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DOCKET NUMBER 50-269/270/287

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DESCRIPTION

Re NRC ltr dtd 8-15-77.....furnishing info in support of their request for exemption from requirements of Appendix J which were submitted on 11-30-76 & 2-15-77.....

6p

ENCLOSURE

PLANT NAME: Oconee 1-3

9-20-77. ehf

FOR ACTION/INFORMATION

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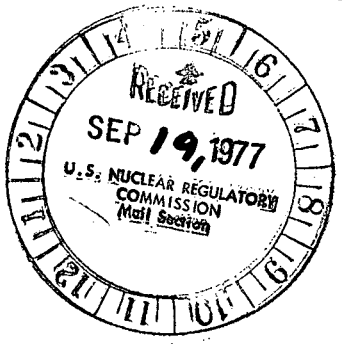
September 14, 1977



Mr. Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Mr. A. Schwencer, Chief
Operating Reactor Branch #1

Reference: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287

Dear Sir:

Your letter of August 15, 1977 responded to our requests for exemption from the provisions of 10CFR50, Appendix J which were submitted on November 30, 1976 and February 15, 1977. The requested exemptions concern the testing of certain containment isolation valves and the personnel and emergency airlocks, respectively.

You requested additional information with regard to the valve testing and stated that you considered that acceptable measures could be taken to meet NRC delineated guidelines for airlock testing.

The following information is provided in response to your request.

Your letter stated that testing of five penetrations in a direction opposite to their safety functions did not require an exemption since Appendix J allows for this testing. This is considered acceptable and our request for exemption is rescinded for the following penetrations:

a. Penetration No. 5 RB Normal Sump Drain Line

b. Penetration No. 7 RB Pump Seal Outlet Line

c. Penetration No. 18 Quench Tank Vent Line

d. Penetration No. 29 Quench Tank Drain Line

e. Penetration No. 54 Component Cooling Water Outlet Line

In Item 1 of the attachment to your letter, justification was requested for not leak testing seven penetrations. The valves in the systems at these penetrations are not capable of being tested in accordance with Appendix J since appropriate isolation valves and test connections were not designed into these systems. Additionally, the following justifications are presented for each penetration:

Penetration	Description	Basis for Classification
43 4	A OTSG Drain B OTSG Drain	Normal working pressure of this system is well in excess of design maximum accident pressure. Also, the system is seismic category I designed.
47	RCP Seal Vents (unit #1 only)	This system is open to the RB atmosphere during the integrated leak rate test (conducted approximately every 3 years) and its leakage is considered as part of the overall leak rate.
53	N_2 to Core Flood Tanks	Normal working pressure of this system is well in excess of design maximum accident pressure. Also, the system is designed seismic category I.
59	Core Flood Tank Sample and Drain	Normal working pressure of this system is well in excess of design maximum accident pressure. Also, the system is designed seismic category I.
55	Demineralized Water Supply	This system is open to the RB atmosphere during the conduct of the Integrated Leak Rate Test conducted approximately every 3 years.
51	Leak Rate Test Valve	The penetration is tested during the Integrated Leak Rate Test is considered part of the overall leak rate. At the conclusion of the test, it is shut and not opened again until the next leak rate test.

The Oconee design was completed and approved by the Commission prior to the issuance of 10CFR50, Appendix J and modifications to the station in order to fully meet the regulations would require extensive backfitting. It is considered that such modifications would not provide substantial, additional protection for the public health and safety or the common defense and security and are therefore not justifiable. We reiterate our request for exemption to Appendix J in this regard.

In Item 2 of the attachment to your letter, it was stated that Table 5-4 of the Oconee Nuclear Station FSAR listed twenty-three penetrations which were not listed in our submittal as requiring leak testing. The following listing presents the penetration description and basis for not leak testing. It is considered that leak testing of these penetrations is not necessary nor required by 10CFR50, Appendix J.

Penetration	Description	Basis for Classification
8	Loop A_1, A_2 Nozzle Warming Lines	This penetration does not serve as a post-LOCA Containment isolation function. The HP injection system upstream of penetration is considerably higher pressure than Containment, is filled with water, and meets seismic Category I requirements.
9	Normal Makeup to RC System	This penetration does not serve as a post-LOCA Containment isolation function. This is the charging line for the HPI system and is opened after a LOCA.
10	RCP Seal Injection Lines	Same as penetration 8.
13	RB Spray Inlet Line	This penetration does not serve as a post-LOCA Containment isolation function. Flow through penetration is required following a LOCA to provide RBS. Piping upstream of penetration is filled with water, and pressurized above Containment pressure and is seismic Category I.
14	RB Spray Inlet	Same as penetration 13.
15	LPI Decay Heat Removal Line	This penetration does not serve as a post-LOCA Containment isolation function. The LP system upstream of penetration is filled with water, in operation at a pressure greater than containment pressure and meets seismic Category I requirements.

