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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

November 13, 1979

MEMORANDUM FOR: Steve Scott, Acting Chief
Distribution Services Branch, ADM

FROM: Darrell G. Eisenhut, Acting Director
Division of Operating Reactors

SUBJECT: BOARD NOTIFICATION - TROJAN CONTROL BUILDING PROCEEDING

Please forward the enclosed material to the Trojan Board and parties in the proceeding. To aid in prompt dispatching of this material, please call Joe Gray, OELD X28660.

L. C. Nichols for
Darrell G. Eisenhut, Acting Director
Division of Operating Reactors

Enclosures:
Assessment, 6 pages
Sundry Documents (7)

cc w/encl:
E. Christenbury
J. Gray
C. Trammell

cc w/cy of Assessment:
S. Varga
L. Nichols

US NRC
PDR
c/o TERA

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7911200 279 S

NEWLY DISCOVERED PROBLEMS WITH REACTION FORCES ON CERTAIN CONCRETE BLOCK (NON-SHEAR) WALLS AT TROJAN

In its October 26, 1979 status report on resolution of open items in the Trojan Control Building proceeding, the Staff informed the Licensing Board of the discovery by the Licensee of certain thin concrete block walls (non-shear walls) at the Trojan facility which were found to be inadequate to resist the earthquake-generated reaction forces from equipment or piping attached to such walls. The Staff indicated that further information with regard to this problem would be forwarded to the Licensing Board and parties by separate correspondence. Such further information as is currently available to the Staff is set forth below and in the attachments hereto.

The Staff was first informed of a potential problem with regard to one thin block wall on October 19, 1979. At that time, the Licensee ---lly informed the NRC's Resident Inspector at Trojan that a seismic anchor a 10-inch Spent Fuel Pool Cooling System pipe attached to a thin concrete block wall below elevation 45' in the Auxiliary Building could result in an overstress condition in the wall and degradation of the pipe support under seismic loads. Such overstressing and degradation could ostensibly occur because the wall in question had been designed to withstand its own inertial loading from an earthquake but not the reaction forces from piping attached to the wall. The problem was discovered in the course of the Licensee's analyses and inspections conducted pursuant to the requirements of IE Bulletins 79-02 and 79-14. At the time of the discovery, the plant was in the cold shutdown

condition because of unrelated steam generator tube leakage. At this time, the plant remains in the cold shutdown condition. The existence of the wall problem was confirmed in writing by a letter, dated October 22, 1979, from the Licensee to R. H. Engelken, Director of Region V of the NRC's Office of Inspection and Enforcement. A copy of that letter is attached.

On October 22, 1979, the Region V Office issued an immediate action letter to the Licensee (copy attached) outlining the actions to be taken by the Licensee. Those actions are (1) an evaluation of all safety-related pipe supports and restraints anchored in concrete block walls to identify any additional supports or restraints that may be inadequate to meet design basis conditions and (2) written confirmation to the NRC that such evaluation and any necessary modifications or repairs resulting therefrom are completed prior to resumption of plant operation.

On October 26, 1979, Licensee personnel met with the NRC Staff in Bethesda to discuss the steam generator tube leakage problems. The Licensee was also requested to be prepared to discuss the new wall problem. The primary concern of the Staff at that time was that failure of restraints could render inoperable the decay heat removal systems that were being used to maintain the plant in cold shutdown. The Licensee outlined an alternate decay heat removal method to be used in the event of failure of existing decay heat removal system piping prior to correction of the problem. On October 29, the Licensee confirmed that decay heat removal system piping

restraints had been removed from the wall in question and reinstalled elsewhere so that continued operability of the decay heat removal systems in the event of an earthquake is now assured. The Licensee also outlined the actions it will take to identify any other similar problems so that repairs and modifications may be undertaken. A summary of the meeting on October 26, 1979 is attached.

On November 4, 1979, the Licensee submitted Licensee Event Report (LER) 79-15, a copy of which is attached. LER 79-15 describes the wall problem, the corrective actions being taken and the schedule for further inspections, evaluations and modifications which are being undertaken so as to fully resolve the problem prior to any plant operation. Investigation of this matter is continuing at this time and the Licensee will be submitting supplements to LER 79-15 as more information becomes available.

Based on the information available to the Staff to date, it appears that the problem described herein applies to thin concrete block walls, not relied upon to provide seismic resistance capability for the Control Building Complex, and that no shear walls in the Control Building Complex are involved. Also, based on the information currently available, it appears at this time that this problem is not directly related to the Control Building design deficiencies which are the subject of the Trojan Control Building proceeding. However, the thin block wall problem may have an indirect bearing on the Control Building proceeding in the following manner:

(1) Interim Operation (Phase I)

Because of the Control Building design deficiencies, the floor response spectra above elevation 45' for the as-built Control Building Complex differ from those for which the plant was originally licensed. For interim operation, the differing floor response spectra for the as-built Complex necessitated modifications to certain piping systems to assure that they were qualified for the changed spectra. Insofar as seismic restraints affected by the deficiencies discussed herein had to be modified to qualify them for the interim operation floor response spectra, any such modification would have to account for the design and structural adequacy of the structural elements to which they are attached (thin block walls having been identified thus far).

From the information currently available, the Staff is not aware of any piping systems or restraints modified for the interim operation response spectra which were affected by the reaction force problem discussed herein. We expect, however, that such restraints, if any, will be identified by the Licensee in its continuing investigation. In any event, as indicated in the NRC's immediate action letter of October 22, 1979, any necessary investigations and corrective actions must be completed prior to any resumption of operation.

(2) Operation After Control Building Fix (Phase II)

The floor response spectra above elevation 45' for the Control Building Complex after any approved modifications to correct the Control Building design deficiencies will differ from the response spectra for which the plant was originally licensed and from the response spectra for interim operation. For operation after any approved modifications to correct the Control Building design deficiencies, modifications to piping, systems, equipment and seismic restraints may be necessary in order to assure that such components are seismically qualified for the response spectra of the modified Control Building Complex. Insofar as seismic restraints affected by the deficiencies discussed herein have to be modified to qualify them for the floor response spectra of the modified Control Building Complex, any such modifications to piping, equipment and/or seismic restraints will have to account for the design and structural adequacy of the structural elements to which they are attached (thin block walls having thus far been identified).

As previously mentioned, investigations into the nature and extent of the issues raised by the block wall problem are currently underway. As these investigations continue and more information becomes available, the Staff will forward such information to the Licensing Board and parties in the referenced proceeding.

Attachments:
PNO-V-79-5, October 19, 1979
I&E Region V Daily Report, October 22, 1979
Letter Yundt to Engelken, October 22, 1979
Letter Engelken to Goodwin, October 22, 1979
I&E Region V Daily Report, October 23, 1979
Summary of October 26, 1979 meeting, November 8, 1979
Letter Broehl to Engelken transmitting LER-79-15, November 4, 1979