PROGRESS REPORT OF SEISMIC SERVICE-RELATED CONTRACTS PRIOR TO JUNE 1978 DIABLO CANYON NUCLEAR POWER PLANT

Project 105-4 Progress Report No. 3 Work Period from 11/24 to 12/8/81

Report of work performed for Pacific Gas & Electric Co. by R. L. Cloud Associates, Inc.

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DESIGN RE-VERIFICATION PROGRAM SEISMIC SERVICE-RELATED CONTRACTS PRIOR TO JUNE 1978 DIABLO CANYON NUCLEAR POWER PLANT

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Work Period from 11/24 to 12/8/81. Progress Report No. 3

1. Summary:

On November 19, 1981, the NRC Commission issued an Order Suspending License, CLI-81-30, which suspended License No. DPR-76, issued to the PGandE to load fuel and conduct low power tests up to 5% of rated power at the DCNPP-1. As a result, the scope of the seismic re-verification program has been modified to include the work that would be required before the suspension would be revoked to permit fuel load. Specifically, the modification includes: (1) the study of the entire seismic design chain prior to June 1978 as opposed to the study of a sample of seismic design chain, (2) a review of all quality assurance procedures and controls and their implementation used by each pre-June, 1978 seismic service related service contractor and by PGandE internal design groups in the same work period, and (3) sample calculations related to the design of seismic safety-related structures, systems' and components involved. The modification has enlarged the original work scope and provides a broad review of the seismic design of the Diablo Canyon Nuclear Power Plant, Units 1 and 2.

The entire seismic design chain prior to June, 1978 has been mapped to determine the names, work scope, and commencement date and status (closed or open) of each contractor. The design groups within PGandE which were/are responsible for the contractors have also been identified. This information has been used to assist the review of each contractor's quality assurance procedures and controls. .

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A field trip was made to inspect the as-built Auxiliary Building. It was emphasized to verify the equipment locations and to distinguish the concrete blocks from concrete walls.

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The dynamic models of four piping problems are complete. The dynamic analysis, however, has not begun pending PGandE's finalization of seismic input. A field trip was made to inspect the as-built configurations of five of the ten sample piping problems and their piping supports.

The analysis of the Diesel Fuel Oil Priming Tank has been completed pending checking and field verification of the asbuilt tank configuration. A field trip to the site was made to inspect the as-built configuration of some of the selected equipment. The selection of valves is nearly complete.

The selected sample of HVAC components, HVAC duct and raceway supports has been field-verified. The seismic analysis of the raceway supports has begun. Stresses in the supports have been found to date to be low and within allowable limits.

The independent calculation of the chosen HVAC components has begun. No work was done to complete the selection of sample small bore piping runs.

The review of PGandE's and its contractors' quality assurance manuals and procedures and control has begun. The work is being independently done by R. F. Reedy, Inc. Their progress report is attached.

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2. Work Accomplished:

There are four tasks of the subject re-verification program. The work accomplished for each task in the reported work period is described below:

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2.1 Task 1 - Review of Seismic Design Chain

The entire seismic design chain for the Diablo Canyon Nuclear Power Plant was mapped to determine:

names of PGandE's . contractors involved in seismic safety-related work prior to June, 1978.

work scope of each contractor

commencement date and status (closed or open) of each contractors' work .

design groups within PGandE which were/are responsible for the ` contracts

The review of some contractor's work has begun.

2.2 Task 2 - Independent Re-qualification

The work accomplished for each item in this work period is given below.

2.2.1 Auxiliary Building

A field trip was made to inspect the as-built Auxiliary Building. It was emphasized to verify the equipment locations and to distinguish the concrete blocks from concrete walls.

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The locations of all equipment have been verified and the computation of mass and stiffness has begun.

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2.2.2 Piping Runs and Pipe Supports

The dynamic models of four piping problems are complete. the dynamic analysis, however, has not begun pending PGandE's finalization of seismic input. A field trip was made to inspect the as-built configurations of five of the ten sample piping problems and their piping supports.

2.2.3 Equipment

The analysis of the Diesel Fuel Oil Priming Tank has been completed pending checking and field verification of the asbuilt tank configuration. A field trip to the site was made to inspect the as-built configuration of two heat exchangers, two pumps and one tank. The selection of valves is nearly complete. Some analysis work has begun on a Post Accident Monitoring Panel.

2.2.4 Conduit and HVAC Duct Supports

The selected sample of HVAC components, HVAC duct and raceway supports has been field-verified. The seismic analysis of one raceway support is complete and the stresses in the support are found to be low and within allowable.

2.2.5 Small Bore Piping Runs and HVAC Components

The independent calculations of the chosen HVAC components has begun. No work was done to complete the selection of sample small bore piping runs.

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2.3 Task 3 - Field Verification

Two field trips to the plant were made during this work period.

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2.4 RLCA QA/QC Procedures

The RLCA QA/QC procedures have been enforced. No violation were found.

2.5 Task 4 - PGandE and its contractors' QA/QC procedures See Attachment -

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We believe that the above will provide the necessary assurance to alleviate concerns about being able to either avoid reactor vessel voiding, recognize it when, and if, it occurs and take the proper steps during controlled natural circulation cooldown.

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Sincerely,

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cc: Service List

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