

December 13, 1990

Docket No. 50-344

Mr. James E. Cross
Vice President, Nuclear
Portland General Electric Company
121 S.W. Salmon Street
Portland, Oregon 97204

Dear Mr. Cross:

SUBJECT: SAFETY EVALUATION RELATED TO DETAILED CONTROL ROOM DESIGN REVIEW FOR
TROJAN NUCLEAR PLANT (TAC NO. 56176)

The NRC staff has completed its evaluation of the Detailed Control Room Design Review (DCRDR) for the Trojan Nuclear Plant. The DCRDR evaluation is consistent with Section 18.1, Revision 0 of NUREG-0800, "Standard Review Plant for Review of Safety Analysis Reports for Nuclear Power Plants." The NRC staff DCRDR evaluation results are contained in the enclosed Safety Evaluation Report (SER). It is the staff's conclusion that Trojan meets the DCRDR requirements of Supplement 1 to NUREG-0737.

This completes our DCRDR technical review for the Trojan Nuclear Plant.

Sincerely,

original signed by Roby Bevan
Roby B. Bevan, Project Manager
Project Directorate V
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc: See next page

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Mr. James E. Cross
Portland General Electric Company

Trojan Nuclear Plant

cc:
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ENCLOSURE 1
SAFETY EVALUATION BY OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO DETAILED CONTROL ROOM DESIGN REVIEW
PORTLAND GENERAL ELECTRIC COMPANY
TROJAN NUCLEAR PLANT
DOCKET NO. 50-344

1.0 POSITION

Item I.D.1, "Control Room Design Reviews," of Task I.D., "Control Room Design", of the "NRC Action Plan Developed as a Result of the TMI-2 Accident" (NUREG-0660), states that operating reactor licensees and applicants for operating licenses will be required to perform a Detailed Control Room Design Review (DCRDR) to identify and correct design discrepancies. The objective, as stated in NUREG-0660, is to improve the ability of nuclear power plant control room operators to prevent accidents or to cope with them, should they occur, by improving the information provided to them. Supplement 1 to NUREG-0737 confirmed and clarified the DCRDR requirement in NUREG-0660. In accordance with Supplement 1 to NUREG-0737, each applicant or licensee is required to conduct its DCRDR on a schedule negotiated with the NRC.

2.0 INTRODUCTION

Portland General Electric Company has conducted a Detailed Control Room Design Review for the Trojan Nuclear Plant. A partial chronology of the Trojan Nuclear Plant DCRDR is provided below.

June 26	1985	Detailed Control Room Design Review Input to the Safety Evaluation Report for the Trojan Nuclear Plant issued by the NRC.
April 1	1986	Supplemental Safety Evaluation Report for the Trojan Nuclear Plant DCRDR issued by the NRC.
June 24	1986	Third Supplemental Summary Report submitted to the NRC.
March 17	1987	On-site meeting between the NRC and licensee staff to discuss, clarify, and resolve open DCRDR items.
July 27	1987	Response to the NRC's request for additional information submitted to the NRC.
March 16	1988	Second Supplemental Safety Evaluation Report for Trojan Nuclear Plant, Detailed Control Room Design Review issued by the NRC.

- October 19 1988 On-site meeting between the NRC and licensee was held to bring closure to staff's review of the licensee's DCRDR.
- January 4 1989 Summary of On-site Meeting at Trojan Nuclear Plant issued by the NRC.

This Safety Evaluation Report (SER) is based on the documentation and events mentioned above. The staff was assisted in their evaluation by Science Applications International Corporation (SAIC).

3.0 EVALUATION

The staff evaluation of the Trojan Nuclear Plant DCRDR follows.

3.1 Establishment of a Qualified Multidisciplinary Review Team

The staff concluded in the March 16, 1988 second Supplemental Safety Evaluation Report (SSER2) that the licensee satisfied this Supplement 1 to NUREG-0737 requirement.

