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Alabama Power
the southern electric system

February 26, 1991

Docket Nos. 50-348
50-364

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Gentlemen:

Joseph M. Farley Nuclear Plant - Units 1 and 2
Fire Protection Technical Specifications
and License Condition

Nuclear Regulatory Commission (NRC) Generic Letter 86-10, "Implementation of Fire Protection Requirements," dated April 24, 1986 requested that licensees incorporate into their FSAR the fire protection program that has been approved by the NRC, including the fire hazards analysis and major commitments that form the basis for the fire protection program. Generic Letter 86-10 also states that, upon completion of this effort, the licensee may apply for an amendment to the operating license which amends any current license condition regarding fire protection and substitutes a standard license condition. As a result of the new license condition and the placement of the fire protection program in the FSAR where it is controlled via 10CFR50.59, Generic Letter 86-10 states that licensees may request a license amendment to delete the fire protection technical specifications that will become unnecessary. Additional guidance for the preparation of a license amendment request to implement Generic Letter 86-10 was provided in NRC Generic Letter 88-12, "Removal of Fire Protection Requirements from Technical Specifications," dated August 2, 1988.

In accordance with Generic Letter 86-10, Alabama Power Company incorporated the fire protection program into the July 1987 FSAR update as Appendix 9B. This appendix describes the program as approved by the NRC including the fire hazards analysis and major commitments that form the basis for the program. Alabama Power Company has reviewed the safety evaluations supporting fire protection reviews and 10CFR50, Appendix R exemptions to ensure that they are correct. During this review Alabama Power Company identified the need for a change to the justifications for exemption requests 1-038 for fire area 1-006 and 2-035 for fire area 2-006. These changes are discussed in Attachment 1 to this letter. While the conclusion for granting these exemptions has not changed, the original basis for the conclusion was incorrect. Any necessary changes to the FSAR as a result of Alabama Power Company's review of the NRC Safety Evaluation Reports will be made in the 1992 annual FSAR update. Consequently, Alabama Power Company hereby submits the following proposed changes to the fire protection license conditions and the fire protection portions of the Technical Specifications in accordance with the guidance provided in Generic Letter 88-12.

A006
1/1

The proposed changes include:

1. Revision of the fire protection license conditions 2.C.(4) for Unit 1 and 2.C.(6) for Unit 2 to provide consistency with the standard fire protection license condition contained in the NRC Generic Letter 86-10.

2. Deletion of Unit 1 and Unit 2 fire protection Technical Specifications 3/4.3.3.9, 3/4.7.11.1, 3/4.7.11.2, 3/4.7.11.3, 3/4.7.11.4, 3/4.7.11.5, 3/4.7.12, and associated bases.

3. Deletion of the minimum Fire Brigade staffing requirement, Technical Specification 6.2.2(e), for both Units 1 and 2.

With regard to administrative control of the fire protection program, existing Technical Specification 6.5.1.6(b) requires that the Plant Operations Review Committee (PORC) review the safety evaluations for all programs required by Specification 6.8 and changes thereto. Specification 6.8.1(f) requires that written procedures be established, implemented and maintained covering fire protection program implementation. Also, Specification 6.5.1.7(a) requires that the PORC recommend to the General Manager - Nuclear Plant in writing, approval or disapproval of items considered under 6.5.1.6(b). Consequently, existing administrative controls are already in place in the Technical Specifications to ensure that the capability is preserved to achieve and maintain safe shutdown in the event of a fire. In regard to Technical Specification 3/4.7.11.1, Alabama Power Company will make the appropriate administrative changes to plant procedures to include the shutdown and startup requirements of Sections 3.0.3 and 3.0.4 in the unlikely event of the loss of the fire suppression water system and failure to establish a backup water supply within 24 hours. With regard to reporting requirements, Alabama Power Company recognizes the obligation to notify the NRC of fire protection deficiencies which meet the criteria of 10CFR50.72 and 10CFR50.73, as applicable.

The proposed changes to the Technical Specifications and license conditions are provided in Attachments 2 and 3, respectively. Alabama Power Company has determined that the proposed changes do not involve a significant hazards consideration. In accordance with 10CFR50.92, a significant hazards consideration evaluation is provided as Attachment 4.

