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Docket
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DEisenhut
TBAbernathy
JRBuchanan
ACRS (16)

Docket Nos. 50-269
50-270
and 50-287

Duke Power Company
ATTN: Mr. William O. Parker, Jr.
Vice President
Steam Production
P. O. Box 2178
422 South Church Street
Charlotte, North Carolina 28242

Gentlemen:

We are reviewing your submittal dated September 9, 1977, which forwarded the report titled "Safety Assessment of Steam Generator Tube Leakage at the Oconee Nuclear Power Station."

We find that, in order to proceed with our review, additional information as indicated in the enclosure is necessary. It is requested that you provide the information within 30 days of receipt of this letter.

Sincerely,

/S/

A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

Enclosure:
Request for Additional
Information

cc w/enclosures:
See next page

A-3

OFFICE➤	ORB #3	ORB #3				
SURNAME➤	DNeighbors:mjf	SSheppard				
DATE➤	11/ /77	11/ /77				

NRC FORM 318 (9-76) NRCM 0240 ☆ U.S. GOVERNMENT PRINTING OFFICE: 1976 — 626-624

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

November 23, 1977

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Enclosure:
Request for Additional
Information

cc w/enclosures:
See next page

cc: Mr. William L. Porter
Duke Power Company
P. O. Box 2178
422 South Church Street
Charlotte, North Carolina 28242

J. Michael McGarry, III, Esquire
DeBevoise & Liberman
700 Shoreham Building
806-15th Street, NW.,
Washington, D.C. 20005

Oconee Public Library
201 South Spring Street
Walhalla, South Carolina 29691

REQUEST FOR ADDITIONAL INFORMATION

1. For your LOCA analysis with concurrent steam generator tube rupture, provide the following information

   (a) State the phase of LOCA recovery for which rupture of the steam generator tubes was assumed to occur.

   (b) Explain how the rupture of 20 tubes could be tolerated without affecting peak clad temperature. Justify your response in light of the Semiscale MOD 1, Test Series 28 results.

   (c) Explain the effect of the rupture of 20 tubes on the assumed loop water seal. Justify your response in detail.

2. The iodine spiking model presented in Appendix A needs to be discussed in more detail, preferably as a separate report. Explain why the model proposed is considered to be conservative. In particular, estimate the probability of a spike exceeding the model occurring at the Oconee plants. Compare these spikes with those observed at other plants and explain differences in the phenomena causing the spike which allow other data to be disregarded. Present an analysis using a correlation derived from all spiking data available.

3. The expression given on page 12 of your report to calculate the reactor coolant activity as a function of time appears to be incorrect. Indicate how it was derived and assumptions made.

4. You assume that only 10% of the iodine contained in the reactor coolant to secondary leak is released to the environment. Explain where the remainder of the iodine is expected to be as a function of time, in view of the fact that the steam generator is assumed dry.

5. Your report states that operator action to switch off the safety injection would be conservative because it results in minimum dilution. Justify that this action is conservative. Explain the effect of delaying this action. The concern is that continuation of the safety injection will keep the system pressure at a higher level and would result in higher releases, in spite of the increased dilution.

   This appears to be particularly important for the cases of 1 and 3 tube failures for which the leak rate is calculated to be increasing at a high rate at the time that the safety injection is switched off.

   Analyze this accident assuming different times for operator action (e.g., 10 min., 20 min., etc.)