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ACCESSION NBR: 9308160318 DOC. DATE: 93/08/09 NOTARIZED: NO DOCKET #
FACIL: 50-316 Donald C. Cook Nuclear Power Plant, Unit 2, Indiana M 05000316
AUTH. NAME AUTHOR AFFILIATION
WEBER, G.A. Indiana Michigan Power Co. (formerly Indiana & Michigan Ele
BLIND, A.A. Indiana Michigan Power Co. (formerly Indiana & Michigan Ele
RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 93-006-00: on 930709, TS 72 h LCO action statement
exceeded due to time required for repair of charging pump.
Charging pump rotor assembly removed & rebuilt assembly
installed. W/930809 ltr.

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

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AO-4
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Indiana Michigan
Power Company
Cook Nuclear Plant
One Cook Place
Bridgman, MI 49106
616 465 5901



August 9, 1993

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

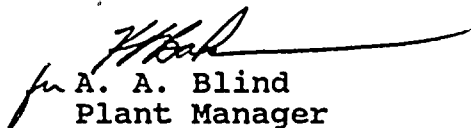
Operating Licenses DPR-74
Docket No. 50-316

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:

93-006-00

Sincerely,


A. A. Blind
Plant Manager

/sb

Attachment

c: J. B. Martin, Region III
E. E. Fitzpatrick
P. A. Barrett
R. F. Kroeger
W. E. Walters - Ft. Wayne
NRC Resident Inspector
B. A. Wetzel - NRC
M. R. Padgett
G. Charnoff, Esq.
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S. J. Brewer
B. A. Svensson

160038

9308160318 930809
PDR ADOCK 05000316
S PDR

ILR2
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LICENSEE EVENT REPORT (LER)

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-630), 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) D. C. COOK NUCLEAR PLANT - UNIT 2										DOCKET NUMBER (2) 0 5 0 0 0 3 1 6										PAGE (3) 1 OF 0 4																					
TITLE (4) EXCEEDED TECHNICAL SPECIFICATION LCO ACTION TIME LIMIT DUE TO TIME REQUIRED FOR REPAIR OF CHARGING PUMP																																									
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)								
																																	0 5 0 0 0								
0 7			1 0			9 3			9 3			0 0			6 0			0 0			0 8			0 9			9 3									0 5 0 0 0					
OPERATING MODE (9) 1						THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 8: (Check one or more of the following) (11)																																			
POWER LEVEL (10) 0 7 0						20.402(b)						20.406(c)						50.73(a)(2)(iv)						73.71(b)																	
						20.406(a)(1)(i)						50.36(e)(1)						50.73(a)(2)(v)						73.71(c)																	
						20.406(a)(1)(ii)						50.36(e)(2)						50.73(a)(2)(vi)						OTHER (Specify in Abstract below and in Text, NRC Form 365A)																	
						20.406(a)(1)(iii)						50.73(a)(2)(ii)						50.73(a)(2)(viii)(A)																							
						20.406(a)(1)(iv)						50.73(a)(2)(iii)						50.73(a)(2)(vii)(B)																							
20.406(a)(1)(v)						50.73(a)(2)(iv)						50.73(a)(2)(ix)																													
LICENSEE CONTACT FOR THIS LER (12)																																									
NAME G. A. WEBER - PLANT ENGINEERING SUPERINTENDENT																TELEPHONE NUMBER AREA CODE 6 1 6 4 6 5 - 1 5 9 0 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	COMPONENT	MANUFACTURER	REPORTABLE TO NRC		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC																			
X	C/B		P P	0 2 5	Y																																				
SUPPLEMENTAL REPORT EXPECTED (14)																EXPECTED SUBMISSION DATE (15)						MONTH DAY YEAR																			
YES (If yes, complete EXPECTED SUBMISSION DATE)																X NO																									

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

On July 6, 1993 at 2237 hours, the West Centrifugal Charging Pump (W-CCP) was secured due to degraded performance. The following morning, troubleshooting determined that the pump was inoperable and would require maintenance. Subsequent review of the condition determined that the starting time for the inoperability should have begun when the pump was initially secured on July 6, 1993. The applicable Technical Specification Action Statement required a unit shutdown when a CCP can not be returned to service within 72 hours. In anticipation that the repairs to the pump would exceed this time limit, with Unit 2 at 70 percent Rated Thermal Power, a sixty (60) hour Exercise of Enforcement Discretion was requested. On July 9, 1993, at 1544 hours, following review by NRR and Region III staffs, the NRC granted the request. The Technical Specification 72 Hour LCO Action Statement was exceeded on July 9, 1993, at 2237 hours. The W-CCP was returned to service on July 10, 1993, at 1145 hours, following completion of operability testing.

A postulated failure of the W-CCP was mitigated by the availability of the redundant CCP during the period of inoperability. Exceeding the 72 Hour Technical Specification Action Requirement had no actual impact on public health and safety.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 600 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		
D. C. COOK NUCLEAR PLANT - UNIT 2	0 5 0 0 0 3 1 6 9 3 - 0 0 6 - 0 0	0 2	OF	0 4		

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

Conditions Prior to Occurrence:

Unit-2 in Mode 1 (Power Operation) at 70 percent rated thermal power.

Description of Event:

The West Centrifugal Charging Pump (W-CCP) (EIIS/CB-P) became inoperable on July 6, 1993 at 2237 hours, when it was secured due to degraded performance. The applicable Technical Specification Action Statement, requiring a unit shutdown when the CCP could not be returned to service within 72 hours, was exceeded on July 9, 1993 at 2237 hours.

