

SAN LUIS OBISPO MOTHERS FOR PEACE  
before the  
NUCLEAR REGULATORY COMMISSION

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In the matter of  
Pacific Gas and Electric Co.  
Diablo Canyon Nuclear Power Plant  
Unit Nos. 1 and 2  
Construction Period Recapture

Docket No. 50-275-OLA - 2  
50-323-OLA  
ASLBP No. 92-669-03-OLA-2

San Luis Obispo Mothers for Peace  
Supplement to Petition to Intervene

In accordance with 10 CFR 2.714(b), this document supplements the Petition of the San Luis Obispo Mothers for Peace for Leave to Intervene and Request for a Hearing filed August 21, 1992.

The Mothers for Peace believes that this proceeding is premature and as such severely compromises our rights and does not serve the public interest. We believe that the decisions involved here should be made at a time closer to when the decision must be made, thus allowing time to clarify and resolve numerous matters. A great deal has been learned about design and construction errors, faulty components, and plant aging since the NRC issued a construction permit for PG&E's Diablo Canyon Nuclear Power Plant. And more importantly, at this particular nuclear site in California, we continually learn more about earthquakes and how they can impact the safe operation of nuclear facilities. PG&E's current license for Unit 1 expires in 2008; the license for Unit 2 expires in the year 2010. Sixteen years remain to us to explore these matters before Diablo Canyon Nuclear Power Plant requires a license renewal. Certainly, eight or nine years would

be adequate to extend a license for a nuclear power plant and provide sufficient time for PG&E to make alternate plans for producing power, should its request for a license extension be denied. The San Luis Obispo Mothers for Peace proposes that this process be postponed until the year 2000.

### Standing

The Mothers for Peace made their original request for a hearing on construction period recapture for Diablo Canyon by filing a letter with the NRC, signed by the President of the organization. (Letter from Nancy Culver to the Secretary of the Commission, dated August 18, 1992) The Mothers for Peace takes this opportunity to supplement that letter by filing affidavits of five of our members who live within 50 miles of the plant, and who have authorized the San Luis Obispo Mothers for Peace to represent them in this hearing. Their health and safety could be adversely affected by a licensing decision which permitted the Diablo Canyon Nuclear Power Plant to continue to operate for an extended period in an unsafe manner. For instance, if an accident and consequent offsite radiation release were to occur at Diablo Canyon as a result of poor maintenance and surveillance or worker error (issues raised in our contentions), the health and safety of neighbors of the plant, including members of Mothers for Peace, could be seriously harmed. Our interest in a safe and healthful environment would also be jeopardized if further operation of the Diablo Canyon

Nuclear Power Plant were authorized without adequate provision for storage of radioactive waste generated by this nuclear plant which sits 2 1/2 miles from an earthquake fault classified as "major" and "active" by the United States Geological Survey.

As the Licensing Board states on page 7 of its Memorandum and Order (September 24, 1992), an organization's member's residence within 50 miles of a nuclear power plant is generally "sufficient to confer standing." In operating license amendment cases, this presumption only applies to "significant" amendments involving "obvious potential for offsite consequences." Id. PG&E argues that the presumption does not apply here.

The Mothers for Peace strongly disagrees with PG&E. This operating license amendment proceeding is extremely significant and it has a very obvious potential for offsite consequences. The question in this case is whether Diablo Canyon Nuclear Power Plant should be allowed to operate at all for 13 to 15 additional years beyond its statutory license term, not whether some minor change to its existing operation should be approved.<sup>(1)</sup> As was held in the Shoreham decision quoted by PG&E, cases involving "the operation of the reactor itself" clearly fall under the 50-

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<sup>1</sup> Nor can the concerns raised by Mothers for Peace in their Supplemental Petition to Intervene be deemed "insignificant." They include such major safety and environmental issues as the overall adequacy of PG&E's program for maintenance and surveillance; the competence and attitude of employees charged with safety responsibilities; the adequacy of PG&E's provisions for handling hazardous materials; and the lack of disposal capacity for the additional radioactive waste that will be generated by the plant.

mile presumption. Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), LBP-91-7, 33 NRC 179, 186 (1991). Furthermore, this case bears no similarity to any of the cases cited by PG&E for the proposition that the 50-mile presumption is inapplicable here. Florida Power & Light Co. (St. Lucie Nuclear Power Plant, Units 1 and 2), CLI-89-21, 30 NRC 325, 329-30 (1989) concerned an exemption proceeding for a change in the use of respirators by workers. Shoreham concerned the defueling of a closed plant. In Virginia Electric and Power Co. (North Anna Power Station, Units 1 and 2), ALAP-790, 20 NRC 1450, 1453 (1984), The Appeal Board found that by itself, the expansion of a spent fuel pool was an insignificant licensing action, but noted that the intervenors would have a "full opportunity" to litigate their concerns about packing and transportation of the spent fuel in a separate proceeding. Unlike these cases, the Diablo Canyon construction period recapture proceeding is most similar to a proceeding for the initial licensing of a facility, for which the 50-mile presumption automatically applies. Philadelphia Electric Co. (Limerick Generating Station, Units 1 and 2), LBP-82-43A, 15 NRC 1433-35 (1982).

We believe that the 50-mile presumption clearly applies in this case. In any event, however, the San Luis Obispo Mothers for Peace have achieved standing by demonstrating, in their contention, poor and unsafe operation and maintenance practices which, if continued during a license extension term, would pose an unacceptable risk of an accident at the Diablo Canyon Nuclear



Power Plant. Similar concerns were considered to confer standing in another construction period recapture case, Vermont Yankee Nuclear Power Corp. (Vermont Yankee Nuclear Power Station), LBP-90-6,31 NRC (1990).

In its original letter requesting a hearing, the Mothers for Peace listed a number of concerns regarding this construction period recapture application. The Licensing Board found that those concerns were within the "zones of interest sought to be protected by the Atomic Energy Act or NEPA." Memorandum and Order at 5. As provided by 10 C.F.R. 2.714(b), we now explain those concerns more fully in our contentions, which are listed below.

#### Contentions

We have addressed PG&E's License Amendment Request 92-04 below:

I. The San Luis Obispo Mothers for Peace contends that Pacific Gas and Electric Company's proposal to extend the life of the Diablo

Canyon Nuclear Power Plant for more than 13 years (Unit 1) and almost 15 years (Unit 2) should be denied because PG&E lacks a sufficiently effective and comprehensive surveillance and maintenance program.

Basis: In PG&E's License Amendment Request 92-04, section 4.2.3, Surveillance and Maintenance Programs, PG&E states that these "programs assure that any significant degradation of

plant equipment will be promptly identified and corrected throughout the proposed 40-year operating license terms." (pg. 5) However, PG&E is unable to demonstrate reasonable assurance that operation of the plant beyond the date for which operation was originally approved will provide adequate protection to the public health and safety.

PG&E relies solely on the adequacy of its surveillance and maintenance program to guarantee that failure of aging systems, structures and components will not cause safety problems. But, PG&E's maintenance program has been noted as having significant weaknesses. This is due in part to the manner in which PG&E gets paid for its investment in the Diablo Canyon Nuclear Power Plant.

In Decision 88-12-083, 30 CPUC 2d 189, the California Public Utilities Commission approved a settlement of issues relating to the costs of Diablo Canyon. The method used for this decision is called "performance based pricing." Under this pricing mechanism, PG&E gets paid solely for power produced; when PG&E is not operating or not operating well, its profits are significantly reduced.

The San Luis Obispo Mothers for Peace firmly believes that the maintenance weaknesses at Diablo Canyon Nuclear Power Plant are due in large part to this unorthodox rate base scheme established by the California Public Utilities Commission. At the time this rate base scheme was adopted, the Mothers for Peace argued that PG&E would put off maintenance until regularly

scheduled refueling outages - thus placing the public at risk while the utility reaped huge profits. We continue to believe that this is the case. Additionally, as the plant ages and the maintenance problems increase, the company's temptation to put off until tomorrow so PG&E can make profits today will also increase.