Penetration	Description	Basis for Classification
16	LPI Decay Heat Removal Line	Same as penetration 15.
17	Emergency Feedwater Inlet Line	This penetration does not serve as post-LOCA Containment isolation function because the secondary side of each OTSG and connected systems are considered to be an extension of Containment. This line is pressurized above post-LOCA RCS pressure and meets seismic Category I requirements.
23	RCP Seal Injection Lines	Same as penetration 10.
25 & 27	Feedwater Lines	Same as penetration 17.
26 & 28	Steam Lines	Same as penetration 17. Additionally, main steam stop valves are leak tested annually per Technical Specification 4.8.2.
30 31 32	RB Emergency Cooler Inlet Lines	These penetrations do not serve as a containment isolation function; flow through these penetrations is required following a LOCA to provide RB cooling. Piping upstream of penetration is filled with water, and pressurized above containment pressure and is seismic Category I.
33 34 35	RB Emergency Cooler Inlet Line	Same as penetration 30.
36 37	RB Sump Recirc Line	These penetrations do not serve a Containment isolation function; flow through these penetrations is required for long term cooling. Additionally, these penetrations are leak tested annually per Technical Specification 4.5.4.2.
50	Emergency Feedwater Inlet Line	Same as penetration 17.
52	Emergency Reactor Injection Line	Same as penetration 9.

Penetration	Description	Basis for Classification
57	Decay Heat or Fuel Transfer Canal Outlet Line	This penetration does not serve a Containment isolation function. Upstream of penetration piping is seismic Category I and connects to emergency sump suction line.

With regard to the testing of containment airlocks (personnel and emergency hatches), our letter of February 15, 1977 provided information which demonstrated that the present design of the airlocks prevented meeting either the literal regulations or the staff interpretation provided by Mr. A. Schwencer's letter of November 23, 1976.

The personnel and emergency airlocks provide a mechanism for personnel and material passage into or out of reactor containment while maintaining containment integrity. Most airlock designs are similar in that an inner and outer door are provided, both arranged to seat with Reactor Building pressure. In order to perform the Type B leak rate test required by Appendix J, the volume between the inner and outer doors must be pressurized to design pressure. This tends to seat the outer airlock door while unseating the inner door. Therefore, restraints are placed on the airlock side of the inner door to physically restrain the door from lifting off its seat while the volume between the doors is pressurized. After a leak rate has been established and the test completed, the airlock outer door must be opened to remove the restraints on the inner door in order to permit rapid emergency access to containment should it be necessary. The opening of the outer door negates the preceding test since Appendix J requires an airlock test each time the airlock has been opened. Airlock tests performed on a six-month basis are adequate to verify the integrity of the airlock.

An airlock Type B test requires several hours to perform since the entire airlock must be pressurized to the design pressure and a leak rate be established. Appendix J does not specify under which unit conditions the air lock should be tested. Thus, although entry to the Reactor Building is normally somewhat restricted during operation, entry for maintenance while the unit is in a hot or cold shutdown condition is frequent. It would be impossible to accomplish plant operation or maintenance if a test of the airlock is required after each entry. This is due to the large number of entries to the Reactor Building and the period of time necessary for the test.

It has been explained that the reason this requirement exists in the regulations is because of the relatively large probability of inadvertantly damaging the door seals during personnel passage. It has been our experience during over four years of operation that the seals have not become damaged due to this mechanism. Indeed, the majority of failures have

occurred as a result of testing the inner door seal in a direction opposite to that of accident pressure. NRC staff guidelines and interpretations which relax the testing requirements to "within 72 hours of the first of a series of openings" and relax the requirements to permit testing between the dual seals of a door at reduced pressure do not appear to be consistent with the regulations.

It is considered that testing of airlocks on a six-month basis will be adequate to verify operability. The test after each opening is not possible based upon equipment design and is not practical based upon operating experience.

Modifications to the airlocks in order to meet the regulations or the staff interpretation of the regulations would require extensive backfitting. It is our opinion that these modifications will not provide substantial, additional protection for the public health and safety or the common defense and are therefore not justifiable.

We continue to request an exemption to Appendix J in this regard. If an exemption is not granted, we reserve the right to immediately petition for a rule change pursuant to 10CFR2.

Very truly yours,

William O. Parker, Jr.

RLG:ge