The W-CCP problems started on July 6, 1993, at approximately 2200 hours. Difficulty was experienced in maintaining constant pressurizer level at the program value with the W-CCP in service. Manipulation of the system was required in order to attain consistent pressurizer level control. At 2237 hours, the East CCP (EIIS/CB-P) was placed in service and the W-CCP placed in standby due to this condition. (The pump was not declared inoperable at that time as the observed pump discharge and suction pressure, met the ASME Section XI and Technical Specification pressure requirements.)

On the morning of July 7, 1993, troubleshooting of the pump was performed. The W-CCP was started at 1032 hours, and shut down quickly due to high vibrations. Another start was made, this time with additional instrumentation. Although discharge pressure was greater than required by the Technical Specification, vibration at the outboard pump bearing was abnormally high. The pump was shut down and declared inoperable. Although during the evening of July 6, 1993, the pump appeared to be operable, the decision was made to declare the pump inoperable as of 2237 hours on July 6, 1993, when degraded pump performance was experienced.

A sixty (60) hour extension to the 72 Hour Technical Specification Action Statement was reviewed by the NRR and NRC Region III staffs. An Exercise of Enforcement Discretion was issued by the NRC on July 9, 1993 at 1544 hours.

Repair activities were expeditiously initiated on the W-CCP. The Technical Specification LCO was met when the W-CCP was returned to service on July 10, 1993 at 1145 hours.

Cause:

The time required to disassemble, repair, and perform subsequent testing on the W-CCP, exceeded the time limit (72 hours) allowed by the applicable Technical Specification LCO Action Statements.

Upon disassembly of the W-CCP rotor assembly, the pump shaft was found to be cracked. The root cause of the shaft failure is still under investigation. If the cause is determined at a later date, an updated LER will be submitted to report the additional findings.

LICENSEE EVENT REPORT (LER)
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D. C. COOK NUCLEAR PLANT - UNIT 2	0 5 0 0 0 3 1 6	9 3	0 0 6	0 0	0 3	OF	0 4

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

Analysis of Event:

This event is being reported in accordance with 10CFR50.73(a)(2)(i)(B) as operation prohibited by the plant's technical specifications (TS). On July 6, 1993 at 2237 the unit was operating at 70% power with the West centrifugal charging pump (CCP) inoperable; therefore, in action statements for TS 3.1.2.4 (Charging Pumps - Operating) and 3.5.2 (ECCS Subsystems - Tavg greater than or equal to 350 degrees F). Action statements 3.1.2.4 and 3.5.2 allow 72 hours to restore the pump to operable status or commence a unit shutdown.

At 2237 hours on July 9, 1993 the 72 hour LCO time limit was exceeded. A unit shutdown was not commenced as required by the TS as a Regional Exercise of Enforcement Discretion had been obtained at 1544 hours on July 9, 1993 in which the U.S. Nuclear Regulatory Commission (NRC) exercised its discretion not to enforce compliance with the required actions in 3.1.2.4 and 3.5.2 relative to the inoperable centrifugal charging pump. The Exercise of Enforcement Discretion allowed for a 60 hour extension to the TS 72 hour action statement limit. During the period that the W-CCP was inoperable and the Exercise of Enforcement Discretion was in affect, the train associated with the E-CCP remained operable. Also, no work activities were conducted involving either train of Charging and Emergency Core Cooling Systems; including associated emergency electrical distribution. We performed the technical specification surveillances for verification of the ECCS valve lineup and reactivity control systems valve lineup, prior to implementation of the Exercise of Enforcement Discretion. These measures gave increased confidence in the operability of the charging and ECCS systems and were committed to in the request for Enforcement Discretion.

In addition, we did not conduct any work activities involving certain equipment that could help to mitigate the consequences of a Loss of Coolant Accident or steam line break accident. The specific equipment involved is the Unit 2 auxiliary feedwater pumps, the cross-tie connecting the Chemical and Volume Control Systems of Unit 1 and 2, the Unit 2 Main Steam Isolation Valves, and the Unit 1 CCPs. These actions were also part of the commitments made in the request for Enforcement Discretion.

This event did not introduce any new modes of plant operation or physical changes to the plant, nor did it alter or change initiating aspects of previously evaluated accidents and did not initiate or create a precursor to a previously evaluated accident. There was no significant increase in the probability or consequences of an accident previously evaluated or create the evaluated due to the operability of the redundant CCP.

To allow for possibility of a failure in one train of function, the accident analyses only takes credit for one train of charging pumps. The train associated with the redundant east pump remained operable during this period. The severe accident risk of core damage, as determined during the Cook Nuclear Plant Individual Plant Examination project, was calculated to 6.26E-05 per year. The increase to this core damage frequency that the W-CCP represents while unavailable on a one-time basis for 60 hours beyond the LCO time limit is 1.82E-06. This is only a 2.9% increase to the baseline core damage frequency. This slight increase is not considered to have significant implications for public health and safety, or to constitute a significant reduction in a margin of safety.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		9 3	— 0 0 6	— 0 0	0 4	OF	0 4

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

Corrective Actions:

The W-CCP rotor assembly was removed and a rebuilt assembly installed. The W-CCP was returned to service on July 10, 1993, at 1145 hours, following completion of the operability testing. The rotor assembly was sent off site for disassembly and repair.

Failed Component Identification:

Component Name: 2 West Centrifugal Charging Pump

Plant I.D. No.: Z-PP-50W

Manufacturer: Pacific Pump Division/Dresser

Model No.: RLIJ

EIIIS Code: CB-P

Previous Similar Events:

There have not been any previous similar events.