

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

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 FACIL: 50-269 Oconee Nuclear Station, Unit 1, Duke Power Co.
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 RECIP. NAME: REGION 2, Atlanta, Office of the Director

DOCKET #
05000269

SUBJECT: LER 80-013/03L-0: on 800509, during performance testing, turbine driven EFW pump declared inoperable. Caused by failed inboard bearing resulting from water-contaminated oil due to shaft packing leakage. Leakage repaired & bearings replaced.

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 TITLE: Incident Reports

NOTES: ~~M. CUNNINGHAM - ALL AMENDMENTS TO PSAR + CHANGES TO TECH SPECS~~

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	09	I&E	2	2	11	MPA	3	3
	15	NOVAK/KNIEL	1	1	16	EEB	1	1
	17	AD FOR ENGR	1	1	18	PLANT SYS BR	1	1
	19	I&C SYS BR	1	1	20	AD PLANT SYS	1	1
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	26	AD/SITE ANAL	1	1	27	OPERA LIC BR	1	1
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		BERLINGER, C.	3	3		DOUG MAY-TERA	1	1
		HANAUER, S.	1	1		JORDAN, E./IE	1	1
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	29	ACRS	16	16				

JUN 12 1980

DUKE POWER COMPANY
OCONEE UNIT 1

Report Number: RO-269/80-13

Report Date: June 5, 1980

Occurrence Date: May 9, 1980

Facility: Oconee 1, Seneca, South Carolina

Identification of Occurrence: Turbine Driven Emergency Feedwater Pump
Declared Inoperable

Conditions Prior to Occurrence: 75% Full Power

Description of Occurrence:

At 1012 hours on May 9, 1980, while Unit 1 was at 75% full power, the Unit 1 Turbine Driven Emergency Feedwater (TDEFDW) pump was removed from its normal lineup for performance testing. During the initial startup of the pump, a noise was heard coming from the coupling area and the pump was secured and declared inoperable. The pump was repaired, retested, and restored to normal lineup approximately 53 hours after it was initially secured.

Apparent Cause of Occurrence:

Inspection of the pump revealed that the inboard bearing had failed due to water contamination of the bearing oil. It was observed that the shaft packing leakage from the inboard shaft seal gland immediately adjacent to the inboard bearing housing was severe enough that the water was being drawn into the bearing housing past the oil flinger. The bearing house oil flinger is designed to draw oil back into the bearing housing as it tries to leak outward. Therefore, if a sufficient amount of water gets onto the flinger, the water will be drawn inward into the bearing housing. This water was allowed to reach the flinger because of packing leakage.

Analysis of Occurrence:

EFW flow to Once-Through-Steam-Generators (OTSG's) 1A and 1B was still available from motor-driven Emergency Feedwater Pumps (EFWP's) 1A and 1B. The capacity of both motor-driven pumps is more than sufficient for decay heat removal. Proposed Oconee Nuclear Station Technical Specification 3.4, which has not yet been issued but which has been committed to by Duke Power Company, permits one EFWP to be inoperable for up to 60 hours. The TDEFDW pump was restored to normal lineup about 53 hours after having been declared inoperable. This incident therefore constitutes operation in a degraded mode permitted by a limiting condition for operation, and must 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 affected.

Corrective Action:

The immediate corrective action was to secure the pump from testing. Maintenance began on the pumps as soon as the pump and turbine were isolated. The packing leakage was repaired and both inboard and outboard bearings on the pump were replaced.

This problem will be further examined and evaluated during the next surveillance on the pumps on Oconee Units 2 and 3, and surveillance recommendations will be established. In addition, maintenance personnel will pursue a means to prevent packing leakage from entering the bearing.

LICENSEE EVENT REPORT

EXHIBIT A

CONTROL BLOCK: 1 (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 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60

CON'T
01 REPORT SOURCE L 6 | 0 | 5 | 0 | 0 | 0 | 2 | 6 | 9 | 7 | 0 | 5 | 0 | 9 | 8 | 0 | 8 | 0 | 6 | 0 | 5 | 8 | 0 | 9
7 8 60 61 68 69 74 75 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES 10

02 | The turbine-driven EFW pump was declared inoperable due to noise observed
03 | during performance testing, while Oconee 1 was at 75% full power. The pump
04 | was repaired, retested, and restored to normal lineup in about 53 hours. EFW
05 | flow to both OTSG's was available from the motor-driven EFW pumps. In addition,
06 | one EFWP is permitted to be inoperable for up to 60 hours. Thus, the inci-
07 | dent was not significant with respect to safe operation, and the health and
08 | safety of the public were not affected.
7 8 9

09 SYSTEM CODE H H H 11 CAUSE CODE E 12 CAUSE SUBCODE B 13 COMPONENT CODE P U M P X X 14 COMP. SUBCODE B 15 VALVE SUBCODE Z 16
7 8 9 10 11 12 13 18 19 20
17 LER/RO REPORT NUMBER 8 0 21 EVENT YEAR 8 0 22 SEQUENTIAL REPORT NO. 0 1 3 24 OCCURRENCE CODE 0 3 28 REPORT TYPE L 30 REVISION NO. 0 32
ACTION TAKEN A 18 FUTURE ACTION A 19 EFFECT ON PLANT Z 20 SHUTDOWN METHOD Z 21 HOURS 0 0 0 22 ATTACHMENT SUBMITTED Y 23 NPRO-4 FORM SUB. Y 24 PRIME COMP. SUPPLIER L 25 COMPONENT MANUFACTURER B 2 6 5 26
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 51 52 53 54 55 56 57 58 59 60

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS 27

10 | Shaft packing leakage from the shaft seal gland resulted in water contamina-
11 | tion of the bearing oil, causing failure of the inboard bearing. Packing
12 | leakage was repaired and bearings replaced. Surveillance recommendations
13 | will be made and a means for preventing water contamination of the bearing oil
14 | will be pursued.
7 8 9

15 FACILITY STATUS E 28 % POWER 0 7 5 29 OTHER STATUS NA 30 METHOD OF DISCOVERY B 31 DISCOVERY DESCRIPTION Performance Test 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 51 52 53 54 55 56 57 58 59 60

16 ACTIVITY CONTENT Z 33 AMOUNT OF ACTIVITY NA 35 LOCATION OF RELEASE 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 51 52 53 54 55 56 57 58 59 60

17 PERSONNEL EXPOSURES DESCRIPTION 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 51 52 53 54 55 56 57 58 59 60

18 PERSONNEL INJURIES DESCRIPTION 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 51 52 53 54 55 56 57 58 59 60

19 LOSS OF OR DAMAGE TO FACILITY DESCRIPTION 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 51 52 53 54 55 56 57 58 59 60

20 PUBLICITY ISSUED N 44 DESCRIPTION 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 51 52 53 54 55 56 57 58 59 60

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