The updated FSAR (Attachment C to Appendix 9B) contains the requirements that will replace those that have been proposed for deletion from Technical Specification Sections 3/4.3 and 3/4.7 except the shutdown requirement of Technical Specification 3.0.3 in the unlikely event of the loss of the fire suppression water system and failure to establish a backup water supply within 24 hours. As noted above, this shutdown requirement will be incorporated into plant procedures. Section 9B.2.3.2 of Appendix 9B of the updated FSAR also discusses Fire Brigade staffing.

Alabama Power Company's Plant Operations Review Committee has reviewed these proposed Technical Specifications changes and the Nuclear Operations Review Board will review these proposed Technical Specification changes at a future meeting. It is requested that these proposed changes be approved by July 1, 1991. Since implementation of this proposed amendment will require a significant number of administrative changes to procedures in order to convert Technical Specification based surveillance procedures into FSAR based surveillance procedures, it is requested that the proposed amendment become effective 90 days after NRC approval.

Alabama Power Company also requests that the NRC staff review the attached proposed adjustment to the SERs supporting the fire protection review and exemptions from the requirements of 10CFR50, Appendix R and issue corrected safety evaluations.

A copy of this letter and all applicable enclosures has been sent to Dr. C. E. Fox, the Alabama State Designee, in accordance with 10CFR50.91(b)(1).

If you have any questions, please advise.

Respectfully submitted,

ALABAMA POWER COMPANY

W. G. Hairston, III

WGH,III/RVW:mV.8.06

Attachments

cc: Mr. S. D. Ebneter
Mr. S. T. Hoffman
Mr. G. F. Maxwell
Dr. C. E. Fox

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 26th DAY OF February, 1991.

Notary Public

My Commission Expires: 9/14/94

bc: Mr. R. P. McDonald
Mr. J. E. Garlington
Mr. L. B. Long
Mr. C. D. Nesbitt
Mr. D. N. Morey
Mr. J. W. McGowan
Mr. D. J. Shelton
Mr. T. T. Robin
Mr. Scott Fulmer
Commitment Tracking System (2)

ATTACHMENT 1

MARKED-UP PAGES FROM NRC

SAFETY EVALUATION REPORT

FOR

APPENDIX R EXEMPTIONS

TRANSMITTED BY LETTERS DATED

SEPTEMBER 10, 1986

AND DECEMBER 29, 1986

AND JUSTIFICATIONS FOR

PROPOSED CHANGES

SER transmitted by letter dated September 10, 1986

in this area will leave the auxiliary feedwater flow

An analysis was performed to demonstrate that a fire ~~limited to one of the AFW pump rooms would not defeat the auxiliary feedwater system. A fire in any one of the pump rooms would cause the loss of one AFW pump and AFW flow~~ at least to one steam generator.

The AFW pump rooms are highly segregated watertight rooms with 2-feet thick reinforced concrete walls and watertight doors that are maintained closed. Lubricating oil and cable insulation are the only combustibles present in the pump rooms. Leaking oil would be contained within the individual rooms or would drain into the sump servicing the room. The combustible loading of any one pump room is estimated to be less than 30,000 BTU/ft.^{2} with a maximum fire severity of less than 30 minutes.

A smoke detection system is installed in each of the three auxiliary feedwater pump rooms. The detection system would provide early warning of a fire, allowing the fire brigade adequate time to respond. A manual hose station, portable extinguishers, and portable smoke removal equipment are available for use in the area.

The room construction coupled with a low quantity of combustible material, the presence of smoke detection system, and the availability of equipment for use by the fire brigade ensures that a fire in ~~one of~~ the AFW pump rooms would be confined to the affected room. Such a fire would not prevent auxiliary feedwater flow to at least one steam generator. Train B motor driven

In order to ensure that ~~fire will not propagate from one auxiliary feedwater compartment to another~~ the AFW flow to at least one steam generator will not be affected, the electrical penetrations and the mechanical pipe penetrations have been sealed with fire resistive silicone foam. The licensee has committed to include these penetrations into their fire barrier surveillance program.

The component cooling water (CCW) pump and heat exchanger room 185 is protected by an automatic smoke detection and sprinkler system. The licensee has committed to modify the sprinkler system, by the end of the Unit 1 seventh refueling outage, in the area of the CCW pumps to provide unobstructed sprinkler protection for the subject pumps. The combustible fire loading in the room is less than 35,000 BTU/ft^2 with a maximum fire severity of less than 30 minutes. The detection system in the room would provide early warning of a fire allowing the fire brigade adequate time to respond. A manual hose station, portable extinguishers, and portable smoke removal equipment are available for use in the area.

