

JAN 30 1985

Docket No.: 50-382

DISTRIBUTION

~~Docket File 50-382~~

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Dear Mr. Leddick:

Subject: Detailed Control Room Design Review Program Plan

The staff has reviewed the Detailed Control Room Design Review (DCRDR) Program Plan which you submitted in accordance with the requirements of Supplement 1 to NUREG-0737 on September 28, 1984. The DCRDR Program Plan was reviewed with reference to Supplement 1 to NUREG-0737, with additional guidance provided by NUREG-0700 and NUREG-0800.

The staff's review identified several concerns which are summarized in Enclosure 1. Attached to the staff's comments is a more detailed discussion prepared by our contractors from Lawrence Livermore Laboratory. You should consider both sets of comments in preparing the DCRDR Summary Report, which must be submitted by May 1, 1985 in accordance with the condition in your operating license.

Based on its review of the DCRDR Program Plan, the staff plans a preimplementation audit at Waterford 3 for the week of April 8, 1985.

If you have any questions about the staff's comments on the DCRDR Program Plan or our proposed schedule for the preimplementation audit, contact the Project Manager, J. Wilson, at (301) 492-7702.

Sincerely,

ORIGINAL SIGNED BY

George W. Knighton, Chief  
Licensing Branch No. 3  
Division of Licensing

Enclosure: As stated

cc: See next page

DL:LB#3  
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NUCLEAR REGULATORY COMMISSION

STAFF COMMENTS

ON THE WATERFORD - 3

DETAILED CONTROL ROOM DESIGN REVIEW

PROGRAM PLAN

BACKGROUND

Licensees and applicants for operating licenses shall conduct a Detailed Control Room Design Review (DCRDR). The objective is to "improve the ability of nuclear power plant control room operators to prevent accidents or cope with accidents if they occur by improving the information provided to them" (NUREG-0660, Item I.D.). The need to conduct a DCRDR was confirmed in NUREG-0737 and Supplement 1 to NUREG-0737. DCRDR requirements in Supplement 1 to NUREG-0737 replaced those in earlier documents. Supplement 1 to NUREG-0737 requires each applicant or licensee to conduct a DCRDR on a schedule negotiated with the Nuclear Regulatory Commission (NRC).

Louisiana Power and Light Company (LP&L) submitted a DCRDR Program Plan for Waterford-3 by letter dated September 28, 1984. The Program Plan was reviewed against the requirements of Supplement 1 to NUREG-0737 and the additional guidance provided in NUREG-0700 and NUREG-0800. Consultants from Lawrence Livermore National Laboratory assisted the staff in the review. The results of their review are enclosed. The staff agrees with the technical content and conclusions of the contractor's report.

The Program Plan for Waterford-3 does not indicate that the equipment and tasks necessary for remote shutdown will be included in the scope of the Waterford-3 DCRDR. The staff recommends that a human factors evaluation of the remote shutdown capability provided to meet 10 CFR Part 50, Appendix A, GDC-19 and 10 CFR Part 50, Appendix R be conducted to assure an adequate scope of the DCRDR. To the extent practicable, without delaying completion of the DCRDR, the NRC staff recommends that the DCRDR address any control room modifications and additions (such as controls and displays for inadequate core cooling and reactor system vents) made or planned as a result of other post-TMI actions, as well as the lessons learned from operating reactors events such as the Salem ATWS events. Implications of the Salem ATWS events are discussed in NUREG-1000 and required actions are described in Section 1.2, "Post Trip Review - Data and Information Capability," of the enclosure to Generic Letter E3-28.

CONCLUSIONS

From its review of the Waterford-3 Program Plan, the staff believes that a DCRDR is planned that generally meets the intent of Supplement 1 to NUREG-0737. However, the program plan is not detailed enough for the staff to conclude that those requirements will be met. Concerns identified are summarized below. A more detailed discussion is provided in the attachment to this report.

Review Team The qualifications and multidisciplinary nature of the review team seem good. Waterford-3 documentation available for staff review should include the resumes of review team members.

Function and Task Analysis The Program Plan does not describe in sufficient detail the methodology to be used to ensure that the determination of the operator information and control needs for emergency operations is done independently from the existing control room design. LP&L should retain auditable documentation of the methodology used by Waterford-3 to make the transition from the Combustion Engineering Owner's Group technical guidelines to the Waterford-3 emergency operating procedures and to independently identify operator information and control needs. The applicant's documentation should include sufficient details of the procedures and methodologies used to enable the NRC staff to determine that an acceptable top-down function and task analysis was used as the basis to satisfy the requirement in Supplement 1 to NUREG-0737 for a function and task analysis to identify control room operator tasks and identify information and control requirements during emergency operations.

Comparison of Display and Control Requirements with a Control Room Inventory LP&L documentation should include sufficient detail of the methodology used to make the comparison between requirements and available equipment to enable the staff to determine the completeness and accuracy of the process.

Control Room Survey The discussion of the control room survey is too sketchy for the staff to evaluate the adequacy of the survey effort. The control room survey methodology should be adequately documented and available for staff review.

Selection of Design Improvements The process described appears adequate. The staff will audit the corrective actions selected for human engineering discrepancies.

Verification of Design Improvements The Program Plan does not specifically address the process of verifying that design improvements provide the necessary correction and do not introduce new HEDs. To satisfy this Supplement 1 to NUREG-0737 requirement, LP&L should develop and implement a process for providing this verification and describe the process in the Summary Report.

Coordination with Other Programs The Program Plan does not describe how control room improvements will be coordinated with changes from other programs such as the Safety Parameter Display System (SPDS) and Regulatory Guide 1.97. A description of the coordination effort should be included in the Summary Report.

Based on the review of the Program Plan, the staff plans a preimplementation audit of the Waterford-3 DCRDR during which we will review the available documentation on the above-identified concerns. The NRC Project Manager for

Waterford-3 has been asked to negotiate a date for the audit during the week of April 8, 1985.