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JUN 30 1983

Docket Nos. 50-250
and 50-251

Dr. Robert E. Uhrig, Vice President
Advanced Systems and Technology
Florida Power and Light Company
Post Office Box 14000
Juno Beach, Florida 33408

Dear Dr. Uhrig:

SUBJECT: NUREG-0737, ITEM II.B.2.2, "Plant Shielding Modifications for Vital Areas Access" - Turkey Point Units 3 and 4

By letters dated January 11, 1980, January 7 and April 27, 1982, Florida Power and Light Company (FPL) provided details and described actions taken to be in accordance with the criteria and guidance provided in NUREG-0737, Item II.B.2.2, "Plant Shielding Modifications for Vital Area Access."

Enclosed is a Safety Evaluation (SE) which provides the details and results of the Staff's review. Our review consisted of evaluating the procedural controls, accessability of vital areas, design studies performed by FPL and modifications resulting from the overall effort. All modifications have been implemented except for replacing two containment isolation valves in Unit 3. We have indicated in our Confirmatory Order, dated March 14, 1983, that the two valves will be replaced during the next refueling outage for Unit 3 which is currently scheduled for September of this year.

We have concluded, based on our review and Confirmatory Order, that the guidance and Criteria of NUREG-0737, Item II.B.2.2., have been met and are acceptable.

Sincerely,
Original signed by:
S. A. Varga

Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

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PDR ADOCK 05000250
P PDR

Enclosure:
As stated

cc w/enclosure:
See next page

OFFICE			ORB#1:DL	ORB#3:DL	C-ORB#1:DL		
SURNAME			DMcDonald	ETGrigsby	SVarga		
DATE			6/30/83	6/30/83	6/30/83		

NRC FORM 318 (10-80) NRCM 0240 OFFICIAL RECORD COPY USGPO: 1981—335-960

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Florida Power and Light Company

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SAFETY EVALUATION - NUREG-0737, ITEM II.B.2.2
SHIELDING MODIFICATIONS FOR VITAL AREA ACCESS
TURKEY POINT UNITS 3 AND 4
FLORIDA POWER AND LIGHT COMPANY
DOCKET NOS. 50-250 AND 50-251

INTRODUCTION

Following the accident at TMI-2, the NRC staff developed Action Plan NUREG-0660, and "Clarification of TMI Action Plan Requirements", NUREG-0737, to provide for improved safety at nuclear power plants. NUREG-0737, Item II.B.2.2, directed all licensees to perform a design review of plant shielding and to provide for adequate access to vital areas by design changes, increased permanent or temporary shielding, or post accident procedural controls.

The plant shielding reviews for Turkey Point Units 3 and 4 were described by Florida Power and Light Company in its letter to the NRC dated January 11, 1980, January 7, and April 27, 1982. The following evaluation contains the results of the post implementation review regarding NUREG-0737, Item II.B.2.2, entitled "Plant Shielding Modifications for Vital Area Access".

EVALUATION

In response to NUREG-0737, Item II.B.2.2, "Plant Shielding Modifications for Vital Area Access", a design review of the Turkey Point Units 3 and 4 plant shielding was performed. In accordance with this requirement, radiation source terms were specified, systems assumed to contain high levels of radioactivity as a result of a postulated accident were determined, vital areas requiring access were identified, and dose rates in various plant areas and vital areas were calculated.

During NRC Region II Inspection 50-250/83-20 and 50-251/83-20, the assumptions and methodology used in the design review were found to be consistent with the requirements. Source terms were based on the guidelines of Regulatory Guides 1.3 and 1.7, and Standard Review Plan 15.6.5. The systems identified as potentially containing high levels of radioactivity following an accident were found to be consistent with system functions.

The licensee's shielding review resulted in the identification of several areas of concern regarding potential personnel access difficulties. These areas included the control room, control building, component cooling pump rooms, charging pump rooms, pipe and valve rooms, corridors of the auxiliary building, boric acid batching room, an area between the auxiliary building and the reactor water storage tank, the resident heat removal heat exchanger room, the safety injection pump rooms, and the condenser area.

The control room is in direct line of sight with the 54" X 48" containment purge lines on Unit 3, which could result in control room personnel exposures in excess of GDC-19. A permanently installed lead shadow-shield has been located between

the purge valves and the control building in such a manner as to assure personnel exposures in the control room do not exceed GDC-19 limits.

The licensee identified a number of manual valves and breakers requiring operation following an accident which were located in rooms where very high radiation levels were possible. To facilitate operating these valves in an accident situation, system modifications consisting of the installation of reach rods on the valves in question were deemed necessary. In addition, the shielding of some rooms in the auxiliary building was recommended to assure access to the corridors of the auxiliary building. The inspector verified by actual observations that the plant modifications recommended by the shielding review, which included the above mentioned permanently installed lead shielding and reach rod installations were completed. Evaluation of shielding requirements for post accident sampling will be conducted in conjunction with NUREG-0737, Item II.B.3, "Post Accident Sampling".

Emergency Operating Procedure 20001 (E-1), "Loss of Reactor Coolant", was reviewed in order to verify that vital area access or occupancy would be permissible for operations necessary to mitigate the consequences of the postulated accident. During the review, the inspector noted that the procedure required the verification of the status of two manually operated safety injection sectionalizing recirculation isolation valves, which are located in the safety injection room, after recirculation from the containment sump to the reactor coolant system has been initiated. The shielding review identified this room as inaccessible due to high radiation levels after recirculation has been established. A licensee representative stated that the procedure would be changed to eliminate the requirement to enter the room after recirculation has commenced. The inspector stated that this procedure change appeared to be appropriate and would be adequate to satisfy the requirements of NUREG-0737. The inspector concluded that post accident procedural controls, in combination with the plant modifications and increased shielding described above provided adequate assurance that the requirements of NUREG-0737, Item II.B.2.2 could be met, and were acceptable.

CONCLUSION

Based on NRC Region II review of Turkey Point Units 3 and 4 plant shielding design review, inspection of the plant modifications and corrective actions taken as a result of the shielding study, and the performance of an independent assessment of vital area accessibility and personnel doses in a post accident condition, we conclude that the requirements of NUREG-0737, Item II.B.2.2 have been met and are acceptable.