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Monticello Nuclear Generating Plant
Operated by Nuclear Management Company, LLC

April 25, 2005

L-MT-05-028
10 CFR Part 50.73

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Monticello Nuclear Generating Plant
Docket No. 50-263
License No. DPR-22

LER 2005-002, "Failure of #11 Reactor Protection System Motor-Generator Set Results in an Engineered Safety Feature Actuation"

A Licensee Event Report for this occurrence is attached.

This letter makes no new commitments or changes any existing commitments.

John T. Conway for TJP

Thomas J. Palmisano
Site Vice President, Monticello Nuclear Generating Plant
Nuclear Management Company, LLC

Enclosure

cc: Administrator, Region III, USNRC
Project Manager, Monticello, USNRC
Resident Inspector, Monticello, USNRC

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NRC FORM 366 (6-2004)	U.S. NUCLEAR REGULATORY COMMISSION	APPROVED BY OMB NO. 3150-0104 EXPIRES 6-30-2007
LICENSEE EVENT REPORT (LER) (See reverse for required number of digits/characters for each block)		Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
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TITLE (4) Failure of #11 Reactor Protection System Motor-Generator Set Results in an Engineered Safety Feature Actuation

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER 05000
02	24	2005	2005	– 002	– 00	04	25	2005	FACILITY NAME	DOCKET NUMBER 05000

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) (11)							
POWER LEVEL (10)	90		20.2201(b)		20.2203(a)(3)(ii)		50.73(a)(2)(ii)(B)		50.73(a)(2)(ix)(A)
			20.2201(d)		20.2203(a)(4)		50.73(a)(2)(iii)		50.73(a)(2)(x)
			20.2203(a)(1)		50.36(c)(1)(i)(A)	X	50.73(a)(2)(iv)(A)		73.71(a)(4)
			20.2203(a)(2)(i)		50.36(c)(1)(ii)(A)		50.73(a)(2)(v)(A)		73.71(a)(5)
			20.2203(a)(2)(ii)		50.36(c)(2)		50.73(a)(2)(v)(B)		OTHER Specify in Abstract below or in NRC Form 366A
			20.2203(a)(2)(iii)		50.46(a)(3)(ii)		50.73(a)(2)(v)(C)		
			20.2203(a)(2)(iv)		50.73(a)(2)(i)(A)		50.73(a)(2)(v)(D)		
			20.2203(a)(2)(v)		50.73(a)(2)(i)(B)		50.73(a)(2)(vii)		
			20.2203(a)(2)(vi)		50.73(a)(2)(i)(C)		50.73(a)(2)(viii)(A)		
			20.2203(a)(3)(i)		50.73(a)(2)(ii)(A)		50.73(a)(2)(viii)(B)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Ron Baumer	763-295-1357

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

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
B	JC	MO	6080	Y					

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
	YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO				

ABSTRACT

On February 24, 2005 with the unit operating at 90 percent power, operators were notified of smoke and a flash of light in the vicinity of the #11 Reactor Protection System (RPS) Motor-Generator (MG). Operators were dispatched to the area and found the RPS MG set tripped. With the loss of the MG set, the following occurred: a partial Group II isolation, isolation of secondary containment, and the auto-start of the “A” Standby Gas Treatment system. Based on the Engineered Safety Feature actuations, an event notification (ENS # 41441) was made to the NRC on February 24, 2005 at 2139.

The cause of the event was a phase to ground short which is believed to be due to age related degradation of the motor winding insulation material. Corrective actions planned or taken for the event are: rewinding of the motor and performance of an evaluation for the frequency for re-winding or replacement of various motors on the plant critical equipment list.

Description

On February 24, 2005 at 2111, with the unit operating at 90 percent power, operators were notified of smoke and a flash of light in the vicinity of the #11 Reactor Protection System (RPS) [JC] Motor-Generator (MG) [MG]. Operators were dispatched to the area and found the RPS MG set tripped. With the loss of the MG set, the following occurred: a partial Group II isolation [JM], isolation of secondary containment [JM], and the auto-start of the “A” Standby Gas Treatment system [BH]. Based on the Engineered Safety Feature (ESF) actuations, an event notification (ENS # 41441) was made to the NRC on February 24, 2005 at 2139. At 2217 the operators transferred the RPS Bus “A” to the alternate power source and reset the Channel “A” RPS half scram. At 2250 operators restored equipment isolated by the actuations as a result of the tripping of the #11 RPS MG-Set.

Event Analysis

In accordance with 10 CFR 50.72 (b)(3)(iv)(A), “System Actuation,” an eight-hour event notification was made to the USNRC, due to the initiation of an ESF actuation due to the failure of the RPS MG Set. In accordance with 10 CFR 50.73 (a)(2)(iv)(A), a Licensee Event Report is required for this event.

The event is not classified as a safety system functional failure.

Safety Significance

Two RPS MG-sets are designed to provide a continuous and reliable source of 120 VAC [EC] power for the operation of the RPS and other loads. MG sets 11 and 12 supply power distribution panels [PL] Y50 and Y40 respectively. The output of transformer [XFMR] Y60 provides the 120-volt alternate source to the two panels. The power distribution panels supply power to the RPS systems, Power Range Neutron Monitoring System [IG], and to the off-gas and steam line radiation monitors [IL].

The Monticello Risk Assessment Group reviewed the event for significance, based on the 11 RPS MG set failing, and the resulting power failure of panel Y50. The unavailability of Y50 degraded the reliability of the safety function of containment heat removal (CHR) [NH] because the main condenser [COND] is lost as a heat sink due to Main Steam Isolation Valve isolation if the other power source (panel Y80) fails.

This condition was assessed for significance by assuming an increase in the probability of a turbine [TRB] trip being the initiating event. This resulted in an increase of core damage frequency (CDF) from 4.37E-5 to 4.50E-5 per year (green risk condition). Because this condition only lasted a short time (approximately 1 hour), the risk impact (core damage probability, or CDP) is low. After the condition occurred, the RPS bus “A” was aligned to its alternate power supply and re-energized. Therefore the significance of this event is low.

Cause

The cause of the event was a phase to ground short which is believed to be due to age related degradation of the motor winding insulation material.

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

Corrective Action

The RPS MG Set motor windings were re-wound and the MG Set was returned to service.

The station will perform an evaluation to determine the appropriate frequency for re-winding or replacement of various motors on the plant critical equipment list.

Failed Component Identification

Motor, GE Model 5K326AG2006, AC Induction Motor – 25 Hp, 460V, 3-phase, 60hz.

Previous Similar Events

A review of the INPO operating experience database including Significant Operating Experience Reports (SOER), Significant Experience Reports (SER), Significant Event Notifications (SEN), NRC Information Notices, Generic Letters, Bulletins and Operating Experience reports (OE) found one similar event or issue with a loss of the RPS due to a failure of the AC induction motor. The event occurred on April 15, 2004 at Plant Hatch and was due to age-related degradation of the motor windings caused by a motor with an abnormally high core loss. A similar review was performed in the INPO Equipment Performance (EPIX) database with four motor failures found, however none of the events were similar to the Monticello event.

A review of the stations Corrective Action Program and the station's Licensee Event Reports also did not identify any similar events.