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ACCESSION NBR: 9405020319 DOC. DATE: 94/04/08 NOTARIZED: NO DOCKET #
 FACIL: 50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana M 05000315 R
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 KINGSEED, J.B. Indiana Michigan Power Co. (formerly Indiana & Michigan Ele I
 BLIND, A.A. Indiana Michigan Power Co. (formerly Indiana & Michigan Ele I
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 94-002-00: on 940309, determined that potential safety issue identified in NSAL 94-001 w/inoperable MSSVs, was reportable. Cause was original power range was found to be in error. Corrective action: revising TS.W/940408 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 5
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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Indiana Michigan
Power Company
Cook Nuclear Plant
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Bridgman, MI 49106
616 465 5901



April 8, 1994

United States Nuclear Regulatory Commission
Document Control Desk
Rockville, Maryland 20852

Operating Licenses DPR-58
Docket No. 50-315

Document Control Manager:

In accordance with the criteria established by
10 CFR 50.73 entitled Licensee Event Report System, the
following report is being submitted:

'94-002-00

Sincerely,

A. A. Blind
Plant Manager

/sb

Attachment

c: J. B. Martin, Region III
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LICENSEE EVENT REPORT (LER)

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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 (MN88 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) Donald C. Cook Nuclear Plant						DOCKET NUMBER (2) 05000 315			PAGE (3) 1 OF 04		
TITLE (4) High Neutron Flux Setpoints for Operation at Reduced Power Levels with Inoperable MSSVs Not Low Enough to Preclude Secondary Side Overpressurization											
EVENT DATE (5)			LER NUMBER (6)			REPORT NUMBER (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER	
03	09	94	94	002	00	04	08	94	Donald C. Cook Plant	05000 316	
									FACILITY NAME	DOCKET NUMBER	
										05000	
OPERATING MODE (9)		6	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)								
POWER LEVEL (10)		0	20.402(b)			20.405(c)			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		
			20.405(a)(1)(iii)			50.73(a)(2)(i)			50.73(a)(2)(viii)(A) (Specify in Abstract below and in Text, NRC Form 368A)		
			20.405(a)(1)(iv)			X 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)(x)		
LICENSEE CONTACT FOR THIS LER (12)											
NAME J. B. Kingseed - Nuclear Safety Manager								TELEPHONE NUMBER (include Area Code) (614) 223-2030			
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)											
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	
SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)	
YES (If yes, complete EXPECTED SUBMISSION DATE)				X NO							
ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)											
<p>On March 9, 1994 it was determined that the potential safety issue identified in Nuclear Safety Advisory Letter (NSAL) 94-001, Operation at Reduced Power Levels with Inoperable Main Steam Safety Valves (MSSVs), was reportable. NSAL 94-001 identified that the original methodology for calculating power range high neutron setpoints with inoperable MSSVs issued generically by Westinghouse was found to be in error.</p> <p>Appropriate administrative controls were immediately established on confirmation of the NSAL applicability. Corrective action will include either revising the technical specifications to incorporate the revised setpoints or performing a more sophisticated analysis to show that the current technical specification limits are acceptable.</p> <p>Due to mitigating factors which provide assurance that there is no loss of safety function this issue did not represent a significant reduction in plant safety.</p>											

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 RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, 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)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Donald C. Cook Nuclear Plant	0 5 0 0 0 3 1 5 9 4	-	0 0 2	-	0 0	0 2 OF 0 4

TEXT (If more space is required, use additional NRC Form 364A's) (17)

Description of Event

On March 9, 1994 it was determined that the potential safety issue identified in Nuclear Safety Advisory Letter (NSAL) 94-001, Operation at Reduced Power Levels with Inoperable Main Steam Safety Valves (MSSVs) (EIIS/SB-RV), was reportable

NSAL 94-001 was issued by Westinghouse Electric Corporation on January 20, 1994. The NSAL provided the Westinghouse conclusion regarding 10 CFR 21 reportability, plant applicability, safety significance and recommended actions relative to operation at reduced power levels with inoperable MSSVs.

The following is a summary of the issue taken from the NSAL:

"Westinghouse has identified a potential safety issue regarding plant operation with Technical Specification Table 3.7-1. This issue does not represent a substantial safety hazard pursuant to 10 CFR 21. However, this issue does represent a condition which may impact the plant's licensing bases.

