1995 outages.

### 2. Special Hazard Reporting Telephone Number

As a result of its investigation, USB reports that PG&E's automatic call distribution system, which works on a first-come, first-serve basis, became totally overwhelmed by the avalanche of calls. Callers who were unable to get to the outage report number (800-743-5002) then dialed PG&E's service office number (800-743-5000), thereby overwhelming the CSRs who staffed the 800-743-5000 number positions. The situation was further exacerbated by frustrated customers who used the redial button repeatedly. USB recognizes that PG&E's telephone system is subject to potential saturation and therefore recommends that PG&E be directed to implement a special hazard reporting number such as 800-PGE-HELP. This number would be used to report hazardous conditions rather than routine outages. USB believes that the 800-PGE-HELP number should direct such calls to ten positions staffed by skilled CSRs familiar with hazardous gas and electric conditions. If the call has nothing to do with an emergency, the CSR should then redirect it to the outage or other matters queue on the automatic call distribution system.

The Joint Testimony does not deal with USB Recommendation 1 that PG&E be required to establish the new customer service number, 800 PGE-HELP. The current 1-800-PGE-5000 line permits callers who press 2 on the menu to report a hazardous situation or an emergency. These callers receive priority

treatment and are immediately routed to the first available CSR. Because of PG&E's storm contracts with external vendors to supply additional incoming call capacity for the 1-800-PGE-5000 line and the addition of 168 more incoming lines, we believe the 1-800-PGE-5000 number with the special menu option for emergencies is the most efficient way to deal with emergencies and will create the least customer confusion. Therefore, we reject USB Recommendation 1.

### 3. Inadequate Call Center Response

TURN focuses its testimony on the failure of PG&E's automatic call distribution system and the outage information systems which support the call center functions. TURN notes that on the peak day of call volumes, December 12, 1995, 4.5 million calls translated to a response only to 249,279 calls by CSRs or the VRUs. Of the 4.5 million calls, 36,453 were abandoned, 1.4 million received busy signals upon reaching PG&E, and 2.8 million callers received busy signals at AT&T's switch and did not even reach the PG&E switch.[23] TURN contends that PG&E was unable to satisfy its customers adequately during the December storm because of customers' inability to reach call center CSRs, understaffing of call centers and the inability of the CSRs to answer customer inquiries since crucial components of the information management systems did not function optimally and at times did not function at all. TURN asserts that the failings of PG&E's outage information systems, as well as PG&E's failure to ensure adequate and trained staffing of the systems, escalated the impacts of the December storm into a customer service calamity. Therefore, TURN believes PG&E's call center response was unreasonable.

[23] ORA reports that the 4.5 million attempted calls were generated by only 500,000 callers often using automatic redial.

TURN contends that the customer consequences of the failure of PG&E's outage management systems during the storm included: 1) customers received outdated information from the CSRs and the VRU; 2) customers received inaccurate information on one VRU for the entire day of December 12; 3) customers were unable to obtain any outage information from CSRs for 8 of the 12 peak hours on December 12, 1995; 4) a lack of information meant that customers who reached PG&E a second time often found no information on the outage they had reported previously; 5) customers could not understand the voice synthesizer of the VRU; 6) these circumstances led to customer frustration and repeat calling; and 7) the repeat calls made it more difficult to report emergencies.

TURN reports that PG&E has two separate systems that track outage information: 1) the CTAS, which tracks outages of line segments, and 2) the CCIRF system, which tracks outages of the entire circuit as well as reclosed areas on sections of a circuit which have automatic protective devices. A line segment covers roughly 22 customers, while a circuit covers roughly 75 line segments (or approximately 1650 customers). CTAS was created in 1985 and CCIRF was created in 1995. Output from both systems appears on the screens of the CSRs, so they can respond to customers' questions about outages. Output from the CCIRF system goes to the VRUs, where it is translated via text-to-speech boards into synthesized voice outage messages to which customers can listen. These VRU messages can be accessed either by customer choice or automatically when a customer calls from an area experiencing an outage, because the customer's area code and prefix are matched to the VRU circuit outage information.

Ideally, when a customer calls, the CSR accesses account information on the computer screen, enters the outage data, and a record is created in the CTAS. A "tag" is also printed at the dispatch office on the first call from a line

segment, which causes the dispatch of a troubleman to investigate the problem. If a second call is received within 30 minutes from a customer on the same line segment, a circuit alert is printed at the switching office, since this indicates a problem that may affect more than one customer.[24] Within five minutes of receiving a circuit alert, the switching center operator makes an entry into the CCIRF system. It includes the circuit number and the number of customers affected on the circuit, but may also state the cause of the outage, if known, and the status of the troubleman, if known. This information becomes available almost immediately to the CSRs' screens and to customers listening to the VRU. Subsequent updates are made to the information, incorporating the cause of the outage, the estimated time when the crew will reach the site, and estimated time of power restoration. These updates are dependent on information provided by the troublemen and repair crews. However, TURN asserts that the conditions during the December 1995 storm were less than ideal.

First, TURN observes that the teleprocessing system went down for 29 minutes at 8:04 a.m. on December 12. When the teleprocessing system goes down, the CSRs have no access to either customer or outage information. Service orders must then be taken by hand and faxed to the dispatch centers or switching centers. Since CTAS and CCIRF are inaccessible, the CSRs cannot tell customers whether or not PG&E already knows about and is acting upon an outage, and no new outage updates can be generated for the VRU. However, existing messages on the VRU can be heard by customers while the teleprocessing system is down. Therefore, when the teleprocessing system went down on the morning of the December 12, CSRs were left with no information. Once it was restarted, all

[24] If on the first call a customer reports a problem within priority codes five through nine (such as a wire down, explosion, a broken pole, etc.), the first call will generate a circuit alert.

CCIRF outage messages were re-sent to the VRU. These roughly 800 messages then created a backlog in the VRU which took two and one-half hours to clear in order for the VRU to be current on outage information.[25]

Once the teleprocessing system was restarted, CTAS had to be restarted. While the CTAS will be down anytime the teleprocessing system is down, on December 12 CTAS was down for 1 hour and 17 minutes (48 minutes more than the teleprocessing system) because the teleprocessing outage occurred while CTAS was performing a critical job. During this period, access by CSRs, switching operators, and repair supervisors to line section outage information was cut off.

The CCIRF system can still operate with CTAS off. When the teleprocessing system is running, CTAS can be turned off. Twice on December 12, 1995, due to software problems, the CTAS system was turned off by the computer. This occurred at 11:09 a.m. for 2 hours and 21 minutes, but shortly thereafter, CTAS was turned off at 2:08 p.m. for almost 13 hours. Even though CCIRF is designed to operate with CTAS off, on December 12, a programming error removed the CCIRF messages from the CSRs' screens during the first CTAS outage at 11:09 a.m. Normal CCIRF information was then not available until 7:45 p.m. on December 12, an outage of almost 9 hours. However, at 6:00 p.m., CSRs were given an alternative method to use their computers to verify whether a circuit was out. While the VRU remained intact and included updates during this period, the automatic routing of calls from outage areas to the VRU was interrupted. Due to the failures of the CTAS and CCIRF system, for a period of 12 hours, from roughly 7:00 a.m. to 7:00 p.m. on December 12, PG&E's CSRs had

[25] PG&E claims that it has now fixed the problem that caused the reloading of the old CCIRF messages upon the restart of the teleprocessing system.

no information on line section outages for almost 9 hours and no information on circuit outages for more than 8 hours. The information CSRs did have was between 2 to 6 hours late.

Another consequence of the CTAS system crash on December 12 was that circuit alert messages were no longer printed in the switching center. This cut off the normal source of input to the CCIRF system. Normally with CTAS operating, only the first call on a line section generates a printed customer service order (tag) in the dispatch office. To avoid confusion, subsequent tags are deferred and held in the CTAS. However, when CTAS was off, the CSRs had to fax tags to the dispatch office, which generated a large number of service tags which had to be sorted. After they were sorted, these tags were not re-entered into CTAS.

When CTAS is off, reports also cannot be generated. Some of these reports are used by the switching centers in combination with field personnel to set priorities for repairs and to keep track of where crews are located. Instead, the information was created by hand and exchanged by fax or voice communication. Information reported to CSRs by fax or voice during the periods CTAS was off was not entered into the system for the purpose of setting repair strategies and tracking crews.

Although CTAS serves all of these critical functions, only one computer programmer was assigned to CTAS. In its postmortem report on the operation of CTAS during the December storm, PG&E concludes that, for such an important system, this level of support was insufficient. PG&E also concludes that during the CTAS recovery process there was a need for improved communications between operations, applications support, and clients.

While PG&E's goal is 5-minute entry of CCIRF information, on December 12 the average time to make the first entry into CCIRF in most

switching centers was generally 2 to 6 hours. In the San Francisco Peninsula area, the average time was 3 hours and 5 minutes; in the north coast Russian River area, the average time was 6 hours and 12 minutes; and in the East Bay area, the average time was 5 hours. While this time span decreased on the 13th, 14th, and 15th for some of the areas with less damage, the trend continued in high-damage areas. The time lags on the 13th, 14th and 15th for the San Francisco Peninsula area were 2 hours and 38 minutes, 2 hours and 13 minutes, and 1 hour and 55 minutes, respectively. On the 13th, 14th, and 15th, in the north coast Russian River area, the time lag was 3 hours and 17 minutes, 3 hours and 49 minutes, and 6 hours and 45 minutes, respectively. The East Bay area had the fastest recovery with time lags of 2 hours and 28 minutes on the 13th, only 4 minutes on the 14th, and 1 hour and 3 minutes on the 15th. PG&E recognizes that problems occurred with employees being overwhelmed by the outage data and confusing new outages with existing outages, and these problems arose because only a limited number of trained employees could enter data into the CTAS and CCIRF system.

TURN asserts that because of the malfunctioning of the CCIRF system and CTAS, data discrepancies about outages were relayed to the storm rooms. However, TURN admits that there is no way to ascertain the extent of the data discrepancies because the CTAS reports were aged off the computer and not saved and no reports were produced by the outage computer. Although there is some evidence of such discrepancies, we find that, based on the record before us, determining the extent of them would be mere conjecture on our part. But we express concern over the lack of retrievable data to assess the extent of the problem.

TURN also points to other system difficulties that exacerbated the problems with the computerized outage system. TURN found some instances where assistants who helped the switching center were not adequately prepared

to use the CTAS and CCIRF systems. Some supervisors also needed increased understanding of the CTAS reports. Some divisions did not have enough people trained for CTAS. Adding to these problems was the fact that communication lines at the switching centers were overloaded so that troublemen could not communicate with the switching centers.

TURN also notes that the CTAS does not easily provide information on outages lasting more than one day. While information is retained in CTAS for 7 days, the customers listed as out-of-service at the end of the previous day do not appear on the CTAS report as out-of-service for the current day. Therefore, in December, with outages lasting over several days, staff organizing the repair efforts had the cumbersome task of consulting and comparing several days' reports to determine which reported outages were still out.

TURN also asserts that some of the problems encountered by PG&E during the December storm had already been identified as problem areas in the prior January and March 1995 storms. TURN points to problems in the updating of the electric distribution system analysis files containing data on customers, prioritizing of customer tags, communications difficulties between troublemen and switching offices, and confusion over the criteria for opening storm rooms.

TURN found that on December 12 it took an average of 10 tries for a call to be completed. On December 12, 375,614 different callers finally did get through to PG&E's switch, but most of them received busy signals. Almost 3 million calls were stopped by AT&T before they got to the PG&E switch. TURN contends that part of the call volume was due to the failure of PG&E's outage information reporting systems. Those customers who reached CSRs were encouraged to call back later when the computer systems were functioning. This increased an already large call volume. In addition, TURN asserts that of the 122,834 customers who reached the VRU, 72,570 or 59% still asked to speak with

a CSR, due to dissatisfaction with the information provided on the VRU. Indeed, 22,102 callers or 18% heard no outage message at all when they prompted the VRU. TURN claims that dissatisfaction with the VRU information was attributable to the failure of PG&E's outage information systems, thus exacerbating the call volumes.

PG&E contends that based on the loss of teleprocessing linkages in the January and March 1995 storms, it made improvements in its outage information systems that increased their effectiveness during the December storm. In the January and March storms, PG&E admitted that problems with the teleprocessing system going down caused problems with VRU messages, because then messages had to be recorded and entered onto the VRU manually. After the January and March storms, PG&E revised the link that feeds into the voice synthesizer application on the VRU. Before the December 1995 storm, PG&E developed CCIRF as an enhancement to the existing application to provide outage information directly to the VRUs and CSRs. CCIRF allows a message to be posted directly to the VRUs in a matter of seconds after an outage is reported without the manual intervention that had been required during the January and March storms. CCIRF also permits the messages to be provided to the CSRs through PG&E's customer information system. PG&E asserts that the CCIRF application could send messages to the VRUs and to its customer information system much faster than the previously existing CTAS.

PG&E identifies the need for further improvements to its outage information system after the December 1995 storm. These include the increased availability of qualified support staff to operate the system during an extended emergency and better system management tools to assure information quality and flow. PG&E also asserts that extensive training is underway to ensure that

adequate numbers of qualified support personnel will be available in emergency situations.

PG&E also contends that although CTAS experienced three failures on December 12, 1995, which created problems in providing outage information to customers, even had the system worked perfectly, accurate outage information would not have been available in many cases because of the amount of time required to assess the damage and assign crews to repair it. PG&E reports that it took steps to improve the CTAS system for the 1995/96 and 1996/97 storm seasons. PG&E is improving the real time monitoring and failure notification for the system. It is also developing procedures to test critical parts of the CTAS to insure all critical functions are performing properly on a regular basis, as well as any time system activity is expected to be above average. PG&E has already instituted procedures to hold any routine system upgrades whenever severe weather notifications have been issued until the weather system has passed. PG&E is also conducting extensive analyses to identify any additional weak points in CTAS like those experienced in the December storm and to evaluate options to correct any discovered deficiencies. Upgrades to CTAS are underway to improve its user interface and reports to enhance its effectiveness in major disasters. These include improved printer performance, enhanced customer service and circuit alert tag printing, and improved access to the various imput screens.

