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MEMORANDUM FOR: Thomas W. Bishop, Director
Division of Reactor Safety
and Projects, Region V

THRU: Thomas Novak, Assistant Director
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George W. Knighton, Chief
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Division of Licensing *GWK*

FROM: Hans E. Schierling, Project Manager
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SUBJECT: NRR INPUT TO NRR SALP REPORT

Enclosed is the NRR evaluation of the Pacific Gas and Electric Company performance in matters of technical review and licensing activities for period from January 1, 1983 through June 30, 1984. This evaluation applies only to Unit 1. The NRR efforts during the evaluation period as related to Unit 2 was very limited. NRR plans to participate in the NRR SALP Based Board meeting on October 12, 1984.

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Enclosure:
As stated

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NRR INPUT TO SALP REPORT
EVALUATION PERIOD:
JANUARY 1, 1983 - JUNE 30, 1984

This NRR SALP Report applies only to Unit 1 of the Diablo Canyon Nuclear Power Plant. While the licensee's performance could be expected to be the same for Unit 2 the NRR efforts during the evaluation period were specifically performed for Unit 1. The NRR efforts were principally directed to the reinstatement in April 1984 of the Unit 1 suspended low power license and to the issuance of the Unit 1 full power license (staff effort was completed in July 1984, the full power license has not issued). Because of the unique conditions associated with the low power license reinstatement, intervention and numerous allegations, the NRR effort was more extensive than normal and included technical review, licensing activities and NRR management considerations throughout the review period.

The NRR effort required frequent NRR/licensee interactions at all levels. The staff met on numerous occasions with the licensee, including management, performed detailed audits at the licensee's offices and at the Diablo Canyon site, and participated in a number of plant walkdowns during hot functional testing. As a result of this effort eight SER Supplements (SSER 16 through SSER 23) were issued during the evaluation period and four additional supplements (SSER 24 through SSER 27) were issued in July 1984 on staff evaluations also performed during the period. (Supplements 21, 22 and 26 pertain to allegations and were jointly issued by NRR and Region V).

The major NRR activities included the review and evaluation associated with the design verification effort (IDVP and ITP), allegations, piping and supports including programmatic engineering aspects, and a variety of technical and licensing matters. The NRR effort, including support by consultants, during the evaluation period exceeds 25,000 hours of professional staff time. The following are the specific activities considered in this appraisal.

1. Design Verification Effort (IDVP, ITP, related NRC Issues)
2. Allegations
3. Piping and Supports Review
4. Programmatic Provisions for Onsite Activities
5. Seismic Design Bases Reevaluation Program
6. Shift Advisor Qualifications
7. Shunt Trip for Scram Breakers
8. Event Reporting
9. Fire Protection

10. Issuance of SSERs
11. Issuance of License Amendments
12. Technical Specifications

The NRR staff that participated in these efforts evaluated the licensee's performance using the seven evaluation criteria and attributes in accordance with NRC Manual Chapter 0516. No NRR effort was associated with Criterion 4, very limited NRR effort was associated with Criterion 5 and Criterion 7. The following is a summary of the licensee's performance for NRR activities. Each of the criteria is discussed in detail below.

<u>Criterion</u>	<u>Category</u>
1. Management Involvement and Control in Assuring Quality	2
2. Approach to Resolution of Technical Issues	2
3. Responsiveness to NRC Initiatives	2
4. Enforcement History	NA
5. Reporting and Analyses of Reportable Events	2
6. Staffing (Including Management)	2
7. Training and Qualification Effectiveness	3

The licensee's overall performance with respect to licensing activities was at the Category 2 level.

1. Management Involvement and Control in Assuring Quality

The licensee had developed and implemented a very comprehensive program, the ITP, to respond to and resolve concerns that were raised by the IDVP, the NRC staff and by the licensee as a result of the design verification effort. Management continued its active involvement in the planning of activities, assignments of priorities and the resolution of technical and licensing matters. The Diablo Canyon Project management and the engineering discipline management actively participated with their staff in numerous meetings with the IDVP and the NRC. Management had detailed knowledge and was aware of specific technical issues and their safety significance. Management initiated appropriate steps to assure proper corrective actions. This effort was essentially completed in late 1983.

Management had made the same commitment to prompt and satisfactory resolution of concerns identified during the piping and support effort since late 1983. The commitment included implementation of quality assurance programs, control procedures and training. While such commitments had been made at the corporate level, the actual implementation of these efforts was not always evident during the staff audits and inspections at the licensee's offices and at the site, in particular in late 1983 and early 1984. Some of the deficiencies were identified by the staff and were the subject of numerous allegations. This resulted

in seven license conditions which required the licensee to perform specific actions before issuance of a full power license. During its audits the staff identified a high rate of minor design errors and frequent misuses of procedures for design modifications by the Onsite Project Engineering Group (OPEG). These deficiencies indicated a lack of awareness and supervision by the Diablo Canyon Project management, and inadequate QA design control procedure implementation by the OPEG management. Necessary corrective actions were initiated by management once the problems were identified. The staff also noted that training procedures had not been fully implemented for many newly employed engineers working within OPEG. These procedures were subsequently revised and implemented for all engineers.

