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Docket Nos. 50-348
50-364

Director, Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Mr. S. A. Varga

Farley Nuclear Plant - Units 1 and 2
Appendix R, Interim Solution

Gentlemen:

Alabama Power Company (APCo) is required by 10CFR50.48 to provide Alternative Shutdown Capability in accordance with 10CFR50, Appendix R for Farley Nuclear Plant, Units 1 and 2, by the end of the sixth and third refueling outages, respectively. By letter dated June 18, 1982, APCo requested an exemption until the Unit 1 seventh and Unit 2 fourth refueling outages for completion of the Appendix R alternative shutdown modification.

Presently, there are 11 shutdown systems which could potentially be impacted by a cable spreading room fire and will require modification in order to establish compliance with Appendix R. These system modifications cannot be implemented by the required completion date established by 10CFR50.48 as outlined in the June 18, 1982 letter. The NRC Staff requested that Alabama Power Company describe interim actions necessary to maintain hot standby during a cable spreading room fire. Attached to this letter is a summary of 11 interim shutdown measures addressing these shutdown systems that will be implemented to provide a means of maintaining Hot Standby and eventually Cold Shutdown during a cable spreading room fire. All other shutdown systems satisfy Appendix R for a cable spreading room fire and are addressed by the Hot Shutdown and Cold Shutdown Instruction Sheets in the alternate shutdown capability design description transmitted to the NRC by APCo letter dated July 1, 1982. This previously requested schedular exemption constitutes the only request for exemption related to 10CFR50, Appendix R, Section III.G.3 (Alternative Shutdown Capability).

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If there are any additional questions or comments, please contact this office.

Yours truly,

R. P. McDonald

RPM/DHJ:grs-D14
Attachment
cc: Mr. L. B. Long
Mr. J. P. O'Reilly
Mr. E. A. Reeves
Mr. W. H. Bradford

Interim Shutdown Measures Regarding Appendix R

A total of eleven systems that are required to be operable in the event of a cable spreading room fire concurrent with a loss of off-site power (LOSP) will be modified as described in Alabama Power Company's (APCo) Alternate Shutdown Design Description. The following are interim shutdown measures which will be implemented to provide a means of maintaining Hot Standby (HSB) and eventually Cold Shutdown (CSD) following a fire in the cable spreading room. These measures will utilize the eleven items as described herein until the modifications to comply with 10CFR50 Appendix R, Section III.G.3 are completed.

1. Main Steam Isolation Valves

Following a fire in the cable spreading room (CSR) and concurrent LOSP, the preferred position of the main steam isolation valves (MSIVs) is closed. This would help prevent a rapid and uncontrolled cooldown of the RCS following a reactor/turbine trip. The closure of the MSIVs is accomplished by solenoid valves going to the vent position and allowing the MSIVs to go closed. A fire in the cable spreading room could render the solenoid valves inoperable. If these solenoid valves were inoperable after a cable spreading room fire, the interim shutdown solution is to close the instrument air isolation valve located in the main steam valve room and open an instrument air line vent or drain downstream of the isolation valve. By doing this, air would be isolated and vented off not only to the MSIVs but also the MSIV bypasses.

2. Service Water to Auxiliary Building

Service water inlet isolation valves to the Auxiliary Building are required to remain open to provide cooling water to various safety related components located throughout the Auxiliary Building. A possibility exists that a cable spreading room fire will result in the inadvertent closure of these valves. Service water flow to the Auxiliary Building can be ensured during the exemption period if power to these valves is removed when the valves are in the open position. The removal of power from these two valves does not jeopardize the safety of the plant and, if required during normal plant operations or surveillance testing, power could be readily restored. As an alternative following a cable spreading room fire, the valves may be manually opened via the local valve box and power removed from these two valves to maintain them in the open position.

3. Component Cooling Water to RCPs and Seal Water Hx. (MOV 3047)

Component cooling water (CCW) flow is required to the RCPs and seal water heat exchangers to provide a cooling medium. A fire in the cable spreading room may result in the inadvertent closure of this valve (MOV3047) which would isolate CCW flow. CCW flow to the RCP's and seal water heat exchanger can be ensured during the exemption period if power is removed from this valve while in the open position. As an alternate following a cable spreading room fire, this valve may be manually opened via the CCW heat exchanger room and power removed from this valve to maintain it in the open position.

