



Monticello Nuclear Generating Plant  
2807 West County Road 75  
Monticello, MN 55362-9637

Operated by Nuclear Management  
Company LLC

September 29, 2000

US Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

MONTICELLO NUCLEAR GENERATING PLANT  
Docket No. 50-263 License No. DPR-22

**LER 2000-012**  
**Inoperable Containment Isolation Valve Results in a**  
**Condition Prohibited by Technical Specifications**

The Licensee Event Report for this occurrence is attached. This report contains no new NRC commitments.

Please contact Joel Beres at (763) 295-1479 if you require further information.

Byron Day  
Plant Manager  
Monticello Nuclear Generating Plant

c: Regional Administrator - III NRC  
NRR Project Manager, NRC

Sr Resident Inspector, NRC  
Minnesota Department of Commerce

Attachment

JE22

**LICENSEE EVENT REPORT (LER)**

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1)  
**MONTICELLO NUCLEAR GENERATING PLANT**

DOCKET NUMBER (2)  
**05000263**

PAGE (3)  
**1 OF 4**

**TITLE (4) Inoperable Containment Isolation Valve Results in a Condition Prohibited by Technical Specifications**

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
08	30	00	00	-- 012	-- 00	09	29	00		05000
										05000

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)					
POWER LEVEL (10)	000	20.2201(b)	20.2203(a)(2)(v)	x	50.73(a)(2)(i)	50.73(a)(2)(viii)	
		20.2203(a)(1)	20.2203(a)(3)(I)		50.73(a)(2)(ii)	50.73(a)(2)(x)	
		20.2203(a)(2)(i)	20.2203(a)(3)(ii)		50.73(a)(2)(iii)	73.71	
		20.2203(a)(2)(ii)	20.2203(a)(4)		50.73(a)(2)(iv)	OTHER	
		20.2203(a)(2)(iii)	50.36(c)(1)		50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A	
		20.2203(a)(2)(iv)	50.36(c)(2)		50.73(a)(2)(vii)		

**LICENSEE CONTACT FOR THIS LER (12)**

NAME  
**Joel Beres**

TELEPHONE NUMBER (Include Area Code)  
**763-295-1479**

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
A	SB	ISV	A391	Y					

**SUPPLEMENTAL REPORT EXPECTED (14)**

YES (If yes, complete EXPECTED SUBMISSION DATE).  NO

**EXPECTED SUBMISSION DATE (15)**

MONTH DAY YEAR

**ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)**

During a planned shutdown on August 27, 2000, the inboard main steam line drain isolation valve, MO-2373, failed to indicate full open following a manual actuation of the valve from the closed to the open position. After receiving dual indication, the valve was cycled successfully in both the closed and open directions. Based on this, MO-2373 was not considered to be inoperable. A subsequent investigation of the actuator internals on August 30, 2000 revealed that the original dual position indication condition was the result of a personnel error to adequately terminate the open and close torque switch connections following a 1998 maintenance activity on the actuator. It was determined that this condition could have rendered MO-2373 incapable of performing its isolation function, and therefore MO-2373 was considered inoperable from the time of the maintenance activity in 1998. There were times during the period that MO-2373 was considered inoperable where MO-2373 and its associated redundant primary containment isolation valve, MO-2374, were both open. This represents a condition prohibited by the Monticello Technical Specifications. The redundant valve, MO-2374, was capable of performing its safety function at all times that primary containment integrity was required.

(6-1998)

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

FACILITY NAME(1)	DOCKET	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
MONTICELLO NUCLEAR GENERATING PLANT	05000263	00	-- 012 --	00	2 of 4

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

### Problem Definition

During periods of reactor operation when the automatic containment isolation valve MO-2373 in the main steam drain line was considered inoperable, the redundant containment isolation valve MO-2374 was not closed in accordance with Technical Specifications 3.7.A.2.a.(1) and 3.7.D.2.

