Docket No. 50-261

June 20, 1984

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Mr. E. E. Utley, Executive Vice President
Power Supply and Engineering & Construction
Carolina Power and Light Company
Post Office Box 1551
Raleigh, North Carolina 27602

Dear Mr. Utley:

SUBJECT: H. B. ROBINSON UNIT NO. 2 NUREG-0737 ITEM II.E.1.2 AUXILIARY FEEDWATER SYSTEM (AFWS) AUTOMATIC INITIATION AND FLOW INDICATION

By letter dated December 10, 1982 we provided you with our preliminary review of the above subject TMI item. The review consisted of an evaluation of the H. B. Robinson Unit 2 AFWS design based on the clarifications listed in NUREG-0737, Item II.E.1.2.

Based on our review we concluded that the Robinson AFWS design complies with the long term safety grade requirements with the exception of five open items. Our letter requested you to provide additional information. The items requiring additional information were:

1. Continuous indication (automatically activated) should be provided in the control room when the automatic initiation signals from steam generator low level and main feedwater pump breakers open are bypassed.

2. The bypass described in item 1 above are operating bypasses and should be removed automatically or adequate justification provided for relying on administrative controls.

3. The automatic bus transfer provided to power AFW discharge valve V2-16A from emergency bus E2 if bus E1 (the normal power source for this valve) becomes unavailable, should be removed.

4. The circuitry used to initiate the turbine driven auxiliary feedwater pump should be periodically tested.

5. Continuous indication (automatically activated) should be provided in the control room when the motor driven auxiliary feedwater pump breakers are racked out.

You responded to our request by letters dated February 9 and June 17, 1983.

Based on our evaluation of your responses we have concluded that the H. B. Robinson Unit 2 AFWS design complies with the staff long term safety requirements with the exception (item 3) noted in the enclosure. We

continue to be concerned about the possibility of your automatic bus transfer (ABT) transferring a fault. You are requested to schedule a meetng between your technical staff and the NRC technical staff early June 1984 to resolve the ABT issue.

Sincerely,

Original signed by
Steven A. Varga

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

Enclosure:
Safety Evaluation

cc w/enclosure:
See next page

*See previous white for concurrences

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continue to be concerned about the possibility of your automatic bus transfer (ABT) transferring a fault. We have reached agreement with that the ABT will be handled as a plant specific issue. You are requested to schedule a meetng between your technical staff and the NRC technical staff early June 1984 to resolve the ABT issue.

Based on the above discussion we consider TMI action item II.E.1.2. closed.

Sincerely,

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

Enclosure:
Safety Evaluation

cc w/enclosure:
See next page

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ENCLOSURE

SAFETY EVALUATION REPORT
ROBINSON UNIT 2 AUXILIARY FEEDWATER
AUTOMATIC INITIATION AND FLOW INDICATION
ACTION PLAN ITEM II.E.1.2

INTRODUCTION

The Auxiliary Feedwater System (AFWS) at H. B. Robinson Steam Electric Plant Unit 2 has been reviewed as to its compliance with the requirements set forth in NUREG-0737, (Clarifications of TMI Action Plan Requirements) Section II.E.1.2 (AFW Automatic Initiation and Flow Indication).

In an attempt to close the open items found by the evaluation, a request for information was sent to the licensee on December 10, 1982. By letter of February 9, 1983, Carolina Power and Light Company provided a response.

DISCUSSION AND EVALUATION

The staff's request for information delineated the five open items as:

1. Continous indication (automatically activated) should be provided in the control room when the automatic initiation signals from steam generator low level and main feedwater pump breakers open are bypassed.

2 The bypasses described in item 1 above are operating bypasses and should be removed automatically or adequate justification provided for relying on administrative controls.

3. The automatic bus transfer provided to power AFW discharge valve V2-16A from emergency bus E2 if bus E1 (the normal power source for this valve) becomes unavailable, should be removed.

4. The circuitry used to initiate the turbine driven auxiliary feedwater pump should be periodically tested.

5. Continuous indication (automatically activated) should be provided in the control room when the motor driven auxiliary feedwater pump breakers are racked out.

ITEM 1

The licensee has committed, in the February 9, 1983, letter to install automatic bypass indication that will operate when the keylock switches are operated to block steam generator low level and main feedwater pump breakers open signals. This modification will be implemented during the next refueling outage. Based on this committment. The staff considers item 1 closed.

ITEM 2

The steam generator low-low level and main feedwater pump breakers open bypasses appeared to be operating bypasses. They function to block the initiation of AFWS on these signals. The action plan requirements note that where operating conditions necessitate bypass of a protective function, the design shall be such that the bypass will be automatically removed whenever permissive conditions are not met. AFWS initiation on low-low steam generator level is taken credit for in the FSAR Chapter 15, Safety Analyses. The licensee, as justification for not having automatic removal of the bypasses, stated that for FSAR transients the initiating signals for the AFWS are either Safety Injection or Blackout, which are not bypassed. The staff found this justification unacceptable since it conflicted with the latest edition of the FSAR.

By telephone conversation of June 6, 1983, which was documented by a follow-up letter dated June 17, 1983 from the licensee, Carolina Power and Light Company clarified their use of the bypass of the steam generator low-low level initiation signals to the motor driven and stam driven auxiliary feedwater (AFW) pumps at H. B. Robinson Unit 2. Shutdown procedures make it optional to put the bypass into effect, generally when the steam generators need to be drained for maintenance purposes. Startup procedures state that the operator must always verify that the position of the bypass switch is in the normal position. Furthermore, the Robinson Technical Specifications state that all three AFW pumps must be operable above 350°F.

The staff now concludes that the bypass of the steam generator low-low level signal is a maintenance bypass and as such does not need to be automatically removed. The staff consideres item 2 closed.

ITEM 3

Concerning the automatic bus transfer (ABT) provided to power AFW discharge valve V2-16A, the staff's position is that electrical independence must be maintained between redundant emergency power sources and therefore, the ABT should be eliminated. The staff recognizes the licensee's argument that there are multiple breakers between the two busses to isolate any potential fault common to both power sources. Not withstanding these arguments the staff continues to find these automatic transfers unacceptable since they may transfer a fault from valve V2-16A to the emergency bus. The licensee should to schedule a meeting with the NRC technical staff in June 1984 to resolve this concern.

ITEM 4

The licensee committed to test the undervoltage automatic start of the turbine driven auxiliary feedwater system. This test, PT-6.3, has already been implemented. Revised technical specifications to be proposed by the licensee are to include these tests. The staff considers item 4 closed.

ITEM 5

The licensee has stated that if one of the motor driven AFWS pump trains is taken out of service for maintenance, the pump breaker is racked out and the control power fuses are pulled. Prior to removing the train from service, clearance must be given. When the pump is taken out, the status lights go out automatically and a red cap is placed on the control module to indicate inoperable status. The inoperable safety related equipment is logged in the Minimum Equipment List, which is reviewed every shift, and the Equipment Inoperable Record, which details the amount of time remaining that the equipment can be inoperable before reaching a Limiting Condition for Operation. Thus, the shift foreman is constantly aware of the inoperable status. The staff finds this justification acceptable and item 5 is considered closed.

CONCLUSION

Based on the above evaluation the staff concludes that the AFWS at Robinson Unit 2 will meet the requirements of NUREG-0737 Item II.E.1.2 with the exception of the ABT, Item 3, which will be handled as a plant specific issue.