In fact, the NRC has repeatedly cited PG&E for its slow response to correct maintenance problems. Some recent incidents follow.

\* During a special inspection on March 17 through May 12, 1992, the NRC notes that from March 27, 1991 until February 22, 1992, the licensee failed to correct a condition involving reverse rotation of containment fan cooler units (CFCU) 1-5, a condition adverse to quality. Inspection Report No. 92-17 (May 12, 1992) Correction of this problem could have led to the discovery of similar problems with the backdraft dampers associated with three other containment fan cooler units." Notice of Violation (June 19, 1992) pg. 2.

Mr. Perkins, the Deputy Director in the Division of Reactor Safety and Projects of the NRC, responded to this situation by stating that "Diablo Canyon had a recent history of identifying problems and then taking an excessive amount of time to address those problems in a systematic manner. Examples of previous issues that were slow to be fully addressed included sticking of valve 1FCV-95 and deficiencies with regulatory guide 1.97 instrumentation." (pg. 2, Details)

An enforcement conference was held on May 19, 1992 to discuss the plant's "failure to comply with technical specification action statements for inoperable containment fan coolers from March 27, 1991 to February 22, 1992, and the apparent failure to take adequate corrective action to preclude recurrence of similar problems identified in the past." Report Nos. 92-19, EA 92-086 (June 17, 1992) pg. 1. Three violations were identified in this inspection report.

In response to PG&E's inability to take corrective actions in relation to the CFCU problems, Mr. Martin, Regional Administrator of the NRC, "expressed a concern that multiple engineering and oversight organizations were involved but failed to identify the problems earlier. This appeared to indicate a need for more accountability and personal responsibility to ensure that equipment operated as designed." (pg. 4, Details) Mr. Martin concluded the enforcement conference with a statement that he "was concerned, as on previous occasions, that this was another significant equipment issue that was not aggressively resolved." (pg. 4, Details)

\* During a routine inspection from June 2 through July 13, 1992, the NRC noted that "the positive displacement charging pumps (PDPs) have not been known to be capable of meeting fire protection requirements for nearly two years and instructions to the operators on the use of the pumps was not adequate given the degraded state of the pumps... We are concerned that your staff did not promptly or effectively identify these problems and that

no one group took enough responsibility to question the interim status of the PDP's nor ensure that adequate procedures were provided to the operators. This appears to be an example of PG&E's difficulty in consistently achieving prompt and comprehensive corrective action..." Notice of Violation (August 3, 1992) pg. 1.

The NRC identified a violation of Diablo Canyon technical specification 6.8.1 that requires that written procedures be implemented for operation of the chemical and volume control system and for combatting plant fires. Contrary to this license requirement, "appropriate procedures were not in place to provide guidance on the use of the positive displacement pump in the event of a fire in the centrifugal charging pump area." Notice of Violation (August 3, 1992) enclosure 1, pg. 1.

Maintenance and surveillance practices at Diablo Canyon Nuclear Power Plant have been further criticized by the NRC for lack of attention to detail, poor or incomplete work, inadequate instructions to personnel, and ineffective surveillance. Recent incidents follow

\* On October 12, 1991, following the Unit 2 fourth refueling outage, containment integrity was established. Materials consisting of tools, plastic tool bags, clothing and other items, however, were left unattended in containment. Such debris could potentially restrict the RHR pump suction flow. Upon investigation, four individuals who made containment entries stated that they had failed to complete an STP M-45B data sheet

in compliance with the surveillance requirements. According to PG&E, the "root cause of this event has been determined to be lack of a comprehensive program for control of material after containment integrity is established." LER 2-91-012-00 (March 5, 1992) pg. 5.

\* An NRC inspection conducted January 1 through February 3, 1992, identified a violation involving the licensee's inadequate maintenance program. "An NRC inspector identified in October 1991 that a reactor cavity level instrument had failed. The instrument had failed for over 7 days and had not been detected by licensee personnel. The same failure occurred in 1990 when both reactor cavity wide range level instruments failed and was undetected for over two months." Notice of Violation (February 28, 1992) pg. 2. The NRC concluded that PG&E's "corrective actions for the 1990 failure were inadequate because they did not address the adequacy of (their) surveillance program to detect failed Technical Specification equipment." (pg. 1, letter)

\* NRC Inspection Report 91-39 (January 24, 1992) identified areas of weakness in PG&E's motor-operated valve (MOV) testing program. These included:

1. calculation methodology to verify MOV capability and switch setpoints
2. methods for determining when MOV operability evaluations are required
3. verification of MOV performance parameters
4. development of MOV trending program.



\* In Inspection Report No. 92-17, the NRC expressed concern "about improper maintenance practices which led to inoperable CFCU backdraft dampers, and the ineffective corrective actions concerning the dampers." (referred to earlier, pg. 1) "(T)he work order instructions were not implemented for maintenance of CFCUs as follows:

- Counterweights were installed without sufficient clearance for free movement in a slotted hole in the lever arm (all Unit 1 CFCUs).

- Damper linkage bars were assembled in a reverse configuration (CFCU 1-5).

- The linkage bar was placed on the wrong side of the linkage arm, causing binding of the damper (CFCUs 1-1 and 1-5).

- Washers were used although none were specified in design drawings (CFCU 1-2)." Notice of Violation (June 19, 1992) pg. 1.

Furthermore, "the licensee's inspection of Unit 2's CFCUs on March 7 and 8, 1992 was conducted without appropriate procedures, and incorrectly concluded that CFCUs 2-2 and 2-5 were assembled correctly." Notice of Violation (June 19, 1992) pg. 2.

\* NRC Inspection Report No. 92-14 (June 5, 1992) cited PG&E for failure to provide written instructions for the assembly of the expansion bellows to the turbocharger of the diesel generator EDG-2-3. The NRC states that "the violation is of concern because of the need for attention to detail in the documentation of construction activities potentially affecting the seismic qualification of the diesel generator." (pg. 1)



\* During June and July of 1992, corrosion was discovered in several locations on DFO supply piping that was below the minimum wall thickness requirement. The root cause of the corrosion was due to degradation of the DFO piping coal tar coating, which exposed the pipe to standing water and saltwater air environment. The contributory cause, were:

"1. The existing DFO inspection procedure does not provide instructions on how to identify corrosion and only requires inspection of accessible DFO transfer piping.

2. Initial application and maintenance of the coal tar protective coating on the underside of piping was inadequate." LER 1-92-006-00 (August 6, 1992) pg. 7.

\* Areas defined as Zone 4 ban eating, drinking and smoking. During a routine announced inspection conducted on June 29 through July 2, 1992, the inspector noted gum, candy wrappers, sunflower seeds and/or smoked cigarettes in 12 different Zone 4 locations. Most of this material was located on fire barriers located around vertical cable trays. The inspector also found heavy metal wedges and a large portable electrical tool on vertical cable tray fire barriers in three locations. "The inspector concluded that the licensee's housekeeping control required increased attention..." Inspection Report No. 92-21 (August 18, 1992) pg. 6.

