

October 11, 1988

Docket Nos. 50-259/260/296

Mr. S. A. White  
Senior Vice President, Nuclear Power  
Tennessee Valley Authority  
6N 38A Lookout Place  
1101 Market Street  
Chattanooga, Tennessee 37402-2801

Dear Mr. White:

SUBJECT: ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT  
RELATING TO PROPOSED EXEMPTIONS FROM 10 CFR PART 50, APPENDIX R  
(TAC 61125)

Enclosed is a copy of an "Environmental Assessment and Finding of No Significant Impact" for Browns Ferry, Units 1, 2, and 3. This notice relates to your submittal dated January 31, 1986, supplemented by letters dated June 2, 1986, November 21, 1986, May 26, 1987, and September 14, 1987, requesting exemptions from requirements of Sections III.L and III.G of Appendix R.

This notice is being forwarded to the Office of the Federal Register for publication.

Sincerely,

Original signed by  
Suzanne Black, Assistant Director  
for Projects  
TVA Projects Division  
Office of Special Projects

Enclosure:  
Environmental Assessment

cc w/enclosure:  
See next page

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UNITED STATES NUCLEAR REGULATORY COMMISSION  
TENNESSEE VALLEY AUTHORITY  
DOCKET NO. 50-259/260/296  
ENVIRONMENTAL ASSESSMENT AND FINDING OF  
NO SIGNIFICANT IMPACT

The U. S. Nuclear Regulatory Commission (NRC/the Commission) is considering issuance of an exemption from the requirements of Appendix R of 10 CFR 50 to the Tennessee Valley Authority (TVA/the licensee), for the Browns Ferry Nuclear Power Plant, Unit 2, located at the licensee's site near Decatur, Alabama.

ENVIRONMENTAL ASSESSMENT

Identification of Proposed Action:

The licensee would be exempted from the technical requirements of Section III.L.1.b of Appendix R to 10 CFR 50 to the extent that the reactor coolant level would be permitted to drop below the top of the core during use of alternate safe shutdown procedures following a postulated fire which renders the control room uninhabitable.

The licensee would also be exempted from the technical requirements of Section III.G.1 of Appendix R which relate to fire protection features for ensuring that systems and associated circuits used to achieve and maintain safe shutdown are free of fire damage. The exemptions are technical since the licensee must demonstrate that fire protection configurations meet the specific requirements of Section III.G or that alternate fire protection configurations

can be justified by an acceptable fire hazard analysis. The licensee would be specifically exempted from the requirements of Section III.G in the following areas:

- Exemption from fixed suppression in the main control rooms;
- Exemption from an automatic fire suppression system in the residual heat removal (RHR) system pump rooms and RHR heat exchanger rooms;
- Exemption from intervening combustibles; and
- Exemption for fixed suppression and detection.

The Need for the Prepared Action:

In evaluating the limiting case fire event, the licensee assumed that the RHR system, in the low pressure coolant injection system (LPCI) mode of operation, is to be used to maintain the Reactor Coolant (RC) inventory after achieving manual depressurization of the Reactor Coolant System (RCS) utilizing the main steam relief valves (MSRVs). The above method has the potential for uncovering the upper portion of the core for a short time during the depressurization contrary to the requirements of Section III.L.1.b. The staff has evaluated the alternate shutdown method and concluded that it is acceptable because the licensee's calculated time of potential core uncovering is short enough to preclude a threat to the fuel cladding integrity.

The proposed exemptions to Section III.G are needed because features described in the licensee's request regarding the existing and proposed fire protection at Browns Ferry for these items are the most practical method for meeting the intent of Appendix R, and literal compliance would not significantly enhance the fire protection capability at Browns Ferry.

Environmental Impact of the Proposed Action:

The proposed exemption to Section III.L would not impact the ability to effect safe shutdown of the plant in the event of a fire in the control room, would not pose a threat to the fuel cladding integrity, and would provide an acceptable level of safety, equivalent to that attained by compliance with Section III.L of Appendix R to 10 CFR 50. Therefore, the proposed changes do not increase the probability or consequences of accidents, no changes are being made in the types of any effluents that may be released offsite, and there is no significant increase in the allowable individual or cumulative occupational radiation exposure. Accordingly, the Commission concludes that there are no significant radiological impacts associated with this proposed exemption.

The proposed exemption to Section III.G will provide a degree of fire protection such that there is no increase in the risk of fires at Browns Ferry. Consequently, the probability of fires has not been increased and the post-fire radiological releases will not be greater than previously determined nor do the proposed exemptions otherwise affect plant radiological effluents.

With regard to potential nonradiological impacts, the proposed exemption involves features located entirely within the restricted areas as defined in 10 CFR Part 20. It does not affect nonradiological plant effluents and has no other environmental impact. Therefore, the Commission concludes that there are no significant nonradiological environments impacts associated with the proposed exemption.

Alternative Use of Resources:

This action involves no use of resources not previously considered in the Final Environmental Statement (construction permit and operating license) for the Browns Ferry Nuclear Plant.

Since the Commission has concluded that there is no measurable environmental impact associated with the proposed exemptions, alternatives to the proposed action need not be evaluated. The principal alternative, however, to the exemptions would be to deny the exemptions requested by the licensee from the requirements of Appendix R. Such action would not enhance the protection of the environment.

Agencies and Persons Consulted:

The NRC staff reviewed the licensee's request and did not consult other agencies or persons.

FINDING OF NO SIGNIFICANT IMPACT

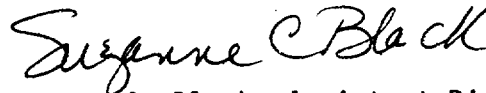
The Commission has determined not to prepare an environmental impact statement for the proposed exemption.

Based upon the foregoing environmental assessment, we conclude that the proposed action will not have a significant effect on the quality of the human environment.

For further details with respect to this action, see the request for exemption dated June 14, 1986, which is available for public inspection at the Commission's Public Document Room, 2120 L Street, N.W., Washington, D.C., and at the NRC's Local Public Document Room located at the Athens Public Library, South Street, Athens, Alabama 35611.

Dated at Rockville, Maryland this 11th day of October, 1988.

FOR THE NUCLEAR REGULATORY COMMISSION



Suzanne C. Black, Assistant Director  
for Projects  
TVA Projects Division  
Office of Special Projects