We are concerned about PG&E's unreasonable practices regarding the maintenance and support of the CTAS and CCIRF system. We find one computer support position insufficient for these systems with their vital interface to the CSRs, call centers, and troublemen dispatch. This failure to exercise reasonable diligence in maintaining the CTAS and CCIRF system was exacerbated by lack of training and understanding of the systems by PG&E

personnel working with them during the December storm. This increased the lag time for outage information entry in the system. Had there been better support, the system crashes might not have occurred or at the least would have been mitigated. More trained personnel to enter outage data would have mitigated the backlog on data entry on outages. Additionally, the failure to program CTAS to carry over outages to subsequent days' reports further hampered troublemen dispatch efforts and information available to CSRs. Outages lasting over a multiple day period should have been reasonably foreseeable by PG&E, especially after the recent history of the Loma Prieta earthquake, the Oakland Hills fire, and the January and March 1995 storms.

We find that PG&E failed to exercise reasonable diligence in maintaining its electric distribution infrastructure in violation of Tariff Rule 14 and should be penalized pursuant to Pub. Util. Code § 2107. Some of PG&E's customers suffered food spoilage as a result of the inaccurate information PG&E disseminated. PG&E likely avoided certain expenditures (i.e. personnel, training) through its unreasonable conduct. Both of these factors cause us to consider PG&E's unreasonable conduct a severe enough offense to warrant the maximum penalty per offense. In sum, due to the failures of CTAS and CCIRF occurring on December 12, 1995, the lag times on outage data entry and the severity of the impact on customers seeking accurate information, we will impose the maximum penalty of $20,000.

Were we to count each customer impacted by this unreasonable conduct as a separate offense, the penalty in this proceeding could amount to millions of dollars and could well be found to be an excessive fine. While other alternate numbers of offenses might be found, mitigating against assessing such a more onerous fine was PG&E's conduct in working to rectify the problems. However, considering the unique facts of this case, in addition to fining PG&E

$20,000 for the unreasonable practices regarding the maintenance and support of the CTAS and CCIRF system, we adopt ORA's suggestion that PG&E be required to record all claims paid out during the storm below-the-line so that the cost thereof will be borne by its shareholders rather than ratepayers. We will also require that PG&E not use the expenses related to claims paid out during the storm as a basis in its pending general rate case for justification of any expense forecast. We find this especially appropriate since the claims paid arose from circumstances in which PG&E gave faulty restoration information. In its comments, PG&E agrees that it paid out the damage claims because its conduct was negligent. However, it states that PG&E normally records claims payments as part of the normal cost of doing business, above the line. ORA and USB argue that PG&E's shareholders must bear the risk of PG&E's negligent or unreasonable conduct in accordance with the regulatory principle that all rates must be just and reasonable. We agree with ORA that unreasonable conduct requires the costs from the December 1995 storm claims receive below-the-line treatment as a matter of law. (See D.85-08-102, Re Pacific Gas and Electric Company (1985) 18CPUC2d 700, 716.)[26]

#### 4. Call Center Understaffing

TURN also argues that the call centers were understaffed and that PG&E could have accommodated another 200 to 300 CSRs with its existing seating capacity. At the peak period on December 12, the call centers were staffed at 459 CSRs with a total seating capacity of 766 work stations. However, PG&E asserts that if additional CSRs had been accommodated in the available

[26] In requiring below-the-line treatment, it is our intent that PG&E not recover these costs from ratepayers in the account used for claims payment recovery, as authorized in the general rate case.

work stations, it would take the CSR-to-telephone-line ratio out of balance. Therefore, PG&E states that its number of trunk lines was a limiting factor. However, TURN contends that the 830 incoming lines, less the 168 dedicated to the VRU, left 662 incoming lines and would have enabled 203 more CSRs to work at peak volumes.

PG&E merely states that it had up to 1,038 employees per day answering customer inquiries. PG&E does not rebut TURN's testimony about unused trunk lines and work stations. Instead, PG&E reports that on December 12, its call centers answered almost 250,000 calls, which is five times the call centers' daily average of 50,000 and 66% more volume than the 149,915 calls on the peak day of the March 1995 storm. PG&E also declares that the VRUs handled 386,128 customer calls from December 10-16, 18 times the weekly average VRU response of 20,713 calls.

We conclude PG&E could have and should have had more CSRs on station on December 12, which would have mitigated its severe call center problems. For the failure to adequately staff CSRs on December 12, 1995, we fine PG&E $5,000.

### 5. The Timing of CTAS Replacement

TURN argues that CTAS is inadequate, and that PG&E had prior warning of these problems but chose to delay outage information system improvements, thereby assuming the risk that a system PG&E knew was inadequate would fail at a critical time. It cites a June 1994 Black & Veatch Report which recommended that CTAS be replaced. A June 1995 Black & Veatch study of PG&E's outage management system also recommended a replacement vendor. TURN admits that PG&E now has a replacement system for CTAS proposed to be online by December 1997, at a project cost of $20 to $30 million. However, TURN asserts that it should be paid for by shareholders due to 1) PG&E's delay

in replacing CTAS; and 2) PG&E's explicit and unequivocal waiver, in the 1996 Test Year General Rate Case, of the right to receive rate relief for its CTAS improvement program.

In 1994, PG&E contracted with Black & Veatch in the context of an overall investigation of the ways in which PG&E could improve customer service. Among the things studied was the state-of-the-art regarding significant improvements to outage information systems and the options for making those improvements. At the time the 1994 study was conducted, PG&E had determined that it was moving to consolidate its switching centers and call centers and was looking to deploy more flexible field service options. PG&E was also looking at potential future replacement of its customer information system. In light of these changes, PG&E felt it needed to look at what options existed for changes to its outage information system. At that time, PG&E had not concluded that its outage information system needed to be replaced or enhanced. Upon completion of the 1994 Black & Veatch study, PG&E decided that the existing system was very adequate for what PG&E thought it needed at the time. However, due to its future plans to consolidate call centers and enhance other aspects of PG&E customer service, including significant improvements to its customer information system, PG&E pursued the Black & Veatch recommendation for replacing the system.

PG&E looked at its outage information system because its customer information system is on a mainframe computer utilizing an application written many years ago. CTAS was directly connected to the mainframe system. PG&E was considering moving the customer information system to a client-server type computer technology which would impact the outage management system. Therefore, in 1994 PG&E's primary purpose was to

ask Black & Veatch to see what options existed for the technology in the area of outage management if they moved away from the mainframe system.

At the time of the 1994 study, PG&E had decided to consolidate its 31 call centers. Prior to the consolidation, there was a one-to-one relationship between a switching center and a call center. Therefore, if a call center needed information about an outage, it knew which switching center to call. Conversely, every switching center knew that if there was an outage in a particular area, that area was handled by a specified call center and its CSRs. After consolidation of the call centers, however, outage calls could go to any one of the hundreds of representatives on duty in the consolidated center. Therefore, PG&E realized it needed a way to electronically link information to provide outage messages to all CSRs. It was only after the January and March 1995 storms that PG&E realized many issues could be resolved by an outage management system that was significantly improved.

As a result of the January and March 1995 storms, PG&E realized that the existing system might not be able to meet all of its future needs. The main failing was that the existing CTAS/CCIRF system relied heavily on manual activity. PG&E was aware that new systems on the market in 1995 automated many features. By 1995, systems existed and had been installed at utilities of similar size and customer base such as Southern California Edison Company and American Electric Power. When the 1994 Black & Veatch study was completed, no major utility had yet deployed any of the new versions of outage management systems. One component of the new system is that it would not require PG&E to rely on its teleprocessing system to run the new outage information system. Therefore, it would remove the teleprocessing system as a potential source for problems during widespread outages. The only impact then

left would be the one the teleprocessing system had on the customer information system.

In furtherance of the decisions made after the January and March 1995 storms, Black & Veatch again performed a technical maintenance review project in August 1995. In November 1995, PG&E's management approved an expenditure of $9.9 million for improvements to the outage information system, as a result of the August 1995 Black & Veatch report. The $9.9 million project is the initial phase of a more massive project to improve the outage information system. The $9.9 million was to be used to proceed with the development of engineering designs and detailed specifications and to enter into contracts to begin the process of replacing CTAS and CCIRF. As a result of these steps, a detailed final cost estimate of the entire replacement project was prepared. At the time of hearings this estimate was pending final board approval in July 1996. The total system implementation cost, which includes the $9.9 million initial expenditure, is estimated to be $31.3 million.

After the $9.9 million initial estimate was approved in November 1995, PG&E met with vendors and several other utilities, visiting their sites to gain more information about the packages and installation. PG&E then selected and contracted with a core software vendor and a hardware vendor. At the time of hearings, PG&E had software and hardware in its San Ramon and San Francisco offices for the first five switching centers to have implementation and had a working prototype for the Diablo Division switching center which was up and running in the San Francisco office. The Diablo Division prototype was being utilized to test the interface between the existing PG&E systems and to test the operators' ability to use this screen. However, it had not yet been hooked to the call center so there was no input from the call centers at the time of hearings.

We believe that PG&E progressed reasonably in regard to the 1994 and 1995 Black & Veatch reports in proceeding to investigate and authorize a new automated outage management system. PG&E has already begun to replace the old CTAS and CCIRF system. Because PG&E acted reasonably, we disagree with TURN's assertion that shareholders must pay for the upgrade of the system.

### D. Adequacy of External Communications

ORA's report expresses concerns about too many blocked calls and inconsistent information given to local officials, the media, and major customers during the December 1995 storm. ORA reports that PG&E's communications with local government entities were strained during the December 1995 storm because local governments and PG&E did not face the same problems in combating the storm. ORA finds that, rather than focusing through a command post in the local emergency center, many community leaders tried to communicate through their normal contacts at PG&E who were on other storm-related duties. ORA notes that PG&E is getting more restoration information included in news updates and is purchasing advertising to explain outage issues. ORA believes that PG&E has improved its communications with local governments to operate more effectively with the agencies and local officials.

USB had no report on external communications issues, except to express concerns over the poor coordination between PG&E repair crews and local emergency services organizations. USB Recommendation 2 asks that we direct PG&E to formalize its understanding of mutual reliance during storm events with local emergency organizations and to evaluate where improvements in communications could be made.

PG&E's report declares that on December 12, 1995, PG&E began running the first of what would become 2,700 paid radio announcements to

inform customers about PG&E's restoration efforts, an unprecedented action. These paid messages supplemented ongoing hourly news updates PG&E provided to reporters. During the week of the storm, PG&E participated in more than 2,500 interactions with the media, both reactive and proactive, to provide updates on service restoration activities and offer information to customers to reduce the inconvenience of a prolonged power interruption.

PG&E notes that after the March 1995 storms, it commissioned its advertising agency to develop an emergency response communication program using radio as the centerpiece for future communications with customers during emergencies. Also, PG&E's internal corporate communications developed an internal emergency response plan to assist it in coordinating its communications efforts during an emergency. PG&E also met with members of the press about how they could help PG&E inform customers of basic steps for better preparation when emergencies result in prolonged power interruption. In late October and early November 1995, PG&E conducted a storm season preparedness advertising program to alert customers that the storm season was approaching and provide them with information on how they could prepare themselves. In October 1995, PG&E sent 750,000 storm tips brochures to its division offices in customer call centers and made available 750,000 refrigerator magnets containing key storm preparedness tips and its 1-800 number for the call centers. In November 1995, PG&E devoted its customer information newsletter accompanying all billing statements to storm preparedness.

Prior to the January and March 1995 storms, PG&E had already established its key contact program to improve and facilitate communications and relations with local officials and agencies. It assigns personnel to serve as liaisons with elected officials of local and state governments. There are approximately 350 key contacts throughout PG&E's service area. They are

assigned to each city, county, and community within the PG&E service territory. During storms and other emergencies, the program is designed to provide ongoing communication 24 hours a day, 7 days a week. The key contacts provide updates on the status of service restoration, answer questions, and communicate safety concerns, areas affected, and the ongoing status of system impacts to local officials and the community. These communications are accomplished by fax updates, phone conversations, face-to-face contacts, and, in some instances, temporary communications centers.

After the January and March 1995 storms, PG&E took additional steps to improve communications with elected officials. It provided current phone and pager numbers of its local key contacts to local officials. When PG&E predicts a storm, key contacts now call local government officials and agencies to alert them to the storm conditions and to verify the contact and fax numbers. Key contacts also now provide regular and timely faxes to local government agencies during emergencies and request from cities a priority restoration list for consideration when restoring power during major outages.

PG&E reports that during the December 1995 storm, its key contact program, for the most part, worked as anticipated. While the program was effective in most of the divisions affected by the storm, there were problems in the North Bay and Peninsula Divisions. These divisions were hit particularly hard by the December storm. Problems arose in the North Bay Division because local officials provided constituents with the PG&E phone numbers intended only for the officials' use during emergencies. Therefore, key contact representatives in the North Bay Division were overwhelmed by the sheer volume of calls from customers who could not get through to PG&E's call centers and instead used the special phone number. In the Peninsula Division, PG&E's key contacts were in the process of improving and reviewing their

communications arrangements with local officials when the storm hit. Therefore, not all communities had correct, updated phone numbers for their assigned key contacts. PG&E also admits that in those two divisions, the key contact representatives were so involved in handling other customer complaints and storm-related responsibilities that they were unable to respond to the needs raised by local officials. PG&E contends that, due to the intense physical nature of the storm, it communicated with its customers and the public as best it could under the circumstances.

We find that the problems with the key contact program in the North Bay and Peninsula Divisions, while troublesome, do not rise to a level of unreasonableness due to the severity of the storm impacts in those areas. In all other respects, the external communications that PG&E conducted just prior to and during the December storm were reasonable. However, we concur with the Joint Testimony as to USB Recommendation 2 regarding mutual reliance on local emergency organizations. In the Joint Testimony, PG&E notes that it currently has agreements with emergency response agencies in all 18 of its operating divisions. The agreements cover 24-hour contact procedures and phone numbers, response and support during emergency situations, and in many cases staffing agreements for regional emergency coordination and communications centers. The agreements are updated on an ongoing basis. Each PG&E division makes contacts with the agencies anytime a change in the agreement is required. Most divisions have formal annual correspondence to insure contact procedures and phone numbers are current.