As demonstrated above, PG&E has had a consistent and chronic pattern of poor maintenance and surveillance practices, thus demonstrating that its maintenance and surveillance program is

neither adequate nor effective to provide a reasonable assurance of safe operation. This failure has particular safety significance in light of the fact that Diablo is an aging plant and consequently needs more repairs and more maintenance than a new plant. The safe operation of an older plant requires a sound surveillance program. The San Luis Obispo Mothers for Peace believes that there is a great likelihood that PG&E's surveillance program will continue to fail to detect safety-related problems. Additionally, the record thus far shows that if PG&E detected a problem, it could not be counted upon to act in a timely fashion, due in part to the fact that PG&E does not get paid when the plant is not producing electricity. We believe that the continued operation of Diablo Canyon Nuclear Power Plant beyond the date for which operation was originally approved would significantly reduce the plant's margin of safety, thus subjecting Mothers for Peace, the individual intervenors, and the general public to a probability of degradation of health, safety and property values far greater than that assumed at the time of original licensing. To thus multiply the potential hazards to the public is not justifiable. The requested license amendment should be denied.

II. The San Luis Obispo Mothers for Peace contends that the proposed license extension at Diablo Canyon Nuclear Power Plant should not be granted because PG&E's employees have not proven themselves skilled, reliable or motivated enough to adequately

protect the public safety.

Basis: Diablo Canyon Nuclear Power Plant has been plagued with incidents related to personnel errors. Recent incidents follow.

\* On March 7, 1991, Unit 1 lost offsite power during refueling when a mobile crane boom came too close to the 500 kV power lines. PG&E determined the root cause to be "personnel error by the crane operator and the foreman in implementation of PG&E's accident prevention rules." LER 1-91-004-02 (July 29, 1992) pg. 1.

\* In Follow up Item 50-275/92-17-02, Site Strategy for Personnel Errors from an inspection conducted February 4 through March 16, 1992, the issue still open "involved the inspector's observation that between August and October 1991 there appeared to be a high number of noteworthy personnel error events." Inspection Report 92-05 (April 17, 1992) pg. 13.

\* PG&E reported an incident which occurred on February 11, 1992. LER 2-92-002-22 (March 13, 1992). A calibration of steam flow channel 532 used an incorrect data sheet/scaling calculation which resulted in the channel being out of acceptance specifications. According to PG&E, the root cause of the improper calibration was "personnel error, cognitive, inattention to detail... The data sheet was incorrect because a non-licensed I&C engineer relied on verbal information and failed to verify which channel had been calibrated in November..." (pg. 5, LER)

\* On March 7 and 8, 1992, licensee inspections of the Unit 2

CFCUs were performed without appropriate procedures, and inappropriately concluded that CFCUs 2-2 and 2-5 were assembled correctly and were operable. PG&E determined that the "significant root cause of the deficient inspections was poor individual performance in that the inspections were not thorough; erroneous assumptions were made; and it lacked objectivity and professionalism." Inspection Report No. 92-19 (May 19, 1992) pg. 3. Mr. Martin, Regional Administrator of the NRC, commented that "this was a troubling situation in that PG&E should have been able to send two engineers out with good instructions and be able to expect them to perform a good inspection." (pg. 3)

\* On May 28, 1992, licensee personnel incorrectly used two one-ton chainfalls for load leveling while lifting the 10-142 cask primary and secondary lids, with each chainfall loaded to approximately 2400 pounds. PG&E's investigation concluded that the cause of this incident was "personnel error." PG&E Letter No. DCL-92-179 (August 5, 1992) pg. 2. The NRC responded with a notice of violation and the comment that "this violation indicated a weakness in your control of lifting and rigging devices for heavy loads, particularly in light of a rigging problem last year involving a loss of offsite power. It appears that better preplanning would have avoided this incorrect substitution of lifting equipment which created a potential personnel hazard while transferring significant amounts of radioactive material." Inspection Report 92-16 (July 7, 1992) pg. 1.



\* On June 20, 1992, an acid/caustic spill caused a chemical mist to enter portions of the turbine building. PG&E determined the root cause of the event to be "personnel error. In order to save time, the non-licensed operator consciously decided to fill the acid and caustic day tanks simultaneously, although the Operating Procedure cautions that only one day tank be filled at a time." LER 1-92-007-00 (July 20, 1992) pg. 1.

\* On June 24, 1992, a continuous fire watch was required for certain safety-related equipment rooms. The fire watch was missed due to "personnel error on the part of the Shift Foreman. His review of the equipment tagout request was insufficient to determine the correct fire watch requirements." LER 1-92-008-00 (July 27, 1992) pg. 1.

These incidents demonstrate a consistent and repetitive pattern of poor and unsafe personnel performance at the Diablo Canyon Nuclear Power Plant. Thus, the Mothers for Peace believes that a 15 year extension of the license would further jeopardize the safety of the PG&E employees and the community at large because the personnel at the plant have not exhibited the expertise or motivation to resolve detected safety problems or to prevent dangerous situations.

Furthermore, as the plant ages, experienced maintenance personnel will retire. There is no assurance that qualified replacement personnel can be obtained. According to "Outlook on Skilled Personnel," Inside NRC, Oct 9, 1989:

"The U.S. is losing its core of nuclear expertise and doing very little to get it back...The need gets more critical as

plants age, but...attracting young people to become experts in systems in a plant that might close in five, 10 or 15 years can be difficult."

A maintenance program must rely on experienced and qualified workers. We cannot know, now, in 1992, that we will have skilled employees available to Diablo Canyon Nuclear Power Plant in the years 2008 to 2025. On that basis, an extension of their license must be denied; personnel to maintain the safety of the plant cannot be assured.

III. The San Luis Obispo Mothers for Peace contends that PG&E's application for an extended license should be denied because PG&E has not taken adequate measures to detect the presence of fraudulently certified components at Diablo Canyon Nuclear Power Plant. Nor has PG&E demonstrated that it is capable of preventing the acquisition and use of such counterfeit parts in the future. Failure of such components could cause or contribute to an accident at Diablo Canyon. Thus, NRC lacks reasonable assurance that the plant can safely operate beyond its original license period.

Basis: The NRC requires the licensees to purchase products for their nuclear power plants from vendors with approved programs designed to assure the quality of components used in safety-related plant systems. 10 CFR Part 5, Appendix B also requires the licensees to establish control programs for parts that are to be installed in the plant. There exist, however, significant problems with this procurement process, resulting in

the growing and significant use of substandard, counterfeit and fraudulent products in nuclear plants. Fasteners, flanges, piping, molded case circuit breakers, electrical equipment and valves installed in nuclear power plants often do not conform to regulations. The U.S. General Accounting Office (GAO) reported that the use of counterfeit and substandard products in nuclear power plants is widespread. "Nuclear Safety and Health; Counterfeit and Substandard Products are a Government-wide Concern," GAO,RCED-91-6 (October 1990) pg. 2.

The NRC attributes the problem of bogus parts to a number of factors, including :

1. There is an over-reliance on paper checks to certify the quality of parts. Airozo, "Industry Procurement and Dedication are Focus of Rulemaking," Inside NRC (March 27, 1989).
2. There is currently an ongoing exodus of approved vendors, so the utilities are forced to purchase commercial-grade items and then dedicate them for safety-related application. But there is a lack of engineering involvement in developing specifications for procured items, determining critical characteristics of items, and verifying that those characteristics are met. Id.
3. NRC quality assurance regulations are not capable of detecting fraud. Id.

The NRC is concerned about the quality of commercial grade products, not only for safety-related items, but for those that are used in balance of plant systems as well, because failures of those structures, systems, and components could affect the



response of safety-related systems. Inside N.R.C. (March 27, 1989).

Over the last several years, the NRC has issued numerous reports of the use of substandard parts in nuclear power plants, including the following:

In NRC Information Notice 88-35 (June 3, 1988), utilities were informed of potential safety implications with pipe fittings and flanges supplied by Piping Supplies, Incorporated and West Jersey Manufacturing Company to nuclear power plants. The NRC expressed concern that no licensee identified problems with the suppliers during their own audits.

