NRC FORM 366 (7-77)

U. S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

CONTROL BLOCK: | | | | | | | (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

0 1 | N J O C P 1 (2) | 0 0 - 0 0 0 0 0 - 0 0 (3) | 4 1 1 1 1 (4) | | (5)
LICENSEE CODE — LICENSE NUMBER — LICENSE TYPE — CAT

CON'T 0 1 REPORT SOURCE L (6) | DOCKET NUMBER 0 5 0 0 0 2 1 9 (7) | EVENT DATE 1 2 1 8 8 0 (8) | REPORT DATE 0 1 1 6 8 1 (9)

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 Limiting condition for operation per T.S. 3.4.D when CRD pump NC08A

0 3 failed in service during normal plant operation. This event is report-

0 4 able under T.S. 6.9.2.b(2). The redundant pump was immediately started

0 5 and remained in operation while repairs on the "A" pump were completed.

0 6 There were no adverse effects on the public health or safety.

0 7

0 8

	SYSTEM CODE	CAUSE CODE	CAUSE SUBCODE	COMPONENT CODE	COMP. SUBCODE	VALVE SUBCODE
0 9	R B (11)	E (12)	B (13)	P U M P X X (14)	B (15)	Z (16)

(17) LER/RO REPORT NUMBER

EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE	REPORT TYPE		REVISION NO.
8 0	—	0 6 2	/	0 3	L	—	0

ACTION TAKEN	FUTURE ACTION	EFFECT ON PLANT	SHUTDOWN METHOD	HOURS (22)	ATTACHMENT SUBMITTED	NPRD-4 FORM SUB.	PRIME COMP. SUPPLIER	COMPONENT MANUFACTURER
D (18)	X (19)	Z (20)	Z (21)	0 0 0 0	Y (23)	Y (24)	A (25)	W 3 1 8 (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 The cause was due to a failure of the pump shaft outboard of the

1 1 balancing disc. The pump internals and the pump motor were replaced. The

1 2 pump will be inspected by the manufacturer to determine the cause of the

1 3 shaft failure.

1 4

	FACILITY STATUS	% POWER	OTHER STATUS (30)	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION (32)
1 5	E (28)	0 9 5 (29)	NA	A (31)	Operator observation

	ACTIVITY RELEASED	CONTENT OF RELEASE	AMOUNT OF ACTIVITY (35)	LOCATION OF RELEASE (36)
1 6	Z (33)	Z (34)	NA	NA

PERSONNEL EXPOSURES

	NUMBER	TYPE	DESCRIPTION (39)
1 7	0 0 0 (37)	Z (38)	NA

PERSONNEL INJURIES

	NUMBER	DESCRIPTION (41)
1 8	0 0 0 (40)	NA

LOSS OF OR DAMAGE TO FACILITY (43)

	TYPE	DESCRIPTION
1 9	Z (42)	NA

PUBLICITY

	ISSUED	DESCRIPTION (45)	NRC USE ONLY
2 0	Y (44)	Weekly News Release	

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8101230564

OYSTER CREEK NUCLEAR GENERATING STATION
Forked River, New Jersey 08731

Licensee Event Report
Reportable Occurrence No. 50-219/80-62/3L

Report Date

January 16, 1981

Occurrence Date

December 18, 1980

Identification of Occurrence

Operation in a degraded mode permitted by a limiting condition for operation per Technical Specifications, section 3.4.D.2 when Control Rod Drive (CRD) Hydraulic Pump NC08A failed in service.

This event is considered to be a reportable occurrence as defined in the Technical Specifications, paragraph 6.9.2.b(2).

Conditions Prior to Occurrence

The plant was operating at steady state. Major plant parameters at the time of occurrence were:

Power:	Core	1837 MWt
	Electrical	610 MWe
Flow:	Recirculation	15.5×10^4 gpm
	Feedwater	6.8×10^6 lb/hr

Description of Occurrence

On Thursday, December 18, 1980, at about 1900 hours the operating Control Rod Drive Hydraulic Pump (NC08A) failed as indicated by alarms and decreasing pressure indications in the control room. The operators immediately started the standby CRD pump and stopped the "A" pump which restored the system to normal.

Visual inspection initially indicated that the motor for the "A" CRD pump had failed. The pump was isolated and tagged out of service.

Apparent Cause of Occurrence

The failure was caused by the complete break of the pump shaft outboard of the balancing disc. This in turn also caused the motor to overheat due to excessive load. The cause of the pump shaft failure has not been determined yet, however, the most probable cause was loosening of the thrust bearing alignment pins.

Analysis of Occurrence

In addition to supplying control rod drive cooling and accumulator charging pressure, the control rod drive hydraulic system also has the capability to provide high pressure coolant injection. For pipe break sizes up to 0.002 ft.^{2}, the flow from a single control rod drive pump is adequate for maintaining the reactor vessel water level nearly five feet above the core, thus alleviating need for auto-relief actuation. Considering that the redundant pump remained operable while repairs were made the safety significance is considered minimal.

Corrective Action

After the pump was removed from service further investigation revealed that the pump shaft had failed at a point outboard of the balancing disc. There was no other evidence of damage other than material being removed from the wear rings. The pump motor was also removed for inspection, cleaned and reinsulated. Megger readings were taken and indicated near infinite resistance. The pump was reassembled with all new components and the motor was reinstalled on December 22, 1980. The pump was started and ran for five hours when the pump tripped on overload. The standby pump was placed in service and the "A" pump motor was again inspected. Megger readings were taken and indicated zero resistance to ground. The motor was then replaced with a spare.

At about 0100 hours on December 24, 1980 the pump was returned to service after completion of an operability check.

Failure Data

Pump
Worthington Pump Corp.
Type 2WTF810 Diffuse type centrifugal pump
Serial #1613735

Motor
General Electric
Custom 8000 Horizontal Induction Motor