PG&E agrees to include in the next revision of its division emergency operations plans a listing of all agencies with whom PG&E has reached agreements relating to emergency response, the general nature and extent of the agreements, and the emergency contact procedures. To the extent

possible, the division emergency operation plans will describe specifics of the agreements and serve as documentation thereof. PG&E agrees to review and update this information at least annually as called for in PG&E's emergency planning policy. We direct PG&E to follow this agreement regarding USB Recommendation 2 within 90 days of our decision.

## E. Adequacy of Field Response During the December Storm

ORA reports that the necessary repairs and restoration of power service by PG&E during and after the December 1995 storm were adequate and timely. Comparison of major outage restoration patterns after the three 1995 storms discloses:

| Service Restored In | January | March | December |
|---|---|---|---|
| 0 - 4 Hours | 76% | 71% | 61% |
| 0 - 8 Hours | 87% | 85% | 75% |
| 0 - 12 Hours | 93% | 90% | 82% |
| 0 - 24 Hours | 97% | 95% | 90% |

On field tours conducted immediately after the storm in the Bay Area, Santa Rosa, Fort Bragg, and Chico areas, ORA reports that the movement of personnel, vehicles, equipment, and material was efficient and with a sense of urgency. However, in one or two of the field locations, there was a low number of experienced and senior field personnel with good familiarity and knowledge of the various facilities. Because prior to the storm PG&E had halted the further reduction of some 800 workers, the majority of which were on the electrical side, having these additional workers improved the adequacy of repair forces during and after the December storm.

ORA reports that in the face of 1.24 million customer interruptions, 1,490 distribution pole failures, 943 lost transformers, 8,985 spans of downed conductors, 120 damaged transmission poles, 40 fallen transmission towers,

along with damage or destruction to other equipment and facilities, PG&E fully restored service in seven days. To accomplish this, it used 335 division crews, 150 general construction crews, 355 tree crews, 1 contract crew, and 77 mutual aid crews. ORA believes that PG&E's comparison of its restoration rate with the restoration rates of other utilities in comparable storms is appropriate and that PG&E's performance was adequate particularly in light of the size and diversity of its service territory and customer base. ORA finds that PG&E's restoration rate indicates that it had sufficient manpower, vehicles, equipment, and material to restore power to its customers in a relatively timely manner. ORA approves of PG&E's proposed improvements to its damage assessment and service restoration procedure and believes the new outage management system will result in better quality storm restoration operations.

USB's report expresses its concerns with a discrepancy between repair priorities to Grade 1 (hazardous conditions) responses and assessment responses thereto. It notes that when PG&E receives an outage notification, the information is routed to the appropriate operation/dispatch center which dispatches an assessment crew. The assessment crew's first priority is to protect life and property by making the area safe and then to investigate the damage to PG&E's system. The assessment crew's findings are communicated to the operation/dispatch center which makes arrangements for a repair crew. If for some reason, the assessment crew is not qualified to make the area safe, it must either stay and insure public safety or rely on local emergency service organizations to provide public safety until a qualified repair crew can make the area safe. The assessment crew is then sent to respond to the next reported Grade 1 incident and conduct a similar evaluation. USB believes that PG&E repair and service crews have a different set of priorities than the original assessment crews, which leaves local emergency service organizations to bridge

the gap. Therefore, USB Recommendation 3 asks that PG&E be directed to train and equip its assessment crews to handle more Grade 1 responses, such as fallen live conductors. USB believes that PG&E's assessment crews must be given the authority and capability to de-energize such fallen lines in the event repair crews are busy elsewhere restoring higher priority services.

In the December storm, PG&E first took a systemwide view and looked at large areas to see where there were discrepancies between workload, number of customers out, and the crews. Its focus was to get as many crews as possible to areas that needed them the most. Therefore, PG&E had to decide what large areas would have the resources available to make the restorations. Once this systemwide crew allocation was made, the actual dispatch of which outage would be taken care of first was done on a local basis. Therefore, if additional crews were sent to an area, the actual dispatching of those crews was done by local emergency recovery centers.

PG&E's first priority is to respond to those locations where there are reports of hazardous conditions. If PG&E has addressed all of these Grade 1 situations, or they are in the process of being addressed, the next priority is to restore the big parts of the system necessary to serve customers, that is, generation facilities and transmission lines feeding areas. Once generation facilities and transmission lines are up, then crews are moved to make restorations on the distribution systems. In general, PG&E's focus is to get the largest number of customers back up as quickly as possible, after critical loads like hospitals, sewage treatment plants, and water pumping plants carrying critical infrastructure loads are up. Once large feeders are repaired, then the repair crews look at tap lines and finally go to repair actual individual services. An additional priority is those people who have made PG&E aware that they have medical devices requiring electricity in their homes. PG&E makes every

effort to get to these customers as soon as it can. However, no further prioritization is done by customer type.

PG&E reports that approximately 43% of its customers experienced service interruptions as a result of the December storm. It asserts that, as in past emergencies, response by field employees from PG&E and mutual aid utilities was nothing less than heroic. PG&E's crews worked around the clock, with employees working 18-hour shifts or longer. Gas transmission and distribution employees were added to repair crews to assist with nonelectric tasks to increase each crew's productivity. Under these conditions, fallen trees, debris, broken or downed power poles, and miles of dangling wire made damage assessment and repair complex and difficult. PG&E reports it restored power to 90% of its customers within the first 24 hours and to 96% of customers within the first 48 hours. Its average restoration time for the December storm was 8.5 hours, and although this exceeded the 4-to 6-hour restoration time in the January and March storms, PG&E contends this was a direct reflection of the December storm's widespread severity. PG&E reports that it had as many as 3,700 employees in the field during the December storm, 500 more than during the March storm.

We find that the field response by PG&E to the December storm was reasonable. We commend the PG&E crews for their around-the-clock efforts to restore services under difficult conditions. We will accept the agreement in the Joint Testimony as to the USB Recommendation 3. PG&E has already increased the number of employees available for Grade 1 type work and utilizes all qualified division line workers on assessment teams. To insure consistent implementation of emergency policy, PG&E has created and staffed a new high-level position to insure accountability and consistency in its emergency response practice and to ensure safety remains a top priority. Both the Commission and

USB believe these steps should satisfy the intent of the USB Recommendation 3 on Grade 1 responses.

### F. Adequacy of December Storm Claim Procedures

As a result of the December 1995 storm, approximately 15,000 claim forms were sent to PG&E customers. At the time of hearing, 5,800 claims had been filed, representing over 40% of all the claims PG&E received in 1995. Rule 14 of PG&E's tariff, dealing with shortage of supply and interruption of delivery, declares that:

> "PG&E will exercise reasonable diligence and care to furnish and deliver a continuous and sufficient supply of electric energy to the customer, but does not guarantee continuity or sufficiency of supply. PG&E will not be liable for interruption or shortage or insufficiency of supply, or any loss or damage of any kind of character occasioned thereby, if same is caused by inevitable accident, act of God, fire, strikes, riots, war, or any other cause except that arising from its failure to exercise reasonable diligence."

This is the standard that PG&E applied in assessing the December storm damage claims. Under Rule 14, PG&E equates reasonable diligence with the legal definition of negligence, which is performing an act which a reasonably prudent person would not do, or the failure to do something which a reasonably prudent person would do, under similar circumstances. Under this standard, PG&E will pay damages to claimants who sustain personal injuries or property damage as a result of unreasonable, that is negligent, acts of PG&E.

PG&E does not segregate commercial claims from residential claims, but almost all of the 5,800 storm claims involved food loss. PG&E reports that the December storm claims broke down into three types:

1. Duration of the power outage caused refrigerated and frozen food to spoil;

2. Customers who attempted to contact the PG&E call center but could not get through, and whose food spoiled; and

3. Customers who received inaccurate information from PG&E about the timing of the service restoration and relied on that information to their detriment, resulting in the spoilage.

PG&E did not pay the first type of claim absent some equipment failure unrelated to the storm outage, as the storm is considered an act of God under Rule 14. Similarly, the second type of claim was also denied as PG&E believed that customers could have taken steps to preserve their food. However, the third type of claim was paid by PG&E. While PG&E asserts that it was not negligent in providing the inaccurate information under the extreme circumstances of the storm, it did feel that it would take responsibility for these claims as it was an equitable solution under the circumstances.

For the past five years, PG&E averaged 10,000 claims a year. In addition to this normal load, the storm generated 5,800 claims within a span of four to five months. PG&E declares that there were minimal complaints about the claims process.[27] When customers contact PG&E on its 800 service number and ask about filing a claim, PG&E sends the claim form to the customer. In normal non-storm circumstances, the claim form is not accompanied by any correspondence. However, there are instructions on the form. Some December storm claim forms were sent out with correspondence stating:

[27] One public witness came forth at the beginning of the hearings to complain about the handling of his claim. During the course of the hearings, PG&E reviewed his file and found the claim had been improperly denied.

> "All claims are investigated to determine if PG&E did something wrong or failed to do something that should have reasonably been done. If the damage you claim was caused by the storm, which is 'a force of nature' beyond the control of PG&E, your claim may be denied. Therefore, you may want to contact your homeowner's insurance to find out if you have contractual coverage for this type of peril." (Emphasis added.)

Other customers' claim forms were accompanied by letters containing the statements:

> "Due to the extensive amount of damage sustained, it was impossible to restore service to all customers as quickly as we would have liked. However, PG&E is not responsible for this storm damage or related outages and is not liable for your loss.
>
> "While we make every effort to provide continuous service to our customers, occasionally service interruptions do occur. We regret the outages and assure you that we will continue our efforts to keep them to a minimum. Despite our best efforts PG&E cannot guarantee continuous service.
>
> "Our liability depends on whether we were negligent. If we do something wrong, or we fail to do something we should have done, we have an obligation to compensate for reasonable damages. You might consider referring the matter to your insurance carrier." (Emphasis added.)

Out of the 15,000 claim forms mailed out, customers mailed 5,800 completed claim forms to the local PG&E claims offices. Upon receipt, the form was date stamped. The local office sent correspondence to a customer within 48 hours acknowledging receipt of the claim and the opening of a file. Some letters sent by the claims investigators at local offices cited Rules 14 and 2 and furnished the claimant with copies of them. These letters stated that if PG&E had

exercised reasonable diligence, it was not liable for damages of the nature described in the claim. The claimant was advised that, if the damage claim was caused by the adverse weather conditions, the claim might be denied. The claimant was referred to his or her homeowner's insurance carrier to see if there was coverage for the loss. Other letters utilized by claims investigators did not contain this information, and instead merely acknowledged receipt of the claim and stated an investigation was being conducted.

As part of the investigations, computer records providing circuit and outage information were checked and the information was placed in the claims files. The local claims investigators reviewed the claim form, the outage information, and any other relevant information and then made a liability recommendation dependent upon into which of the three classes the claim fell. If warranted, in-house experts were consulted before the recommendation was made. The file was then sent to a centralized group called the Major Incident Team (MIT), which then settled or denied the claim as appropriate.

The MIT was created expressly to address the December storm claims. It consisted of six contract investigators in San Francisco and one in-house team leader. PG&E provided training at the outset to ensure all the investigators understood how to process claims at PG&E. Some of the contract investigators were former PG&E employees and were more aware of the pattern. All six investigators and the team leader were experienced property damage adjusters. Once a MIT member accepted or denied the claim, he or she followed up with a telephone call soliciting additional information to ensure there were sufficient facts to pay or deny the claim and to negotiate proper payment where PG&E accepted liability. To minimize the cost to the claimants, PG&E established an 800 telephone number for returning phone calls during the negotiation process. At the time of hearings, PG&E had processed almost all of

the 5,800 claims in connection with the December storm and had paid out approximately $500,000 on roughly 45% of those claims. For the January and March storms, PG&E paid out approximately $189,000 on 430 claims out of a total of 3,221 processed, or 13%.

During the process of reviewing the December storm claims, PG&E representatives told customers orally that Small Claims Court was an option. At the time of hearings, there were approximately five Small Claims Court actions as a result of the storm. One of these claimants filed directly in the court without ever filing a damage claim with PG&E. No claims had proceeded to Municipal or Superior Court.

After processing the December storm claims, PG&E's claims department modified correspondence which now accompanies all claim forms in the case of unusual events. A cover letter accompanying the claim form now contains the following statement:

> "If your damage was caused by the storm, an event which was beyond our control, your claim will most likely be denied. However, we do investigate each individual claim to determine the cause of the damage. You will be entitled to compensation for your loss, consistent with California law, if our investigation establishes that your damage resulted from our failure to act reasonably and prudently in providing or restoring power. You may also want to contact your homeowner's insurance carrier to find out if you have insurance coverage for this type of event."
>
> "As is the case when dealing with any business, you have the right at any time in the claims process to file a court action, including a small claims action if the value of your claim does not exceed $5,000. The small claims process does not involve attorneys."

ORA reviewed the procedures and process that PG&E used to examine claims for the December storm damage. ORA finds that PG&E consistently used the procedures as described above. However, ORA did not review the merits of any individual claims to determine whether ORA thought that any specific payment on a claim was proper. ORA expresses concerns with the manner in which ratepayers were informed of procedures for making claims. Only ratepayers who contacted PG&E using the 800 service number were informed of the procedures. ORA notes that PG&E provides claim information only to customers who actually call the utility. ORA asserts that PG&E should more directly inform all customers of the claim process by including a bill insert describing the complete complaint process in each bill. Except for this change, ORA's review of the claims process disclosed no clear reason for changing it. Due to ORA's concern that PG&E's customers were not all equally aware of the claim process, ORA suggests that the Commission may want to direct PG&E to include information on its claim process in customer bill inserts.

ORA's investigation discloses that amounts paid out in settlement of the claims are recorded by PG&E in Federal Energy Regulatory Commission (FERC) Account 925, Injuries Damages. These amounts are not booked as debits to the ERAM account. A forecast of the FERC Account 925 expenses is adopted by the Commission in each general rate case and is thus reflected in the adopted base revenue amount. PG&E felt that the amounts paid in claims relating to the December storm did not qualify for inclusion in the Catastrophic Event Memorandum Account (CEMA) for 1995 or 1996 since the storm was not a state or federally declared emergency as required by Resolution E-3238 (July 1991) adopting CEMA. ORA also asserts that if the Commission finds PG&E was negligent, it should direct PG&E to assess December storm claims below-the-line to its shareholders.

