

ENCLOSURE 1

ELECTRICAL, INSTRUMENTATION AND CONTROL SYSTEMS BRANCH  
DETAILED CONTROL ROOM DESIGN REVIEW  
SAFETY EVALUATION REPORT  
FOR THE  
TURKEY POINT NUCLEAR POWER PLANT; UNITS 3&4

BACKGROUND

By letter dated May 20, 1983, Florida Power and Light Company (FP&L) submitted its Program Plan for a Detailed Control Room Design Review (DCRDR) of the Turkey Point Nuclear Power Plant, Units 3 and 4 (Turkey Point). NRC staff comments on that plan were forwarded to FP&L by letter dated January 16, 1984.

FP&L submitted a Summary Report for the Turkey Point DCRDR by letter dated November 1, 1983. The Summary Report was reviewed by NRC consultants from Science Applications International Corporation (SAIC). The NRC transmitted a Draft Safety Evaluation Report (DSER) to the licensee by letter dated February 2, 1984. The results of the staff and SAIC review of the licensee's Summary Report identified concerns, additional information needed to complete our review, and recommended that a Pre-Implementation Audit be conducted.

This audit was conducted during April 2-6, 1984. Results of the audit were transmitted to FP&L by letter dated May 10, 1984, indicating the need for the licensee to submit a Supplemental Summary Report to address our concerns. The licensee submitted this report on April 1, 1986.

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A preliminary evaluation of the licensee's Supplemental Summary Report by our consultants, SAIC, identified the lack of completion schedules for a number of proposed control room modifications. FP&L's submittal of September 3, 1986, while providing a schedule for completing these modifications, was not acceptable to the staff. Scheduling and technical concerns regarding some of the licensee's proposed modifications were discussed by phone with the licensee and SAIC on September 12 and 16, 1986. By letter dated December 11, 1986, FP&L responded to these concerns.

#### DISCUSSION

The staff evaluation of the Turkey Point DCRDR is provided below. This evaluation is based on all information available to date and is arranged in order of the DCRDR elements identified in Supplement 1 to NUREG-0737. The staff was assisted in its evaluation by SAIC. A copy of the SAIC Technical Evaluation Report (TER) is attached. The NRC agrees with the evaluations and conclusions as presented in the TER.

#### Establishment of a qualified multidisciplinary review team

Based on the licensee's Program Plan, Summary Report, and discussions during the Pre-Implementation Audit, the staff concludes that FP&L established a qualified multidisciplinary review team and has therefore satisfied this requirement of Supplement 1 to NUREG-0737.

Function and task analyses to identify control room operator tasks and information and control requirements during emergency operations

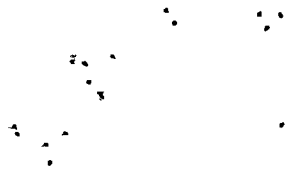
Following the Pre-Implementation Audit, the licensee committed to a substantial upgrade of their task analysis effort. Based upon review of the results of this upgrade contained in the licensee's Supplemental Summary Report, the staff concludes that the task analysis is acceptable and satisfies this requirement of Supplement 1 to NUREG-0737. The licensee has also verified by letter dated December 11, 1986, that none of the problems reported in IE Information Notice 86-64 exist at Turkey Point and, therefore, there is no impact on their task analysis.

Comparison of display and control requirements with a control room inventory

Based upon the results presented in the licensee's Supplemental Summary Report, the licensee's September 3, 1986, submittal, telephone conversations with FP&L on September 12 and 16, 1986, and their letter dated December 11, 1986, the staff concludes that FP&L has satisfied this requirement of Supplement 1 to NUREG-0737.

A control room survey to identify deviations from accepted human factors principles

Based on the licensee's Program Plan, Summary Report, discussions during the Pre-Implementation Audit, and their Supplemental Summary Report, the staff finds that the licensee's control room survey is acceptable and satisfies this requirement of Supplement 1 to NUREG-0737. The licensee should be commended for conducting this survey at their remote shutdown panel as well.



Assessment of human engineering discrepancies (HEDs) to determine which are significant and should be corrected

The licensee's Supplemental Summary Report provided the needed clarification, disposition and scheduling documentation. Staff review of the documentation indicates that FP&L has now satisfied this requirement of Supplement 1 to NUREG-0737.

Selection of design improvements

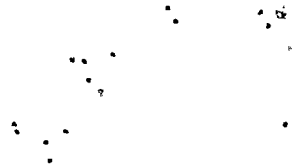
Based upon the licensee's Supplemental Summary Report, their September 3, 1986 submittal, the telephone conferences with the NRC on September 12 and 16, 1986, and their letter dated December 11, 1986, we conclude that FP&L has now satisfied this requirement of Supplement 1 to NUREG-0737 and that their schedule for implementation is acceptable.

Verification that selected improvements will provide the necessary correction and will not introduce new HEDs

Based upon the licensee's Supplemental Summary Report, the staff finds that FP&L's verification program is acceptable and meets this requirement of Supplement 1 to NUREG-0737.

Coordination of control room improvements with changes from other programs such as the Safety Parameter Display System (SPDS), operator training, Reg. Guide 1.97 instrumentation and upgraded emergency operating procedures

Based upon the licensee's Supplemental Summary Report, the staff finds that the licensee's coordination program is acceptable and meets this requirement of Supplement 1 to NUREG-0737.



In summary, we conclude that the DCRDR activities of FP&L for Turkey Point meet all the requirements of Supplement 1 to NUREG-0737.