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SUBJECT: Forwards addl info re util exemption request to 10CFR50
 App R Section III. G, per NRC B61114 request.

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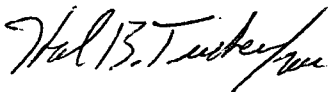
U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287
Exemption Requests From Appendix R to 10 CFR 50
Request For Additional Information

Gentlemen:

By letter dated November 14, 1986, the NRC requested additional information concerning Duke Power's request for exemptions from the regulatory requirements of Sections III.G. of Appendix R to 10 CFR 50 for the Oconee Nuclear Station. An initial response was provided by a Duke letter dated December 23, 1986, which requested a meeting with the NRC Staff to discuss the information requested. This meeting was held during the Appendix R Inspection at Oconee during the week of January 26-30, 1987. Based on the discussions, please find attached Duke's response to the NRC request for additional information provided by the November 14, 1986 letter.

Very truly yours,



Hal B. Tucker

PFG/24/sbn

Attachment

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APPENDIX R EXEMPTION REQUESTS

RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION

Request 1

Provide the fire loads, in terms of Btu per square foot, for the penetration rooms near the cork-filled seismic joints. Also, identify the safe shutdown cables and equipment located in these areas/rooms. Describe the fire loads and fire hazards on the exposed sides of the cork in areas immediately adjacent to the penetration rooms.

Response 1

The west penetration room for each unit at elevation 809' is combined with the cask Decontamination Rooms (Units 1 and 2 share a Decontamination room, while Unit 3 has its own) at elevation 796' to form a single fire area. This combined fire area is bounded on the east by a concrete wall at elevation 796', and by the pyrocrete/steel wall at elevation 809'. On the other two sides the fire area is bounded by the reactor building walls and exterior walls. A pipe trench is routed beneath the concrete structure of the refueling canal (at elevation 796') on the east side. The only combustible material in the trench is plastic insulation on cables routed into the cask Decontamination Room.

By combining the west penetration rooms and the cask Decontamination rooms into a single fire area, the exemption request number three (3) of the November 11, 1983 Duke submittal for the cork at the west penetration room floor between the reactor and the Auxiliary Buildings is not necessary. Accordingly, this specific exemption request should be modified to address only the cork between the respective buildings at the ceiling of the west penetration room for each unit.

An evaluation of the combustible loading for the Unit 3 west penetration room was performed. The combustible loading for the Unit 3 west penetration room is considered to be typical for each unit. The evaluation indicated a combustible loading of 91,243 Btu/ft.

The in-situ combustible material consists entirely of plastic cable insulation and is spread throughout the west penetration room. Fire hose stations and portable fire extinguishers are available for fire suppression. The west penetration rooms contain one (1) train of equipment necessary for safe shutdown of the Unit. The redundant train of equipment for safe shutdown is not located in the west penetration room. The results of an associated circuits analysis indicates that the redundant safe shutdown equipment would not be effected by a fire in this area.

Request 2

Clarify whether the exemption request for the reactor building is for only one specific instance of cable interaction or for several locations within the buildings. Describe the fire protection features installed. Also, give a physical description of the area(s) and the fire loading(s). Quantify the fire load in terms of Btu per square foot. Describe the location and/or presence of normal safe shutdown cables and equipment and whether or not the dedicated safe shutdown system is independent of the reactor buildings and the area/zone(s) of concern.

Response 2

The exemption request for the reactor buildings (Exemption request number 4 of the November 11, 1983 Duke submittal) involve two (2) specific arrangements. They are:

- (1) The Unit 1 pressure level instruments for the Standby Shutdown Facility (SSF) and balance-of-plant instruments are located within 15 feet of each other. Information regarding this situation was provided to the NRC by a Duke letter dated April 30, 1981.
- (2) There are cable trays which traverse the Reactor Building east-to-west and are considered intervening combustibles due to plastic cable insulation.

These cable trays are routed as follows:

Elevation 818, 820, 832 & 838 - 4" wide by 1 3/4" (Unit 1 has additional trays at Elevation 841 & 839).

Cable insulation in these trays contain about 20,000 BTUs per linear feet when filled to capacity.

Cables, valves and instruments associated with the standby shutdown system are generally located on the west side of the Reactor Building below Elevation 796. This distance provides adequate separation to preclude fire spread between redundant trains of safe shutdown equipment. Fire hoses and portable fire extinguishers are available for fire suppression.

Request 3

Section III.G.2.d of Appendix R pertains specifically to containments and not to auxiliary buildings. Therefore, restate exemption request number 1 of the August 14, 1986 submittal in terms as an appropriate part of Section III.G.2. This exemption request also requires the following support information:

- (a) Provide the actual separation distance between the standby shutdown system cables and the eight safety-related cables identified in the exemption request.
- (b) Quantify the fire load in terms of Btu per square foot and identify any specific fire hazards, e.g., oil, present.

- (c) Describe the area and its fire protection features.
- (d) Clarify the cable separation issue(s), i.e., is this a case of alternative safe shutdown cables not being physically independent of a fire area or a case of lack of separation between redundant divisions of normal shutdown divisions?

Response 3

This exemption request pertains to III.G.2.a of Appendix R. The results of an associated circuits analysis confirms that a fire in the cask decontamination room would not affect redundant safe shutdown equipment. With the understanding that the west penetration rooms are combined with the cask decontamination rooms, information pertaining to the fire load, fire hazards and fire protection within this area is provided within Response 1 above.

Request 4

With regard to the piping penetrations in the floors and ceilings of the east and west penetration rooms, a description, sketch, or drawing of a typical piping penetration is required. Also, indicate approximate dimensions, wall thickness of pipe, and depth of "Rubatex". Identify and describe any fire hazards or concentrated fire loads within 20 feet of the piping penetrations.

Response 4

Since the cask decontamination rooms and the west penetration rooms are considered a single fire area, this exemption request only applies to the ceilings of the west penetration room. By a Duke letter dated May 11, 1984, information concerning "Rubatex" was submitted to the NRC as part of the Catawba Nuclear Station Licensing Review (Docket Nos. 50-413 and 50-414). The acceptability for use of this material by the NRC Staff is provided by the Catawba Nuclear Station's Supplemental Safety Evaluation Report, Number 3, dated July, 1984. "Rubatex" R1800Fx cellular foam insulation has a Flame spread Index of 25, Smoke Development Index of 100 (maximum) and Fuel Contribution Index of 30. For Oconee, "Armaflex" a similar material with Flame Spread Index of 50 or less, was submitted for review by a Duke letter dated January 25, 1978. "Armaflex" is addressed in the Oconee Nuclear Station Fire Protection Safety Evaluation Report dated August 11, 1979 and was determined to be acceptable for arrangement similar to that used in the ceiling of the west penetration rooms. For fire suppression, fire hose stations and portable fire extinguishers are available in the west penetration rooms and air handling rooms.