

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Cooper Nuclear Station	DOCKET NUMBER (2) 0 5 0 0 0 2 9 8	PAGE (3) 1 OF 0 3
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TITLE (4)
Violation of the APRM Flux Trip Settings and Rod Block Monitor Trip Settings

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)	
10	28	85	85	014	00	11	27	85		0 5 0 0 0	

OPERATING MODE (9) R	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)											
	20.402(b)			20.405(e)			50.73(a)(2)(iv)			73.71(b)		
	20.405(a)(1)(i)			50.36(c)(1)			50.73(a)(2)(v)			73.71(c)		
	20.405(a)(1)(ii)			50.36(c)(2)			50.73(a)(2)(vii)			OTHER (Specify in Abstract below and in Text, NRC Form 366A)		
	20.405(a)(1)(iii)			X 50.73(a)(2)(i)			50.73(a)(2)(viii)(A)					
	20.405(a)(1)(iv)			50.73(a)(2)(ii)			50.73(a)(2)(viii)(B)					
20.405(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(ix)						

LICENSEE CONTACT FOR THIS LER (12)									
NAME P. L. Ballinger, Operations Engineering Supervisor								TELEPHONE NUMBER AREA CODE 4 0 2 8 2 5 - 3 8 1 1	

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	CAUSE	SYSTEM

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

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

On October 29, 1985, a Tech Spec violation was identified during an Engineering review of Surveillance Procedure (SP) 6.2.4.1, Daily Surveillance (Tech Specs), and Nuclear Performance Evaluation (NPE) Procedure 10.1, Average Power Range Monitor (APRM) Calibration. On 9-20-85 with reactor power at 42% and the plant in single recirculation loop operation, the APRM flux trip and rod block monitor trip settings were set in a less conservative state than required by Tech Spec Sections 2.1.A.1.a. and d. Cooper Nuclear Station had been recently granted emergency Tech Spec changes that authorized single recirculation loop operation for greater than 24 hours. Part of the Tech Spec change required adding a conservative factor to the APRM flux trip and rod block monitor trip setting calculations. It was not recognized at the time of this event that the station procedures governing adjustments to these setpoints were inadequate in satisfying these new Tech Spec requirements. Approximately eight hours after the new requirements were invoked, it was determined that the NPE Procedure 10.1, APRM Calibration, was in error. Consequently, the setpoints were adjusted to a more conservative value than required by the procedure to ensure compliance with the new Tech Spec requirements and Reactor Engineering was notified of the problem. The cause of this event can be attributed to personnel error in that the requisite procedure changes were not made following implementation of the new single loop Tech Specs.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/86

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

For a period of approximately eight hours following emergency Technical Specification approval to operate in single loop operation (SLO) for greater than 24 hours, the flow biased average power range monitor (APRM) flux trip and rod block monitor trip settings were maintained in a less conservative state than required by the recently revised Tech Spec Sections 2.1.A.1.a. and d.

The APRM setpoint evaluations are determined from Surveillance Procedure (SP) 6.2.4.1, Daily Surveillance (Tech Specs), which calculates the required APRM Gain Adjustment Factor (AGAF) and the need to perform Nuclear Performance Evaluation (NPE) Procedure 10.1, APRM Calibration. Four evaluations and calibrations that were performed during the single loop operation were identified as violations of the Tech Specs. These occurred at 2308 on 9-20-85 and at 0000, 0301, and 0744 on 9-21-85. The 2308 evaluation on 9-20-85 determined that the required AGAF was 1.00 and that the setpoints did not require changing. The 0000 evaluation on 9-21-85 also called for an AGAF of 1.00 and also concluded no change was necessary. Both times the procedure was performed correctly, but due to the improper procedure, a violation of the APRM flux trip and rod block trip setting Tech Spec requirements resulted. The 0301 evaluation on 9-21-85 correctly calculated that an AGAF of 0.97 was required and that a setpoint change was needed. NPE 10.1 was subsequently performed, setting the AGAF to 0.97 as required by SP 6.2.4.1 and NPE 10.1. This adjustment was also a violation of the recently revised Tech Specs due to the incorrect procedures. The 0744 evaluation on 9-21-85 indicated an AGAF of 0.97 was required and that a calibration was required. While performing NPE 10.1 it was observed that conflicting requirements were specified in the procedure - the required AGAF was 0.97, while the desired APRM reading was 48.2%. This identified an error in the procedure since an APRM reading of 48.2% at a power level of 42.6% requires an AGAF of 0.88:

$$AGAF = \frac{\text{Actual Power Level}}{\text{APRM Reading}} = \frac{42.6\%}{48.2\%} = 0.88$$

The control room operator, recognizing this discrepancy and that the equation for desired APRM reading contained a correction for SLO while the equation for AGAF did not, adjusted the APRMs to the lower AGAF of 0.88 and informed Reactor Engineering of the procedural (NPE 10.1) inadequacy. Subsequently, procedure changes were made to NPE 10.1 and SP 6.2.4.1 to incorporate an appropriate SLO correction factor to the required AGAF equation. On October 29, 1985, during a subsequent Engineering review of SP 6.2.4.1 and NPE 10.1, the Tech Spec violation was identified.

It should be noted that during this period of single loop operation, power was less than 50% of rated and the required flow biased APRM flux trip and rod block trip setting levels were never actually exceeded. The redundant 120% APRM flux trip was fully operable during this event and was unaffected by the personnel and procedural errors. Only the 120% APRM flux trip is used in the design basis accident analysis to mitigate the consequences of an accident; therefore, this incident posed no adverse consequences to public health and safety.

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

A comprehensive review of procedures 10.1 and 6.2.4.1 performed during this period of single loop operation has been completed and all Tech Spec violations have been identified and are listed in this LER. Revisions have been made to procedures 10.1 and 6.2.4.1 to prevent recurrence of this event. Additionally, this LER, the associated Nonconformance Report, and the procedure changes will be routed to all licensed operators and cognizant Reactor Engineers.



Nebraska Public Power District

COOPER NUCLEAR STATION
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CNSS850678

November 27, 1985

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

Dear Sir:

Cooper Nuclear Station Licensee Event Report 85-014 is forwarded as an attachment to this letter.

Sincerely,

P. V. Thomason
P. V. Thomason
Division Manager of
Nuclear Operations

PVT:lb
Attach.

cc: R. D. Martin
L. G. Kunc1
J. D. Weaver
L. R. Berry
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