DUKE POWER COMPANY

Contractile 50.269

POWER BUILDING 422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28242

November 29, 1977

TELEPHONE AREA 704 373-4083

WILLIAM Q. PARKER, JR. VICE PRESIDENT STEAM PRODUCTION

> Mr. J. P. O'Reilly, Director U. S. Nuclear Regulatory Commission Suite 1217 230 Peachtree Street, Northwest Atlanta, Georgia 30303

RE: RII: JEO 50-269/77-28 50-270/77-28 50-287/77-28

Dear Mr. O'Reilly:

With regard to Mr. F. J. Long's letter dated November 22, 1977, which transmitted OIE Inspection Report 50-269, -270, -287/77-28, Duke Power Company does not consider this information to be proprietary.

Very truly yours,

William O. Parker fr. William O. Parker, Jr. Sy 1956

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RESPONSE TO IE BULLETIN NO. 77-06 OCONEE NUCLEAR STATION ELECTRICAL PENETRATIONS

QUESTION 1.0

Do you have containment electrical penetrations that are of the G.S. Series 100, or are otherwise similar in that they depend upon an epoxy sealant and a dry nitrogen pressure environment to ensure that the electrical and pressure characteristics are maintained so as to ensure the functional capability as required by the plant's safety analysis report; namely, (1) to ensure adequate functioning of electrical safety-related equipment and (2) to ensure containment leak tightness?

RESPONSE

We do not have any GE Series 100 epoxy sealed nitrogen pressure penetrations at Oconee or any other station. The penetrations that are used at Oconee are Viking Industries glass to metal seal completely inorganic and inert penetrations which were tested and qualified with dry air. The penetrations are normally pressurized with 30 psi sulfur hexafloride gas to permit monitoring of the individual penetration leak tightness by means of a gauge on each penetration. The only function that the gas serves is to monitor the leak tightness. The penetrations are installed through pipe sleeves which are welded to the inner containment liner and the penetration canisters are installed through the sleeve and sealed to a flange which is welded to the pipe sleeve by a double stainless steel o-ring. The penetration assemblies are completely inorganic and have nothing to deteriorate with age which would cause a degradation, thereby assuring the integrity of the penetration. Therefore, there is no need to monitor the electrical characteristics of the penetrations. The sulfur hexafloride gas pressure is not required for the functional capability of the penetrations.

QUESTION 1.1

Have you experienced any electrical failures with this type of penetration?

RESPONSE

No electrical failures have been experienced with these penetrations.

QUESTION 2.0

For those penetrations referenced in Item 1 above, have you maintained the manufacturer's prescribed nitrogen pressure at all times?

RESPONSE

There is no requirement by the manufacturer to maintain any prescribed gas pressure on the penetrations nor is it essential to the electrical integrity of the penetration assembly. It was elected to pressurize Duke's penetrations at 30 pounds per square inch in order to monitor on a periodic basis the leak tightness of the penetrations.

QUESTION 2.1

If you have operated the penetrations without maintaining a nitrogen pressure was any degradation of insulation resistance or anomolous commonent operation detected?

RESPONSE

As stated in response to question 2.0, nitrogen pressure is not required. However, since we do not operate without gas pressure there has been no need to make insulation resistance measurements.

QUESTION 2.2

If no measurements were taken during periods when nitrogen pressure was not maintained, how were you assure that the insulation resistance was not degrading or degraded?

RESPONSE

Since gas pressure has been maintained, no measurements have been made nor are they necessary.

QUESTION 2.3

How do you determine that circuit insulation resistance values are satisfactorily maintained?

RESPONSE

Since these penetrations are completely inorganic and filled with inert gas, there is no material present which can deteriorate and cause degradation of the penetration; therefore, the electrical characteristics of the penetrations are maintained at acceptable levels throughout the life of the penetrations.

QUESTION 3.0

Is there a need, as determined by either the vendor or yourself, to maintain penetrations pressurized during a LOCA?

RESPONSE

There is no requirement to maintain pressure on the penetrations during a LOCA.

QUESTION 3.1

What measures have you taken to ensure that penetrations of this type will perform their design function under LOCA conditions? (design review, analyses or tests).

RESPONSE

The penetrations were environmentally qualified by tests for LOCA conditions.

QUESTION 3.2

Are the measures that provide this assurance adequate to satisfy the Commission's regulations (CDC 4, Appendix A to Part 50; QA Criteria, Appendix B to Part 50).

RESPONSE

Yes, the qualification test verify the adequacy of the penetrations to satisfy the required regulations.