

I 04/28/78

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)
DISTRIBUTION FOR INCOMING MATERIAL

50-269/270/287

REC: OREILLY J P
NRC

ORG: PARKER W O
DUKE PWR

DOCDATE: 04/21/78
DATE RCVD: 04/28/78

DOCTYPE: LETTER NOTARIZED: NO

COPIES RECEIVED

SUBJECT:

LTR 1 ENCL 1

FORWARDING LICENSEE EVENT REPT (RO 50-269/007) ON 03/14/78 CONCERNING OCONEE
ATTEMPTED TO START KEOWEE HYDRO UNIT 2 WHICH IS SOURCE OF AUXILIARY PWR FOR
SUBJECT FACILITY... UNIT FAILED TO START DUE TO AN INOPERABLE FIELD FLASHING
BREAKER... W/ATT LER 78-0

PLANT NAME: OCONEE - UNIT 1
OCONEE - UNIT 2
OCONEE - UNIT 3

REVIEWER INITIAL: XJM
DISTRIBUTER INITIAL:

***** DISTRIBUTION OF THIS MATERIAL IS AS FOLLOWS *****

NOTES:

1. M. CUNNINGHAM - ALL AMENDMENTS TO FSAR AND CHANGES TO TECH SPECS

INCIDENT REPORTS
(DISTRIBUTION CODE A002)

FOR ACTION: BR CHIEF REID**W/4 ENCL

INTERNAL:

REG FILE**W/ENCL
I & E**W/2 ENCL
SCHROEDER/IPPOLITO**W/ENCL
NOVAK/CHECK**W/ENCL
KNIGHT**W/ENCL
HANAUER**W/ENCL
EISENHUT**W/ENCL
SHAD**W/ENCL
KREGER/J. COLLINS**W/ENCL
K SEYFRIT/IE**W/ENCL

NRC PDR**W/ENCL
MIPC**W/3 ENCL
HOUSTON**W/ENCL
EEB**W/ENCL
BUTLER**W/ENCL
TEDESCO**W/ENCL
BAER**W/ENCL
VOLLMER/BUNCH**W/ENCL
ROSA**W/ENCL

EXTERNAL:

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WALHALLA, SC**W/ENCL
TIC**W/ENCL
NSIC**W/ENCL
ACRS CAT B**W/16 ENCL

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REGULATORY GUIDE 10.1

DISTRIBUTION: LTR 45 ENCL 45
SIZE: 1P+2P+2P

CONTROL NBR: 781180128

***** THE END *****

DUKE POWER COMPANY

POWER BUILDING

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

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

April 21, 1978

TELEPHONE: AREA 704
373-4083

US NRC
DIST. DIVISION SERVICES
BRANCH

1978 APR 28 PM 12 15

RECEIVED DISTRIBUTION
SERVICES UNIT

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

RE: Oconee Units 1,2,3
Docket Nos. 50-269, -270, -287

Dear Mr. O'Reilly:

Pursuant to Sections 6.2 and 6.6.2 of the Oconee Nuclear Station
Technical Specifications, please find attached Reportable Occurrence
Reports RO-269/78-7 and RO-269/78-9.

Very truly yours,

William O Parker Jr
William O. Parker, Jr.

KRW:ge
Attachment

cc: Director, Office of Management Information
and Program Control

REGULATORY DOCKET FILE COPY

781180128

A002 3
5/11

DUKE POWER COMPANY
OCONEE UNITS 1,2,3

Report No.: RO-269/78-7; RO-269/78-9

Report Date: April 21, 1978

Occurrence Dates: March 14, 1978; March 22, 1978

Facility: Oconee Nuclear Station, Seneca, South Carolina

Identification of Occurrence: Keowee Unit 2, Field Flashing Breaker
Inoperable

Conditions Prior to Occurrence: Unit 1 100% Full Power
Unit 2 100% Full Power
Unit 3 100% Full Power
(Both Occurrences)

Description of Occurrence:

This type of incident has occurred on four previous occasions and has been addressed in Reportable Occurrence Reports RO-269/77-29, 78-1, 78-3, and 78-6, transmitted by my letters of January 18, February 3, March 23, and April 7, 1978, respectively.

On March 14, 1978, the Keowee Unit 2 field flash breaker failed to properly function following an automatic start command from the Oconee Unit 1 and 2 Control Room. Following this incident, two faulty relays were found and replaced. No other abnormalities could be found during a complete check of the control circuits. Oconee Control Operators verified Keowee Unit 2 operable by initiating an automatic start successfully.

On March 22, 1978, the Keowee Unit 2 field flash breaker again failed to close upon demand. Maintenance personnel checked the field flash breaker, control circuits and associated relays. The breaker was operated again under observation and was observed to trip upon closing. The trip coil was causing a breaker trip for no known reason. All components were again inspected with no abnormalities observed.

Apparent Cause of Occurrence:

No apparent cause for the repeated breaker inoperability has been determined. A special task force has been organized to investigate this recurring problem. Investigation will continue until the cause can be determined.

Analysis of Occurrence:

The failure of the breaker to close caused Keowee 2 to become temporarily inoperable. During both instances, Keowee Unit 1 was fully operable and capable of supplying emergency power to Oconee, if required. The health and safety of the public were not endangered.

Corrective Action:

Two faulty relays were replaced after the March 14, 1978 incident, but this did not prevent the March 22 failure. A recorder will be installed to monitor the trip circuits and attempt to isolate the cause of these occurrences.

