

Indiana Michigan
Power Company
500 Circle Drive
Buchanan, MI 49107 1395



December 13, 2002

AEP:NRC:2573-02

Operating License DPR-74
Docket No. 50-316

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Stop O-P1-17
Washington, DC 20555-0001

Donald C. Cook Nuclear Plant Unit 2
LICENSEE EVENT REPORT 316/2002-004-02
UNANTICIPATED START OF THE
TURBINE DRIVEN AUXILIARY FEEDWATER PUMP

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

LER 316/2002-004-02: "Unanticipated Start of the Turbine Driven Auxiliary Feedwater Pump"

There are no new commitments identified in this submittal.

Should you have any questions, please contact Mr. Brian A. McIntyre, Manager of Regulatory Affairs, at (269) 697-5806.

Sincerely,

A handwritten signature in black ink that reads 'Joseph E. Pollock'.

Joseph E. Pollock
Site Vice President

RAM/jen

Attachment

IE22

c: L. Brandon – Michigan Department of Health
K. D. Curry – AEP Ft. Wayne
J. E. Dyer – NRC Region III
MDEQ – DW & RPD
NRC Resident Inspector
Records Center - INPO
J. F. Stang, Jr. – NRC Washington DC
R. Whale - MPSC

bc: A. C. Bakken, III
M. J. Finissi
S. A. Greenlee
D. W. Jenkins, w/o attachment
J. A. Kobyra, w/o attachment
B. A. McIntyre, w/o attachment
J. E. Newmiller
T. P. Noonan
J. E. Pollock
D. J. Poupard
M. K. Scarpello, w/o attachment
T. K. Woods, w/o attachment

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.

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4. TITLE
Unanticipated Start of the Turbine Driven Auxiliary Feedwater Pump

5. EVENT DATE			6. LER NUMBER				7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER	
01	19	2002	2002	- 004 -	02	12	13	2002	FACILITY NAME	DOCKET NUMBER	

9. OPERATING MODE	5	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)								
10. POWER LEVEL	00	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)						

12. LICENSEE CONTACT FOR THIS LER

NAME Richard A. Meister, Regulatory Affairs	TELEPHONE NUMBER (Include Area Code) (616) 465-5901, X1707
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13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

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

16. Abstract (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

At 00:01 hours on 01/19/02, in preparation for a Unit 2 refueling outage, Operations shift personnel initiated a planned manual reactor trip of Unit 2 from 22% power per Procedure 02-OHP-4021-001-003, Revision 15, "Power Reduction." Shortly thereafter, an automatic start of the turbine driven auxiliary feedwater pump (TDAFP) occurred as a result of a valid low-low level indication in the steam generators. The automatic start of the TDAFP was determined to be an "unanticipated" engineered safety feature (ESF) actuation. Steam generator levels rapidly recovered. Operators secured the TDAFP and throttled the flows from the motor driven auxiliary feedwater pumps in accordance with plant procedures for reactor trip response and recovery. Reactor coolant system cooldown and depressurization proceeded normally. During the trip, pressurizer level shrank lower than procedurally anticipated, resulting in a reactor coolant system letdown isolation.

At 07:56 on 01/19/02, the Shift Manager made an eight hour, non-emergency notification to the NRC (EN# 38640) per 10 CFR 50.72(b)(3)(iv)(A) for an unanticipated ESF actuation. The cause of this event was inadequate procedural guidance. Corrective actions included revision of the applicable procedures to include a reduction in the planned power level trip point to reduce the potential for automatic start of the TDAFP.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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

Conditions Prior to Event

Unit 1 - 100 percent power
Unit 2 - 22 percent power

Description of Event

At 00:01 hours on 01/19/02, in preparation for a Unit 2 refueling outage, Operations shift personnel initiated a planned manual reactor trip of Unit 2 from 22% power per Procedure 02-OHP-4021-001-003, Revision 15, "Power Reduction." Shortly thereafter, an automatic start of the turbine driven auxiliary feedwater pump (TDAFP) [BA] occurred as a result of valid low-low level indication in two of four Steam Generators.

The automatic start of the TDAFP was not specifically called out as an expected occurrence after manual reactor trip from 22% power in procedure 02-OHP-4021-001-003. The reactor trip setpoint had been selected to avoid challenging ESF equipment (i.e., auto start of the TDAFP) both by industry benchmarking and validation in the plant simulator. However, based on simulator response, it was recognized that conditions may be possible where a start of the TDAFP could occur. During simulator training the operating crew had noted that steam generator levels had dropped to within a few percent of the TDAFP auto-start setpoint. Prior to the conduct of the unit shutdown, a pre-job briefing was held with the operating crew. During this pre-job briefing the potential for a TDAFP auto-start was discussed.

The automatic start of the TDAFP was determined to be an "unanticipated" engineered safety feature (ESF) [JE] actuation, in accordance with the guidance contained in NUREG-1022, Revision 2, Paragraph 3.2.6.

Steam generator levels rapidly recovered. Operators secured the TDAFP and throttled flows from the motor driven auxiliary feedwater pumps in accordance with plant procedures for reactor trip response and recovery. Reactor Coolant System (RCS) [AB] cooldown and depressurization proceeded normally. During the trip, pressurizer level shrank lower than procedurally anticipated, resulting in a reactor coolant system letdown isolation. The operating crew recovered from the letdown isolation in accordance with approved plant procedures.

At 07:56 on 01/19/02, the Shift Manager made an eight hour, non-emergency notification to the NRC (EN# 38640) in accordance with 10 CFR 50.72(b)(3)(iv)(A) for an unanticipated ESF actuation.

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TEXT CONTINUATION

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

Cause of Event

With regard to the operational aspects of this event, it was acknowledged that a planned trip should not challenge the engineered safety features equipment to automatically start.

The manual trip set point of 22% reactor power was based on industry benchmarking of similar design/size units. Following the start of the TDAFP during reactor shutdown, CNP learned, based on additional benchmarking, that lowering the established manual trip set point to 17% reactor power was prudent. The lower manual trip set point minimizes the amount of shrinkage within the steam generators, thus providing adequate margin to prevent a start of the TDAFP. CNP has determined that the cause of this event was the establishment of a manual reactor trip set point in the station shutdown procedure that challenged the TDAFP to automatically start.

Analysis of Event

Although the automatic start of the TDAFP was not expected to occur after a manual reactor trip from 22% power, the system performed as designed.

There were no actual nuclear, radiological, or industrial safety consequences as a result of this event.

Corrective Action

Procedure 01-OHP-4021-001-003 was revised to reduce the planned power level trip set point from 22% power to less than 17% power.

Procedure 02-OHP-4021-001-003 was revised to reduce the planned power level trip set point from 22% power to less than 17% power.

Previous Similar Events

None.