In NRC Information Notice 88-46 (July 21, 1988), which states that utilities were informed of five California corporations involved in selling refurbished molded case circuit breakers as new. The NRC is concerned about substandard molded case circuit breakers because "improperly or inappropriately refurbished circuit breakers could cause potentially unsafe or unanalyzed plant conditions as a result of unwanted reactor trips and unnecessary challenges to safety systems... Faulty circuit breakers also compose a potential fire and personnel hazard due to possible catastrophic breaker failure." Inside N.R.C. (April 24, 1989). The NRC required the utilities to follow a nondestructive testing regime limited to safety-related components that were purchased during the previous five years and could not be traced to the manufacturer. The NRC conceded in its bulletin that the nondestructive testing program could not prove

refurbished breakers meet industry specifications. Inside N.R.C. (December 5, 1988).

In the case of Rosemount transmitters, the manufacturer, Rosemount Inc., told the utilities by letter dated February 7, 1989, that certain groups of its Model 1153 and 1154 transmitters may fail because of internal leaks. The letter states: "Recent information indicates that prior to detectable failure, the transmitter may continue to provide a signal but not respond over its full range and/or time response may be significantly degraded...This may be a safety concern in your plant." Inside N.R.C. (March 13, 1989).

In NRC Information Notice 89-59 (August 16, 1989), operators of nuclear power plants were informed of the suppliers and/or manufacturers of counterfeit fasteners. These fasteners were mismarked to indicate a material different from the actual bolt material. Grade 8.2 fasteners (the highest standard strength) were marked and sold as Grade 8. "In certain applications, the use of mismarked Grade 8.2 bolts in Grade 8 applications could result in failure... the mismarking of the bolts is indicative of product substitution which may extend to other, more critical products." (pg. 2)

In NRC Information Notice 91-87 (December 27, 1991), information was issued to alert holders of nuclear power reactors of the possible hydrogen embrittlement of Raychem Cryofit couplings that could result in failure. It was determined that the combination of high hydrogen content in the exposure

medium and high temperature was the critical determining factor.

"The vendor had been unaware of this application limitation for the Cryofit coupling since testing in these environments had not been performed." (pg. 2)

The NRC has cited PG&E repeatedly for poor procurement measures. Counterfeit parts have also been found in use at Diablo Canyon Nuclear Power Plant. For instance:

- \* In Inspection Report 92-39 (January 24, 1992), the inspectors noted that PG&E contacts their quality vendors every three years to verify all important notices have been received. The inspectors expressed concern with the three-year length of time and that the periodic contact did not include other important vendors, such as test equipment vendors.

- \* During a routine inspection conducted March 10 through 17, 1992, the inspection identified a problem in PG&E's procurement of its sixth emergency generator. The supplier involved was NEI Peebles-Electric Products, Inc. Inspection Report 92-09 (April 8, 1992).

In this report, the NRC states: "The inspection identified that you did not conduct your activities for procurement of your sixth emergency generator in a manner to assure procurement of a product which fully met your quality requirements. Further, you had several opportunities to identify and correct the procurement deficiencies. For example, your audit of the generator supplier in 1989 identified problems, however, you issued the purchase order prior to the audit report

being issued and prior to the supplier being placed on your qualified suppliers list; you failed to properly resolve an important draft audit finding involving a poorly implemented commercial grade dedication program; and your resolution of a nonconformance report regarding inadequate supplier audits, which was closed in late 1990, failed to include the 1989 audit in its scope of corrective action. In addition, the inspection identified that when you did recognize the problems with the 1989 audit, your proposed corrective actions to resolve the problems were too limited in scope and did not address the potential for similar deficiencies in other audits performed during the same time period." (pgs. 1,2)

\* In NRC Information Notice 92-22 (March 24, 1992), the NRC informed holders of nuclear power reactors of the felony conviction of CMA International, Incorporated, as a result of the counterfeit valves that were sold and installed at the Diablo Canyon Nuclear Power Plant and the U.S. Marine Corps military base in Quantico, Virginia.

\* In his testimony before the Independent Safety Committee on October 8, 1992, PG&E employee, Jim Sexton, stated that "the procurement world is very difficult." He discussed the complexity and difficulty of purchasing and then verifying commercial grade parts. He admitted that one "must do a great deal of dedication work" in order to obtain quality replacement parts.

How many substandard, falsified, or refurbished parts are

now installed in the Diablo Canyon Nuclear Power Plant? How many are stored at the plant and will later be upgraded to safety use? The San Luis Obispo Mothers for Peace contends that the health and safety of its members is at risk because the answers to these questions are unknown and will remain unanswerable, because the NRC admittedly has no reliable way to detect vendor fraud. It is our contention that the availability of quality spare and replacement parts for Diablo Canyon Nuclear Power Plant in the years after 2008 are highly questionable. Furthermore, PG&E has not demonstrated competence in procuring parts with quality control in compliance with the NRC regulations. These counterfeit and substandard parts weaken the safety systems designed to prevent accidents and cause the safety margin to drop and thus jeopardize the health and safety of the public. Moreover, the seriousness of the risk increases as the Diablo Canyon plant ages. (See Contention IV.) On this basis, the San Luis Obispo Mothers for Peace request that PG&E's License Amendment Request be denied.

Again, the San Luis Obispo Mothers for Peace would like to emphasize the implications of the CPUC settlement agreement (explained in Contention I) on extending the license of PG&E's Diablo Canyon Nuclear Power Plant. All costs of replacement of quality parts are PG&E's responsibility. Therefore, we believe PG&E might either put off replacing parts or replace parts with less costly (and possibly inferior) parts due to economic impacts to the company and their shareholders. Furthermore, if



replacement parts are not available, PG&E can claim that it is using best available technology, even if that technology or parts are not adequately protecting the public health and safety.

IV. The San Luis Obispo Mothers for Peace contends that PG&E's application for license extension must be denied because age-related degradation of systems, structures and components unacceptably increases the risk of accidents during the extended period of operation.

Basis: It is common knowledge that age-related degradation of systems, structures and components in nuclear power plants occurs over time because of normal wear and vibrations; improper installation, use, or maintenance; and conditions such as radiation under which the systems or components have operated. If the effects of aging go undetected or unchecked, they could lead to equipment failures, accidents, or other abnormal conditions that could jeopardize safety. Some components affected by aging are:

- emergency diesel generators
- reactor containment building
- pipes (thinning)
- steam generators
- reactor pressure vessels (embrittlement)
- motor-operated valves
- solenoid-operated valves
- check valves
- power-operated relief valves
- snubbers
- electrical penetration assemblies
- compressors
- heat exchangers
- motor-driven pumps
- electrical cables

circuit breakers  
relays  
batteries  
chargers  
inverters  
motors  
bistables  
transformers  
connectors  
emergency core cooling systems  
residual heat removal systems  
auxiliary feedwater systems

What remains uncertain in the aging of nuclear power plants is ascertaining the degree of degradation that has occurred at any given time and the level of risk this poses to the health and safety of the public. In a 1989 report, the U.S. General Accounting Office (GAO) reported that:

"According to NRC staff, many age-related uncertainties exist because neither they nor the industry completely understand the nature and effects of aging on the plants. In addition, the operating and maintenance practices of each utility exacerbate these uncertainties. Depending on the amount of data available and the analytical methods used to predict the effects of aging, even the best estimates of a component's condition will have some degree of uncertainty. For example, aging can be accelerated by inadequate maintenance, improper testing, or abnormal operations. Operating events could have occurred or certain tests may have been performed that were not adequately documented at all plants." GAO/RCED-89-90, "License Renewal Questions For Nuclear Plants Need to be Resolved" (April 1989) pgs. 16,17.

Therefore, each plant which applies for an operating license extension must be evaluated in light of its own operating history. The NRC concurs with this in its statement: "NRC believes the safety significance of continued operations for critical components at each plant can be determined accurately only on a case-by-case basis." *Id.*, pg. 16.

