NRC FORM 195 (2-76)

U.S. NUCLEAR REGULATORY COMMISSION

DOCKET NUMBER: 50-269/270/287

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TO:	FROM:	DATE OF DOCUMENT
MR. BENARD C. RUSCHE	DUKE POWER COMPANY CHARLOTTE, NORTH CAROLINA WILLIAM O. PARKER, JR.	6/4/76
		DATE RECEIVED: 6/8/76

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DESCRIPTION

LTR. W/ATTACHED RE OUR 4/6/76 LTR. & THEIR 5/13/76 LTR....FURNISHING SUPPLEMENTAL INFO. REGARDING ELECTRICAL EQUIPTMENT WHICH MAY BECOME SUBMERGED FOLLOWING A POSTULATED LOSS-OF COOLANT ACCIDENT.

NOTE: DISTRIBUTION SAME AS CONTROL #4959.

(4-P)

PLANT NAME:

OCONEE 1-2-3

ENCLOSURE

ACKNOWLEDGED

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NRC FORM 195 (2-76)

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

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

TELEPHONE: AREA 704
373-4083

June 4, 1976

Mr. Benard C. Rusche
Director of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Mr. R. A. Purple, Chief
Operating Reactors Branch No. 1

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

Dear Mr. Rusche:

In response to your letter dated April 6, 1976 which requested additional information regarding the ECCS analysis for Oconee Nuclear Station Units 2 and 3, the attached information is provided to supplement my May 13, 1976 submittal. This information is the response to Question 4 concerning electrical equipment which may become submerged following a postulated loss-of-coolant accident.

Mr. R. A. Purple's letter dated October 15, 1975 indicated concern for the possibility of water hammer in the Low Pressure Injection System and recommended that valves LP-21 and LP-22 be changed to normally open valves. The Oconee 2 operating procedures will be revised, prior to startup, to require that valves LP-21 and LP-22 be normally open during unit operation.

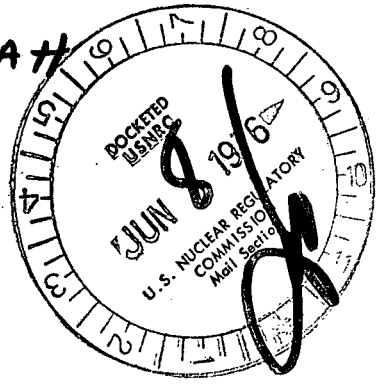
Very truly yours,

William O. Parker Jr.
by WAH

William O. Parker, Jr.

MST:vr
Attachment

Regulatory Docket File



5798

RESPONSE TO MR. R. A. PURPLE'S LETTER DATED APRIL 6, 1976

Question 4:

Identify all electrical equipment, both safety and non-safety, that may become submerged as a result of a LOCA. For all such equipment that is not qualified for service in such an environment, provide an analysis to determine the following: (1) the safety significance of the failure of the equipment (e.g., spurious operation, loss of function, loss of accident/post-accident monitoring, etc.) as a result of flooding, (2) the effects of Class IE electrical power sources serving this equipment as a result of such failures, and (3) the proposed design changes resulting from your analysis. Your response to item (2) should specifically address breaker and fuse coordination and the isolation capabilities of this aspect of your design.

RESPONSE:

Identification of Submerged Electrical Equipment

All electrical equipment, both safety and non-safety, which may become submerged as a result of a postulated loss-of-coolant accident is identified in the attached Table 1.

Evaluation of Safety Significance

A review of the electrical equipment identified in Table 1 has been performed to determine the safety significance of the failure of this equipment. The failure of valves which could become submerged (identified by *) has previously been analyzed in attachment 4 to our July 9, 1975 submittal and in the response to question 2 in attachment 2 of our October 31, 1975 submittal. The remaining items are not considered necessary to place the reactor in a shutdown condition nor to mitigate the consequences of a loss-of-coolant accident. Therefore, it is considered that the failure of this equipment has no safety significance.

Evaluation of Effects on Class 1E Power Sources

All electrical equipment listed in Table I is supplied from Non-Class 1E power sources with the following exceptions:

a. Reactor Coolant Pump Oil Tank Level Detectors (4)
b. Letdown Cooler 1A Isolation Valve HP-3
c. Letdown Cooler 1B Isolation Valve HP-4
d. Quench Tank Suction Valve CS-5

Based on the analysis of the above-mentioned equipment that is powered from Class 1E power sources, it has been determined that existing circuit breaker and fuse coordination will protect the Class 1E power sources such that the safety function of other Class 1E equipment is not rendered inoperative.

However, a situation has been identified in which the flooding of limit switches on valves b, c, and d (above) could possibly result in the loss of normal control power (manual control function) to ES Cabinet 8. This would not affect the required safety function of the equipment associated with

ES Cabinet 8. However, modifications will be made to assure that the manual control function of equipment supplied by ES Cabinet 8 is maintained.

Proposed Design Changes

To preclude the possibility that the flooding of limit switches on valves b, c, and d (above) could result in a loss of normal control power (manual control function) to ES Cabinet 8, fuses will be installed in the circuits from the valve limit switches to ES Cabinet 8. An analysis has shown that fuses will provide the necessary coordination to assure that ES Cabinet 8 retains its normal control power (manual control function).

TABLE 1

ELECTRICAL EQUIPMENT LOCATED
BELOW THE LOCA FLOOD LEVEL

Steam Generator 1A Level Detector (5)
Steam Generator 1B Level Detector (5)
Reactor Coolant Pump Oil Tank Level Detector (4)
Reactor Coolant Pump Standpipe Level Detector (4)
*Letdown Cooler 1A Inlet Valve HP-1
*Letdown Cooler 1A Isolation Valve HP-3
*Letdown Cooler 1B Inlet Valve HP-2
*Letdown Cooler 1B Isolation Valve HP-4
*Letdown Cooling Inlet Valve CC-1
*Letdown Cooling Inlet Valve CC-2
Letdown Cooling Component Cooling Outlet Temperature Detector (2)
Quench Tank Level Detector
Quench Tank Press Detector
Quench Tank Heat Exchanger Discharge Temperature Detector
Quench Tank Temperature Detector
*Quench Tank Suction Valve CS-5
Quench Tank Heat Exchanger Inlet Valve CC-49 Position Indication
Quench Tank Heat Exchanger Outlet Valve CC-53 Position Indication
Quench Tank Cooler Inlet Valve CS-13 Position Indication
Quench Tank Cooler Outlet Valve CS-14 Position Indication
Quench Tank Outlet Valve CS-3 Position Indication
*Core Flood Tank 1A Outlet Valve CF-1 Controller
Core Flood Tank 1A Level Detector (2)
Core Flood Tank 1B Press Detector
Reactor Building Normal Sump Temperature Detector
Reactor Building Normal Sump Level Detector
Reactor Building Emergency Sump Level Detector
Lighting Panels EL1 and WL1
Reactor Vessel Water Level Detector
Telephones
PA Speakers
PA Amplifier
PA Power Supply

*Safety significance previously addressed in W. O. Parker's letters of July 9, 1975 and October 31, 1975.