PG&E objects to the use of a customer bill insert about claims, stating that the bill's reference to the PG&E 800 number if there are any questions about PG&E or its service is a sufficient intake for the claims process. It asserts the fact that over 15,000 claim forms were requested by customers after the December storm shows that customers were not unaware of their options. It contends a bill insert is duplicative and expensive. PG&E argues that there was no pre-existing duty or requirement for PG&E to provide notice in this manner.

The scope of this proceeding, as set by the ACR included whether PG&E's response to the December storm was reasonable. Part of that response is claims handling relating to storm damages. We find there are more than some inherent weaknesses in the claims process, as observed by ORA. We find that PG&E acted unreasonably in three ways in the processing of some of the claims relating to the December storm. First, PG&E's written response to customers requesting information about claims for outage-related damage is unreasonable. One version of the letter accompanying claims forms made an emphatic statement that PG&E is not responsible for "this storm damage or related outages and is not liable for your loss." This statement lacks the Rule 14 exception for damage arising from its failure to exercise reasonable diligence. A reasonably prudent person would have included the exception as a modifier to the emphatic statement. The other version of the letter PG&E sent makes a less emphatic statement regarding PG&E's lack of responsibility, but it still fails to clearly state the Rule 14 exception. PG&E's letters do include a description of its liability, but in the context of the letters, the reader would likely conclude that PG&E investigates only those claims that are not related to a storm or force of nature and then assesses whether PG&E was negligent. The effect of this approach is to discourage customers from processing their claims. Indeed, PG&E received only 5,800 claim forms back, out of the over 15,000 that were sent out. A reasonable

consumer receiving such a letter from PG&E could be discouraged from completing the claim form.

Second, PG&E should have informed consumers in writing of their option to go to Small Claims Court before or after completion of the PG&E claim procedure. In its comments, PG&E characterizes informing customers of the option to pursue a damage claim in Small Claims Court as being "extra helpful," and not part of PG&E's "ordinary and reasonable duty of care." It argues, therefore, that this omission does not constitute negligence. However, we are not convinced. We believe PG&E's conduct falls short of an ordinary and reasonable duty of care. We are troubled that PG&E would characterize informing a customer of the Small Claims Court option as extra helpful while its letters inform the customer of the option of filing a claim with the customer's insurance provider. A Small Claims Court resolution of a damage claim could result in PG&E paying damages, whereas an insurance provider resolution of a damage claim would not result in PG&E paying damages. It appears that PG&E omitted informing its customers of the damage claim option that could result in additional costs to PG&E. This omission is an arguably prudent action from the point of view of shareholders, but an omission which an ordinarily prudent person, with a reasonable duty of care for customers, would not have committed. We believe this omission, in the context of the letter, is unreasonable. While PG&E has now corrected this problem, with the new correspondence that accompanies claim forms in major catastrophic events, this does not excuse PG&E's failure to include such information in correspondence with claimants from the December storm.

Third, we concur with ORA that merely calling the service number is insufficient to tell consumers of their rights to file claims as a result of the storm. At the very least, PG&E should have included some sort of bill insert or

notification on a one-time basis in its "Spotlight" newsletter accompanying December or January bills, to inform consumers of claims procedures after the December storm. While we agree with PG&E that there was no pre-existing requirement for PG&E to notify customers in this manner about the claims process, the argument is off point. We believe a reasonably prudent person, exercising ordinary and reasonable care would have informed its customers immediately using a broad notification device like the "Spotlight" newsletter. We find that it was unreasonable not to perform customer outreach to so inform consumers due to the widespread damages.

For each of these three categories of unreasonable acts in the claims handling process, we assess PG&E a fine of $20,000 under Pub. Util. Code § 2107. Within each category of unreasonble act, PG&E likely committed thousands of individual acts for which it could be fined under Pub. Util. Code §§ 2107 and 2108. Further, we note that each event could qualify as a continuing violation under Pub. Util. Code § 2108, permitting the assessment of additional fines. However, since the record does not permit us to quantify the extent and duration of individual acts, we have chosen to levy the maximum one-time fine per category. Thus, PG&E's total fine for unreasonable claims processing is $60,000.

In its comments, ORA and USB express concern that PG&E improperly rejected valid damage claims arising from the December 1995 storm. In fact, during the hearings, a customer came forward as a public witness to complain about the handling of his claim. PG&E reviewed his claim during the course of the hearings and found the claim had been improperly denied. Although we share staff's concern, we are disinclined to require PG&E to review all rejected claims on the basis of this improperly denied claim and at this late date.

We also find that the current reference on PG&E bills to contact PG&E through an 800 number if there are questions about PG&E or its service is insufficient to inform consumers that there is a claim process. Therefore, we direct PG&E to work with our Public Advisor's Office which will review and approve suitable wording to be placed on the bill so that a specific reference to calling the 800 number to file a claim is included. This should be accomplished as soon as possible but no later than 30 days after the issuance of this decision. The wording shall be utilized beginning on the next billing cycle thereafter.

Finally, we direct PG&E to revise the new cover letter to accompany claim forms in future catastrophic events (Exhibit 509), to change the sentence that currently reads:

> "If your damage was caused by the storm, an event which was beyond our control, your claim will most likely be denied."
>
> to read:
>
> "If your damage was caused by the storm, an act of God, and your damage did not arise from a failure on our part to exercise due diligence, your claim may be denied."

While PG&E is entitled to the protection afforded it by Tariff Rule 14, we do not wish consumers to be dissuaded from completing claim forms by language that indicates the claim is likely to be denied.

## G. Potential for Undergrounding and Other Technical Improvements to Decrease Damage in Future Storms

### 1. Undergrounding

USB in its investigation considers whether the undergrounding of electrical cables in storm-prone areas would be beneficial to improve the safety of the system. It believes that undergrounding facilities

would reduce storm-caused outages and storm damage. USB contends that a study should first determine what a storm-prone area is through outage information on a circuit basis in correlation with a history of outages due to weather or weather-related conditions. Isotach maps identifying areas of high winds should also be analyzed and compared to the number of customers affected. USB believes that once storm-prone areas are identified, PG&E should consider undergrounding in those areas.

Although USB attempted to study whether undergrounding would be a viable method to improve the safety of PG&E's overhead systems, it was unable to gather sufficient data from PG&E and other sources to make a conclusive statement. USB asks us to direct PG&E to perform such a study. USB also recommends that safety be included as a stated criterion under tariff Rule 20A on the funding of undergrounding projects. Alternatively, USB suggests a new tariff Rule 20E be promulgated to deal with safety-related undergrounding.

PG&E is willing to work with USB personnel on a study that addresses USB's recommendations. PG&E believes the study should also consider cost issues. We believe this is appropriate.

In the Joint Testimony, the parties agree as to USB Recommendations 10, 11, and 12 that PG&E will work with USB on the recommended undergrounding study. The parties agree the study will commence within 30 days of the Commission's decision and be completed within one year. PG&E agrees to periodic review and comment by USB during the study period. USB agrees that further prioritization on undergrounding portions of particular circuits should proceed only if the study supports the benefits of doing so. PG&E and USB agree to work together to scope out a framework for modifying existing tariff Rule 20A or to create a new tariff to set aside funds for

safety improvements by undergrounding distribution systems. They assert that to ensure such provisions apply to all California investor-owned electric utilities, the tariff review should occur in an investigation established by this Commission.

We accept the agreement of the parties in regard to USB Recommendations 10, 11, and 12 with three exceptions. First, to avoid potential deadlock, the study should be conducted by PG&E; however, USB and PG&E should also work with the Commission's Energy Division (ED) on the study. Second, we will not, in this decision, commit to the opening of a new investigation (OII) to revise tariff Rule 20A or consider undergrounding considerations for safety for all investor-owned electric utilities. However, we direct ED to consider their appropriateness and bring to the Commission its proposal for further undergrounding study or an OII within 180 days. Third, PG&E should consider not only undergrounding but also other options that could improve service reliability more cost-effectively.

### 2. Other Technical Improvements

USB recommends that the Commission direct PG&E to immediately conduct studies on those circuits or portions of circuits that experienced outages greater than 48 hours during the three storms in January, March, and December 1995 in order to determine whether additional reclosers, fuses, or a mix of any technical solutions should be utilized to reduce the number of customers subjected to outages of greater than two days. USB observes that during the December 1995 storm, 73,520 customers experienced outages varying from 48 hours to seven days.

USB also investigated to determine if PG&E had installed monitoring equipment which would inform it of outages in certain areas as well as what other technologies were available to facilitate such systems. USB reports that PG&E utilizes automatic sectionalizing equipment and remote sensing

systems to inform its control centers about outages. This equipment provides reliable and instantaneous notification. However, PG&E still depends heavily on customer calls to alert the utility about outages.

PG&E is investigating the use of automatic outage detectors to help pinpoint problem circuits. Beginning in the summer of 1995, approximately 7,000 customers were equipped with a small box that automatically alerts PG&E by telephone of outage events. This unit costs approximately $50. When power goes out, the device rings up a special toll-free number at PG&E 's computer center and identifies itself. It is powered by capacitors that store an electric charge which is good for about an hour of ringing. By installing these devices strategically in neighborhoods throughout its service territory, PG&E can identify problem circuits and send repair teams to pinpoint and fix outages. At the time of the hearing, approximately 3/4 of PG&E's customers were on circuits covered by these detectors.

However, these devices were of little use during the December storm due to its sheer scale and the overload of PG&E's computer information systems. Also, these outage notification devices link through the telephone and will not work if telephone lines are down. During the course of the December storm approximately 2,400 protective devices, such as circuit breakers, reclosers, and fuses, operated indicating where the 12,872 pieces of distribution equipment were damaged. It was the operation of these protective devices that caused the nearly two million customers to experience service interruptions. Had PG&E's automatic outage detectors been installed on all portions of circuits which are downstream of the protective devices, 2,400 automatically placed calls would have alerted PG&E to most of the outages. Therefore, USB recommends that the Commission direct PG&E to investigate the possibility of strategically placing automatic outage detectors on all portions of circuits that are downstream of

protective devices. USB also wants the Commission to direct PG&E to make these outage indicators dial a dedicated number which has the capacity to receive calls without overloading the teleprocessing system.

In its rebuttal testimony PG&E states that it would be willing to conduct the requested 48-hour outage study targeting quantifiable and objective results. PG&E agrees to provide data regarding the number of outages that subjected customers to service interruptions exceeding 48 hours during the three 1995 storms and to study a sample to determine potential solutions for reducing the number of customers subjected to outages of greater than 48 hours. In the study PG&E will consider issues such as installation cost, ongoing maintenance and operational cost, operating issues, feasibility of construction, potential for systemwide application, and other appropriate issues. The study will begin within 30 days of the decision and be completed within nine months with ongoing consultation with USB and ED.

PG&E also agrees to conduct an automatic outage detector study to investigate the possibility of placing automatic outage detectors, such as enhanced outage notification devices, on all portions of circuits downstream of protective devices and to submit the study to USB. PG&E will also address the cost of placing such devices on its system since it believes the cost would be greater than $50 million. Focus of the study will be on how such devices might improve system performance under storm conditions rather than under normal conditions. We direct PG&E to assess feasibility and cost of having the outage indicators dial a dedicated number with the capacity to receive calls without overloading the teleprocessing system. This study will also commence within 30 days of our decision and be completed within nine months with consultation with USB and ED.

We concur with the parties' decision that these two studies are appropriate;[28] however, PG&E should also consider the value of reliable service in its study.

## VI. Conclusion

Based on the evidence before us, we find PG&E's response to the December 1995 storm not to be unreasonable except in three respects. First, we find PG&E was unreasonable in regard to proper support and maintenance of its outage information systems which were a vital component interacting with its customer call center on December 12, 1995. For this offense, we fine PG&E $20,000 under Pub. Util. Code § 2107. In addition to fining PG&E for these unreasonable acts, we direct that all monies paid out for December 1995 storm damages be recorded below-the-line and paid solely by the shareholders of PG&E. Second, we find PG&E did not properly staff CSRs on December 12 and fine it $5,000 for this offense. Third, we find PG&E was unreasonable in the processing of claims related to the December 1995 storm by sending correspondence discouraging potential claimants from filing the claims, by not making any outreach attempt to inform consumers of their right to file claims, and by not notifying claimants in writing of their right to proceed in Small Claims Court. For these three categories of unreasonable acts, we fine PG&E $60,000.

We assess penalties on a case by case basis according to the totality of circumstances.[29] In assessing the monetary fines in this matter, we weighed

---

[28] These studies are not addressed in the Joint Testimony but PG&E has agreed to them in its rebuttal testimony.

[29] See D.98-12-075, mimeo., p. 34, for a description of the principles we apply when imposing fines.

various factors against the purpose sought to be achieved by the penalty. Our purpose is deterance, to prevent further offenses. The imposition of the fines is intended to protect the public from inadequate service resulting from understaffing and from being discouraged to file damage claims, and to promote confidence in the CPUC's regulatory program. The Commission has a regulatory and institutional interest in assuring that PG&E provides reasonable and adequate service to its customers.

Among the factors we considered in assessing the fines were the size and sophistication of PG&E and its experience in the regulatory arena. (Hale v. Morgan (1978) 22 Cal.3d 388, 405.) PG&E is a large utility which had approximately $9.622 billion in operating revenues and approximately 8 million customers in 1995. It has a long history of regulatory experience. Another factor we took into account is whether the penalty is proportionate to PG&E's wealth and ability to pay. (People ex. rel. Smith v. Parkmerced Co, (1988) 198 Cal.App.3d 683, 692.) We also considered the number of customers affected by PG&E's unreasonable behavior, the severity of hardship those customers endured as a result of PG&E's conduct, and the unlawful benefits gained by PG&E resulting from the offenses (e.g., cost savings due to understaffing). As discussed earlier, PG&E's conduct constitutes severe offenses by a utility with extensive financial resources. These factors alone would cause us to impose a higher level of fine. However, PG&E readily acknowledged the problems and the need for improvement. Working cooperatively with staff, it has put together corrective measures, most of which we adopt. PG&E's actions to disclose and rectify these problems mitigate against applying high penalties. We direct PG&E to make changes in the wording of its newly promulgated cover letter to be utilized in future major events claim correspondence in order not to discourage the filing of claims. We also order PG&E to work with our Public Advisor's

Office to modify wording on its monthly bill to make it clear to customers that any customer seeking to file a claim against PG&E shall do so by utilizing the 800 service number shown on the bill.