3.2 Function and Task Analysis to Identify Control Room Operator Tasks and Information and Control Requirements During Emergency Operations

The staff concluded in the March 16, 1988 SSER2 that the licensee satisfied this Supplement 1 to NUREG-0737 requirement.

3.3 Comparison of Display and Control Requirements with Control Room Inventory

The staff concluded in the March 16, 1988 SSER2 that the licensee satisfied this Supplement 1 to NUREG-0737 requirement.

3.4 Control Room Survey

The staff concluded in the March 16, 1988 SSER2 that the licensee satisfied this Supplement 1 to NUREG-0737 requirement.

3.5 Assessment of Human Engineering Discrepancies to Determine Which are Significant and Should be Corrected

The staff concluded in the March 16, 1988 SSER2 that the licensee satisfied this Supplement 1 to NUREG-0737 requirement.

3.6 Selection of Design Improvements

The staff concluded in the March 16, 1988 SSER2 that the licensee would satisfy this requirement of Supplement 1 to NUREG-0737. However, this conclusion was contingent upon the staff confirming the adequacy of corrective actions for annunciator-related human engineering discrepancies (HEDs).

The staff reviewed the unresolved annunciator system HEDs during the October 19, 1988 meeting. At the time, the licensee was still in the process of developing the final design modifications for the annunciator system. However, the staff determined that the licensee's commitment to replace or correct the HEDs by September 30, 1989 was sufficient to close out this Supplement 1 to NUREG-0737 requirement.

The staff concluded, based on the October 19, 1988 meeting and SSER2, that the licensee satisfied this Supplement 1 to NUREG-0737 requirement.

3.7 Verification that Selected Improvements Will Provide the Necessary Corrections Without Introducing New HEDs

The staff concluded in the March 16, 1988 SSER2 that the licensee satisfied this Supplement 1 to NUREG-0737 requirement.

3.8 Coordination of Control Room Improvements with Changes from Other Programs such as the Safety Parameter Display System (SPDS), Operator Training, Regulatory Guide 1.97 Instrumentation, and Upgraded Emergency Operating Procedures

The staff concluded in the March 16, 1988 SSER2 that the licensee satisfied this Supplement 1 to NUREG-0737 requirement.

4.0 CONCLUSION

The DCRDR program at the Trojan nuclear plant satisfies all DCRDR requirements of Supplement 1 to NUREG-0737. It is necessary that any changes to the DCRDR commitments made by Portland General Electric Company be submitted to the NRC for approval. The staff may confirm, by means of inspection at some future date, that corrective actions have been properly and completely implemented.

References

1. U.S. Nuclear Regulatory Commission, "NRC Action Plan Developed as a Result of the TMI-1 Accident," NUREG-0660, Vols. 1 and 2, May 1980.
2. U.S. Nuclear Regulatory Commission, "Clarification of TMI Action Plan Requirements, Requirements for Emergency Response Capability," NUREG-0737, Supplement 1, December 1982.
3. U.S. Nuclear Regulatory Commission, "Detailed Control Room Design Review Input to the Safety Evaluation Report for the Trojan Nuclear Plant," June 26, 1985.
4. U.S. Nuclear Regulatory Commission, "Supplemental Safety Evaluation Report for the Trojan Nuclear Plant Detailed Control Room Design Review," April 1, 1986.
5. Portland General Electric Company, "Detailed Control Room Design (DCRDR Summary Report for the Trojan Nuclear Plant, Amendment 3," June 24, 1986.
6. Portland General Electric Company, "Response to Request for Additional Information on the Detailed Control Room Design Review," July 27, 1987.
7. U.S. Nuclear Regulatory Commission, "Second Supplemental Safety Evaluation Report for the Trojan Nuclear Plant, Detailed Control Room Design Review," March 16, 1988.
8. U.S. Nuclear Regulatory Commission, "Summary of Onsite Meeting at Trojan Nuclear Plant," January 4, 1989.