



**DUKE POWER**

**DATE:** December 19, 1996

U.S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, D.C. 20555

**Subject:** McGuire Nuclear Station Unit 1  
Docket No. 50-369  
Licensee Event Report 369/96-06, Revision 1  
Problem Investigation Process No.: 0-M96-3223

Gentlemen:

Pursuant to 10 CFR 50.73 Sections (a) (1) and (d), attached is Licensee Event Report 369/96-06, Revision 1, concerning a manually initiated actuation of the Motor Driven Auxiliary Feedwater Pumps on McGuire Unit 1. This report is being submitted in accordance with 10 CFR 50.73 (a) (2) (iv). This event is considered to be of no significance with respect to the health and safety of the public.

Very truly yours,

H. B. Barron  
Vice President

JWP/bcb

Attachment

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## LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)  
McGuire Nuclear Station

DOCKET NUMBER (2)

05000369

PAGE (3)

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TITLE (4)  
Manually Initiated Actuation Of Both Unit 1 Motor Driven Auxiliary Feedwater Pumps Due To Loss of Auxiliary Steam Supply To The Main Feedwater Pump Turbine

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER(S)
11	09	96	96	06	1	12	19	96	N/A	05000
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (Check one or more of the following) (11)							
3			<input checked="" type="checkbox"/> 20.402(b) <input type="checkbox"/> 20.405(a)(1)(i) <input type="checkbox"/> 20.405(a)(1)(ii) <input type="checkbox"/> 20.405(a)(1)(iii) <input type="checkbox"/> 20.405(a)(1)(iv) <input type="checkbox"/> 20.405(a)(1)(v) <input type="checkbox"/> 20.405(c) <input type="checkbox"/> 50.36(c)(1) <input type="checkbox"/> 50.36(c)(2) <input type="checkbox"/> 50.73(a)(2)(i) <input type="checkbox"/> 50.73(a)(2)(ii) <input type="checkbox"/> 50.73(a)(2)(iii) <input checked="" type="checkbox"/> 50.73(a)(2)(iv) <input type="checkbox"/> 50.73(a)(2)(v) <input type="checkbox"/> 50.73(a)(2)(vi) <input type="checkbox"/> 50.73(a)(2)(vii)(A) <input type="checkbox"/> 50.73(a)(2)(vii)(B) <input type="checkbox"/> 50.73(a)(2)(x)							
POWER LEVEL (10)			73.71(b) 73.71(c) OTHER (Specify in Abstract below and in Text, NRC Form 366A)							
0										

## LICENSEE CONTACT FOR THIS LER (12)

NAME

J. W. Pitesa, Safety Review Manager

TELEPHONE NUMBER

AREA CODE

(704)

875-4788

## COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS
				No					

## SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
X					

## ABSTRACT (Limit to 1400 spaces, i.e. approximately fifteen single-space typewritten lines) (15)

**Unit Status:** Unit 1 - Mode 3 (Hot Standby) at 0 percent power.

**Event Description:** On November 9, 1996, Operations (OPS) personnel were returning Unit 1 and 2 to service using the Auxiliary Electric Boilers (AEB). At approximately 1053, a recirculating pump to one of the AEBs tripped, causing steam header pressure to degrade. This caused the Main Feedwater Pump to lose speed, reducing the feedwater to all 4 Steam Generators (SG). At approximately 1140, OPS personnel chose to continue startup using both Unit 1 Motor Driven Auxiliary Feedwater (MDCA) Pumps to provide feedwater, thus stabilizing SG level. Although the start-up procedure allows the use of the MDCA pumps (Engineered Safety Feature) to provide feedwater for start-up, guidance concerning reportability is unclear. McGuire has conservatively chosen to report this event.

**Event Cause:** This event was caused by an equipment failure due to loss of lubrication to a bearing on one of the AEB Recirculating Pumps. The exact cause of the loss of lubrication is unknown.

**Corrective Action:** The pump has been repaired, the correct oil level marked on the bearing housing, and communication concerning this event sent out to appropriate personnel. The pump automatic oiler setting design will be reviewed and an enhancement to the way the setting is locked in place will be made to prevent inadvertent changes.

**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

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**EVALUATION:****Description of Event**

On November 9, 1996, at approximately 1140, Unit 1 was in Mode 3 (Hot Standby) at 0 percent power. The Unit was in the process of starting up following a short outage to replace one bank of vital batteries. Unit 2 was also off line for the same reason and was in Mode 4 (Hot Shutdown) in preparation for startup.