We commend the parties for reaching agreements to improve PG&E's future maintenance procedures. We approve certain of those agreements in the Joint Testimony, as they are modified by the supplement thereto, and in PG&E's rebuttal testimony which we deem appropriate and as we have modified them.

We reject TURN's contention that PG&E's outage management information system replacement upgrade should be undertaken entirely at company expense. We shall consider the appropriateness of its expense allocation in the relevant future general rate case or performance-based ratemaking proceeding. We also decline to impose TURN's proposed penalty of a 20 basis point reduction in PG&E's return on equity, for its electric department, as we did previously in D.96-09-073.

Finally, we reject completely PG&E's assertion that R.96-11-004 on operational service and safety standards negates the need for the Commission to investigate future event-specific responses in individual reasonableness reviews such as this one. Indeed, a major reason for our inability to find PG&E's actions in the three storms of 1995 to be unreasonable is the lack of specific operational, maintenance, and inspection cycle requirements against which to measure PG&E's performance. Our adoption of these and other standards is meant to facilitate future investigations of safety and performance by investor-owned electric utilities, rather than to forestall them. Similarly, we determine that it is appropriate to open a rulemaking to determine the appropriate wood pole minimum safety factor for Grades "A," "B," "C," and "F" and the appropriate relationship between the safety factor and subsequent additions to wood poles.

**Findings of Fact**

1. In December 1995, California experienced unusually harsh rainstorms causing several billion dollars worth of damage.

2. During the December 1995 rainstorms, 1.24 million PG&E customers experienced outages. Approximately 124,000 customer outages exceeded 24 hours. Average restoration time was 8.5 hours. The number of outages and their duration exceeded both the January and March 1995 storms, and the number of customer interruptions on December 12, 1995 exceeded those associated with the 1989 Loma Prieta earthquake.

3. PG&E experienced over $70 million in damages to 109 wood transmission poles, 1,490 wood distribution poles, 32 transmission towers, 940 distribution transformers, 86 miles of transmission conductor, and 435 miles of primary, secondary, and service conductor. The majority of the damage was caused by falling trees and tree limbs or other objects being blown into PG&E's electrical equipment.

4. The Commission and PG&E received thousands of informal complaints about PG&E's lack of accessibility and slow response to restore service during the December 1995 storm.

5. Hearings were held on the reasonableness of PG&E's response to the December 1995 storm on June 17, 18, and 20, 1996. ORA, USB, and PG&E reached certain agreements regarding recommendations made in ORA and USB's testimony and therefore, they sponsored Joint Testimony. TURN did not join in the Joint Testimony.

6. The extent to which PG&E deferred maintenance in the past, and the impact of any such deferral on PG&E's current and future spending is a subject which parties addressed at length in PG&E's pending General Rate Case (A.97-12-020).

7. Over significant portions of its service area, the December storm was stronger and more severe than any individual storm occurring during the January and March 1995 period. The stronger wind speeds in the December storm posed a greater potential to produce damage to PG&E's system.

8. Underbuilds increased the severity of the damage caused by the high winds in the December 1995 storm.

9. The extreme winds of the December 11-12 storm severely impacted 500 kV lines between Round Mountain and Table Mountain, the Newark-San Mateo 230 kV line, and the Pitt-Vaca-Dixon Number 2 line. A total of 40 towers were damaged, with 32 collapsed. The remaining eight towers sustained damages which ranged from minor bent crossarms to buckled legs.

10. PG&E was not negligent in its maintenance and design of the failed transmission towers.

11. During the December 1995 storm, the wind conditions caused conductors to slap or wrap together, resulting in 21.3% of all equipment failures.

12. There is no evidence in the record to support a finding that PG&E was negligent in designing its conductor spacing or did not comply with GO 95's requirements.

13. PG&E's pole test and treat program is separate and in addition to PG&E's overhead inspection program. As of the date of the hearings, approximately 245,000 poles had been inspected and only 8,100 had been rejected, that is, found to be untreatable.

14. PG&E increased its tree pruning and vegetation management efforts after the January and March 1995 winter storms.

15. Historically, PG&E has spent approximately $50 million a year over the last ten years to trim approximately one million trees annually through the work of roughly 800 workers. After April 1995, PG&E increased its tree-trimming

crews by 22% or to 975 workers. PG&E increased its efforts again beginning on August 1, 1995, by increasing tree-trimming crews through the end of January 1996 to over 1,750 workers. By November 30, 1995, prior to the December storm, a record number of trees, 1,163,022, had been trimmed or removed by PG&E in an 11-month period.

16. Post-storm investigations of 7,165 pieces of equipment damaged by tree-related events showed that 96% of the tree-related outages to which crews responded during the storm were unavoidable because a tree or major limb fell into PG&E's facilities from a location outside its trim zone. Many of the trees that fell into or were blown into PG&E facilities were originally 50 to 100 feet away from them.

17. By the time of the hearings in this investigation, the acceleration of tree-trimming had ended and PG&E had reduced the number of crews to a base of 547 crews or approximately 1300 workers. This represents approximately 500 workers above the historical level.

18. None of the parties in this investigation assert any violations of GO 95's Rule 35 under PG&E's tree-trimming program. This does not preclude any such assertions in I.98-09-007 or A.97-12-020.

19. The majority of problems experienced by PG&E and its customers as a result of the December storm arose in the area of PG&E's management of its internal information systems. The management of the information systems affected the data available to CSRs in the PG&E call centers, which were overwhelmed by millions of calls.

20. On the peak day of call volumes, December 12, 1995, 4.5 million calls translated to a response total of only 249,279 calls by CSRs or the VRUs. Of the 4.5 million calls, 36,453 were abandoned, 1.4 million received busy signals upon

reaching PG&E, and 2.8 million callers received busy signals at AT&T's switch and did not even reach the PG&E switch.

21. The teleprocessing system went down for 29 minutes, at 8:04 a.m. on December 12, leaving CSRs with no information. Once the system was restarted, all CCIRF outage messages were re-sent to the VRU. These roughly 800 messages then created a backlog in the VRU which took two and one-half hours to clear in order for the VRU to be current on outage information.

22. On December 12 CTAS was down for 1 hour and 17 minutes (48 minutes more than the teleprocessing system) because the teleprocessing outage occurred while CTAS was performing a critical job. During this period, access by CSRs, switching operators, and repair supervisors to line section outage information was cut off.

23. Twice on December 12, 1995, due to software problems, the CTAS system was turned off by the computer: at 11:09 a.m. for 2 hours and 21 minutes and at 2:08 p.m. for almost 13 hours. Even though CCIRF is designed to operate with CTAS off, on December 12, a programming error removed the CCIRF messages from the CSRs' screens during the first CTAS outage. Normal CCIRF information was then not available until 7:45 p.m. However, at 6:00 p.m., CSRs were given an alternative method to use their computers to verify whether a circuit was out. While the VRU remained intact and included updates during this period, the automatic routing of calls from outage areas to the VRU was interrupted. Due to the failures of the CTAS and CCIRF systems, for a period of 12 hours from roughly 7:00 a.m. to 7:00 p.m. on December 12, PG&E's CSRs had no information on line section outages for almost 9 hours and no information on circuit outages for more than 8 hours. The information CSRs did have was between 2 to 6 hours late.

24. Another consequence of the CTAS system crash on December 12 was that circuit alert messages were no longer printed in the switching center. This cut off the normal source of input to the CCIRF system. When CTAS was off, the CSRs had to fax tags to the dispatch office which generated a large number of service tags which had to be sorted. After they were sorted, these tags were not re-entered into CTAS.

25. When CTAS is off, reports cannot be generated. Some of these reports are used by the switching centers in combination with field personnel to set priorities for repairs and to keep track where crews are located. Instead, the information was created by hand and exchanged by fax or voice communication. Information reported to CSRs by fax or voice during the periods CTAS was off was not entered into the system for the purpose of setting repair strategies and tracking crews.

26. Only one computer programmer was assigned to CTAS. For such an important system, this level of support was insufficient. During the CTAS recovery process there was a need for improved communications between operations, applications support, and clients.

27. PG&E's goal is 5-minute entry of CCIRF information. On December 12, the average time to make the first entry into CCIRF in most switching centers was generally 2 to 6 hours. Problems occurred with employees being overwhelmed by the outage data and confusing new outages with existing outages because a limited number of trained employees could enter data into the CTAS and CCIRF system.

28. In some instances assistants who helped the switching center were not adequately prepared to use the CTAS and CCIRF system. Some supervisors also needed increased understanding of the CTAS reports. Some divisions did not have enough people trained for CTAS. Communication lines at the switching

centers were overloaded so that troublemen could not communicate with the switching centers.

29. The customers listed as out-of-service at the end of the previous day do not appear on the CTAS report out-of-service for the current day. Therefore, in December, with outages lasting over several days, staff organizing the repair efforts had the cumbersome task of consulting and comparing several days' reports to determine which reported outages were still out.

30. PG&E has a replacement system for CTAS proposed to be online by December 1997, at a project cost of $20 to $30 million.

31. The call centers were understaffed and PG&E could have accommodated another 200 to 300 CSRs with existing seating capacity. At the peak period on December 12, the call centers were staffed at 459 CSRs with a total seating capacity of 766 work stations.

32. In 1994, PG&E contracted with Black & Veatch in the context of an overall investigation of the ways in which PG&E could improve customer service. Among the things studied was the state-of-the-art regarding significant improvements to outage information systems and the options for making those improvements.

33. In furtherance of the decisions made after the January and March 1995 storms, Black & Veatch performed a technical maintenance review project in August 1995. In November 1995, PG&E's management approved an expenditure of $9.9 million for improvements to the outage information system, as a result of the August 1995 Black & Veatch report. The $9.9 million project is the initial phase of a more massive project to improve the outage information system. The total system implementation cost, which includes the $9.9 million initial expenditure, is estimated to be $31.3 million.

34. USB Recommendation 1 asks us to require PG&E to establish a new customer service number, such as 800- PGE-HELP, used only to report gas or electric emergencies and hazardous situations.

35. On December 12, PG&E began running the first of what would become 2,700 paid radio announcements to inform customers about PG&E's restoration efforts. In late October and early November 1995, PG&E conducted a storm season preparedness advertising program to alert customers that the storm season was approaching and provide them with information on how they could prepare themselves. Prior to the January and March 1995 storms, PG&E had already established its key contact program to improve and facilitate communications and relations with local official and agencies. After the January and March 1995 storms, PG&E took additional steps to improve communications with elected officials.

36. During the December 1995 storm, PG&E's key contact program was effective in most of the divisions affected by the storm. Problems arose in the North Bay Division because local officials provided constituents with the PG&E phone numbers intended only for the officials' use during emergencies. In the Peninsula Division, PG&E's key contacts were in the process of improving and reviewing their communications arrangements with local officials when the storm hit. Therefore, not all communities had correct, updated phone numbers for their assigned key contacts.

37. Comparison of major outage restoration patterns after the three 1995 storms discloses:

| Service Restored In | January | March | December |
|---|---|---|---|
| 0 - 4 Hours | 76% | 71% | 61% |
| 0 - 8 Hours | 87% | 85% | 75% |
| 0 - 12 Hours | 93% | 90% | 82% |
| 0 - 24 Hours | 97% | 95% | 90% |

PG&E's average restoration time was 8.5 hours. PG&E fully restored service in seven days. To accomplish this, it used 335 division crews, 150 general construction crews, 355 tree crews, 1 contract crew, and 77 mutual aid crews.

38. There is a discrepancy between repair priorities applied to Grade 1 (hazardous conditions) incidents by the assessment crews and the repair crews.

39. PG&E had as many as 3,700 employees in the field during the December storm, 500 more than during the March storm.

40. As a result of the December 1995 storm, approximately 15,000 claim forms were sent to PG&E customers. At the time of hearing, 5,800 claims had been filed, representing over 40% of all the claims PG&E received in 1995.

41. Rule 14 of PG&E's tariff is the standard that PG&E applied in assessing the December storm damage claims. Under Rule 14, PG&E equates reasonable diligence with the legal definition of negligence. Under this standard, PG&E will pay damages to claimants who sustain personal injuries or property damage as a result of unreasonable, that is negligent, acts of PG&E.

42. Almost all of the 5,800 storm claims involved food loss. Claims from customers who received inaccurate information from PG&E about the timing of the service restoration and relied on that information to their detriment, resulting in the spoilage of food, were paid by PG&E.

43. Some December storm claim forms were sent out with correspondence stating:

> "If the damage you claim was caused by the storm, which is 'a force of nature' beyond the control of PG&E, your claim may be denied" and "PG&E is not responsible for this storm damage or related outages and is not liable for your loss."

44. Some letters sent by the claims investigator at the local office noted that if PG&E had exercised reasonable diligence it was not liable for damages of the

nature described in the claim. Customers were advised that, if the damage claim was caused by the adverse weather conditions, the claim might be denied.

45. At the time of hearings, PG&E had processed almost all of the 5,800 claims in connection with the December storm and had paid out approximately $500,000 on roughly 45% of those claims. For the January and March storms, PG&E paid out approximately $189,000 on 430 claims out of a total of 3,221 processed, or 13%.

46. During the process of reviewing the December storm claims, PG&E representatives told customers orally that Small Claims Court was an option. After processing the December storm claims, PG&E's claims department modified correspondence which now accompanies all claim forms in the case of unusual events.

47. Only ratepayers who contacted PG&E using the 800 service number were informed of the claims procedures.

48. USB believes that undergrounding facilities would reduce storm-caused outages and storm damage.

49. USB recommends that the Commission direct PG&E to immediately conduct studies on those circuits or portions of circuits that experienced outages greater than 48 hours during the three storms in January, March, and December 1995 in order to determine whether additional reclosers, fuses, or a mix of any technical solutions should be utilized to reduce the number of customers subjected to outages of greater than two days.

50. PG&E is investigating the use of automatic outage detectors to help pinpoint problem circuits. Beginning in the summer of 1995, approximately 7,000 customers were equipped with a small box that automatically alerts PG&E by telephone of outage events. At the time of the hearing, approximately 3/4 of PG&E's customers were on circuits covered by these detectors. However, these

devices were of little use during the December storm due to its sheer scale and the overload of PG&E's computer information systems. Also, these outage notification devices link through the telephone and will not work if telephone lines are down.