Table 3.7-1 allows operation with a reduced number of operable MSSVs at a reduced power level as determined by the high neutron flux trip setpoint. The FSAR loss of load/turbine trip (LOL/TT) analysis from full power bounds the case where all MSSVs are operable. The FSAR (LOL/TT) event may not be bounding for the allowable operating configuration of Table 3.7-1 since the high neutron flux trip setpoint, which is identified in Table 3.7-1 for a corresponding number of inoperable MSSVs, may not be low enough to preclude a secondary side overpressurization condition. As a result, the basis for Table 3.7-1 may not be sufficient to preclude overpressurization of the secondary side of the steam generator."

Westinghouse recommended a review of the information provided in the NSAL be performed to determine plant specific applicability.

On February 1, 1994 the Westinghouse NSAL was entered into our Corrective Action program for review and evaluation.

After determining that the NSAL was applicable to the Donald C. Cook Plant, a calculation was performed using the revised methodology given in the NSAL to determine the maximum allowable power range neutron flux setpoints when the MSSVs are inoperable. The calculation was approved on March 2, 1994. The results of the calculation indicate that the existing technical specification setpoints were not sufficient to prevent secondary side overpressurization based on current analysis assumptions.

On March 3, 1994 a technical specification clarification was issued to provide administrative control of the revised power range neutron flux setpoints. To ensure wide spread distribution of this issue to plant personnel a Plant Manager's Standing Order was issued on March 14, 1994.



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

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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 RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (8)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Donald C. Cook Nuclear Plant	05000311594	-	002	-	003	OF 04

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

Cause of Event

The original methodology for calculating power range high neutron setpoints with inoperable MSSVs issued generically by Westinghouse was found to be in error. The methodology is found in the bases of the technical specifications for section 3.7.1. The current bases methodology is also given in the Westinghouse Standard Technical Specifications.

Analysis of Event

This issue is being reported under 10 CFR 50.73(a)(2)(ii)(B) as a condition outside the design basis of the plant.

There are several mitigating factors which provide assurance that there is no loss of safety function to the extent that there is a major reduction in the degree of protection provided to the public health and safety. These include the following:

1. Overpressurization protection is available from the power operated relief valves (EIIS/SB-PCV) and the steam dumps (EIIS/SB-PCV). Both actuate before the MSSVs and continue to relieve pressure even when the MSSVs do open. The steam dump system is only available when the main steam isolation valves are open. Although it is not a safety related function, it is very improbable that steam dump or the secondary side PORVs would be inoperable coincident with inoperable MSSVs.
2. Except at the very beginning of core life and at low power levels, which is a relatively short period of time compared to the total core cycle, the MTC is negative. Even near the beginning of core life with a positive or zero MTC, the primary coolant heatup resulting from the transient would tend to drive the MTC negative. A negative MTC reduces core power and heat input to the coolant. This results in a lower required MSSV capacity to prevent secondary overpressurization. The safety analysis does not credit the reduction of MTC during the transient.
3. Surveillance testing, used to determine MSSV setpoints once per fuel cycle, is what generally results in entry into the subject technical specification action statement. Entry into the action statement is based on a conservative determination that the valve under test is inoperable and has no relieving capability. However, an MSSV under test is capable of partially opening. Since a valve under test will open to some extent, it would be capable of relieving at least some of the secondary side pressure.

In conclusion, the determination of non-conservative setpoints for reactor power is a condition that could have resulted in secondary side overpressurization. The pressure developed in the secondary side at the present power setpoints could have been greater than the MSSVs were capable of relieving. However, the issue is not considered to be a significant safety hazard due to the mitigating factors described above.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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FACILITY NAME (1) Donald C. Cook Nuclear Plant	DOCKET NUMBER (2) 0 5 0 0 0 3 1 5	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		9 4	- 0 0 2	- 0 0	0 4	OF	0 4

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

Corrective Action

Appropriate administrative controls were immediately established on confirmation of the NSAL applicability. The administrative controls consisted of a technical specification clarification and a Plant Manager's Standing Order. The technical specification clarification was issued on March 3, 1994 and the Plant Manager's Standing Order was issued on March 14, 1994.

Corrective action will include either revising the technical specifications to incorporate the revised setpoints or performing a more sophisticated analysis to show that the current technical specification limits are acceptable.

No preventative action is recommended for this condition. The error occurred in original methodology developed by Westinghouse.

Failed Component Identification

None

Previous Similar Events

None