

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)
McGuire Nuclear Station, Unit 2

DOCKET NUMBER (2)

0 5 0 0 0 3 7 0 1 OF 0 3

PAGE (3)

TITLE (4)

Chemical and volume control pump 2A damaged after running with the suction isolated

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 NAMES		DOCKET NUMBER(S)				
0	1	1	5	8	4	8	4	0	0	4	0	0	0	0	0
0	1	1	5	8	4	8	4	0	0	4	0	0	0	0	0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 8: (Check one or more of the following) (11)									
POWER LEVEL (10)	01010	20.402(b)	20.406(c)	50.73(a)(2)(iv)	73.71(b)						
		20.406(a)(1)(i)	50.36(e)(1)	50.73(a)(2)(v)	73.71(e)						
		20.406(a)(1)(ii)	50.36(e)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)						
		20.406(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)							
		20.406(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)							
		20.406(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(ix)							

LICENSEE CONTACT FOR THIS LER (12)

NAME
Phillip B. Nardoci, Licensing Engineer

TELEPHONE NUMBER

AREA CODE

7 0 4 3 7 3 - 7 4 3 2

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC
A	C	B	P	Y					

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input checked="" type="checkbox"/>	<input type="checkbox"/>				

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

Chemical and Volume Control (NV) Pump 2A was declared inoperable at 2317 on January 15 after the pump was started and run for approximately 19 minutes without suction. The Volume Control Tank Outlet Isolation Valve inadvertently closed prior to starting the pump, causing destruction of the pump. During this time, NV Pump 2B was inoperable for maintenance. With both NV pumps inoperable, the limiting conditions of Technical Specifications 3.1.2.1 and 3.1.2.3 were not met. However, the Action Statements were met since no operation involving core alterations or positive reactivity changes were conducted. Unit 2 was in Mode 5 at the time of this incident.

This event is attributed to Personnel Error due to the operators' failure to verify a suction path prior to operating NV Pump 2A. Also, error is noted for their subsequent failure to identify the loss of suction to the pump during operation despite control board indications and numerous indirect Operator Aid Computer (OAC) Alarms.

NV Pump 2A was repaired. Appropriate personnel will be counseled with emphasis placed on verification of flow paths prior to starting any pump, and giving OAC alarms proper attention.

8403130167 840229
PDR ADDCK 05000370
S PDR

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
McGuire Nuclear Station, Unit 2	0 5 0 0 0 3 7 0	8 4	— 0 0 4	— 0 0	0 2	OF	0 3

TEXT (If more space is required, use additional NRC Form 366A's) (17)

Chemical and Volume Control (NV) [EIIS:CB] Pump 2B [EIIS:P] was removed from service for maintenance on January 8. On January 15 at 2207, valves [EIIS:V] 2ND-1B and 2ND-2A, Reactor Coolant Loop 3 discharge valves to the residual heat removal system (ND) [EISS:BP] isolation, closed inadvertently after their supply breakers were energized with the effect that decay heat removal from the core was lost (REF. LER 370/84-02). ND Pump 2A and NV Pump 2A were stopped immediately. Since letdown through valve 2NV-121A, Residual Heat Removal Letdown to NV, had been lost from ND, an alternate letdown flow path was established (by opening 5 NV valves). During these valve manipulations valve 2NV-141A, volume control tank outlet isolation valve, inadvertently closed (at 2236). Although the valve position indication is provided on the main control board and valve closure is monitored by an audible alarm and light, the valve closure went unnoticed by the Control Operators. They did not recall receiving or acknowledging this alarm, but it was verified to be operable after the incident. It should be noted that during this time there were numerous other activities requiring the Control Operators' attention.

Valves 2ND-1B and 2ND-2A were opened manually. ND Pump 2A was started at 2255 and NV Pump 2A was started at 2258. Since NV Pump 2A had been stopped only 50 minutes previously the Control Operator did not suspect any problems with the suction path. After the pump was started at 2258, pump discharge pressure and discharge header flow indication appeared normal. At 2301 the NV Pump 2A discharge pressure went low appearing as an information point (non-alarm) on the Operator Aid Computer (OAC) alarm typer. Between 2302 and 2314, several High Volume Control Tank (VCT) Level computer alarms appeared along with High VCT Pressure computer points. Due to numerous other alarms appearing on the OAC during this time, these high VCT level and pressure alarms were not immediately acted upon.

