



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
WASHINGTON, D. C. 20555

ACR 55m-0108  
PDR 5/22/79

May 8, 1979

ACRS Members

SUBJECT: OCONEE RESPONSE TO TMI-2 ACCIDENT

Attached are copies of letters from Duke Power Company indicating the changes they plan to institute on Oconee Units 1, 2 and 3 in response to the TMI-2 accident and the NRC I&E bulletins.

*A. Bates*

A. Bates  
Reactor Engineer

Attachments: as stated

cc w/attach: ACRS Technical Staff

7907100200

259 061

DUKE POWER COMPANY

P. O. Box 33189

CHARLOTTE, N. C. 28242

CARL HORN, JR.  
CHAIRMAN OF THE BOARD &  
CHIEF EXECUTIVE OFFICER  
TOL 373-4884

WILLIAM S. LEE  
PRESIDENT &  
CHIEF OPERATING OFFICER  
TOL 373-4283

April 29, 1979

Mr Harold R Denton, Director  
Office of Nuclear Reactor Regulation  
U S Nuclear Regulatory Commission  
Washington, D C 20555

Dear Mr Denton:

At the conclusion of its April 27, 1979 meeting, the Commission directed that Duke Power Company's proposals (which were set forth in my letter of April 26, 1979) and the NRR position on the matter of continued Oconee operation be reflected in a written order. For the record, this will advise you that we believe that issuance of a formal order in this context is undesirable as a matter of policy and unnecessary as a matter of law.

We view the present status of the situation as the culmination of discussions between us which are fully documented. These discussions and my decision to submit the proposal letter of April 26, 1979, did not contemplate issuance of an order.

When the agreed-upon fixes have been implemented and have been promptly reviewed and approved by your office, our agreement clearly contemplated that we could restart or continue operation as the case may be for each unit. You will of course want to keep the Commission informed. In any event, we would strongly protest requiring Commission action or any other additional unwarranted procedural formalities as a condition of restart or continued operation.

Sincerely,



W S Lee

WSL/s

7905020283

PR

259 062

App  
S  
1/6  
ADD:  
LIST

April 26, 1979

DUKE POWER COMPANY

POWER BUILDING

422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28202

RECEIVED  
GENERAL SERVICES  
MAY 1 1979  
11 9 04

Mr. Harold R. Denton  
Director  
Office of Nuclear Reactor Regulation  
USNRC  
Washington, DC 20555

Re: OCONEE NUCLEAR STATION  
DOCKET NOS. 50-269, 50-270 and 50-287

Dear Mr. Denton,

Supplementing my letter of April 25, 1979 and providing additional information responsive to Staff safety concerns identified as items a. through e. on page 1-7 of the ONRR Status Report to the Commission of April 25, 1979, Duke Power Company proposes following actions:

- a. Install automatic starting of the interconnected emergency feedwater system so that all three pumps will receive a start signal from any affected unit, and test the system for stability.
- b. Develop and implement operating procedures for initiating and controlling emergency feedwater independent of ICS control.
- c. Implement a hard-wired control-grade reactor trip on loss of main feedwater and/or turbine trip.
- d. Complete analyses for potential small breaks and develop and implement operating instructions to define operator action.
- e. Station in the control room an additional full-time SRO (or previously licensed SRO with TMI training) for each operating unit to assist with guidance and possible manual action in case of transients until items a. through d. are completed.

1001

DUPLICATE DOCUMENT

Entire document previously entered into system under:

ANO 7904270406

No. of pages: 4

7904270 406  
SCP 259.063

DUKE POWER COMPANY

POWER BUILDING

422 SOUTH CRUICKER STREET, CHARLOTTE, N. C. 28242

WILLIAM O. PARKER, JR.  
VICE PRESIDENT  
STEAM PRODUCTION

TELEPHONE: AREA 704  
373-4033

April 25, 1979

Mr. Harold R. Denton  
Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

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

Dear Mr. Denton:

In the Nuclear Regulatory Commissioners' meeting of April 25, 1979, Duke Power Company committed to provide a three part improvement of the emergency feedwater system at Oconee Nuclear Station. The purpose of this letter is to provide documentation, design information and projected implementation schedules on each of those three parts.

PART I. - Immediate

On April 25, 1979, Duke Power Company initiated at Oconee Nuclear Station the following procedural changes to enhance the reliability of emergency feedwater system.

1. The emergency feedwater system in the existing design for each Oconee Unit has a turbine driven emergency feedwater pump which supplies 150% of the required water to the steam generators on loss of main feedwater. The discharges of these pumps have been tied together by alignment of manual valves such that each and all of the pumps can supply emergency feedwater to any Oconee Unit requiring it.

2. Operating personnel have been stationed at each emergency feedwater pump with a direct communication link to that unit's control room.

3. Administrative controls have been established so that in the event of loss of both main feedwater pumps on an affected unit, that unit's emergency feedwater pump will start automatically backed up by remote manual pump fails to start automatically pump will start the pump to

DUPLICATE DOCUMENT

Entire document previously entered  
into system under:

ANO 7905010521

No. of pages: 4

259 064

0:  
LIST

DUKE POWER COMPANY

POWER BUILDING

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

April 25, 1979

Mr. Harold R. Denton  
Director,  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Denton:

Since my presentation to the Commission this afternoon, additional commitments have been made by Duke Power Company. These commitments have been furnished to your Staff and are presently being reviewed by them. I am confident that, upon completion of Staff review it will be determined that such commitments provide you with the necessary assurance to find that the continued operation of Oconee does not endanger the public health and safety. I am sending copies of these commitments to you to assist you in your deliberation.

