



August 30, 2007

L-MT-07-061  
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 2007-005, "Discovery of Appendix R - Non-compliant Manual Actions during Review of NFPA 805"

A Licensee Event Report (LER) for this occurrence is attached.

This letter contains no new commitments and no revisions to existing commitments.

 For T. O'Connor

Timothy J. O'Connor  
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

IE22  
NRR

<b>NRC FORM 366</b> (6-2004)	<b>U.S. NUCLEAR REGULATORY COMMISSION</b>	<b>APPROVED BY OMB NO. 3150-0104</b> <small>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.</small>	<b>EXPIRES 6-30-2007</b>
<b>LICENSEE EVENT REPORT (LER)</b> <small>(See reverse for required number of digits/characters for each block)</small>			

<b>FACILITY NAME (1)</b> Monticello Nuclear Generating Plant	<b>DOCKET NUMBER (2)</b> 05000263	<b>PAGE (3)</b> 1 of 4
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**TITLE (4)** Discovery of Appendix R - Non-compliant Manual Actions during Review of NFPA 805

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
07	12	2007	2007	- 005	- 00	08	30	2007	FACILITY NAME	DOCKET NUMBER 05000
									FACILITY NAME	DOCKET NUMBER 05000

<b>OPERATING MODE (9)</b>	1	<b>THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) (11)</b>								
		<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input checked="" type="checkbox"/>	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)				
<b>POWER LEVEL (10)</b>	100	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(4)		<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)				
		<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 50.36(c)(1)(i)(A)		<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 73.71(a)(4)				
		<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)		<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(5)				
		<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(2)		<input type="checkbox"/> 50.73(a)(2)(v)(B)	OTHER Specify in Abstract below or in NRC Form 366A				
		<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.46(a)(3)(ii)		<input type="checkbox"/> 50.73(a)(2)(v)(C)					
		<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.73(a)(2)(i)(A)		<input type="checkbox"/> 50.73(a)(2)(v)(D)					
		<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(B)		<input type="checkbox"/> 50.73(a)(2)(vii)					
		<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(C)		<input type="checkbox"/> 50.73(a)(2)(viii)(A)					
		<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)		<input type="checkbox"/> 50.73(a)(2)(viii)(B)					

LICENSEE CONTACT FOR THIS LER (12)	
NAME Ron Baumer	TELEPHONE NUMBER (Include Area Code) 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	

SUPPLEMENTAL REPORT EXPECTED (14)					EXPECTED SUBMISSION DATE (15)		
<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE).	<input checked="" type="checkbox"/> X	<input type="checkbox"/> NO					

**ABSTRACT**

During performance of NFPA-805, Transition Project Task SUP-1, 'Manual Action Compliance,' it was determined that manual operator actions credited in IX/12-A Lower 4KV Room and XII/14-A Upper 4KV Room to achieve and maintain Appendix R hot safe shutdown are non-compliant. The manual actions provide supplemental ventilation to the 4KV rooms in order to assure continued operability of vital switchgear. These manual actions are specified in an Appendix R Section III.G.1/G.2 fire area; however, they do not meet the criteria for allowable manual actions specified in RIS 2006-10, 'Regulatory Expectations with Appendix R paragraph III.G.2 Operator Manual Actions.'

The cause of the event was prior to the issuance of RIS 2006-10, MNGP considered the manual actions to provide supplemental ventilation to the 4KV rooms acceptable. The RIS defined actions that the industry had considered acceptable, as non-compliant with Appendix R requirements and as a result MNGP's manual actions to provide supplemental ventilation to the 4KV rooms are not acceptable. The corrective action for this event is to evaluate the non-compliant manual actions as acceptable due to detailed fire modeling and/or risk assessment or to correct the non-compliant manual actions.

**LICENSEE EVENT REPORT (LER)**

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
Monticello Nuclear Generating Plant	05000263	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 of 4
		2007	- 005	- 00	

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

**Description**

During performance of NFPA-805, Transition Project Task SUP-1, 'Manual Action Compliance,' it was determined that manual operator actions credited in IX/12-A Lower 4KV Room [EA] and XII/14-A Upper 4KV Room to achieve and maintain Appendix R hot safe shutdown are non-compliant. The manual actions provide supplemental ventilation to the 4KV rooms in order to assure continued operability of vital switchgear [SWGR]. The switchgear provides power to equipment needed to achieve and maintain hot safe shutdown. These manual actions are specified in an Appendix R Section III.G.1/G.2 fire area; however, they do not meet the criteria for allowable manual actions specified in RIS 2006-10, 'Regulatory Expectations with Appendix R paragraph III.G.2 Operator Manual Actions.' No system actuations occurred as part of this event. The ventilation system [VK] for the 4KV rooms is original plant design. This condition has existed since implementation of Appendix R.