In the event of a loss of off-site power concurrent with a cable spreading room fire, CCW to the RCP thermal barrier is not required as long as seal injection flow is maintained. The RCPs would not be operating and CCW to the motor coolers would not be needed.

4. RCP Seal Injection Valves (MOV 8105; HCV-186)

Seal injection flow to the RCPs is required to prevent a loss of coolant accident to the pump seals. A cable spreading room fire may result in the failure of these valves to operate properly, which could isolate flow to the RCP seals. A by-pass line has been provided around these two valves. The valves in the by-pass line are manually operated and would require a system operator to position them. The valves (QV8389 and QV582) are located in the Seal Water Injection Filter Room on the 139' elevation.

In the event of a loss of off-site power concurrent with a cable spreading room fire, seal injection flow to the RCPs is not absolutely required if CCW flow to the thermal barrier is maintained as noted in Item 3.

5. RMW Pumps (Power Supply)

In a letter dated May 20, 1983, APCo committed to racking out the power supply to both RMW pumps to preclude any possibility of the introduction of unborated water into the RCS following a fire in the Cable Spreading Room concurrent with a loss of off-site power. The EOPs at Farley will address the racking out of these breakers in the event of a fire in the Cable Spreading Room.

6. RWST to Charging Pump Suction Valves (V0115B-A; V0115D-B)

The two RWST suction valves are required to be open following a cable spreading room fire to ensure a water source is available to the RCP seals. During normal operation, these valves are closed and interlocked with the VCT suction valves such that an SI signal or a low level in the VCT will cause these valves to open. The RWST suction valves are located on the ledge near the boron injection tank. Following a fire in the cable spreading room, these valves could be opened, and power removed to prevent hot shorts from repositioning the valves.

7. Pressurizer PORV and Block Valves

There are three methods of pressure control in the case of a fire in the cable spreading room: the auxiliary pressurizer spray valves; the PORVs/PORV Block Valves; and the pressurizer safeties.

In the event a cable spreading room fire renders these methods inoperable, the PORV Block Valves during this interim period can be opened by installation of temporary jumpers in the electrical penetration room to energize these valves. The PORVs could be opened by the installation of a temporary connection between an available 125VDC source in the electrical penetration room and the corresponding PORV electrical penetration. The use of temporary jumpers and connections would follow the disconnection of the assigned cables.

8. Reactor Coolant Leg Temperature

In letter dated May 20, 1983, Alabama Power Company stated that, during natural circulation, the cold leg temperature approximates the saturation temperature corresponding to secondary pressure. Pressure indications for all three generators are presently available on the control panel for alternative shutdown capability. The use of these pressure indications, following a cable spreading room fire, would be the interim solution until cold leg temperature indication is installed on the hot shutdown panel.

9. Neutron Monitor

In a letter dated August 24, 1983, the NRC required that APCo install a neutron monitor on the Hot Shutdown Panel. An interim solution, until Hot Shutdown Panel indication is provided, is to use a boron sample in conjunction with other reactivity factors to determine Keff following a fire in the cable spreading room. (See letter from APCo to the NRC dated May 20, 1983).

10. Condensate Storage Tank Level

Condensate Storage Tank (CST) level indication is to be installed on the Hot Shutdown Panel to provide the operator with indication of the amount of secondary water supply available. At present, a fire in the Cable Spreading Room could render the CST level indication inoperable. Following a fire in the cable spreading room a temporary local indication will be installed on the CST to provide level indication.

11. Reactor Head Vent Valves

There are two methods of letdown provided in the case of a fire in the cable spreading room: the normal letdown path to the VCT and recycle holdup tank and an alternate path through the reactor head vent. In the event a cable spreading room fire renders both methods inoperable, the reactor head vent valves can then be opened by installation of temporary connections between an available 125VDC in the electrical penetration room and the corresponding head vent train penetration. The use of temporary connections would follow the disconnection of the associated permanent cables.