We feel these two commitments are fully responsive in this timeframe to items "a" and "c" of your Staff concerns listed on page 1-7 of the NRR Status Report to the Commission this afternoon. With respect to item "b" the utility industry has had years of successful experience with the ICS, first with many boilers and recently with reactors which leads us to conclude that it is the most appropriate system for this application. We feel that further dialogue with your Staff about this control system will result in familiarization, additional understanding and a higher level of confidence in its responsiveness and value, and we will later provide the failure analysis just requested. Regarding item "d", shut-down core circulation is provided by the HPI injection, backed-up by any one of the four reactor coolant pumps, and only thereafter followed by natural circulation for which later analyses have been committed. With respect to item "e", we feel that the testimony of the I&E representatives today accurately portrayed current control room conditions with alert, trained operators that can continue safe operation of these units.

With these commitments and comments, we feel we have been promptly responsive to the expressed concerns of your Staff and further commit to working closely together to assure continued safe operation.

DUPLICATE DOCUMENT

Entire document previously entered  
into system under:

ANO 7905010550

No. of pages: 1

259 065

7905010550

# DUKE POWER COMPANY

POWER BUILDING, CHARLOTTE, N. C. 28242

(704) 373-4120

W. H. OWEN  
SENIOR VICE PRESIDENT  
ENGINEERING & CONSTRUCTION

April 25, 1979

Dr Roger J Mattson, Director  
Division of Systems Division  
U S Nuclear Regulatory Commission  
Washington, D C 20555

Dear Dr Mattson:

As a result of the recent Three Mile Island-2 incident, Duke Power Company is reviewing the design and operation of its Oconee Nuclear Station. The review has been done both internally and in conjunction with Babcock & Wilcox and the Nuclear Regulatory Commission. Among other things, this review includes the goal of improving the reliability of the normal feedwater system and added assurance of emergency feedwater supply to the steam generators. We feel our existing design is adequate and competent; however, we have several high priority activities underway and multiple alternatives are available to achieve added margins.

A full-time, dedicated technical team was organized on April 9, 1979, to evaluate the Three Mile Island incident and to review all Duke nuclear stations. This team is composed of Duke personnel with experience in design, operation, and radiological control, along with a representative from the vendor that supplied the Nuclear Steam Supply System. Among the items being reviewed are the design, equipment, controls, and procedures associated with the main condensate-feedwater and emergency feedwater systems and the resultant system reliability. This review will identify strengths and courses of action to correct any weaknesses. Primary emphasis is being placed on Oconee Nuclear Station.

One concern of NRC has been the reliance of EFW upon the Integrated Control System. A careful review of the systems shows that a train of EFW exists which is independent of the ICS and block valves.

An immediate improvement in both normal feedwater reliability and assurance of emergency feedwater is available. Minor changes in existing equipment and procedures can be made to decrease the time for power to reach the main feedwater pump trains from the source of emergency power, Keowee Hydro Station. This will result in an improvement in feedwater reliability. Also, each unit has its own emergency feedwater system containing a pump. Improvement in the starting reliability of the turbine can be achieved by improvements in the feedwater system. This will be pursued with the turbine manufacturer.

## DUPLICATE DOCUMENT

Entire document previously entered into system under:

ANO 7905030371

No. of pages: 2

7905030371  
PCR  
259 066

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

WILLIAM O. PARKER, JR.  
VICE PRESIDENT  
STEAM PRODUCTION

TELEPHONE AREA 704  
373-4033

April 25, 1979

Mr. Harold R. Denton,  
Director  
Office of Nuclear Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

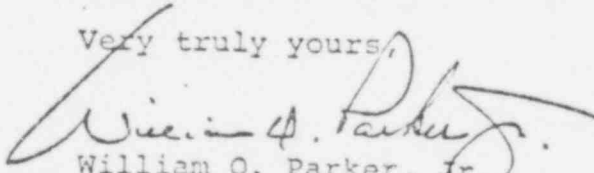
Re: Oconee Nuclear Station  
Docket Nos. 50-269, 50-270, and 50-287

Dear Mr. Denton:

In response to the letter of April 21, 1979 from James P. O'Reilly, Director, NRC Region II Atlanta, concerning I.E. Bulletin No. 79-05B the following information is provided. Duke Power Company agrees that automatic anticipatory reactor trip on loss of main feedwater and turbine trip is appropriate for the Oconee Nuclear Station reactors. The trips will be implemented as soon as practicable. Previous reactor trips at Oconee Nuclear Station, indicate that a direct reactor trip on loss of main feedwater will provide earlier reactor shutdown than for the case when the reactor trips following high reactor coolant system pressure as a result of the transient. Based on our investigation of Incident Report No. B-805 Oconee Unit One (copy of this incident report was provided to M. Fairtile of the NRC Staff on April 24, 1979) it is concluded that the reactor trip would occur some 50 seconds earlier when initiated by loss of main feedwater than if initiated by high reactor coolant system pressure.

Design information and a schedule for implementation of our committed anticipatory reactor trip will be provided to the NRC Staff by May 21, 1979 as requested in Bulletin 79-05B.

Very truly yours,

  
William O. Parker, Jr.

cc: James P. O'Reilly, Director  
U.S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, N.W.  
Atlanta, Georgia 30303

1001  
S/O  
ADD  
LIST

7905010512 259 067  
HOLD