The CCW pumps are located on 21-ft. centers. Heat detectors are provided in the 5-kV CCW pump disconnect switch which alarms locally and in the control room. The 5-kV disconnect switch cabinets are provided with a total-flooding CO^2 system that is activated by the heat detectors.

The CCW pump cables are wrapped with two 1-in. layers of kaowool with the exception of the train-A cables for the swing CCW pump which are wrapped with a single 1-in. layer. All trains of CCW pump cables are covered by an automatic sprinkler system.

and a fire outside the Train B motor driven AFW pump room would not affect the Train B pump and its associated equipment/raceways.

JUSTIFICATION FOR ADJUSTMENT OF NRC SAFETY EVALUATION
FOR APPENDIX R EXEMPTIONS TRANSMITTED BY THE NRC LETTER
DATED SEPTEMBER 10, 1986

Exemption request 1-38 for fire area 1-006 analyzed the Auxiliary Feedwater (AFW) pump rooms as separate zones within the fire area. Subsequent to the issuance of the requested exemption, Alabama Power Company performed a review of the exemption request to document the non-rated barriers which are required for Appendix R separation to maintain these pump rooms as separate zones. During this review, it was identified that the room cooler for the Train A motor driven AFW (MDAFW) pump room was located outside of the pump room. Thus, the exemption request was incorrect in its description of the components and the SER does not reflect the actual plant conditions. An evaluation of the as built condition grouped Zone 2 (vestibule area), Zone 3 (Train A MDAFW pump room), and Zone 5 (Turbine Driven AFW pump room) into one zone and demonstrated that a fire outside Zone 4 (Train B MDAFW pump room) will leave Train B MDAFW flow to at least one steam generator, and a fire inside Zone 4 will not affect AFW flow from the Train A MDAFW pump or the turbine driven AFW pump. Therefore, AFW flow to at least one steam generator will be provided by the present configuration and would be unaffected by a fire in the area. This is consistent with the NRC's conclusion for granting the exemption in this area and reflects the as built configuration existing during the NRC walkdown.

SER transmitted by letter dated December 29, 1986

Room 2236 Duct Chase	0	0
Room 2241 Main Steam and Feedwater Valve Room	3,869	Less than 30 mins.
Room 2242 Pipe Chase	1,287	Less than 30 mins.
Room 2243 Pipe Chase	1,670	Less than 30 mins.

A detection system covers the entire area except for rooms 2195, 2236, 2242, and 2243. Room 2167 has a wet-pipe sprinkler system which activates a local fire alarm bell trouble horn, and annunciates in the control room. Automatic water suppression systems are provided for rooms 2189, 2190, 2194, and a portion of room 2185. The suppression system in room 2185 will be modified to provide direct, unobstructed coverage to the CCW pumps.

Heat detectors are provided in the 5-kV disconnect switch in room 2185 which alarm both locally and in the control room. The 5-kV disconnect switch cabinets are provided with a total-flooding carbon dioxide system which is activated by the heat detectors. Two water hose stations, located in rooms 2185 and 2189, are provided. A portable extinguisher is located in room 2185 outside of room 2167. A hose station in room 2234 (area 2-20) will be available for use in this area. Automatic water suppression systems are provided for rooms 2185, 2189, 2190, and 2194 to protect electrical cable from exposure fires.

The licensee justifies the acceptability of this exemption on the basis of the existing fire protection, their alternative shutdown actions, and their proposed fire protection modifications associated with fire area 2-006.

10.3 EVALUATION

in this area will leave the auxiliary ~~feedwater~~ flow

An analysis was performed by the licensee which demonstrated that a fire ~~limited to t e of the auxiliary feedwater (AFW) pump rooms would not defeat the auxiliary feedwater system. A fire in any one of the pump rooms would impact the AFW system only to the extent that one AFW pump and AFW flow~~ to at least one steam generator ~~could be disabled.~~

motor driven

The AFW pump rooms are highly segregated watertight rooms with 2-feet thick reinforced concrete walls and watertight doors that are maintained closed. Lubricating oil and cable insulation are the only combustibles present in the pump rooms. Leaking oil would be contained within the individual rooms or would ~~rain~~ drain into the sump servicing the room. The combustible loading of any one pump room is estimated to be less than 30,000 Btu/ft² with a maximum fire severity of less than 30 minutes.

