



Northern States Power Company

414 Nicollet Mall  
Minneapolis, Minnesota 55401-1927  
Telephone (612) 330-5500

December 11, 1992

Report Required by  
10 CFR Part 50, Section 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

Average Power Range Monitors Scram Set Point Higher Than Allowed By  
the Updated Safety Analysis Caused by Inadequate Engineering Review

The Licensee Event Report for this occurrence is attached. Please contact us  
if you require further information.

Thomas M Parker  
Director of Licensing  
Nuclear Generation

c: Regional Administrator - III NRC  
Sr Resident Inspector, NRC  
NRR Project Manager, NRC  
State of Minnesota,  
Attn: Kris Sanda

Attachment

170031

9212210009 921211  
PDR ADOCK 05000263  
S PDR

IE72

## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Mc-ticello Nuclear Generating Plant										DOCKET NUMBER (2) 0 5 0 0 0 2 6 3 1 OF 0 3										PAGE (3) 1 OF 0 3																																																											
TITLE (4) Average Power Range Monitors Scram Set Point Higher Than Allowed By the Updated Safety Analysis Caused by Inadequate Engineering Review																																																																															
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)																																							
1			1			3			9			2			9			2			0			1			8			0			0			1			2			1			4			9			2			0 5 0 0 0													0 5 0 0 0												
OPERATING MODE (9) N									THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)																																																																						
POWER LEVEL (10) 9 3.1									20.402(b)									20.405(c)									50.73(a)(2)(ix)									73.71(b)																																											
									20.405(a)(1)(ii)									50.36(a)(1)									50.73(a)(2)(x)									73.71(c)																																											
									20.405(a)(1)(iii)									50.36(a)(2)									50.73(a)(2)(xii)									OTHER (Specify in Abstract below and in Text, NRC Form 366A)																																											
									20.405(a)(1)(iii)									50.73(a)(2)(ii)									50.73(a)(2)(xiii)(A)																																																				
									20.405(a)(1)(iv)									50.73(a)(2)(iii)									50.73(a)(2)(xiii)(B)																																																				
20.405(a)(1)(v)									XX 50.73(a)(2)(iii)									50.73(a)(2)(iv)									50.73(a)(2)(x)																																																				
LICENSEE CONTACT FOR THIS LER (12)																																																																															
NAME Brian Lambert, System Engineer																				TELEPHONE NUMBER																																																											
																				AREA CODE																																																											
																				6 1 2 2 9 5 - 1 3 1 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																																																				
SUPPLEMENTAL REPORT EXPECTED (14)																																																																															
YES (if yes, complete EXPECTED SUBMISSION DATE):																				XX NO										EXPECTED SUBMISSION DATE (15)																																																	
																														MONTH DAY YEAR																																																	

ABSTRACT (Limit to 3400 spaces, i.e., approximately fifteen single space typewritten lines) (16)

On November 13, 1992, it was determined by plant engineering that the Average Power Range Monitor scram set point was such that a scram could occur outside analyzed conditions. The causes of this event are failure to implement Updated Safety Analysis Report requirements into plant procedures and a deficiency in the set point methodology and transient analysis parameter verification program. The gain setting of the Average Power Range Monitors were adjusted to insure a scram set point of less than or equal to 120% power, the Average Power Range Monitor surveillance procedure was revised, and the Transient Analysis was re-analyzed assuming a scram at 125% power. The Updated Safety Analysis Report will be revised to reflect the current Transient Analysis and the set point methodology program will be revised to include a review of set point parameters used in the Transient Analysis.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 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)		DOCKET NUMBER (2)		LER NUMBER (6)			PAGE (3)
Monticello Nuclear Generating Plant		05000 263		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 3
				92	018	00	

TEXT (If more space is required, use additional copies of NRC Form 368A) (17)

## DESCRIPTION

On November 13, 1992, at 1420 hours, with the plant operating at 93.1% rated thermal power, it was determined by plant engineering staff that the Average Power Range Monitors (APRM)(EIIIS System: IG) scram set point was such that a scram could occur outside analyzed conditions. Section 7.3.5.2.2 of the Updated Safety Analysis Report states: "...within the trip circuitry of each APRM is a clamp which prevents the scram trip point from exceeding 120% of rated power". The procedure for setting the Average Power Range Monitor clamp setting allowed the "as left" set point to be 122% and the "as found" set point to be as high as 124%. This is outside the setting stated in the Updated Safety Analysis Report and is also outside the analysis completed by the Northern States Power Company Core Analysis group, which assumed a scram will occur at less than or equal to 122.4%. The gain on the Average Power Range Monitors was adjusted to insure a trip at a reactor power of less than or equal to 120%.

This is a condition outside the design basis of the plant and is reportable per 10 CFR Part 50, Section 50.73(a)(2)(ii).

## CAUSE

A cause of this event was failure to properly implement Updated Safety Analysis Report requirements into plant procedures. This was a cognitive error by plant engineering personnel. There were no unusual characteristics of the work location and this was not contrary to an approved procedure.

An additional cause was a deficiency in the set point methodology and Transient Analysis parameter verification program, in that parameters used for the transient analysis were not adequately reviewed against actual plant set points and tolerances.

## ANALYSIS

The current and next fuel cycle Transient Analyses were re-analyzed assuming an Average Power Range Monitor flux scram set point of 125% of rated power. The results indicated insignificant changes in peak dome pressure and did not

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

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)	DOCKET NUMBER (2)	LER NUMBER (5)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Monticello Nuclear Generating Plant	05000 263	92	018	00	3 OF 3

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

alter the results of the Reload Design Reports. It is therefore concluded that the effect was also insignificant for previous fuel cycles. Based on the above, there were no consequences to the health and safety of the public.

## CORRECTIVE ACTIONS

The following actions have been completed:

1. The gain settings of the Average Power Range Monitors have been adjusted to insure a trip will occur at less than or equal to 120% of rated power.
2. The procedure for calibration of the Average Power Range Monitors has been revised to include a lower "as found" clamp trip set point.
3. The Transient Analysis for the current and next fuel cycles have been re-analyzed assuming the scram occurs at 125% of rated power.

The following actions will be completed:

1. The Updated Safety Analysis Report will be revised to reflect the current Transient Analysis.
2. All other set point parameters used in the Transient Analysis will be reviewed in the new set point methodology program.

## FAILED COMPONENT IDENTIFICATION

None

## Previous Similar Events

There has been one similar Licensee Event Report, 92-009 (High Pressure Coolant Injection Inoperable Because of Inadequate Condensate Storage Tank Inventory). The training presented as one of the corrective actions associated with Licensee Event Report 92-009 helped lead to the discovery of this event.