51. During the course of the December storm approximately 2,400 protective devices, such as circuit breakers, reclosers, and fuses, operated indicating where the 12,872 pieces of distribution equipment were damaged. It was the operation of these protective devices that caused the nearly two million customers to experience service interruptions.

52. PG&E is a large utility which received approximately $9.622 billion in operating revenues and served approximately 8 million customers in 1995. It has a long history of regulatory experience.

**Conclusions of Law**

1. PG&E's motion to consolidate its 1997 base revenues filing (A.96-04-002) with this docket should be denied as moot.

2. Since there is a fully developed record on the issue of distribution system deferred maintenance in PG&E's 1999 GRC, A.97-12-020, we should defer any findings on PG&E's distribution system maintenance practices to that proceeding.

3. PG&E's Motion for an Order Accepting New Evidence, filed February 4, 1999, should be denied.

4. PG&E's Motion for Official Notice, filed February 4, 1999, should be denied.

5. The California Cable Television Association, Time Warner Entertainment-Advance/Newhouse, ICG Telecom Group Inc., and Nextlink of California, LLC petition for late intervention should be denied.

6. PG&E's motion to strike Appendices A and B of TURN's opening brief should be granted.

7. PG&E should submit to the Director of the Commission's Energy Division an organizational chart for its systemwide transmission and distribution maintenance work within 30 days of our decision and copy ORA and USB. The chart should contain descriptions of inspection and maintenance tasks performed at every level of PG&E's organization.

8. No outright violations of the requirements of Rule 44.2 of GO 95 occurred as to underbuilds.

9. PG&E should inspect its poles for overload conditions through its pole inventory program as identified in Attachment A to the Joint Testimony.

10. PG&E should have completed its pole inventory program by December 1997. PG&E should provide the Utilities Safety Branch and Director of the Commission's Energy Division with computations in checking the structural loading of the poles along with any planned corrections and a schedule for doing the remedial work quarterly, and should simultaneously copy ORA.

11. PG&E should provide the Director of the Commission's Energy Division, within 30 days of this decision, a report of its internal communications and control procedures, and its external communications and control procedures with Pacific Bell and other utilities regarding excessive underbuilds on power line poles. PG&E should simultaneously provide ORA and USB a copy of the report. PG&E should work with joint pole owners to improve communications and controls with respect to the elimination of excessive underbuilds on PG&E power line poles.

12. PG&E should conduct and present to the Commission a study and plan, within the next six months, to determine the extent of the wood pole overloading

problem and to remedy it. PG&E should furnish USB, ED, and ORA with copies of the study and plan.

13. PG&E should cancel Note 7 of Construction Drawing 015203 to avoid any future confusion on interpretation of GO 95, Rule 44.2. Given the comments we received in R.95-04-043/I.95-04-044, and our conclusion herein that excessive underbuilds contributed to the severity of the damage caused by the December 1995 storms, we will open a rulemaking. In this rulemaking, we will consider the limited issue of revision of wood pole minimum safety factors and their replacement or reinforcement. We will determine the appropriate wood pole minimum safety factor for Grades "A," "B," "C," and "F" and the appropriate relationship between the safety factor and subsequent additions to existing wood poles. Specifically, we will consider revision of Rule 44.1, *Installation and Reconstruction*, Table 4, Wood Poles and Rule 44.2, *Replacement* within GO 95, Section IV Strength Requirements of All Classes of Lines. We therefore make no change in this decision to GO 95 and we do not direct any change in interpretation of it. The exception to this statement is our direction to PG&E that it cancel Note 7.

14. The agreements of the parties regarding ORA Recommendations 6 and 8 calling for the establishment of an investigation, separate from R.96-11-004, on service and safety standards to review the design standards for electric transmission and distribution facilities set forth in GO 95 should be rejected.

15. USB should report its findings to the Commission one year from the effective date of this decision after monitoring whether the GO 95 standard for conductor spacing is a significant contributor to equipment failure and surveying other states on the use of NESC conductor spacing standards or stricter standards and their effectiveness in reducing equipment failures.

16. The supplement to the Joint Testimony, attached as Appendix A, should be adopted as it supplements the agreements as to ORA Recommendations 1, 4, 5, 11, and 12 regarding implementation methodology.

17. PG&E should update its *Extreme Wind Speed Estimates Along PG&E Transmission Line Corridors* study to include wind data from 1990 through 1995. PG&E should, within the next ten years, implement a retrofit program similar to the 500 kV Modification Project which it undertook in the early 1990's to structurally upgrade all of its 500 kV systems located in extreme wind locations. PG&E should coordinate this retrofit program with the ISO.

18. PG&E should submit to ORA a copy of its longitudinal reinforcement feasibility study by 60 days from the effective date of this decision, and its associated designs by 150 days from the effective date of this decision, along with a copy to USB and the Director of the Commission's Energy Division.

19. PG&E should conduct a study to determine the feasibility of reducing the number of possible longitudinal cascading failures in its entire 500 kV transmission system under operating conditions that do not exceed California design criteria. Upon completion of the study, PG&E should develop a retrofit program, to be agreed upon by USB, which would be completed within ten years. PG&E should conduct this study under the present California design criteria and develop the retrofit program forthwith. PG&E should coordinate this retrofit program with the ISO.

20. PG&E should submit to USB, ORA, and the Director of the Commission's Energy Division, within 90 days of our decision, a final report on the results of testing and reinforcement work performed to date on the 13 Newark-San Mateo 230 kV concrete tower foundations located in salt ponds.

21. PG&E should inspect its entire service area, within the next year, for towers with footings situated in salt pond environments similar to the Newark-

San Mateo 230 kV towers. The footings identified as having problems should be corrected immediately. PG&E should coordinate this effort with the ISO. PG&E should also develop an inspection program that addresses towers situated in bay waters, and submit the inspection program to USB, ED, and ORA within 180 days of our decision. PG&E should identify all tower foundations in the bay water environment and make necessary groupings based on tower age. Inspections should then be performed on an appropriate statistical sample. PG&E should include in the program a schedule which identifies the expected completion date for all inspections.

22. We reject the portion of the Joint Testimony regarding USB Recommendation 13.

23. PG&E should indicate its progress relative to accomplishing the pole test and treat inspection by the end of 2004, and submit annual progress reports to the Commission's Energy Division, with copies to ORA and USB and any other party that requests it. The progress reports for 1997 and 1998 should be filed within 30 days of this decision.

24. Based on the record before us, PG&E acted reasonably in accelerating its tree-trimming operations after the January and March 1995 storms. We find no violations of Rule 35 clearance requirements based on the record before us. However, we are reviewing PG&E's tree-trimming practices in I.98-09-007 and A.97-12-020. Nothing in today's decision prejudges any issues relating thereto in either proceeding.

25. PG&E progressed reasonably in regard to the 1994 and 1995 Black & Veatch reports in proceeding to investigate and authorize a new automated outage management system.

26. One computer support position is insufficient for the CTAS and CCIRF system. This failure to exercise reasonable diligence in maintaining the CTAS

and CCIRF system was exacerbated by lack of training and understanding of the systems by PG&E personnel working with them during the December storm. This increased the lag time for outage information entry in the system. Had there been better support, the system crashes might not have occurred or at the least would have been mitigated. More trained personnel to enter outage data would have mitigated the backlog on data entry on outages.

27. The failure to program CTAS to carryover outages to subsequent days' reports further hampered trouble dispatch efforts and information available to CSRs. Outages lasting over a multiple day period should have been reasonably foreseeable by PG&E.

28. PG&E failed to exercise reasonable diligence in maintaining its electric distribution infrastructure in violation of tariff Rule 14 and should be penalized pursuant to Pub. Util. Code § 2107. Some of PG&E's customers suffered food spoilage as a result of the inaccurate information PG&E disseminated. PG&E likely avoided certain expenditures (i.e. personnel, training) through its unreasonable conduct. Both of these factors cause us to consider PG&E's unreasonable conduct a severe enough offense to warrant the maximum penalty per offense. In sum, due to the failures of CTAS and CCIRF occurring on December 12, 1995, the lag times on outage data entry and the severity of the impact on customers seeking accurate information, we will impose the maximum penalty of $20,000. While other alternate numbers of offenses might be found, mitigating against assessing such a more onerous fine was PG&E's conduct in working to rectify the problems. PG&E should also be required to record all claims paid out during the storm below-the-line so that the cost thereof will be borne by its shareholders rather than ratepayers. We will also require that PG&E not use the expenses related to claims paid out during the storm as a basis in its pending general rate case for justification of any expense forecasts.

29. For the failure to adequately staff CSRs on December 12, 1995, we fine PG&E $5,000.

30. USB Recommendation 1 should be rejected.

31. The problems with the key contact program in the North Bay and Peninsula Divisions did not rise to a level of unreasonableness due to the severity of the storm impacts in those areas. In all other respects, the external communications that PG&E conducted just prior to and during the December storm were reasonable.

32. PG&E should include in the next revision of its division emergency operations plans, to be completed no later than 90 days after this decision, a listing of all agencies with whom PG&E has reached agreements relating to emergency response, the general nature and extent of the agreements, and the emergency contact procedures. To the extent possible, the division emergency operation plans should describe specifics of the agreements and serve as documentation thereof. PG&E should review and update this information at least annually as called for in PG&E's emergency planning policy.

33. The field response by PG&E to the December storm was reasonable.

34. PG&E should increase the number of employees available for Grade 1 type work and utilize all qualified division line workers on assessment teams. To insure consistent implementation of emergency policy, PG&E should maintain its creation and staffing of a new high-level position to insure accountability and consistency in its emergency response practice and to insure safety remains a top priority.

35. PG&E acted unreasonably in processing some of the claims relating to the December storm. Customers who received letters with the initial claim form stating that PG&E is not responsible for storm damage or related items and was not liable for loss associated therewith could have been discouraged from

processing their claims. PG&E should have informed consumers in writing of their option to go to Small Claims Court before or after completion of the PG&E claim procedure.

36. The option of merely calling the service number is insufficient to tell consumers of their rights to file claims as a result of the storm. PG&E should have included some sort of bill insert or notification on a one-time basis in its "Spotlight" newsletter accompanying December or January bills, to inform consumers of claims procedures after the December storm. It was unreasonable not to so inform consumers due to the widespread damages.

37. PG&E should be fined a total of $60,000, $20,000 for each category of unreasonable act in claims processing.

38. PG&E should record all fines ordered in this decision below-the-line so that the costs thereof will be borne by shareholders rather than its ratepayers.

39. PG&E should work with our Public Advisor's Office which will review and approve suitable wording to be placed on the bill so that a specific reference to calling the 800 number to file a claim is included. This should be accomplished as soon as possible but no later than 30 days after issuance of this decision. The wording should appear on all bills beginning on the next billing cycle thereafter.

40. PG&E should revise the new cover letter to accompany claim forms in future catastrophic events (Exhibit 509), to change the sentence that currently reads:

> "If your damage was caused by the storm, an event which was beyond our control, your claim will most likely be denied."
>
> to read:
>
> "If your damage was caused by the storm, an act of God, and your damage did not arise from a failure on our part to exercise due diligence, your claim may be denied."

41. PG&E should consult with USB and the Commission's Energy Division on its recommended undergrounding study to commence within 30 days of the Commission's decision and be completed within one year. PG&E should permit periodic review and comment by USB and the Energy Division during the study period. Further prioritization on undergrounding portions of particular circuits should proceed only if the study supports the benefits of doing so. PG&E should consider not only undergrounding, but also other options that could improve service reliability more cost effectively.

42. We will not open a new investigation to revise tariff Rule 20A or consider undergrounding considerations for safety for all investor-owned electric utilities in this decision. However, ED should consider their appropriateness and bring to the Commission a proposal for further undergrounding study or an OII within 180 days.

43. PG&E should provide USB and ED data regarding the number of outages that subjected customers to service interruptions exceeding 48 hours during the three 1995 storms and to study a sample to determine potential solutions for reducing the number of customers subjected to outages of greater than 48 hours. In the study PG&E should consider issues such as installation cost, ongoing maintenance and operational cost, operating issues, feasibility of construction, potential for systemwide application, and other appropriate issues. The study will begin within 30 days of the decision and be completed within nine months with ongoing consultation with USB and ED.

44. PG&E should conduct an automatic outage detector study to investigate the possibility of placing automatic outage detectors, such as enhanced outage notification devices, on all portions of circuits downstream of protective devices and submit the study to USB, ORA, and ED. PG&E should address the cost of placing such devices on its system. The focus of the study should be on how

such devices might improve system performance under storm conditions rather than under normal conditions. This study should commence within 30 days of our decision and be completed within nine months with ongoing consultation with USB and ED.

## ORDER

**IT IS THEREFORE ORDERED** that:

1. Pacific Gas and Electric Company's (PG&E) motion to consolidate Application (A.) 96-04-002 with this docket is denied as moot.

2. PG&E's motion to strike Appendices A and B of The Utility Reform Network's opening brief is granted, and we defer any findings on PG&E's distribution system maintenance practices to PG&E's 1999 General Rate Case A.97-12-020.

3. PG&E's Motion for an Order Accepting New Evidence, filed February 4, 1999, is denied.

4. PG&E's Motion for Official Notice, filed February 4, 1999, is denied.

5. The California Cable Television Association, Time Warner Entertainment-Advance/Newhouse, ICG Telecom Group Inc., and Nextlink of California, LLC petition for late intervention is denied.

6. PG&E shall submit to the Director of the Commission's Energy Division (ED) an organizational chart of its systemwide transmission and distribution maintenance work within 30 days of our decision, and shall copy the Office of Ratepayer Advocates (ORA) and the Utility Safety Branch of the Commission's Consumer Services Division (USB). The chart shall contain descriptions of inspection and maintenance tasks performed at every level of PG&E's organization.

7. PG&E shall inspect its poles for overload conditions through its pole inventory program as identified in Attachment A to the Joint Testimony.

8. PG&E should have completed its pole inventory program by December 1997. Within 30 days of our decision, PG&E shall provide the Director of the Commission's ED and USB with computations in checking the structural loading of the poles along with any planned corrections and a schedule for doing the remedial work quarterly, and shall simultaneously copy ORA, ED, and USB.

9. PG&E shall provide the Director of the Commission's ED, within 30 days this decision, a report of its internal communications and control procedures, and its external communications and control procedures with Pacific Bell and other utilities regarding excessive underbuilds on power line poles. PG&E shall simultaneously provide ORA and USB a copy of the report. PG&E shall work with joint pole owners to improve communications and controls to eliminate excessive underbuilds on PG&E power line poles.