The discovery of these manual actions was reported as an unanalyzed condition as defined by 10 CFR 50.72(b)(3)(ii)(B) and has been entered into the site's corrective action program. The compensatory measure for these areas is to perform the existing specified manual actions.

**Event Analysis**

A fire induced loss of off site power, coincident with ambient temperature of 107°F or greater, may require supplemental ventilation for the upper and lower 4KV rooms within 3 hours in order to ensure Appendix R safe shutdown capability. The requirement for supplemental cooling was identified in 1991 when the Monticello Nuclear Generating Plant (MNGP) performed testing to determine the impact of extremely hot environmental conditions on plant equipment.

Recent issuance of RIS 2006-10, "Regulatory Expectations with Appendix R Paragraph III.G.2 Operator Manual Actions" provided clarification of the regulatory expectations associated with the use of operator manual actions in III.G.1 and III.G.2 fire areas. This RIS defines actions that the industry had considered acceptable, as non-compliant with Appendix R requirements. The manual actions necessary to provide temporary ventilation to the 4KV rooms are non-compliant actions as indicated by RIS 2006-10.

Because of the above, the event is reportable via a Licensee Event Report under 10 CFR 50.73(a)(2)(ii)(B) – an event or condition that resulted in an unanalyzed condition that significantly degraded plant safety.

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

**LICENSEE EVENT REPORT (LER)**

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
Monticello Nuclear Generating Plant	05000263	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3 of 4
		2007	- 005	- 00	

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

**Safety Significance**

MNGP maintains administrative controls for the introduction of combustible materials and ignition sources to limit the probability of a fire. The 4KV rooms are provided with fire detection and temperature monitoring equipment. The manual actions, while non-compliant with RIS 2006-10, are proceduralized and provide assurance that hot safe shutdown can be achieved and maintained. Based on the administrative controls, fire detection, temperature monitoring, and the reasonable manual actions to supplement ventilation, the safety significance is considered low.

The safety significance of this event was reviewed by the Probabilistic Risk Assessment (PRA) department. The review considered the risk associated with the potential failure of a manual action that is currently credited to allow prolonged 4KV switchgear operation in the event of a fire that results in a loss of offsite power. This manual action involves the provision of temporary ventilation capability to the 4KV rooms to assure continued availability of vital switchgear.

The importance of credit given to manual actions intended to support critical switchgear operation in the event of a fire can be determined by considering the limited conditions under which failure of performance of these manual actions would result in fuel failure and potential subsequent offsite radiological release. These conditions must include all of the following:

- The occurrence of a fire initiator that results in a plant transient. This fire must be of sufficient magnitude and in a location that would result in an automatic reactor trip or conditions that would prompt the operations staff to manually shut down the reactor.
- The fire must cause a complete loss of normal offsite power, including both the 1R and 2R transformer supplies to bus 14, or must fail the power supply or equipment required to support cooling to the 4KV switchgear rooms. This equipment would include V-CH-27, V-MZ-1, V-EF-9, bus 14, LC-102, MCC-121, LC-108, or P105. The fire can not result in a station blackout as such an event would preclude the need for cooling in the 4KV switchgear rooms.
- The fire event must occur at a time where ambient temperatures in the 4KV switchgear areas are unusually high (in excess of 107 °F).
- Operations staff must fail to implement the proceduralized process that establishes temporary cooling to the 4KV switchgear room(s). Critical switchgear room temperatures above 104 °F will result in a control room alarm (Computer alarms V4K500 and V4K501). It is estimated that the operators will have at least 3 hours to establish supplementary ventilation in the 4KV rooms.
- Equipment and procedures intended to provide long term core cooling in the event of a station blackout (SBO) must fail. RCIC manual operation or fire system injection to the

**LICENSEE EVENT REPORT (LER)**

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
Monticello Nuclear Generating Plant	05000263	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	4 of 4
		2007	-- 005	- 00	

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

reactor are proceduralized methods to provide makeup to the reactor in a long term SBO event.

In conclusion, the safety significance is considered to be low.

**Cause**

Prior to the issuance of RIS 2006-10, MNGP considered the manual actions to provide supplemental ventilation to the 4KV rooms acceptable. The RIS defined actions that the industry had considered acceptable, as non-compliant with Appendix R requirements and as a result MNGP's manual actions to provide supplemental ventilation to the 4KV rooms are not acceptable.

**Corrective Action**

The non-compliant manual actions have been documented in the MNGP corrective action program. Remediation of these conditions will be coincident with MNGP's transition to the risk informed, performance-based, fire protection approaches contained in NFPA 805. The NFPA 805 transition will either evaluate the non-compliant manual actions as acceptable due to detailed fire modeling and/or risk assessment or the non-compliant manual actions will be corrected via physical changes to the plant.

**Failed Component Identification**

None

**Previous Similar Events**

A review of station events found no events that were considered to be related to this event.