

December 30, 1983

Docket Nos. 50-348
and 50-364

Mr. F. L. Clayton
Senior Vice President
Alabama Power Company
P. O. Box 2641
Birmingham, Alabama 35291

Dear Mr. Clayton:

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SUBJECT: EXEMPTION FROM CERTAIN REQUIREMENTS OF SECTION III.G.2 APPENDIX R
TO 10 CFR 50, INSIDE CONTAINMENT BUILDINGS, - JOSEPH M. FARLEY
UNITS 1 AND 2

We have completed our review of your submittals dated June 18 and July 27, 1982, regarding specific exemptions to Section III.G.2 of Appendix R to 10 CFR 50 to the extent that it requires specified fire protection measures for the protection of safe shutdown cables and equipment located inside the containment building for both Farley units. Based on our evaluation, we have concluded that the existing protection for the containment building areas of Units 1 and 2 provides a level of fire protection equivalent to the technical requirements of Section III.G. of Appendix R. Therefore, your request for exemption from the technical requirements of Section III.G.2 is hereby granted for the specific systems in the Containment Building as described herein for Joseph M. Farley Nuclear Plant Units 1 and 2.

The specific systems that did not meet the requirements of Section III.G inside containment for which an exemption was requested and for which the Commission has concluded should be granted include the following system cables or components located within the containment buildings of Units 1 and 2:

1. Pressurizer Power Operation Relief Valves and Block Valves,
2. Reactor Vessel Head Vent Valves, and
3. Pressurizer Pressure and Level Indication.

The Commission has issued the enclosed Exemption to Appendix R of 10 CFR 50 based on our conclusions above. The bases for this exemption are contained in the Exemption and Safety Evaluation which are enclosed.

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A copy of the Exemption is being forwarded to the Office of the Federal Register for publication.

Sincerely,

ORIGINAL SIGNED BY

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

Enclosures:

- 1. Exemption
- 2. Safety Evaluation

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12/15/83

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12/28/83

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12/19/83

*See other white for concurrence

ORB#5:DL
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*see minor
comments on P. 3
of Exemption*

A copy of the Exemption is being forwarded to the office of the Federal Register for publication.

Sincerely,

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

Enclosures:

- 1. Exemption
- 2. Safety Evaluation

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

December 30, 1983

Docket Nos. 50-348
and 50-364

Mr. F. L. Clayton
Senior Vice President
Alabama Power Company
P. O. Box 2641
Birmingham, Alabama 35291

Dear Mr. Clayton:

SUBJECT: EXEMPTION FROM CERTAIN REQUIREMENTS OF SECTION III.G.2 APPENDIX R
TO 10 CFR 50, INSIDE CONTAINMENT BUILDINGS, - JOSEPH M. FARLEY
UNITS 1 AND 2

We have completed our review of your submittals dated June 18 and July 27, 1982, regarding specific exemptions to Section III.G.2 of Appendix R to 10 CFR 50 to the extent that it requires specified fire protection measures for the protection of safe shutdown cables and equipment located inside the containment building for both Farley units. Based on our evaluation, we have concluded that the existing protection for the containment building areas of Units 1 and 2 provides a level of fire protection equivalent to the technical requirements of Section III.G. of Appendix R. Therefore, your request for exemption from the technical requirements of Section III.G.2 is hereby granted for the specific systems in the Containment Building as described herein for Joseph M. Farley Nuclear Plant Units 1 and 2.

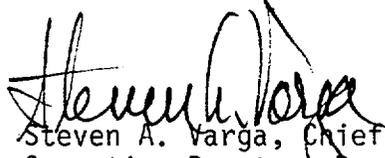
The specific systems that did not meet the requirements of Section III.G inside containment for which an exemption was requested and for which the Commission has concluded should be granted include the following system cables or components located within the containment buildings of Units 1 and 2:

1. Pressurizer Power Operation Relief Valves and Block Valves,
2. Reactor Vessel Head Vent Valves, and
3. Pressurizer Pressure and Level Indication.

The Commission has issued the enclosed Exemption to Appendix R of 10 CFR 50 based on our conclusions above. The bases for this exemption are contained in the Exemption and Safety Evaluation which are enclosed.

A copy of the Exemption is being forwarded to the Office of the Federal Register for publication.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven A. Varga". The signature is written in a cursive style with a large, stylized initial "S".

