



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION V

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WALNUT CREEK, CALIFORNIA 94596

FEB 23 1982

MEMORANDUM FOR: H. R. Denton, Director, Office of Nuclear Reactor
Regulation

FROM: R. H. Engelken, Regional Administrator, RV

SUBJECT: DIABLO CANYON SEISMIC DESIGN REVERIFICATION PROGRAM

In accordance with our discussion today, the following comments regarding Pacific Gas & Electric's (PG&E) Design Reverification Program, are provided for your consideration in responding to PG&E and the Commission. The comments address those actions proposed by PG&E in its letter of December 4, 1981 in response to NRC Order CLI-81-30. The comments also supplement those provided in previous memoranda to your office (memo to Frank Miraglia, NRR, from B. H. Faulkenberry, RV, dated December 16, 1981; and memo to H. R. Denton, NRR, from R. H. Engelken, RV, dated January 16, 1982).

During the conduct of the Diablo Canyon seismic design investigations, Region V had an opportunity to observe the activities of the independent seismic reverification contractor proposed by PG&E. The professional qualifications of the contractor (R. L. Cloud Associates, Inc., RLCA), in our opinion, are sufficient to perform the technical analyses and reviews required. RLCA has identified areas where its organization lacks expertise and has subcontracted experts for assistance in these areas (e.g. quality assurance, soils analysis, structural analysis, and systems engineering). The contractor also appears to be effective in identifying weaknesses in facility design. However, we have noted a lack of formality in certain aspects of the design reverification activity and have observed a significant growth in the contractor's organization. These two factors, some lack of formality and rapid organizational growth, are of concern. It appears that neither PG&E nor the contractor fully appreciated the scope of the reverification program and the resources needed to fully implement the program at its onset. As a consequence, the contractor has had to increase his staff from approximately six people to approximately 30 people (including subcontractors) in a short time period. The proposed contractor has been challenged to provide a fully developed management system for a project of this magnitude. Related to this, we have observed that the contractor's management procedures for the project are brief and lack the formality of larger engineering organizations (e.g., formal reverification procedures, combined with established procedures for design reviews, professional staff training sessions, and established internal quality assurance overviews). In short,

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FEB 23 1982

we are concerned that, due to the magnitude of the currently defined program, the proposed contractor cannot conduct the reverification activities without a continuing challenge to the management systems of his organization, which could result in a less than thorough execution of the reverification program.

In reference to the proposed contractor's independence, it appears that RLCA meets the criteria established by the Commission (as identified in enclosure 3 to Chairman Palladino's letters to Congressmen Ottinger and Dingell, dated February 1, 1982) with the possible exception of R. L. Cloud's previous work relating to the qualification of Westinghouse equipment. Even though no criterion has been established in the area of source of income, it should be recognized that a substantial percentage (48%) of RLCA revenues for the first 10 months of 1981 came from PG&E. A substantially greater percentage of revenues will result from RLCA's current role in the Diablo Canyon reverification program. We caution, however, against the exclusion of a small contractor solely on the basis of the source of his income, since this may unfairly preclude a small contractor from participating in reviews of this nature.

In view of the above, it is our recommendation that the overview role of Teledyne Engineering Services be expanded and better clarified to address the following items. These items should be specifically defined in Teledyne's program plan and implementing procedures:

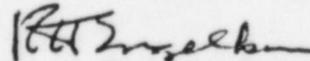
1. Evaluate the scope, depth and quality of the RLCA (and subcontractors) activities.
2. Perform or direct additional verifications, as determined necessary by 1., above.
3. Examine the corrective action plans for effectiveness (considering such aspects as sample size for further verifications, depth of further reviews, and technical adequacy of proposed hardware changes).
4. Verify corrective action implementation.
5. Upon implementation of the above and completion of the Phase I review, provide a statement to PG&E and the NRC indicating:
 - a. reverification status,
 - b. findings and corrective actions status, and
 - c. conclusions regarding the quality and thoroughness of the reverification effort and the implications of the findings and resultant corrective actions with respect to the safety of plant fuel load and low power operations.

FEB 23 1987

6. In performing the above activities, Teledyne should report independently to PG&E and the NRC, in a manner which assures that Teledyne's independence is not compromised. Reports, proposed findings, findings, etc. should be transmitted simultaneously to the license/RLCA/NRC, and auditable records maintained on all document reviews and changes. Particular attention should be addressed as to whether the RLCA reviews adequately considered known problem areas (e.g., IEB-79-02, IEB 79-14, and 50.55(e) items related to seismic design).

The above actions may be completed by Teledyne under its current proposed role as an "overviewer". As an alternative PG&E could be required to task Teledyne with responsibility for the Phase I reverification, allowing credit for RLCA activities as supported by the evaluation discussed above. In either case, the following two independence aspects should be retained: Teledyne and RLCA should not perform verifications of any work which they originally performed; and the contractual separation between Teledyne and RLCA should be maintained, i.e., PG&E should not consider designating RLCA as a subcontractor to Teledyne.

Should you have questions regarding the recommendations discussed, please contact this office.



R. H. Engelken,
Regional Administrator

cc: W. J. Dircks, EDO
R. C. DeYoung, IE