### Description

On August 27, 2000 while shutting down for a transformer outage, the inboard main steam line drain containment isolation valve, MO-2373<sup>1,2</sup>, failed to indicate full open upon a manual valve actuation from the control room. The motor-operated valve was being opened in accordance with plant operating procedures. The valve was subsequently cycled successfully in both the closed and open directions.

A subsequent inspection of the valve actuator on August 30, 2000 revealed that all of the wires to the four torque switch connections were loose. The malfunction in the open direction was determined to be the result of a failure to properly terminate the torque switch connections, which could have prevented operation in the closing direction. MO-2373 had been overhauled during the 1998 refueling outage. The valve was determined to be inoperable from the period commencing with the completion of the maintenance activity in 1998. However, an actual failure in the open or closed direction was not evident through several cycles of valve operation over this time period prior to the failure to open on August 27, 2000.

<sup>1</sup> EIIS System Code: SB

<sup>2</sup> EIIS Component Code: ISV

(6-1998)

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

FACILITY NAME(1)	DOCKET	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
MONTICELLO NUCLEAR GENERATING PLANT	05000263	00	-- 012 --	00	3 of 4

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

## Event Analysis

### Analysis of Reportability

A 4-hr notification of this event was originally reported under 50.72(b)(2)(i) on August 30, 2000 as a loss of containment function. It was subsequently determined that the consequences of this event did not meet this criterion. However, this event was determined to be reportable as a condition prohibited by the Technical Specifications in accordance with 10 CFR Part 50, Section 50.73(a)(2)(i)(B).

Because of the particular nature of the failure mechanism, the main steam line containment isolation valve MO-2373 was declared retroactively inoperable from March 31, 1998. This inoperability determination extended over several plant startup and shutdown cycles where both main steam line drain line valves (MO-2373 and MO-2374) had been simultaneously open for short periods in accordance with plant operating procedures. Technical Specifications 3.7.A.2.a.(1) and 3.7.D.2 require that at least one valve in a primary containment penetration with an inoperable automatic isolation valve be closed. Consequently the plant had been operating in a condition prohibited by the Technical Specifications, which meets the 30-day reporting criteria of section 50.73(a)(2)(i)(B).

### Safety Significance

The failure of MO-2373 was determined to be random in nature. The failure had no affect on the operation of MO-2374, the redundant containment isolation valve in the penetration. This failure did not have any generic implications for other plant systems. Although MO-2374 had been inoperable for valve position indication during the last plant shutdown, its safety function was unaffected, and the MO-2373 failure would not have prevented the isolation of the affected penetration.

The event investigation determined that MO-2373 valve had in fact operated as designed for all but a very short time during post-shutdown conditions during the last plant outage. For the balance of the period that MO-2373 had been declared retroactively inoperable, the valve had operated satisfactorily in accordance with plant procedures or the affected penetration had been isolated with both valves shut. The health and safety of the public was not adversely affected by this event.

(6-1998)

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

FACILITY NAME(1)	DOCKET	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
MONTICELLO NUCLEAR GENERATING PLANT	05000263	00	-- 012 --	00	4 of 4

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

### Cause

The cause of this event is a personnel error that resulted in a failure to adequately terminate the torque switch connections on MO-2373. The investigation determined that proper termination of the electrical connections is included in the training program and is emphasized in the maintenance procedure.

### Corrective Actions

The valve was repaired and successfully tested. It was identified that similar maintenance work was performed on the torque switch for the associated outboard containment valve, MO-2374, during the same outage period as MO-2373. The torque switch terminations for MO-2374 were inspected on August 30, 2000 and were found to be satisfactory. No other past events involving torque switch termination tightness for motor operated valves were identified.

Plant supervision reviewed this event with the electrical maintenance personnel that are involved in valve repair activities. The need to positively verify the tightness of electrical connections has been emphasized.

The human performance considerations associated with this event will be further investigated under the corrective action program.

### Failed Component Identification

Main Steam Main Steam Line Drain Containment Isolation Valve (Inboard) MO-2373

### Similar Events

None