- Units 1 and 2 were in an alignment requiring both Auxiliary Electric Boilers (AEB) [EIIS:BLR] to provide the steam supply to all necessary components.
- At approximately 1053, the AEB Recirculating Pump [EIIS:P] failed, causing the 'A' AEB to trip.
- The Auxiliary Steam (AS) header pressure began to drop due to insufficient steam to feed all required loads. The loads included the Main Feedwater [EIIS:SJ] (CF) Pumps in Unit 1, as well as condenser vacuum for both Units.
- The Unit 1 CF pumps began to lose speed due to degrading AS header pressure, which in turn caused a reduction of CF flow to all four Unit 1 Steam Generators [EIIS:SG] (SGs).
- At that time the Control Room Operators manually lowered the CF pump speed to a minimum to conserve AS pressure.
- Non-Licensed Operators were dispatched to restart the AEB Recirculating pump.
- The AEB Recirculating pump was restarted and ran for a brief period before tripping again.
- Control Room Operators cycled the Unit 1 CF pump speed intermittently to boost SG level and conserve AS pressure.
- Non-Licensed Operators dispatched to restart the AEB Recirculating Pump reported that there was a problem with the pump and that the AEB could not be immediately returned to service.

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- At 1140, after reviewing available operating options, the Operations Shift Manager instructed Control Room Operators to continue startup using the Motor Driven Auxiliary Feedwater Pumps (MDCA) to provide feedwater, thus stabilizing SG level.
- Considering the fact that the startup procedures allow for the use of the MDCA pumps to provide feedwater to the SG, this action was considered to be both appropriate and conservative.
- A four hour notification to the NRC was made per procedure RP/0/A/5700/10, NRC Immediate Notification Requirements.

**Conclusion**

**This event did not result in any uncontrolled releases of radioactive material, personnel injuries, or radiation overexposures. The event is not Nuclear Plant Reliability Data System (NPRDS) reportable.**

This event was caused by an equipment failure due to loss of lubrication to a bearing on one of the AEB Recirculating Pumps. The exact cause of the loss of lubrication is unknown. It could not be determined if the oiler setting was mis-adjusted during maintenance, mis-adjusted while oil was being added, or if the adjustment changed over time due to vibration or some other unknown condition.

A review of the Operating Experience Program (OEP) and Problem Investigation Process (PIP) data bases for the past 24 months revealed one similar reportable event associated with a manual Engineered Safety Features Actuation. LER 370/95-04 documents the details of this event, which resulted from a deficient procedure and had no relation to this event. Even though this event is similar, the associated corrective actions would not have prevented this event from occurring. Therefore, this event is not considered to be recurring.

**CORRECTIVE ACTION:****Immediate:**

1. OPS personnel lowered the Unit 1 CF pump speed to a minimum to conserve header pressure.



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2. Ops personnel were dispatched to restart the Auxiliary Steam Recirculating pump.
3. Ops personnel attempted to restore the AEB Recirculating pump to normal operation.
4. Ops personnel manually controlled Unit 1 CF pump speed intermittently to maintain adequate SG level.
5. After determining that the AEB Recirculating pump was not going to be returned to normal operation, OPS personnel chose to continue startup using both Unit 1 MDCA Pumps to provide feedwater, thus stabilizing SG level.

## Subsequent:

1. MNT personnel disassembled the AEB Recirculating pump to make repairs and determine the cause of the bearing failure.
2. MNT personnel marked the correct oil level on the bearing housing.
3. MNT personnel sent a communication concerning this event to appropriate OPS and Maintenance personnel, emphasizing the importance of proper maintenance and operation of automatic oilers.
4. The PM program for the AEB Recirculating Pumps was reviewed for adequacy and no changes were needed.

## Planned:

The pump automatic oiler setting design will be reviewed and an enhancement to the way the setting is locked in place will be made to prevent inadvertent changes.

## SAFETY ANALYSIS:

Based on this analysis, this event is not considered to be significant. At no time were the health and safety of the public or plant personnel affected as a result of this event.

- The Unit 1 Control Room Operators recognized that the startup procedures allow the use of the MDCA pumps to provide feedwater to the SGs until there is sufficient Main Steam to supply the Main Feedwater pumps.

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- The MDCA pumps responded as designed and flow rates were within expected values.
- Unit 1 continued progress toward startup using the MDCA pumps as allowed by procedure until the AEB Recirculating pump was repaired and the AEB was returned to service.