The problem with this, however, is that the technology for



accurate assessment of the extent of degradation caused by aging and the associated risk to safety has not yet been attained. Much research has been conducted. Unfortunately, the NRC's program of age-related research covers only about 25 percent of the major equipment important to plant safety and license renewal. Furthermore, the report is not expected to be complete until 1997. GAO/RCED-91-207, "Research Efforts Under Way to Support Nuclear Power Plant License Renewal" (September 1991) pg. 6.

With so little information available at this point, to agree to extend the operating life of Diablo Canyon Nuclear Power Plant would be unconscionable. Additionally, what historical operating information we do have on Diablo Canyon Nuclear Power Plant is not encouraging to those of us concerned with continued **safe** operation of the plant. Units 1 and 2 have been operating for less than a decade, and yet age-related degradation of systems, structures and components are already apparent.

\* Diablo Canyon Nuclear Power Plant, Unit 1, has already been identified by the NRC as a reactor with anticipated vessel embrittlement. Safe Energy Communication Council, "Myth Busters #7," (Winter 1992) pg. 7, Figure 3.

\* LER 1-92-009-00, Unit 1 (July 27, 1992): Leakage occurred from the chemical and volume control system (CVCS) diaphragm valve CVCS-1-547. This leakage could have caused 10 CFR 70 and GDC 19 dose limits to be exceeded during a design basis loss-of-coolant accident. The root cause of the leakage was identified as

thermally induced premature degradation of the valve diaphragm.

\* LER 1-92-006-00, Unit 1 (August 6, 1992): Corrosion was discovered on piping associated with diesel fuel oil and two fire suppression system carbon dioxide lines.

\* Very recently, a local newspaper reported PG&E's discovery of several age-related problems. The fifth outage of Unit 1 is currently in progress. Plant Manager John Townsend reported that there has been some damage (cracking) to the welds on the steam generator feedwater nozzle pipes. Additionally, a leak on the control rod drive seal weld was discovered during inspection of the head of the core. Furthermore, in the steam generator of Unit 2, a leak has been identified between the primary and secondary coolant systems. Five Cities Times-Press-Recorder, Arroyo Grande (October 16, 1992) pg. 6. [Exhibit A]

As components and systems continue to age, the probability of an accident, such as a pipe break, can increase and the probability that the safety systems, such as the emergency core cooling systems, will fail can also increase. A complicating factor is that age-related deterioration of equipment can result in accidents involving multiple failures of equipment and other accidents that are more severe than the safety systems were designed to mitigate. In a speech before an international symposium on reactor aging, NRC Commissioner Kenneth C. Rogers stated:

"While failures of individual components constitute an operational concern and can be a safety concern, the more significant safety concern results not so much at a single component level but at the higher level of components

aggregation because our key safety systems have been designed to accommodate single failures... Degradation would decrease the safety margins so that, in essence, we have a 'loaded gun,' an accident waiting to happen." The Aging of Nuclear Power Plants: A Citizen's Guide to Causes and Effects (1988) pg. 27.

The San Luis Obispo Mothers for Peace is convinced that age-related degradation of components and systems at the Diablo Canyon Nuclear Power Plant will increase the risk of accident during the extended period of operation envisioned under a license renewal. Aging of equipment will also exacerbate the safety risk caused by PG&E's other problems, i.e., its inadequate maintenance and surveillance program (see Contention I), the incompetence, poor attitude, and inadequate training of its personnel (see Contention II), and its inability to detect or prevent the use of substandard parts (see Contention III). PG&E's request for a license extension should therefore be denied.

V. It is the contention of the San Luis Obispo Mothers for Peace that the Thermo-Lag material fails as a fire barrier and, in fact, poses a hazard in the event of a fire or an earthquake. Until this situation is adequately resolved, the license for Diablo Canyon Nuclear Power Plant should certainly not be extended.

Basis: Thermo-Lag is used in 11 cable conduits and 4 custom-made barriers designed to protect important machinery and electrical systems at the Diablo Canyon Nuclear Power Plant. The

NRC issued a series of bulletins this summer warning nuclear power plant operators that, in a series of tests, Thermo-Lag failed to protect cables and conduits. PG&E Letter Nos. DCL-92-173, HBL-92-048 (July 29, 1992).

A study published by the Nuclear Information and Resource Service (NIRS) indicated that Thermo-Lag's rigid properties could cause it to crack violently and crumble in an earthquake, shearing cables. Paul Gunthers, from NIRS, stated that the "fact that Thermo-Lag could crack off the cables and trays it's supposed to protect also means that you could have a major fire after an earthquake." Furthermore, the NRC tests show that the material is not only inadequate, but that the material itself is combustible. Mary Miller, the NRC's acting senior inspector at Diablo, acknowledged that Thermo-Lag can burn. San Francisco Chronicle (Oct. 19, 1992) pg. A9. [Exhibit B]

As a result of these concerns, the NRC has ordered that plants take compensatory measures for all Thermo-Lag materials. NRC Bulletin 92-01 (June 24, 1992). According to Mary Miller, PG&E has been using roving human observers to monitor the custom-made barriers and 9 of the conduits on an hourly basis. (Two of the cables traverse the plant's containment structures and are radioactive, so the plant is using smoke and fires sensors and sprinkler systems in that location.) San Francisco Chronicle (Oct. 19, 1992) pg. A9. [Exhibit B]

But human observers are not completely reliable. They make mistakes. Some incidents follow.

- \* On August 2, 1989, the fire door B-35 for the Unit 2 Residual Heat Removal Heat Exchanger #2 was purposely disabled by tape in order to permit frequent access through the locked door by a workman in the area. On August 15, 1989, the door was ajar by use of a set of pliers. NRC Inspection Report 89-21, (October 27, 1989).
- \* According to NRC Inspection Report (September 21, 1990), fire door number 521 was not fully closed and latched 4 times out of 6 in one day.
- \* On September 17, 1991, the hourly fire watch patrol was not performed in safety related equipment rooms. LER 10-16-92 (October 16, 1991).
- \* On November 30, 1991, a continuous fire watch with backup fire suppression equipment was not established per Technical Specification 3.7.9.4. LER-1-91-020-00 (March 31, 1991).
- \* On June 24, 1992, the sprinkler system was inoperable and a fire watch was missed due to personnel error. LER 1-92-008-00 (July 22, 1992).

It is our understanding that 51 nuclear power plants in the United States use this defective material as fire protection. NRC Information Notice 92-46 (June 23, 1992) attachment 1. We further understand that the NRC proposes to address this issue generically and simply require "compensatory measures" for the Thermo-Lag material. The Mothers for Peace contends that no decision permitting extended operation of the Diablo Canyon Nuclear Power Plant may be issued unless and until PG&E has taken



all measures necessary to end PG&E's use of Thermo-Lag for fire protection at the Diablo Canyon plant and ensure the safety of the system. We note that the problem is particularly urgent at Diablo Canyon Nuclear Power Plant because of its proximity to an active earthquake fault. As pointed out above, Thermo-Lag poses a unique threat to plant safety in the event of an earthquake. The health and safety of the people living within a 50 mile radius of Diablo Canyon Nuclear Power Plant are at risk due to inadequate fire protection and the added risk of Thermo-Lag in an earthquake zone. On this basis, PG&E's License Amendment Request should be denied.

VI. The San Luis Obispo Mothers for Peace contends that PG&E's inability to properly store and handle hazardous materials is another indication of the company's inadequate control programs and personnel. (Refer to Contentions I and II.) PG&E's violations of NRC regulations affects the health of its employees, the local environment, the integrity of safety-related equipment, and thus the safety of the general public. On this basis, PG&E's proposed license extension must be denied.