Train B moter driven AFW pump room would be confined to the affected room and a fire outside the Train B moter driven AFW pump room would not affect the Train B pump and its associate equipment/raceways.

A smoke detection system is installed in each of the three auxiliary feedwater pump rooms. The detection system would provide early warning of a fire, allowing the fire brigade adequate time to respond. A manual hose station, portable carbon dioxide extinguishers, and portable smoke removal equipment are available for use in the area.

The room construction coupled with a low quantity of combustible material, the presence of smoke detection systems, and the availability of equipment for use by the fire brigade substantiates the contention that a fire in ~~one of the AFW pump rooms would be confined to the affected room~~. Such a fire would not prevent auxiliary feedwater flow to at least one steam generator. Credit has been taken for the separation afforded by the ~~subject~~ pump room boundaries. To ensure that the as-built configuration is maintained, the sealed penetrations will be placed in the licensee's fire barrier surveillance program. for this room

Train B motor driven AFW

A smoke detection system is installed throughout the area. An automatic sprinkler system is installed over the CCW pumps and in areas where cables are concentrated. The sprinkler system will be modified in order to provide direct unobstructed impingement on the CCW pumps. The combustible loading in the room is less than 35,000 Btu/ft^2 with a maximum fire severity of less than 30 minutes. The detection system in the room would provide early warning of a fire allowing the fire brigade adequate time to respond. A manual hose station, portable extinguishers, and portable smoke removal equipment are available for use in the area.

The CCW pumps are located on 21-feet centers. Heat detectors are provided in the 5-kV CCW pump disconnect switch which alarms locally and in the control room. The 5-kV disconnect switch cabinets are provided with a total-flooding carbon dioxide system which is activated by the heat detectors.

The CCW pump cables are wrapped with two 1-inch layers of Kaowool with the exception of the Train-A cables for the swing CCW pump which are wrapped with a single 1-inch layer. All trains of CCW pump cables are covered by an auto atic sprinkler system.

Cables for the Train-B service water inlet and discharge valves on the CCW heat exchangers are protected by the 1-inch layers of Kaowool and covered by automatic suppression. Cables for the Train-A service water inlet and discharge valves on the CCW heat exchanger are not protected. Although neither Train-A or Train-B service water valves are provided with fire barriers, the nearest redundant valves are separated by a distance of approximately 10 feet. Intervening combustibles between redundant valves are minimal, consisting primarily of cable insulation.

The licensee's fire hazards analysis has shown that a postulated fire in rooms 2185, 2189, 2190, 2194, or 2241 would potentially result in spurious operation of the main steam isolation valves. In the event that the main stean isolation valves fail to isolate due to fire induced failures in the

JUSTIFICATION FOR ADJUSTMENT OF NRC SAFETY EVALUATION
FOR APPENDIX R EXEMPTIONS TRANSMITTED BY NRC LETTER
DATED DECEMBER 29, 1986

Exemption request 2-35 for fire area 2-006 analyzed the Auxiliary Feedwater (AFW) pump rooms as separate zones within the fire area. Subsequent to the issuance of the requested exemptions Alabama Power Company performed a review of the exemption request to document the non-rated barriers which are required for Appendix R separation to maintain these pump rooms as separate zones. During this review, it was identified that the room cooler for the Train A motor driven AFW(MDAFW) pump room was located outside of the pump room. Thus, the exemption request was incorrect in its description of the components and the SER does not reflect the actual plant condition. An evaluation of the as built condition grouped Zone 2 (vestibule area), Zone 3 (Train A MDAFW pump room) and Zone 5 (Turbine Driven AFW pump room) into one zone and demonstrated and that a fire outside Zone 4 (Train B MDAFW pump room) will leave Train B MDAFW flow to at least one steam generator, and a fire inside Zone 4 will not affect AFW flow from the Train A MDAFW pump or the Turbine Driven AFW pump. Therefore, AFW flow to at least one steam generator will be approved by the present configuration and would be unaffected by a fire in the area. This is consistent with the NRC's conclusion for granting the exemption in this area and reflects the as built configuration existing during the NRC walkdown.