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 RECIP. NAME DENTON, H.R. RECIPIENT AFFILIATION Office of Nuclear Reactor Regulation

SUBJECT: Forwards "Auxiliary Feedwater Sys Reliability Analyses-
 Generic Rept for Plants w/B&W Reactors" & "Emergency
 Feedwater Sys Reliability Analysis." Lists mods being
 designed to eliminate ac dependencies.

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DUKE POWER COMPANY

POWER BUILDING

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WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

December 21, 1979

TELEPHONE: AREA 704
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Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Attention: Mr. R. W. Reid, Chief
Operating Reactors Branch No. 4

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

Dear Sir:

With regard to the NRC letter dated August 21, 1979, and my letter dated August 31, 1979, concerning identification and resolution of long-term generic issues related to the Commission Orders of May 1979, please find attached the Emergency Feedwater System Reliability Analysis for Oconee Nuclear Station. Attachment 1 provides the "Auxiliary Feedwater Systems Reliability Analysis: "A Generic Report for Babcock and Wilcox Designed Plants." Attachment 2 provides the "Emergency Feedwater System Reliability Analysis for the Oconee Nuclear Generating Station."

We have reviewed the attached reports for accuracy in reflecting the current Oconee design and in particular the identified dominant failure contributors for Oconee. In this regard, the following modifications are being designed to eliminate the AC dependencies of the Emergency Feedwater System (EFWS) turbine and turbine-driven pump, to increase reliability during loss of off-site power (LOOP) and to provide operability during loss of AC (LOAC):

1. A second independent cooling water supply to the EFWS turbine lube oil cooler will be provided from the elevated water storage tank via the High Pressure Service Water (HPSW) system.
2. The present cooling water supply, Low Pressure Service Water (LPSW), to the EFWS turbine-driven pump will be modified to provide an air-operated valve that will fail open to LOOP. This will supply cooling water to the turbine-driven pump from LPSW during a LOOP. The backup cooling water supply, HPSW, will also be modified to supply cooling water from the elevated water storage tank, through the HPSW system and



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Mr. Harold R. Denton, Director
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via a fail-open air-operated valve during a LOAC.

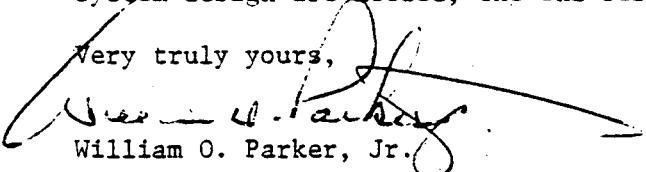
3. A backup to the control air system for the steam pressure regulating valves for the steam-driven pump will be provided. This will provide control of valves MS-87 and MS-129 in the event of failure due to loss of plant air.

In addition of the above modifications, the following statements are provided to address other areas of concern identified by this study:

1. Replenishment of the upper surge tanks is possible by use of either the hotwell pumps or the booster pumps when AC power is available. These pumps may be manually loaded onto the emergency busses by the operators. The emergency power source, Keowee Hydro Station, has sufficient capacity to handle this electrical load.
2. In response to IF Bulletin 79-05, operating and maintenance procedures at Oconee which are related to the performance of the Emergency Feedwater System were revised to require verification of system line-up prior to returning to operation following test or maintenance. It is considered that this action, previously accomplished, adequately addresses the concern of flow diversion via the test recirculation line in the event FDW-88 is inadvertently left open.

The results of the Emergency Feedwater System reliability study provided herein are considered to adequately address the concerns addressed both in the Staff letter of August 21, 1979, and during meetings with the B&W Owners' Group where the scope and schedule of this effort were defined. Duke Power Company is continuing to review this system to determine if any further modifications should be made to further enhance EFWS reliability. A portion of this review is being conducted in conjunction with the Abnormal Transient Operating Guideline program, which has been described to the Staff previously. Two of the transients which will be evaluated are loss of feedwater and loss of offsite power. The results of this effort will not only provide operator guidelines for these transients, but also identify areas where improvements in system design are needed, the end result being an EFWS with greater reliability.

Very truly yours,



William O. Parker, Jr.

RLG/sch
Attachments