Basis: In NRC Inspection Report 91-29 (November 29, 1991) many violations of NRC requirements were noted. 10 CFR 20.203(f) requires that each container of specified amounts of radioactive materials must be labeled accordingly. On September 24, 1991, NRC inspectors measured radiation levels of approximately 40

millirem per hour on contact with a shielded container, No. 14195. The container was not labeled with the required "CAUTION RADIOACTIVE MATERIAL." "The licensee's staff stated that the container had been left unlabeled by radwaste workers for approximately two-three months..." *Id.*, pg. 9.

Again, on October 17, 1991, NRC inspectors measured approximately 26 mrem/hr on contact from a type B-25 box, No. B-5. The box, again, was not labeled with the required "CAUTION RADIOACTIVE MATERIAL."

In addition to the labeling requirements, 10 CFR 20.203(b) requires that each radiation area be posted with a sign bearing the radiation caution symbol and the words "CAUTION RADIATION AREA." Box No. 5 (mentioned above) was not labeled and the area, additionally, was not posted.

The NRC inspectors identified two other areas that day that were not posted as required. One area involved a box containing radioactive materials. "Box No. 40 had been moved to the area approximately 5-7 days earlier, had radiation levels to the box measuring up to 30 mrem/hr on contact..." The box was properly labeled, but the area was not posted. *Id.*, pg. 10

Inspectors found the third area measuring radiation levels of approximately 700 mrem/hr on contact with the reactor coolant drain tank (RCDT) discharge drain line at valve LWS-2-9D. "Discussions with the licensee's staff disclosed that the RCDT discharge drain line is an active line in which radiation levels build up due to radioactive crud within the piping..." The area



was not posted as required by the NRC. Id., pg. 10.

On September 26, 1991, inspectors observed two workers who failed to perform a whole body frisk immediately after exiting from a contaminated area. This was against required procedures.

During a tour of the Radioactive Waste Facility (RCA) on September 29, 1991, the inspectors noted that some waste contained chemicals that did not appear on the licensee's Consumable Materials List. The chemicals that they found that were not on the current AP D-51 consumable materials list were:

Manville Expand-o-Flash  
Clover Lapping Compound  
#3F Crystolon Lapping Compound  
Manville Urethane Sealant  
MagnaLube G  
Noalox Joint Compound  
Loctite #1211  
Meas. Group Inc. Phosphoric Acid  
Meas. Group Inc. Alkaline Surface Cleaner  
ZIP Silicon Carbide Lapping Compound (a material specifically prohibited in the RCA)

The NRC states, "The licensee's chemical control program described in procedure AP C-251, Revision 7, 'Procurement, Storage and Handling of Hazardous Materials,' did not appear to be effectively implemented. For example, the inspectors found many unlabeled or improperly labeled chemical containers in the RCA including:

Unidentified oil under a work bench in an open two gallon carton bucket (paper) in Unit 2 pump room 2-4.

Two bottles of what were reportedly "GOSH" cleaner with illegible markings were found in the mechanical maintenance "hot shop."

An unlabeled plastic spray bottle containing an unknown oil was observed at a job site in the Unit 2 auxiliary building.

A labeled container of acetone found in a storage cabinet in the Unit 2 Auxiliary Building, did not have an appropriate hazard warning as required by procedure NPAP D-51.

An Instrument and Control (I&C) storage cabinet in Unit 2 Auxiliary Building contained an unlabeled spray bottle with unknown contents.

An acetone container was identified with an expired shelf life dated 1987, and a container of acetic acid located in the I&C storage cabinet with a variety of other chemicals had a 1984 expiration date. Id., pgs. 7-8.

It should be noted that procedures AP D-51 and AP C-251 states all hazardous material containers, including consumable material transfer containers, shall be labeled with the product's name and the appropriate health hazard associated with the product. "(T)he inspectors expressed concern about the wide availability of materials with potentially detrimental properties to corrosion resistant alloys that were found in the RCA..." Id., pg. 8.

In June 1987, PG&E's Quality Assurance (QA) group identified the consumable material issue in Nonconformance Report (NCR). The report remained open for over two years before it was finally closed in September 1989. "Based on the plant tours and review of the NCR, the inspectors determined that... the issue appears to still require management attention." NCR DCO 87-QC-080 (June 1987) pg. 8.

PG&E's frequent nonconformance to required safety procedures for the control of toxins has the potential for harming not only the health of its employees, but has implications for the integrity of safety-related equipment as well, thus jeopardizing the health and safety of the general public. This problem has

been noted by NRC for at least five years, but has not been resolved. On the basis of PG&E's persistent failure to provide for safe handling and storage of hazardous materials, PG&E's application for an extension of its license should be denied.

VII. The San Luis Obispo Mothers for Peace contends that the proposal to extend the operating life of the Diablo Canyon Nuclear Power Plant for an additional 15 years must be denied because of the unsolved problem of radioactive waste storage and disposal.

Basis: Whether this waste is labeled BRC, low level, or high level, it is a danger to the environment and to the public health and safety. The Federal Department of Energy has not been able to resolve the problem of radioactive waste. The Yucca Mountain site in Nevada is the only site being investigated. It was originally planned to begin operation in 2010, at the earliest. A seismic event on June 29, 1992, however, damaged the research facility there and will delay evaluation of this site. (State of Nevada Nuclear Waste Project Office). Additionally, Nevada State Law AB 222 outlaws storage of high level waste. There is no other alternative being investigated if that site proves to be unacceptable.

Even if the Yucca Mountain site is approved, it is limited by law to a capacity of 70,000 metric tons of spent fuel.

However, the capacity of the Yucca Mountain dump will be exceeded even without license renewal. If no new nuclear plants begin operation and if none of the existing nuclear plants receive a license renewal, the accumulated amount of spent fuel by the year 2020 is projected to reach 75,100 metric tons. NUREG-1437, Table 6.12.

Item 5.3.4 of PG&E's Licensee Amendment Request states that the Department of Energy "is considering providing interim storage in a monitored retrievable storage facility earlier than 2010." (pg. 25) No site has been chosen for a Monitored Retrievable Storage (MRS) facility, and it is unlikely that a MRS site can be chosen and the facility constructed in the near future. An MRS facility license is dependent upon the approval and licensing for construction of a permanent repository. Title 42-10167(d). Furthermore, quantity at an MRS will be restricted by law to 10,000 metric tons of heavy metal (until a repository under this chapter first accepts spent nuclear fuel or solidified high level radioactive waste) and 15,000 metric tons at any one time. Title 42-10167(d).

In PG&E's Amendment Request, it states that it "has a contract with the U.S. Department of Energy for the removal and disposal of Diablo Canyon spent fuel." (pg. 25) James D. Watkins, the Secretary of Energy, states that the Department of Energy has determined that it is not legally obligated to accept spent nuclear fuel. Thus, PG&E's contract with the Department of Energy is without effect.

PG&E's original plan to store the high-level waste "temporarily" has changed. The plant has already re-racked its spent fuel pools to enable them to store more rods than originally planned. "The spent fuel pools currently have onsite storage capacity for plant operation through about 2007 while maintaining the capability for a full-core off-load. After 2007, storage space would no longer be available for a full-core off-load. The existing spent fuel storage racks will be filled by 2010." License Amendment Request 92-04 (July 9, 1992) pg.25. For all effective purposes, Diablo Canyon Nuclear Power Plant is becoming a de facto permanent waste dump for spent nuclear fuel.