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

Enclosures:

1. Exemption
2. Safety Evaluation

Mr. F. L. Clayton
Alabama Power Company

Joseph M. Farley Nuclear Plant
Units 1 and 2

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ATTN: State Health Officer
State Office Building
Montgomery, Alabama 36104

Regional Radiation Representative
EPA Region IV
345 Courtland Street, N.E.
Atlanta, GA 30308

UNITED STATES NUCLEAR REGULATORY COMMISSION

In the Matter of)	Docket Nos. 50-348
)	and 50-364
ALABAMA POWER COMPANY)	
)	
(Joseph M. Farley Nuclear Plant)	
Unit Nos. 1 and 2))	

EXEMPTION

I.

The Alabama Power Company (the licensee) is the holder of Facility Operating License Nos. NPF-2 and NPF-8 which authorized operation of the Joseph M. Farley Nuclear Power Plant Unit Nos. 1 and 2. These licenses provide, among other things, that they are subject to all rules, regulations and Orders of the Commission now or hereafter in effect.

The facility comprises two pressurized water reactors at the licensee's site located near the City of Dothan, Alabama.

II.

On November 19, 1980, the Commission published a revised Section 10 CFR 50.48 and a new Appendix R to 10 CFR 50 regarding fire protection features of nuclear power plants (45 FR 76602). The revised Section 50.48 and Appendix R became effective on February 17, 1981. Section III of Appendix R contains fifteen subsections, lettered A through O, each of which specifies requirements for a particular aspect of the fire protection features at a nuclear power plant. One of these fifteen subsections, III.G, is the subject of this exemption request.

- 2 -

Subsection III.G.2 of Appendix R requires that one train of cables and equipment necessary to achieve and maintain safe shutdown shall be maintained free of fire damage by specific use of fire barriers, separation or enclosures. If these conditions are not met, Section III.G.3 requires an alternative shutdown capability independent of the fire area of concern.

III.

By letter dated June 18, 1982, the licensee requested an exemption from the technical requirements of Section III.G.2 of Appendix R to 10 CFR 50 to the extent that it requires specified fire protection measures for the protection of safe shutdown cables and equipment located inside containment for both units. In our evaluation of these exemptions, we stated that the licensee had not provided a fire hazards analysis which compared the level of safety provided by existing arrangements to that required by Appendix R to 10 CFR 50 and, therefore, recommended the denial of these exemptions. By letter dated July 27, 1982, the licensee provided additional information. The licensee identified three systems that did not meet the requirements of Section III.G inside containment for which exemptions were requested. These three systems are the pressurizer power operated relief valves and block valves, reactor vessel head vent valves and instrumentation for the pressurizer pressure and level indication. The licensee revised the June 18, 1983 exemption request to cover only cables and components of these three systems inside the containment building for Units 1 and 2.

- 3 -

IV.

The protection for redundant trains of safe shutdown equipment inside containment does not meet the technical requirements of Section III.G because twenty-feet of separation does not exist between redundant cables free of intervening combustibles. Due to the specific configurations and locations of the cables and components within the containment and due to the restricted access to these sub-areas during plant operations, an exposure fire involving the accumulation of significant quantities of transient combustible materials is unlikely. Because the cables in these sub-areas inside containment are qualified to IEEE Standard 383 and are routed in conduit, it is our opinion that a fire of sufficient magnitude to damage redundant cables or components is unlikely.

Based on our evaluation, the existing protection for the containment area of Units 1 and 2 provides a level of fire protection equivalent to the technical requirements of Section III.G of Appendix R. Therefore, the exemption should be granted.

V.

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12(a), an exemption is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest, are hereby grants an exemption from the requirements of Section III.G.2 of Appendix R to the extent that they apply to the specific systems in the Containment Building as described herein.

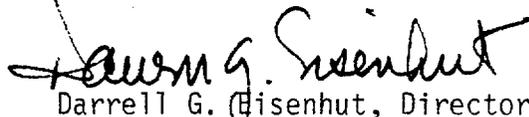
- 4 -

The NRC staff has determined that the granting of this Exemption will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with this action.

A copy of the Safety Evaluation dated December 30 , 1983, related to this action is available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W. Washington, D.C. and at the local public document room located at the George S. Houston Memorial Library, 212 W. Burdeshaw Street, Dothan, Alabama. A copy may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Licensing.