LICENSEE EVENT REPORT

EXHIBIT A

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03		start Keowee Hydro Unit 2 which is a source of auxiliary power for the																																																																																																																									
04		Oconee Nuclear Station. The unit failed to start due to an inoperable																																																																																																																									
05		field flashing breaker. The unit was started without incident after an																																																																																																																									
06		investigation had been completed. Keowee Unit 1 and other sources of																																																																																																																									
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10		The field flashing breaker has failed on 4 previous occasions. There has																																																																																																																									
11		been no determination of cause, as yet. Until the cause has been pinpointed,																																																																																																																									
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NAME OF PREPARER K. R. Wilson																																																																																																																											
PHONE: (704) 373-8197																																																																																																																											

EXHIBIT A

PHONE: (704) 373-8197

Cent. Files

TO: FRANK JADE
OCOONEE NRC/OIE PRINCIPAL INSPECTOR

FILE: B-721

DUKE POWER COMPANY
OCOONEE NUCLEAR STATION
NRC NOTIFICATION OF REPORTABLE OCCURRENCE

REPORT NUMBER B-721

TIME/DATE OF INCIDENT UNKNOWN TIME/DATE OF DISCOVERY UNKNOWN/4-12-78

UNIT(S) 1, 2, 3 UNIT STATUS AT TIME OF INCIDENT #1 - MGR FP, #2 CS/B, #3 MGR FP

DESCRIPTION OF INCIDENT: B*W has determined that if a 0.04 ft² break occurs on discharge of RC pump; additional ECCS flow (compared to that considered in present safety analysis) will be required to keep the core covered.

HOW INCIDENT WAS DISCOVERED: B*W doing safety analysis of new plants and realized this would be generic to all B*W plants. Duke Power Co. was notified 4-11-78

IMMEDIATE CORRECTIVE ACTION: NONE - Investigation underway.

REPORTABLE PURSUANT TO TECHNICAL SPECIFICATION 6.6.2.1(a)

DATE REPORT DUE TO NRC/OIE 4-26-78

TIME/DATE TELECOPIED OR OTHERWISE TRANSMITTED TO NRC/OIE 1400/4-12-78

PREPARED BY W. BROWN PHONE (803) 882-5363

~~CONFIDENTIAL~~
DUKE POWER COMPANY

POWER BUILDING

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

Frank Jape, Region

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

April 14, 1978

TELEPHONE AREA 704
373-4083

Mr. Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

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

Dear Mr. Case:

As you are aware, the small break ECCS analysis of the 0.04 sq. ft. break for Oconee class plants was performed with the assumption that this break occurs at the pump suction of the reactor coolant piping, as reported in BAW-10103, Revision 3, and in BAW-10052. Recently, it has been identified that a 0.04 sq. ft. break occurring at the pump discharge would be more limiting if it is assumed that only one high pressure injection (HPI) pump is available for core cooling. B&W has now performed an evaluation of this break at the pump discharge for Oconee 1, 2, and 3 by considering that two HPI pumps are available at 25 minutes. The results indicate that the core remains covered by fluid at all times without any cladding temperature excursion.

Each of the Oconee units has three HPI pumps normally available, and all three pumps are automatically started upon Engineered Safeguards signal actuation. The flow discharged from these pumps is injected into the reactor coolant system through two independent injection lines, each branching into two smaller lines, and terminating into the reactor coolant cold leg piping between the pump discharge and the reactor vessel nozzle, as shown in Figures 6-2 and 9-2 of the Oconee PSAR. The two injection paths and two HPI pumps are adequate to provide the necessary flow into the core to maintain the core covered with fluid at all times.

The HPI pumps are powered by three independent 4160V switchgears. If a single failure is assumed to occur, there would still be two HPI pumps available to provide flow to the core. If a single failure were to occur on HPI Pump C, then the normally closed manual valves, HP-116 and HP-117, would have to be opened to ensure that sufficient flow is available through both injection lines. B&W's evaluation shows that at least 25 minutes is available to the operators to accomplish this task, and it is considered an adequate time interval (5 minutes to confirm no flow indication in HPI Line B, 5 minutes transit time, and 10 minutes to open the valves) to accomplish this operation. If, however, the single failure

Mr. Edson G. Case, Acting Director
Page Two
April 14, 1978

were to occur with Valve HP-26, then it would be the A injection line without the flow. In this case, the operator would have to manually open Valve HP-26, and 25 minutes is more than adequate time to accomplish this task.

The emergency operating procedures for loss of coolant accident conditions will be revised by April 14, 1978, to include sufficient guidance and instructions for the operators to take the above described actions. It should be pointed out that the above manual actions are needed only under one of two independent single failure conditions (failure of HPI Pump C or failure of Valve HP-26), and this situation can be easily recognized from flow, pump status, and/or valve indications.

Also, the manual valves HP-99 and HP-100, which are currently closed during normal operation will now be kept open during normal operation, and the ES valve HP-25, currently kept open, will be kept closed. This change in the valve lineup is being made to assure that adequate suction flow is available for the HPI pumps if a single failure were to occur in Valve HP-24. This valve lineup will be applied at the time of implementing the change to the emergency operating procedure. It is pointed out that the HPI pump suction line will be full of water with the revised valve configuration also.

By April 21, 1978, we will submit a proposed revision to Technical Specification Section 3.3 to require the operability of all three HPI pumps, except as permitted by Specification 3.3.5. All three pumps are currently operable, and we will notify the NRC-ONRR if an HPI pump becomes inoperable for a period exceeding 24 hours.

In summary, the emergency core cooling requirements for the 0.04 ft² break at the pump discharge are satisfied, and it is concluded that Oconee units can continue to be safely operated at the rated power.

Very truly yours,

William O. Parker, Jr.
William O. Parker, Jr. *By [Signature]*

PNA:ge