10. PG&E shall conduct and present to the Commission a study and plan, within the next six months, to determine the extent of the wood pole overloading problem and to remedy it. PG&E shall furnish USB, ORA, and ED with copies of the study and plan.

11. PG&E shall cancel Note 7 of Construction Drawing 015203 to avoid any future confusion on interpretation of General Order (GO) 95, Rule 44.2. Given the comments we received in R.95-04-043/I.95-04-044, and our conclusion herein that excessive underbuilds contributed to the severity of the damage caused by the December 1995 storms, the Commission shall open a rulemaking. In this rulemaking, the Commission shall consider the limited issue of revision of wood pole minimum safety factors and their replacement or reinforcement. The Commission shall determine the appropriate wood pole minimum safety factor for Grades "A," "B," "C," and "F" and the appropriate relationship between the

safety factor and subsequent additions to existing wood poles. Specifically, the Commission shall consider revision of Rule 44.1, *Installation and Reconstruction,* Table 4, Wood Poles and Rule 44.2, *Replacement* within GO 95, Section IV Strength Requirements of All Classes of Lines. The Commission directs PG&E to cancel Note 7.

12. The agreements of the parties regarding ORA Recommendations 6 and 8 calling for the establishment of an investigation, separate from Rulemaking (R.) 96-11-004, to review more broadly the design standards for electric transmission and distribution facilities set forth in GO 95, are rejected.

13. USB shall report its findings to the Commission one year from the effective date of this decision after monitoring whether the GO 95 standard for conductor spacing is a significant contributor to equipment failure and surveying other states on the use of NESC conductor spacing standards or stricter standards and their effectiveness in reducing equipment failures.

14. The supplement to the Joint Testimony, attached as Appendix A, shall be adopted as it supplements the agreements as to ORA Recommendations 1, 4, 5, and 12 regarding implementation methodology.

15. PG&E shall update its *Extreme Wind Speed Estimates Along PG&E Transmission Line Corridors* study to include wind data from 1990 through 1995. PG&E shall, within the next ten years, implement a retrofit program similar to the 500 kV Modification Project which it undertook in the early 1990's to structurally upgrade all of its 500 kV systems located in extreme wind locations. PG&E shall coordinate this retrofit program with the ISO.

16. PG&E shall submit to ORA, USB, and ED a copy of its longitudinal reinforcement feasibility study by 60 days from the effective date of this decision, and its associated designs by 150 days from the effective date of this decision along with a copy to the Director of the Commission's ED.

17. PG&E shall conduct a study to determine the feasibility of reducing the number of possible longitudinal cascading failures in its entire 500 kV transmission system under operating conditions that do not exceed California design criteria. Upon completion of the study, PG&E shall develop a retrofit program, to be agreed upon by USB, which would be completed within ten years. PG&E shall conduct this study under the present California design criteria and develop the retrofit program forthwith. PG&E shall coordinate this retrofit program with the ISO.

18. PG&E shall submit to USB, ORA, and the Director of the Commission's ED, within 90 days of our decision, a final report on the results of testing and reinforcement work performed to date on the 13 Newark-San Mateo 230 kV concrete tower foundations located in salt ponds.

19. PG&E shall inspect its entire service area, within the next year, for towers with footings situated in salt pond environments similar to the Newark-San Mateo 230 kV towers. The footings identified as having problems shall be corrected immediately. PG&E shall coordinate this effort with the ISO. PG&E shall also develop an inspection program that addresses towers situated in bay waters, and submit the inspection program to USB, ED, and ORA within 180 days of our decision. PG&E shall identify all tower foundations in the bay water environment and make necessary groupings based on tower age. Inspections should then be performed on an appropriate statistical sample. PG&E should include in the program a schedule which identifies the expected completion date for all inspections.

20. The portion of the Joint Testimony regarding USB Recommendation 13 is rejected.

21. PG&E shall indicate its progress relative to accomplishing the pole test and treat inspection by the end of 2004, and submit to the Director of the

Commission's ED annual progress reports to the Commission with a copy to USB, ED, and ORA and any other party that requests it. The progress reports for 1997 and 1998 shall be submitted within 30 days of this decision.

22. Due to the multiple failures of computerized trouble analysis system (CTAS) and CCIRF occurring on December 12, 1995, the lag times on outage data entry and the severity of the impact on customers seeking accurate information, PG&E is fined $20,000. PG&E shall pay the fine to the State Treasury to the credit of the General Fund on or before July 31, 1999.

23. For the failure to adequately staff customer service representatives (CSRs) on December 12, 1995, PG&E shall be fined $5,000. PG&E shall pay the fine to the State Treasury to the credit of the General Fund on or before July 31, 1999.

24. USB Recommendation 1 is rejected.

25. PG&E shall include in the next revision of its division emergency operations plans a listing of all agencies with whom PG&E has reached agreements relating to emergency response, the general nature and extent of the agreements, and the emergency contact procedures. PG&E shall timely furnish ED, ORA, and USB with copies of the revised plans no later than 90 days after this decision. To the extent possible, the division emergency operation plans shall describe specifics of the agreements and serve as documentation thereof. PG&E shall review and update this information at least annually as called for in PG&E's emergency planning policy.

26. PG&E shall increase the number of employees available for Grade 1 type work and utilize all qualified division line workers on assessment teams. To insure consistent implementation of emergency policy, PG&E shall maintain its creation and staffing of a new high-level position to insure accountability and consistency in its emergency response practice and to insure safety remains a top priority.

27. For the three categories of unreasonable acts occurring during its claims processing, PG&E shall be fined $60,000. PG&E shall pay the fine to the State Treasury to the credit of the General Fund on or before July 31, 1999.

28. PG&E shall record all fines ordered in this decision below-the-line so that the costs thereof will be borne by shareholders rather than its ratepayers.

29. PG&E shall be required to record all storm-related claims below-the-line so that the cost thereof will be borne by its shareholders rather than ratepayers. In requiring below-the-line treatment, it is our intent that PG&E not recover these costs from ratepayers in the account used for claims payment recovery, as authorized in the general rate case. PG&E shall not use the expenses related to claims paid out during the storm as a basis for its pending general rate case for justification of any expense forecast.

30. PG&E shall make a compliance filing no later than 150 days from the issuance of this decision to demonstrate that the storm-related claims and the fines ordered herein have received below-the-line treatment. PG&E shall serve notice of the availability of this compliance filing on all parties.

31. PG&E shall work with our Public Advisor's Office which shall review and approve suitable wording to be placed on the bill so that a specific reference to calling the 800 number in order to file a claim is included. This shall be accomplished as soon as possible but no later than 30 days after the issuance of this decision. The wording shall appear on all bills beginning on the next billing cycle thereafter.

32. PG&E shall revise the new cover letter to accompany claim forms in future catastrophic events, referenced in the record as Exhibit 509, to change the sentence that currently reads:

> "If your damage was caused by the storm, an event which was beyond our control, your claim will most likely be denied."

to read:

"If your damage was caused by the storm, an act of God, and your damage did not arise from a failure on our part to exercise due diligence, your claim may be denied."

33. PG&E shall work with USB and our ED on its recommended undergrounding study to commence within 30 days of the Commission's decision and be completed within one year. PG&E shall permit periodic review and comment by USB and ED during the study period. Further prioritization on undergrounding portions of particular circuits shall proceed only if the study supports the benefits of doing so. PG&E shall consider not only undergrounding, but also other options that could improve service reliability more cost effectively.

34. We shall not open a new investigation to revise tariff Rule 20A or consider undergrounding considerations for safety for all investor-owned electric utilities in this order. ED shall consider their appropriateness and bring to the Commission a proposal for further undergrounding study or an OII within 180 days of this order.

35. PG&E shall provide USB, ORA, and the Commission's ED data regarding the number of outages that subjected customers to service interruptions exceeding 48 hours during the three 1995 storms and shall study a sample to determine potential solutions for reducing the number of customers subjected to outages of greater than 48 hours. In the study PG&E shall consider issues such as installation cost, ongoing maintenance and operational cost, operating issues, feasibility of construction, potential for systemwide application, and other appropriate issues. The study will begin within 30 days of the decision and be completed within nine months.

36. PG&E shall conduct an automatic outage detector study to investigate the possibility of placing automatic outage detectors, such as enhanced outage notification devices, on all portions of circuits downstream of protective devices and shall submit the study to the Commission's ED. PG&E shall address the cost of placing such devices on its system. The focus of the study shall be on how such devices might improve system performance under storm conditions rather than under normal conditions. This study shall also commence within 30 days of our decision and be completed within nine months with ongoing consultation with ED and USB.

37. A.94-12-005 and I.95-02-015 remain open for the purpose of resolving matters pending after the granting of rehearing in D.98-12-096.

This order is effective today.

Dated June 24, 1999, at San Francisco, California.

RICHARD A. BILAS
President
HENRY M. DUQUE
JOEL Z. HYATT
Commissioners

I dissent.

/s/ JOSIAH L. NEEPER
Commissioner

I abstain.

/s/ CARL W. WOOD
Commissioner

APPENDIX A
Page 1

**SUPPLEMENT TO EXHIBIT 507 - JOINT TESTIMONY**

The following text and attachments supplement Exhibit 507, agreements to DRA recommendation numbers 1, 4, 5, 11, and 12, and are intended to further clarify the scope of the agreements.

A. Attachment 1 of this late-filed exhibit addresses the safety factor calculation process PG&E will use for wood poles and facilities under various conditions, including: 1) the installation of new wood poles, considering all attachments; 2) the addition of new facilities to existing poles; and 3) the retrofit of existing wood poles with facilities. Attachment 1 reflects a summary of the safety factor categories and remedial process PG&E will use in examining potentially overloaded existing poles. For existing poles with facilities which are suspected of being overloaded, PG&E will perform safety factor calculations consistent with those used in response to DRA Data Request No. 38 (See Attachment 2) and discussed further in this exhibit. Existing poles with facility loading (prior to adjustment for deterioration) will be determined to have a safety factor of a) less than or equal to 2.67 (Category 1), b) between 2.68 and 3.99 (Category 2); or c) equal to or greater than 4.0 (Category 3). Remedial action for poles in Category 1 will be prioritized first. Poles in Category 2 will be evaluated for pole deterioration. Based on that evaluation, if the resultant safety factor which reflects both facility loading and deterioration of the pole is less than or equal to 2.67, the pole will be treated consistent with Category 1 for remedial purposes. Records for all other poles in Category 2 will be maintained pending outcome of an OII or other action by the Commission resulting in a determination of loading, rehabilitation and reinforcement of aging wood poles. PG&E will continue to monitor for deterioration and facility additions in both Categories 2 and 3.

B. Attachment 2 of this exhibit illustrates the data PG&E will use for the analysis of suspected overloaded poles identified while conducting its system-wide Pole Inventory Program. In addition, DRA believes the data should include:

Pole location - street, cross street and city

Pole wood species - e.g., Douglas Fir, Western Red Cedar, etc.

Brief description of physical condition of pole - including a definition of terms used to describe condition, such as "good", "fair", etc.

Brief description of wire and equipment loading- including whether street lights, transformers, etc. are located on

pole and if so, calculation of bending moment added to pole due to their attachement to pole.

C. In its quarterly reporting on overloaded poles identified in the Pole Inventory Program, PG&E will describe the testing which has been conducted, including where applicable, the method used to test (probe) the wood pole, the measurement of the healthy shell thickness of the wood pole, and the recalculation of the safety factor.

# LATE FILED EXHIBIT
# SUPPLEMENT TO EXHIBIT 507 - JOINT TESTIMONY

Attachment 1: Clarification of Joint Testimony,
Agreements on DRA Recommendations 1, 4, 5, 11 and 12

Attachment 2: Illustrative example of the data which will be used for the analysis of suspected overloaded poles (from response to DRA Data Request 38).

**Attachment 1**

# Clarification of Joint Testimony
# Agreements on DRA Recommendations 1, 4, 5, 11, and 12

- PG&E will continue to install all new poles according to GO 95.
- PG&E will not add new facilities to an existing pole if the proposed loading increase results in a safety factor less than 4.0 (excluding deterioration).
- PG&E will not apply 4.0 safety factor as a retrofit standard to existing poles. Once a suspect overloaded pole is identified, PG&E will perform engineering safety factor calculations based on actual loadings that exist at present and use the following table for next steps:

| Resultant Facility Loading | | |
|---|---|---|
| **Category 1**<br>**≤2.67** | **Category 2**<br>**2.68 - 3.99** | **Category 3**<br>**≥ 4.0** |
| Reconstruct or replace or reinforce as appropriate to achieve a safety factor ≥ 4.0. Each individual pole will be analyzed and replaced according to its safety implications per PG&E's CES Standard C-T&CS-S0323 (Exhibit 500, Chapter 4, Exhibit 4-4). In all cases, appropriate remedial action will be taken within 2 years from time of analysis. | Conduct evaluation for pole deterioration and re-calculate pole loading for adequacy:<br><br>a) If safety factor under total loading (facility plus deterioration) is ≤ 2.67 the pole will be treated as noted for Category 1.<br><br>b) If safety factor under total loading (facility plus deterioration) is > 2.67 but < 4.0, maintain records pending outcome of OII for specific determination of loading, rehabilitation and reinforcement of aging wood poles. Continue monitoring for deterioration and facility additions. | Continue monitoring for deterioration and facility additions. |