This Exemption is effective upon issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Darrell G. Eisenhower, Director
Division of Licensing
Office of Nuclear Reactor Regulation

Dated at Bethesda, Maryland
this 30th day of December 1983



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO EXEMPTION FROM 10 CFR 50, APPENDIX R

ALABAMA POWER COMPANY

JOSEPH M. FARLEY NUCLEAR PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-348 AND 50-364

1.0 Introduction

By letter dated June 18, 1982, the licensee requested an exemption from the technical requirements of Section III.G.2 of Appendix R to 10 CFR 50 to the extent that it requires specified fire protection measures for the protection of safe shutdown cables and equipment located inside containment for both units. In our evaluation of these exemptions, we stated that the licensee had not provided a fire hazards analysis which compared the level of safety provided by existing arrangements to that required by Appendix R to 10 CFR 50 and, therefore, recommended the denial of these exemptions. By letter dated July 27, 1982, the licensee provided additional information. The licensee identified three systems that did not meet the requirements of Section III.G inside containment for which exemptions were requested. These three systems are the pressurizer power operated relief valves and block valves, reactor vessel head vent valves and instrumentation for the pressurizer pressure and level indication. The licensee revised the exemption request to cover only these three items inside containment.

2.0 Discussion

The cabling of the Power Operated Relief Valves (PORV) and block valves of both trains are not separated by a horizontal distance of more than 20 feet free of combustibles. The pressurizer is equipped with two parallel vent paths each having a PORV and a block valve. The PORV's are solenoid operated valves, are normally closed, and fail by design in a closed position. The block valves are motor operated valves, are normally open, and fail by design in an "as-is" position. The PORV's and block valves provide for reactor coolant system depressurization

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and are essential to maintain the integrity of the reactor coolant pressure boundary. Each PORV cable is routed in a separate enclosure. The only energized cables within the enclosures containing the PORV cables are for control room indicating lights. If a hot short occurred between the control room indicating light cable and PORV cable, the low power of the control room indicating light cable would not be sufficient to inadvertently open the PORV's. Since the PORV's would remain in the closed position, inadvertant operation of the pressurizer block valves would not be significant.

An alternate means of depressurization is provided by the pressurizer auxiliary spray. The auxiliary spray cabling and equipment are separated by a horizontal distance of more than 20 feet free of combustibles from either of the cabling and equipment of the redundant PORV's and block valves; consequently, the auxiliary spray would be available to provide for depressurization of the reactor coolant system and no modulation or repositioning of the PORV's or block valves is necessary.

The cabling of the reactor vessel head vent valves are not adequately separated. The reactor vessel head vent system consists of two parallel flow paths each having two normally closed, normally de-energized valves in series that fail closed by design. One valve in each path is required to remain closed to maintain the integrity of the reactor coolant pressure boundary. No modulation or repositioning of the valves would be necessary to achieve a safe shutdown during a containment fire. Each head vent valve cable is routed in a separate enclosure. As with the PORV's, the only energized cables within the enclosures containing the head vent valve cables are associated with control room indicating lights. If a hot short occurred between the control room indicating light cable and the head vent valve cable, the low power of the control room indicating light cable would not be sufficient to inadvertently open the head vent valves.

At two locations in the containment, redundant trains of pressurizer level and pressure instrumentation are not separated adequately. There is at least one channel of primary system pressure indication whose cables are horizontally separated by more than 20 feet free of intervening combustible from the cable of its redundant counterpart. Cables of pressurizer level indication are not separated adequately.

In the fire areas containing the pressurizer level cables, all cable insulation is qualified to IEEE-383-1976 and protected against protective faulted conditions by overcurrent devices. Additionally, all cables are enclosed in conduit.

Fire protection is provided inside containment in the form of smoke detection, and manual hose stations.

3.0 Evaluation

The protection for redundant trains of safe shutdown equipment inside containment does not meet the technical requirements of Section III.G because twenty-feet of separation does not exist between redundant cables free of intervening combustibles. Due to the cables and components specific configurations and locations within the containment and due to the restricted access of these sub-areas during plant operations, an exposure fire involving the accumulation of significant quantities of transient combustible materials is unlikely. Because the cables in these sub-areas inside containment are qualified to IEEE Standard 383 and are routed in conduit, it is our opinion that a fire of sufficient magnitude to damage redundant cables or components is unlikely.

4.0. Conclusion

Based on the above evaluation, the existing protection for the containment area of Units 1 and 2 provides a level of fire protection equivalent to the technical requirements of Section III.G of Appendix R. Therefore, the exemptions should be granted for the specific systems in the Containment Building as described herein.

Dated: December 30, 1983.

Principle Contributor: R. Eberly