The problems of fuel storage at Diablo Canyon Nuclear Power Plant are unique within the nuclear power plant industry and should not be treated generically. The plant is located in the State of California, where seismic activity is a constant, real, and serious threat to safety, and within 2 1/2 miles of an active earthquake fault. Thus, the assurance of the integrity of the spent fuel pool liner (as defined by 10 CFR 1-1-92) is suspect. PG&E's Humboldt Bay Power Plant, Unit 3, sets precedent for concern about the spent fuel pool as well as the possibility of on-site storage structures in the future. An April 25, 1992 event resulted in the deformation of the spent fuel pool liner at Humboldt due to a strong motion of water in the fuel pool during a 6.9 earthquake. LER 3-92-001-00 (May 22, 1992). A similar previous event is noted in LER 3-85-003: the Humboldt liner no longer conforms to NRC's definition of "liner." Given the high



vulnerability of Diablo Canyon to a serious earthquake, longer-term spent fuel pool storage is not a safe alternative for Diablo Canyon Nuclear Power Plant.

PG&E's item 5.3.4 of the License Amendment Request offers spent fuel solutions for the future that are inadequate, unknown and indefinite. The uncertainty of the disposal of this high-level radioactive waste potentially presents a significant and dangerous environmental impact; thus the application for license extension should be denied.

VIII. The emergency preparedness program for Diablo Canyon Nuclear Power Plant is inadequate to protect public health and safety. The San Luis Obispo Mothers for Peace contends that until the program is revised and improved, PG&E's request for a license extension cannot be considered.

Basis: Emergency preparedness for Diablo Canyon is deficient. In recent "practice emergencies," numerous weaknesses have been identified.

The 1991 Annual Exercise indicated that PG&E's system for making protective action recommendations (PARs) was excessively complicated and could cause delay in the issuance of PARs based on plant conditions. The system for transmitting PARs to the County was not clearly specified by procedure and PG&E did not follow procedural requirements governing the documentation of PARs. NRC Inspection Report 91-15.

Furthermore, during the 1992 Annual Exercise Inspection 92-

15, (August 3, 1992) several problems were noted:

- \* Operators did not properly verify that the reactor was shutdown. The inspectors noted this as a major concern.
- \* Operators demonstrated ineffective communication.
- \* Operators did not follow procedure in two instances.
- \* Operators failed to refer to all Annunciator Response Procedures.

On August 22, 1991, the Federal Emergency Management Agency (FEMA) conducted an offsite Diablo Canyon emergency preparedness exercise. (FEMA report dated April 1, 1992). Many areas were identified as requiring corrective action:

- \* The EWEC desk staff were not fully familiar with the units of radiation, dosimeter operational ranges, or turnback levels and reporting frequencies for emergency workers.
- \* The FMTs could not monitor radio transmission from other vehicles.
- \* The field counting of the air samples was not performed with a constant geometry.
- \* One FMT did not take air samples out of the plume before counting.
- \* The sampling time label information on one set of air samples was not consistent.
- \* The air sample filters received at the MEML were improperly screened for external contamination.
- \* The MEML demonstrated inadequate contamination control procedures.
- \* Fire department personnel lacked head and face protection during vehicle decontamination.
- \* The Avila Beach Fire Department used an ARES operator under the age of eighteen as an emergency worker in the EPZ.
- \* The school districts had no plan for the evacuation of children attending after school day care.

The incidents noted above occurred in an exercise situation, without the trauma and confusion experienced by employees during an actual emergency. The Mothers for Peace concludes that PG&E's employees are not adequately prepared, trained, or motivated enough to effectively protect the safety of the public in an emergency situation at the Diablo Canyon Nuclear Power Plant. (Refer to Contention II.) Furthermore, the employees of the County of San Luis Obispo are obviously unprepared to act efficiently in an emergency.

The Mothers for Peace demands an emergency preparedness plan that works. We want well-qualified, well-trained employees that can protect the health and safety of the community in the event of an accident at Diablo Canyon Nuclear Power Plant. Until that is accomplished, PG&E's request for an extension of its license must be denied.

IX. The emergency preparedness program for Diablo Canyon Nuclear Power Plant is inadequate to protect public health and safety during an earthquake. The importance of an effective program was demonstrated recently by the lack of an adequate response to the effects of Hurricane Andrew in Florida.

Basis: Diablo Canyon Nuclear Power Plant is located only 2 1/2 miles from a major earthquake fault, the Hosgri fault. Moreover, California has always been an area of high seismicity. As stated by Mr. S. Trubatch, "The size and magnitude and frequency of earthquakes in California just put that in a

different regime from the rest of the country." Discussion of Earthquake and Emergency Planning for Diablo Canyon and Discussion of Stay Motion, (July 30, 1984) pg. 29. Yet, in the operating license proceeding for Diablo Canyon, the Commission refused to consider requiring PG&E's emergency plant to account for the potential impacts of an earthquake that either caused or occurred coincidentally with an accident at Diablo Canyon Nuclear Power Plant (Diablo Canyon Nuclear Power Plant, Units 1 and 2, CLI-84-12, 1984) - despite the fact that everywhere else, site specific natural phenomena have been considered for the effects on emergency planning. Discussion of Earthquakes and Emergency Planning (July 25, 1984) pg. 11.

The impact of Hurricane Andrew on the Turkey Point Emergency Planning Zone demonstrates that it was unwise and extremely unsafe for the NRC to ignore the potentially serious effects of local natural phenomena on emergency planning for Diablo Canyon Nuclear Power Plant. For instance, at Turkey Point, roads were blocked and needed to be cleared for emergency vehicles to reach the plant. An earthquake could make roads impassable during an evacuation of the Diablo Canyon zone, yet no adequate plan exists that addresses road blockage in the event of an earthquake. Commissioner F. Bernthal once commented on this subject:

"...if you looked at roads and bridges and found that, unlike the plant itself perhaps, they may have a higher grade force experience, you may end up demanding that certain roads and bridges be qualified for evacuation. That's -- that could be the ultimate outcome." "Discussion/Possible Vote on Order on Earthquakes and Emergency Planning for Diablo Canyon" (August 3, 1984) pg. 30.

But San Luis Obispo Mothers for Peace **do** want assurance that the roads and bridges will be functional in an evacuation situation. The Mothers for Peace contends that the emergency plan lacks specificity in determining how the various roads, bridges and other evacuation routes within the evacuation zone will hold up in the event of an earthquake and/or tsunami.

Finally, emergency preparedness for Diablo Canyon is defective because it fails to take into consideration the unique and safety-significant characteristic of earthquakes - that they are extremely sudden. At Turkey Point, by comparison, a hurricane warning was in effect, and operators could go to a hot shutdown. In the event of an earthquake, no warning is given to the operators to shutdown the plant. The Diablo Canyon Emergency Preparedness Plan does not demonstrate that PG&E can respond extremely rapidly to a sudden earthquake. In fact, PG&E and the County of San Luis Obispo have demonstrated weaknesses in this area. (Refer to Contention VIII.)

California leads the world in the collection and interpretation of seismic data. New information is constantly being gathered and assessed. In fact, information currently available from United States Geological Survey (USGS) employees question PG&E's assessment of the type of ground motion that would result from a magnitude 7.5 earthquake on the Hosgri Fault. In a recent article in the San Francisco Chronicle, USGS geophysicist, Steve Lewis, stated that "I think the NRC made an error when they came down on the side of PG&E's interpretation.



There's a huge level of uncertainty among the experts." The article quotes Richard Hubbard, a nuclear engineer and consultant for MHB Technical Associates, "In an earthquake, you're depending on literally thousands of devices working in the right way at the right time to achieve a safe shutdown. Many, many things can go wrong." (Exhibit B)

The San Luis Obispo Mothers for Peace proposes that the Diablo Canyon Nuclear Power Plant Emergency Preparedness Program be revised to take into consideration new seismic information and include plans for a simultaneous earthquake and nuclear accident. Until that is accomplished, PG&E's request to extend the operation license cannot be considered.

X. The San Luis Obispo Mothers for Peace believes that PG&E is not justified in their request to extend their operating license for Diablo Canyon Nuclear Power Plant.