| location # | pole length | pole class | pole condition | span length A | span length B | PG&E wire size & attachment height | PG&E equipment & attachment height | PG&E wire size & attachment height | CATV cable size & attachment height | Phone cable size & attachment height | Wind Loading Calculation (Ft. Lbs.) | Ultimate Loading or Strength (Ft. Lbs.) | Ratio of Ultimate Loading versus Wind Loading |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 45' | 3 | good | 130' | 190' | 3-4/0, 1-1/0 CU @ 38' | 1 Transformer @ 36' | 2-1/0, 1-#2 CU @ 29' | 1-1" dia cable @ 25' | 2-2" dia cables @ 25' & 1-1/2" dia fire alarm @ 27' | 33,110 | 110,400 | 2.9 |
| 2 | 50' | 4 | good | 160' | 192' | 3-4/0 CU @ 41' & 3-1/0, 1-#2 CU @ 33' 9" | 1 Transformer @ 36' 8" | 3-1/0 AL @ 29' 8" | None | 1-1&1/2" dia cable @ 23' 2" & 1-1" dia cable @ 22' 4" | 27,055 | 100,900 | 3.1 |
| 3 | 45' | 5 | good | 162'/159' | 90'/189' | 3-#6 CU @37' 9" & 3 #4 ACSR @ 35' 3" | None | 2-#4 CU @ 30' 9" | 1-1/2" dia cable @ 24' 2" | 1-1&1/2" dia cable @ 23' 6" | None (4 way corner) | 71,800 | > 4X |
| 4 | 50' | 3 | good | 100' | 165' | 3-4/0 & 1-1/0 AL @ 42' | None | 2-#2, 1-#4 CU @ 30' | None | 1-1" dia cable @ 23', 1-1&1/4" dia cable @ 21' 6" & 1-1" dia cable @ 20' | 17,235 | 123,200 | 5.4 |
| 5 | 50' | 4 | good | 147' | 145' | 1-715 kcm AL @ 44' & 2-715 kcm AL @ 42' | 1 Transformer @ 39' 9" | 2-#2, 1-# 4 CU @ 36' 10" | 1-2" dia cable @ 25' 8" | 1-1" dia cable @ 22' 10" | 26,412 | 100,900 | 3.2 |
| 6 | 55' | 3 | good | 180' | 230' | 3-4/0 AL @ 47' | 1 Transformer @ 41' | 2-4/0, 1-1/0 CU & 1-1/0 AL CN @ 39' | 1-1" dia cable @ 27' | 2-1" dia cables @ 28' | 36,264 | 156,500 | 3.6 |
| 7 | 50' | 2 | good | 95' | 55' | 3-397.5 kcm AL @ 43' 6" | 1 Transformer @ 38' | 3-397.5 kcm AL @ 35' 6" | 2-2" dia cables: 1 @ 25' & 1 @ 24' | 2-2" dia cables: 1 @ 23' & 1 @ 22' | 25,490 | 167,900 | 5.3 |
| 8 | 45' | 5 | good | 145' | 140' | 3-397.5 kcm AL @ 38' | 2 Transformers @ 34' | 3-1/0 AL @ 30' | 1-1" dia cable @ 25' | 1-3" dia cable @ 23' | 30,421 | 73,900 | 2.1 |



(END OF APPENDIX A)

PROOF OF SERVICE BY MAIL

I, L. Escandor, declare:

I am over the age of 18 years, not a party to this proceeding, and am employed by the California Public Utilities Commission at 505 Van Ness Avenue, San Francisco, California.

On 6/28/99, I deposited in the mail at San Francisco, California, a copy of:

D 99-06-080

(DECISION NUMBER OR TYPE OF HEARING)

6/24/99

(DATE OF HEARING)

A 94-12-005, I 95-02-015

(APPLICATION/CASE/OII/OIR NUMBER)

in a sealed envelope, with postage prepaid, addressed to the last know address of each of the addressees in the attached list.

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on 6/28/99, at San Francisco, California.

L. Escandor

*Signature

9/92

H-2, H-2A
6-24-99

A 94-12-005
~~I 95-02-015~~

DECISION: 99-06-080

MAIL DATE: 6/28/99

Copy of **"OPINION AND ORDER"** mailed to the following.

**SEE ATTACHED LIST FOR APPEARANCES, STATE SERVICE**

Count_____

6-25-99
LIL

********** SERVICE LIST **********

Last updated on 19-FEB-1999 by: CPL
A9412005 STORM RESPONSE
I9502015

********** APPEARANCES **********

Marc D. Joseph
Attorney At Law
ADAMS BROADWELL JOSEPH & CARDOZA
651 GATEWAY BLVD., SUITE 900
SOUTH SAN FRANCISCO CA 94080
(650) 589-1660
mdjoseph@adamsbroadwell.com
For: INT'L BROTHERHOOD OF ELECTRICAL WORKERS (IBEW) 1245/ESC

William P. Adams
716 BRETT AVENUE
ROHNERT PARK CA 94928-4012
(707) 795-7549

Barbara R. Barkovich
BARKOVICH & YAP, INC.
PO BOX 11031
OAKLAND CA 94611
(415) 457-5537
bbarkovich@aol.com

Reed V. Schmidt
BARTLE WELLS ASSOCIATES
1636 BUSH STREET
SAN FRANCISCO CA 94109
(415) 775-3113
bwa@slip.net

William Julian I I
BILL JULIAN AND ASSOCIATES
1127 11TH ST STE 226
SACRAMENTO CA 95814
(916) 492-9194
For: SERVE OUR SERVICE COALITION

Lesla Lehtonen
Assistant General Counsel
CALIFORNIA CABLE TELEVISION ASSOCIATION
4341 PIEDMONT AVENUE
OAKLAND CA 94611
(510) 428-2225
lesla@calcable.org
For: CCTA,TWEAN,ICG TELECOM GROUP

Kenneth L. Hale
CALIFORNIA DEPT OF FORESTRY & FIRE PROTE
13760 LINCOLN WAY
AUBURN CA 95603

Karen Mills
CALIFORNIA FARM BUREAU FEDERATION
2300 RIVER PLAZA DRIVE
SACRAMENTO CA 95833
(916) 561-5655
kmills@cfbf.com

Lisa G. Urick
GLEN SULLIVAN
Attorney At Law
CALIFORNIA POWER EXCHANGE
200 S. LOS ROBLES AVE., STE 400
PASADENA CA 91101
(626) 537-3328
lgurick@calpx.com

Jack Drago
Mayor
CITY OF SOUTH SAN FRANCISCO
PO BOX 711
400 GRAND AVE
SOUTH SAN FRANCISCO CA 94083

Herbert Cohen
6140 HOLSTEIN WAY
SACRAMENTO CA 95831-1822

Thomas Corr
Attorney At Law
1654 LINCOLN STREET
BERKELEY CA 94703
For: TURN

Carolyn A. Baker
Attorney At Law
EDSON + MODISETTE
925 L STREET, SUITE 1490
SACRAMENTO CA 95814
(916) 552-7070
cbaker@ns.net

********** SERVICE LIST **********

Christopher T. Ellison
Attorney At Law
ELLISON & SCHNEIDER
2015 H STREET
SACRAMENTO CA 95814-3109
(916) 447-2166
abb@eslawfirm.com

Lynn M. Haug
DOUG KERNER
Attorney At Law
ELLISON & SCHNEIDER
2015 H STREET
SACRAMENTO CA 95814-3109
(916) 447-2166
lmh@eslawfirm.com
For: DEPT OF GENERAL SVCS.

Peter W. Hanschen
Attorney At Law
GRAHAM AND JAMES LLP
ONE MARITIME PLAZA, SUITE 300
SAN FRANCISCO CA 94111
(415) 954-0258
phanschen@gj.com
For: AGRI ENERGY CONSUMERS ASSN/AECA

Jerry A. Green
308 OAKDALE AVENUE
MILL VALLEY CA 94941-1225

Gayatri Schilberg
JBS ENERGY
311 D STREET, SUITE A
WEST SACRAMENTO CA 95605
(916) 372-0534
gayatri@jbsenergy.com
For: TURN

William B. Marcus
Consulting Economist
JBS ENERGY, INC.
311 D STREET, SUITE A
WEST SACRAMENTO CA 95605
(916) 372-0534
bill@jbsenergy.com
For: TURN

Bob Melrose
KCBS RADIO
NO. 1 EMBARCADERO CENTER
SAN FRANCISCO CA 94111

Keith E. Mccullough
Atty At Law
MCCORMICK,KIDMAN & BEHRENS
695 TOWN CENTER DRIVE, SUITE 1400
COSTA MESA CA 92626
For: LAGUNA IRRIGATION DIST. INTERESTED PARTY
4/14/97 REPORT

Jenny Ross
NEVADA COUNTY DISTRICT ATTORNEYS OFFICE
201 CHURCH STREET
NEVADA CITY CA 95959

Pamela Nataloni
Legal Division
RM. 4300
505 VAN NESS AVE
SAN FRANCISCO CA 94102
(415) 703-4132
jpn@cpuc.ca.gov

Lise H. Jordan
CHARLES R. LEWIS IV/MICHELLE L. WILSON
Attorney At Law
PACIFIC GAS AND ELECTRIC COMPANY.
PO BOX 7442
SAN FRANCISCO CA 94120
(415) 973-6965
LHJ2@PGE.COM

Eric Ingram
SAN FRANCISCO CHRONICLE
55 KOCH ROAD
CORTE MADERA CA 94925

Rebecca Smith
Reporter
SAN FRANCISCO CHRONICLE
901 MISSION STREET
SAN FRANCISCO CA 94103
(415) 777-7217
rsmith@sfgate.com

Ricardo Sandoval
750 RIDDER PARK AVENUE
SAN JOSE CA 95190

Keith W. Melville
Attorney At Law
SEMPRA ENERGY
101 ASH STREET
SAN DIEGO CA 92101-3017
(619) 699-5039
kmelville@sempra.com

********** SERVICE LIST **********

David M. Norris
Attorney At Law
SIERRA PACIFIC POWER COMPANY
6100 NEIL ROAD, PO BOX 10100
RENO NV 89520-0024
(775) 834-4208
dnorris@sppc.com

James P. Shotwell
Attorney At Law
SOUTHERN CALIFORNIA EDISON COMPANY
2244 WALNUT GROVE AVE., ROOM 337
ROSEMEAD CA 91770-0001
(626) 302-4531
shotwejp@sce.com

Janine Watkins-Ivie
SOUTHERN CALIFORNIA EDISON COMPANY
PO BOX 800
ROSEMEAD CA 91770
(626) 302-4384
watkinj@sce.com
For: SOUTHERN CALIFORNIA EDISON

Robert Finkelstein
Attorney At Law
THE UTILITY REFORM NETWORK
711 VAN NESS AVE., SUITE 350
SAN FRANCISCO CA 94102
(415) 929-8876
bfinkelstein@turn.org

Dianne Fisher
Mayor
TOWN OF ATHERTON
91 ASHFIELD ROAD
ATHERTON CA 94027-3896

Nancy Levitt
Mayor
TOWN OF BELMONT
1070 6TH AVENUE, STE 311
BELMONT CA 94002

Roger L. Poynts
UTILITY DESIGN, INC.
5528 PACHECO BOULEVARD STE. 8
PACHECO CA 94553-5126
(510) 674-0218
poynts@ibm.net

Jerry R. Bloom
Attorney At Law
WHITE & CASE LLP
2 EMBARCADERO CENTER, STE 650
SAN FRANCISCO CA 94111
(415) 544-1100
bloomje@la.whitecase.com

********** STATE SERVICE **********

John L. Dutcher
Energy Division
AREA 4-A
505 VAN NESS AVE
SAN FRANCISCO CA 94102
(415) 703-1975
jld@cpuc.ca.gov

ENERGY DIVISION
ROOM 4002
CPUC

Meg Gottstein
Administrative Law Judge Division
RM. 5044
505 VAN NESS AVE
SAN FRANCISCO CA 94102
(415) 703-4802
meg@cpuc.ca.gov

Linda L. Gustafson
Office of Ratepayer Advocates
RM. 4102
505 VAN NESS AVE
SAN FRANCISCO CA 94102
(415) 703-2385
llg@cpuc.ca.gov

Patricia Ma
Water Division
AREA 3-B
505 VAN NESS AVE
SAN FRANCISCO CA 94102
(415) 703-3121
ppm@cpuc.ca.gov

Kim Malcolm
Administrative Law Judge Division
RM. 5115
505 VAN NESS AVE
SAN FRANCISCO CA 94102
(415) 703-1926
kim@cpuc.ca.gov

********** SERVICE LIST **********

Barbara Ortega
Executive Division
RM. 5109
320 WEST 4TH STREET SUITE 500
LOS ANGELES CA 90013
(213) 576-7070
bho@cpuc.ca.gov

Bertram D. Patrick
Administrative Law Judge Division
RM. 5110
505 VAN NESS AVE
SAN FRANCISCO CA 94102
(415) 703-2740
bdp@cpuc.ca.gov

William H. Rayburn
Energy Division
AREA 4-A
505 VAN NESS AVE
SAN FRANCISCO CA 94102
(415) 703-1966
hal@cpuc.ca.gov

Ray Valaitis
Office of Ratepayer Advocates
RM. 4102
505 VAN NESS AVE
SAN FRANCISCO CA 94102
(415) 703-2092
yar@cpuc.ca.gov

Ann Watson
Executive Division
RM. 5217
505 VAN NESS AVE
SAN FRANCISCO CA 94102
(415) 703-1175
anw@cpuc.ca.gov

********** INFORMATION ONLY **********

Phil Pettingill, P.E.
Manager, Transmission Facilities
CALIFORNIA ISO
151 BLUE RAVINE ROAD
FOLSOM CA 95630
ppttingill@caiso.com

Andrew J. Skaff
KAREN L. PETERSON
Attorney At Law
CROSBY HEAFEY ROACH & MAY
1999 HARRISON STREET,
OAKLAND CA 94612-3573
(510) 466-6858
askaff@chrm.com

Gregory T. Blue
Regulatory Affairs Manager
DYNEGY MARKETING AND TRADE
5976 W. LAS POSITAS BOULEVARD
PLEASANTON CA 94588
gtbl@ngccorp.com

Dale Eisert
4240 VAL VERDE ROAD
LOOMIS CA 95650

Donald H. Maynor
Attorney At Law
235 CATALPA DRIVE
ATHERTON CA 94027
(650) 327-2894
dhmaynor@worldnet.att.net

Scott T. Steffen
MODESTO IRRIGATION DISTRICT
1231 ELEVENTH STREET
MODESTO CA 95352
(209) 526-7387
scottst@mid.org

Carole Rockney
ROYAL DRAGER
Manager
PACIFICORP
825 N.E. MULTNOMAH, SUITE 800
PORTLAND OR 97232
(503) 813-6044

Jim Hayes
SMUD
PO BOX 15830
MAIL STOP D
SACRAMENTO CA 95852-1830

Walter P. Drabinski
VANTAGE CONSULTING INC.
SUITE 110
230 SUGARTOWN ROAD
WAYNE PA 19087