At 2315 Fire Warning for Zone 83, NV Pump Room 2A, was received in the Control Room due to smoke caused by the pump overheating. The Control Operator then noticed the NV Pump 2A charging flow was indicating zero and immediately stopped the pump at 2317. At 2326, 2NV-141A was discovered closed and was subsequently reopened.

During this time, NV Pump 2B was inoperable for maintenance. With both NV pumps inoperable, the limiting conditions of Technical Specifications 3.1.2.1 and 3.1.2.3 were not met. However, the Action Statements were met since no operation involving core alterations or positive reactivity changes were conducted. Unit 2 was in Mode 5 at the time of this incident.

This event is attributed to Personnel Error due to the operators' failure to verify a suction path prior to operating NV Pump 2A in accordance with good operating practice. Also, error is noted for their subsequent failure to identify the loss of suction to the pump during operation despite control board indications and numerous indirect Operator Aid Computer Alarms.

Troubleshooting of the control circuit for valve 2NV-141A found it functioning properly. Investigation determined that the only means to close valve 2NV-141A was the close pushbutton on the control board. The possibility of inadvertent closure of 2NV-141A by this pushbutton is unlikely, but it is possible. The close pushbutton for 2NV-141A is located approximately 7" below the switches for the 5 NV valves which were manipulated to establish the alternate letdown flow path.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
McGuire Nuclear Station, Unit 2	0500037084	0	04	00	03	OF	03

TEXT (If more space is required, use additional NRC Form 365A's) (17)

NV Pump 2A had been started and run for approximately 19 minutes without suction, causing destruction of the pump. NV pump 2B was declared operable January 16 (at 2045) after completion of maintenance work. NV Pump 2A was disassembled, a new rotating assembly (pacific dresser) installed, and returned to service on January 20, 1984. Digital points on OAC for NV Pump 2A and 2B Low Discharge Pressure were changed from information points (non-alarm) to alarm points.

This report will be covered with all Operations personnel in crew meetings. Emphasis will be placed on verification of flow paths prior to starting any pump. Emphasis will also be placed on giving OAC alarms proper attention.

With the reactor coolant system [EIIIS:AB] below 200°F, one operable Boron Injection System is acceptable without single failure consideration. This is based on the stable reactivity condition of the reactor and the additional restrictions prohibiting core alterations and positive reactivity changes in the event the single Boron Injection System becomes inoperable.

From January 15 at 2317 until January 16 at 2045, both CCPs were inoperable. During this time, no operations involving core alterations or positive reactivity changes were made. Therefore, the health and safety of the public were unaffected.

DUKE POWER COMPANY

P.O. BOX 33189
CHARLOTTE, N.C. 28242

HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

TELEPHONE
(704) 373-4531

February 29, 1984

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

Subject: McGuire Nuclear Station, Unit 2
Docket No. 50-370
LER 370/84-04

Gentlemen:

Pursuant to 10 CFR 50.73 Sections (a)(1) and (d), attached is Licensee Event Report 370/84-04 concerning chemical and volume control pump 2A being damaged after running with the suction isolated which is submitted in accordance with §50.73(a)(2)(v)/(vi). This event was considered to be of no significance with respect to the health and safety of the public.

Note that due to an error in classification this report is being submitted eleven working days late. We regret any inconvenience this may have caused.

Very truly yours,

H. B. Tucker
Hal B. Tucker

PBN:glb

Attachment

cc: Mr. James P. O'Reilly
Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

Records Center
Institute of Nuclear Power Operations
1100 Circle 75 Parkway, Suite 1500
Atlanta, Georgia 30339

Mr. W. T. Orders
NRC Resident Inspector
McGuire Nuclear Station

IE22
1/1