Basis: Under the Commission's regulations in 10 CFR 50.92, PG&E must show that operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety. Federal Register, Vol. 57, No. 141 (July 22, 1992).

PG&E is not justified in its request extend the operating license for Diablo Canyon Nuclear Power Plant because, as the

Mothers for Peace has shown in its Contentions, PG&E is not able to meet these standards. The continued operation of the plant beyond the years for which it was originally licensed will pose a threat to the environment and to the people that reside within a 50-mile radius of Diablo Canyon.

PG&E's proposed amendment will (1) involve a significant increase in the probability or consequences of an accident previously evaluated. Our contentions have raised significant safety issues and evidence that the operation at the Diablo Canyon Nuclear Power Plant is not consistently in compliance with NRC regulations. Contention I pointed out significant weaknesses in their maintenance and surveillance programs. Contention II illustrated the performance problems that PG&E is facing with their personnel. The difficulty of purchasing verifiable quality replacement parts was addressed in Contention III. These problems, coupled with the aging of systems, structures and components in the period of the proposed license extension (Contention IV), create the "loaded gun" situation that Kenneth Rogers alluded to - "an accident waiting to happen."

PG&E's proposed amendment will (2) create the possibility of a new or different kind of accident from any accident previously evaluated. Contention V addressed the problem of Thermo-Lag, particularly in the event of an earthquake. The possibility of an accident involving multiple failures of equipment - due to aggregate age-related degradation of components, systems and structures - was pointed out in Contention IV. As the plant

grows older during the years of the proposed license extension, these factors increase the probability of an occurrence of an unforeseen, unexpected kind of accident.

PG&E's proposed amendment will (3) involve a significant reduction in a margin of safety. PG&E's current inadequate maintenance and surveillance programs (Contention I), ineffective personnel (Contention II), poor procurement measures (Contention III), aging components, systems and structures (Contention IV), use of Thermo-Lag (Contention V), and careless control of toxins (Contention VI) will continue to reduce the plant's margin of safety in the years of the proposed license extension.

XI. The San Luis Obispo Mothers for Peace contends that before permitting the extension of PG&E's license for the Diablo Canyon Nuclear Power Plant, PG&E must weigh the costs and benefits of continued operation of the plant - as required by the National Environmental Policy Act (NEPA) 42 USC 4332.

Pasis: NEPA requires the preparation of an Environmental Impact Statement (EIS) whenever there is a major federal action that significantly affects the quality of the human environment. As we have demonstrated in Contentions IX and others, an extension of the license for the Diablo Canyon Nuclear Power Plant would significantly increase the health and safety risk to the public. As the plant ages, the risks to public health and safety substantially increase. The situation is therefore

different from conditions that existed when the operating license was originally granted. (Refer to Contention V.) This additional risk makes a new EIS a requirement.

Moreover, the Mothers for Peace contends that when an EIS is done, it will show that the cost of operating Diablo Canyon Nuclear Power Plant during the period of proposed license extension will outweigh the benefits.

In their application for license extension, PG&E justifies their request by stating that among the benefits of license extension is "...avoided increase in electric rates to consumers." (pg.2) The Mothers for Peace challenges the credibility of this statement.

According to Toward Utility Rate Normalization (TURN), ratepayers are currently paying more for power generated at PG&E Diablo Canyon Nuclear Power Plant than any other major source of electricity in California. PG&E has operated at a high capacity factor and reaped large profits during the first four years of the 28-year CPUC settlement. (Fact Sheet, Exhibit C) If PG&E ratepayers are not now experiencing "avoided increase(s) in electric rates...", we cannot expect that these rates will be competitive in the future. Furthermore, the 1988 CPUC settlement agreement expires in the year 2016, leaving the ratepayers in limbo. PG&E cannot tout avoided increases in electric rates in their application when there is nothing in place in the CPUC settlement agreement to cover the years after 2016.

PG&E claims in its license amendment request that "...it is

prudent and beneficial to keep this reliable source of power in operation, particularly in light of the projected growth of California's electricity demand." (pg. 2) This statement is unfounded and PG&E is not justified in its request to extend the license for Diablo Canyon Nuclear Power Plant because California is currently experiencing a decrease in construction. Available water for future construction is questionable, and there exists a flight of businesses out of California. In addition, a dramatic increase in conservation (due in part to PG&E's highly successful conservation programs) is being seen in this state. (Exhibit D) PG&E's projected California electrical demand is highly over-estimated. PG&E's projections of increased demand is pure conjecture. The Mothers for Peace understands that the issue of the need for energy is considered only at the construction stage of licensing. But this situation is different because the statutory term limit of 40 years has been changed due to the extended period of construction.

Furthermore, Diablo Canyon Nuclear Power Plant has never been judged by the CPUC to be a prudent investment. Conventional rate-making was abandoned when the settlement agreement was adopted. (CPUC Settlement Agreement)

Finally, PG&E is asking the NRC to take a snapshot approach to the decision to grant an extension of its license. Less than a decade of operation cannot predict the reliability of PG&E's future performance.

As explained in Contention I, PG&E's Diablo Canyon Nuclear



Power Plant is paid according to the amount of power produced. PG&E must assume the costs of maintenance and replacement parts. CPUC Settlement Decision 88-12-083 (1988). The Mothers for Peace believes that this form of rate-basing has serious safety implications. In Contentions I and III, it was explained that PG&E is given the economic incentive to postpone maintenance until the regularly scheduled refueling outage and to put off the replacement of parts. As the plant ages during this period of proposed license extension, as maintenance becomes more costly, and as quality replacement parts become even more difficult to procure, PG&E will be more inclined to postpone required maintenance. This situation reduces the margin of safety at Diablo Canyon Nuclear Power Plant and threatens the safety of the public.

In its License Request Amendment, PG&E states that "...Diablo Canyon power costs to the customers are anticipated to be competitive with PG&E's overall production costs by 2008." PG&E contradicts this optimistic prediction in a recent document; PG&E admits the long-term risks that face continued operation at Diablo Canyon Nuclear Power Plant:

- \* the risk of unscheduled outages as the plant gets older;
- \* the risk of higher than expected maintenance and capital costs as major plant equipment, such as steam generators, is repaired or replaced; and
- \* the risk of reduced plant performance or higher costs in order to comply with new NRC regulatory requirements or new government taxes. Protest of Pacific Gas and Electric Company to Petition by Toward Utility Rate Normalization to Modify Decision 88-12-083 (October 16, 1992) pg. 10.

Under the CPUC settlement agreement, these risks that PG&E have identified translate to financial loss for the utility. The chief benefit of operation is to provide energy. But the energy produced by Diablo Canyon Nuclear Power Plant in the years of the proposed license extension will be costly. The San Luis Obispo Mothers for Peace contends that when you add up the costs of operating Diablo Canyon Nuclear Power Plant until the year 2025 (costs for maintenance, replacement parts, waste storage and disposal, personnel...), they far outweigh the benefits to be received by the customers. This is particularly true when you add in the potential cost to the environment and to the health of the public in the event of an accident.

The Mothers for Peace demands that PG&E be denied its request for an extension of its license for the Diablo Canyon Nuclear Power Plant. We further request that PG&E meet NEPA standards and pursue less costly and more environmentally safe technologies.

Respectfully submitted,

By Nancy Culver  
Nancy Culver, President

October 26, 1992

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CERTIFICATE OF SERVICE

92 OCT 30

I, Rochelle Becker, hereby certify that copies of the foregoing San Luis Obispo Mothers for Peace Supplement to Petition to Intervene have been served upon the following persons by U. S. Mail, first class.

Executed at San Luis Obispo, California, this 26th day of October, 1992.

  
Rochelle Becker

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