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 RECIP. NAME: RECIPIENT AFFILIATION: Region 2, Atlanta, Office of the Director

SUBJECT: LER 79-022/03L-0 on 790703: high pressure svc water pump A removed from svc to repair leakage from pump motor cooler. Cause of leak undetermined. Pump joint resoldered & cooler pressurized.

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 TITLE: INCIDENT REPORTS

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	05 BC <u>ORB #4</u>	4	4			
INTERNAL:	01 REG FILE	1	1	02 NRC PDR	1	1
	09 I&E	2	2	11 MPA	3	3
	14 TA/EDO	1	1	15 NOVAK/KNIEL	1	1
	16 EEB	1	1	17 AD FOR ENGR	1	1
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	20 AD PLANT SYS	1	1	21 AD SYS/PROJ	1	1
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	E JORDAN/IE	1	1	HANAUER, S.	1	1
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	29 ACRS	16	16			

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Duke Power Company  
Oconee Nuclear Station

Report Number: RO-269/79-22

Report Date: August 2, 1979

Occurrence Date: July 3, 1979

Facility: Oconee Nuclear Station, Seneca, South Carolina

Identification of Occurrence: High Pressure Service Water Pump Inoperable

Conditions Prior to Occurrence:

Unit 1	Cold Shutdown
Unit 2	90% Full Power
Unit 3	Cold Shutdown

Description of Occurrence:

At 1800 on July 3, 1979, during a routine inspection of the Turbine Building basement, water was observed to be leaking from the high pressure service water (HPSW) pump A motor cooler casing drain. The pump was declared inoperable and removed from service in order to allow repairs to be effected. The motor cooler casing was removed, and the source of the leak was determined to be the joint connecting the motor cooler tubing to the supply line. The leaking joint was resoldered, and the pump was declared operable and returned to service at 1800 on July 4, 1979.

Apparent Cause of Occurrence:

HPSW pump A was removed from service as a result of leakage from it's motor cooler casing. Similar leakage has been observed on four previous occasions, and each time the source has been identified to be the joint connecting the supply line to the motor cooler tubine. Although the pump motor is operated very infrequently, cooling water is constantly circulated through the motor cooler, and this constant flow may have resulted in erosion of the motor cooler tubing.

Analysis of Occurrence:

Two redundant HPSW pumps are provided to supply high pressure water for the fire suppression water system. During the period HPSW pump A was out of service, HPSW pump B was operable and capable of meeting the fire protection safety requirements of the HPSW system. In addition, evaluation of the HPSW pump A motor cooler leakage indicated that it was not of sufficient magnitude to affect the integrity of the pump motor. Oconee Nuclear Station Technical Specification 3.17.2.1 permits one HPSW pump to be removed from service for up to seven days provided that the other pump is operable. However, although the pump was returned to service within 24 hours after the leakage was observed, its removal from service constitutes operation in a degraded mode permitted by a limiting condition for operation. This incident must therefore be reported pursuant to Technical Specification 6.6.2.1.b(2), although it was of no significance with respect to safe operation, and the health and safety of the public were not endangered.

Corrective Action:

Investigation of the motor cooler leakage revealed that the source was the joint connecting the supply header to the motor cooler tubing. The joint was resoldered and the motor cooler was pressurized to verify that the leak had been repaired. Replacement motor coolers have been ordered, and delivery is anticipated by August, 1979. In addition, consideration will be given to providing valves in the motor cooler supply lines so that cooling water flow can be removed when the pump motor is not operating.

## LICENSEE EVENT REPORT

EXHIBIT A

CONTROL BLOCK: (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

01 | S | C | N | E | E | 1 | 2 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 3 | 4 | 1 | 1 | 1 | 1 | 4 | 5

7 8 9 14 15 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

LICENSEE CODE LICENSE NUMBER LICENSE TYPE CAT 56

CONT  
01 | L | 6 | 0 | 5 | 0 | 0 | 0 | 2 | 6 | 9 | 7 | 0 | 7 | 0 | 3 | 7 | 9 | 8 | 0 | 8 | 0 | 2 | 7 | 9 | 9

7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

REPORT SOURCE DOCKET NUMBER EVENT DATE REPORT DATE

## EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

012 | On July 3, 1979, HPSW pump A was removed from service in order to repair

013 | leakage from the pump motor cooler. During the time the pump was out of

014 | service, redundant HPSW pump B was operable. In addition, the leakage was

015 | determined to be of a magnitude which would not have affected pump motor

016 | performance. Therefore, safe operation of the units was not affected, and

017 | the health and safety of the public were not endangered.

018 |

019 | W | A | 11 | E | 12 | B | 13 | M | O | T | O | R | X | 14 | Z | 15 | Z | 16

7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

SYSTEM CODE CAUSE CODE CAUSE SUBCODE COMPONENT CODE COMP. SUBCODE VALVE SUBCODE

020 | 7 | 9 | 0 | 2 | 2 | 0 | 3 | L | 0

21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

EVENT YEAR SEQUENTIAL REPORT NO. OCCURRENCE CODE REPORT TYPE REVISION

021 | B | 18 | A | 19 | Z | 20 | Z | 21 | 0 | 0 | 0 | 0 | Y | 22 | Y | 23 | L | 24 | W | 1 | 2 | 0 | 25

21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

ACTION TAKEN FUTURE ACTION EFFECT ON PLANT SHUTDOWN METHOD HOURS ATTACHMENT SUBMITTED NRC FORM SUB. PRIME COMP. SUPPLIER COMPONENT MANUFACTURER

## CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

110 | The source of the leakage was determined to be the joint connecting the

111 | cooler supply line to the motor cooler tubing. The exact cause of the leak-

112 | age could not be determined. The joint was resoldered and the cooler was

113 | pressurized to assure that the leaks were repaired. Delivery of replacement

114 | coolers is expected by August, 1979.

115 | E | 28 | 0 | 9 | 0 | 29 | NA | 30 | B | 31 | Routine Inspection | 32

7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

FACILITY STATUS % POWER OTHER STATUS METHOD OF DISCOVERY DISCOVERY DESCRIPTION

116 | Z | 33 | Z | 34 | NA | 35 | NA | 36

7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

ACTIVITY CONTENT RELEASED OF RELEASE AMOUNT OF ACTIVITY LOCATION OF RELEASE

117 | 0 | 0 | 0 | 37 | Z | 38 | NA | 39

7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

PERSONNEL EXPOSURES NUMBER TYPE DESCRIPTION

118 | 0 | 0 | 0 | 40 | NA | 41

7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

PERSONNEL INJURIES NUMBER DESCRIPTION

119 | Z | 42 | NA | 43

7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

LOSS OF OR DAMAGE TO FACILITY TYPE DESCRIPTION

200 | N | 44 | NA | 45

7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

PUBLICITY ISSUED DESCRIPTION

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