Various technical and licensing matters required frequent interactions between NRR staff and the licensee. These matters included allegations, fire protection, systems interaction, technical specifications, shunt trip for scram breakers, containment coatings, and seismic reevaluation program. In all cases the appropriate level of management was involved in the resolution of the matters. Awareness of safety significance, prior planning, assignment of priorities and anticipation of problem areas were evident in varying degrees of effectiveness. In all cases the management took corrective action after problems were identified. At all times was the necessary and qualified staff assigned.

In summary, while the licensee's corporate management had committed to assuring quality for all activities, this commitment was not implemented to the same degree of effectiveness. While in certain specific areas the licensee's performance meets the requirements for Category 1, the performance level with regard to OPEG were of Category 3. The overall management involvement and control in assuring quality was at the Category 2 level.

2. Approach to Resolution of Technical Issues

During the reporting period the licensee completed the design, analysis and modifications that resulted from the design verification effort. The licensee's effort on piping and supports was initiated as part of the design verification effort to account for the revised seismic loadings. Much of the analysis and design in this area was performed by the Onsite Project Engineering Group (OPEG).

Based on numerous NRR interactions with the licensee's technical staff and based on NRR evaluations of the licensee's submittals the staff finds that the licensee fully understands the technical issues, including their safety significance, that were identified by the IDVP, the staff and in allegations. The licensee was cognizant of applicable staff positions and their bases. The resolution of issues is based on a sound technical approach with the objective to meet applicable NRC design criteria and maintaining adequate safety margins. The licensee applied prevailing industry standards and current literature and test results, as applicable.

The deficiencies in the programmatic approach as discussed in item (1) above, could potentially have led to deficiencies in the technical approaches. This was not the case. The staff review and evaluation clearly indicated that the technical approaches, although not always being consistent with established

programs, and results were sound and based on fully understanding the issue. No subsequent modifications were required.

The licensee pursued the resolution of technical issues very actively. In some cases the approach was very responsive to the staff's concern once identified and required only a minimal amount of followup interaction. Examples of such positive approaches were the resolution of issues related to Technical Specifications, to the concerns of thermal gaps (one of the license conditions on piping and supports), to the seismic design basis reevaluation program and to the matter of fire protection.

In summary, the licensee's approach to the resolution of technical issues demonstrated an understanding of the issues, the safety significance and the regulatory requirements. The licensee's performance fully meets the requisites for a Category 2.

3. Responsiveness to NRC Initiatives

Throughout the evaluation period the NRR staff interacted very frequently with the licensee's staff and management. This included written requests for additional information, audits of records, site visits and meetings. The licensee was very responsive in providing additional information requested either by letter or in meetings. The licensee fully cooperated in arranging audits/inspections and making available on short notice the necessary technical staff. The licensee's written responses were timely, technically sound and thorough. The licensee's presentations at meetings were well prepared and appropriate staff was always present to respond to further questions. Only in a few instances (fire protection and environmental qualification of motor capacitor) were extended interactions required to resolve the issue. The most positive approach to responding to NRR concerns was demonstrated during the piping and support effort. The licensee was very responsive to all NRR initiatives, including arranging for additional hot walkdowns of systems. The licensee's performance in the area of piping and supports was of a Category 1 level. Taking into consideration the performance with respect to the design verification effort and the allegations, the overall performance in responding to NRR initiatives was of a Category 2 level.

4. Enforcement History

There is no basis for an evaluation by NRR of this performance criterion.

5. Reporting and Analyses of Reportable Events

During the evaluation period NRR was involved in the followup of two events (flooding of auxiliary building pipe tunnel and disabling of high pressure injection trains during refill of BIT). For this limited NRR involvement the licensee's performance was at the Category 2 level.

6. Staffing (Including Management)

The piping and support effort involved many engineers within the OPEG organization, some were newly employed for this specific purpose. There was evidence that insufficient personnel was assigned for QA/QC activities, both in the

engineering as well as for the resultant modifications in the plant. Since about April 1984 there was evidence of improvement in this staffing.

There was adequate and qualified staffing, both professional and management, throughout the evaluation period for all other activities that involved an NRR effort. The overall licensee's performance was at a level of Category 2.

7. Training and Qualification Effectiveness

NRR participation regarding this criterion was limited to an evaluation of shift advisor qualification and training for OPEG personnel. The licensee's performance for shift advisor qualification was at a Category 2 level. The OPEG personnel training and qualification was the subject of a number of allegations. Based on its audits the staff found that the training provided did not meet established procedures and requirement. Corrective actions were subsequently taken by the licensee. Based on its limited involvement regarding this criterion the staff finds that the licensee's performance was at a Category 3 level.