

November 28, 2001

Mr. A. C. Bakken III
Senior Vice President
Nuclear Generation Group
American Electric Power Company
500 Circle Drive
Buchanan, MI 49107-1395

SUBJECT: D. C. COOK NUCLEAR POWER PLANT, UNITS 1 AND 2
NRC INSPECTION REPORT 50-315/01-18(DRP); 50-316/01-18(DRP)

Dear Mr. Bakken:

On November 17, 2001, the NRC completed an inspection at your D. C. Cook Nuclear Power Plant, Units 1 and 2. The enclosed report documents the inspection findings which were discussed on November 20, 2001, with Mr. Pollock and other members of your staff.

This inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

No findings of significance were identified.

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Sincerely,

/RA/

Anton Vogel, Chief
Branch 6
Division of Reactor Projects

Docket Nos. 50-315; 50-316
License Nos. DPR-58; DPR-74

Enclosure: Inspection Report 50-315/01-18(DRP);
50-316/01-18(DRP)

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cc w/encl.: J. Pollock, Plant Manager
M. Rencheck, Vice President, Strategic Business Improvements
R. Whale, Michigan Public Service Commission
Michigan Department of Environmental Quality
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MI Department of State Police
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-315; 50-316
License Nos: DPR-58; DPR-74

Report No: 50-315/01-18(DRP); 50-316/01-18(DRP)

Licensee: American Electric Power Company

Facility: D. C. Cook Nuclear Power Plant, Units 1 and 2

Location: 1 Cook Place
Bridgman, MI 49106

Dates: October 1, 2001 through November 17, 2001

Inspectors: K. Coyne, Acting Senior Resident Inspector
J. D. Maynen, Resident Inspector
C. E. Brown, Resident Inspector - Clinton
M. Holmberg, Reactor Engineer

Approved by: A. Vogel, Chief
Branch 6
Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000315-01-18(DRP), IR 05000316-01-18(DRP), on 10/01-11/17/2001, Indiana Michigan Power Company, D.C. Cook Nuclear Power Plant, Units 1 and 2. Resident Inspector Report.

This report covers a 7-week routine inspection. The inspection was conducted by resident and Region III inspectors. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609 "Significance Determination Process" (SDP). The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at <http://www.nrc.gov/NRR/OVERSIGHT/index.html>. Findings for which the SDP does not apply are indicated by "No Color" or by the severity level of the applicable violations.

A. Inspector Identified Findings

No findings of significance were identified.

B. Licensee Identified Findings

A violation of very low significance was identified by the licensee and was reviewed by the inspector. Corrective actions taken or planned by the licensee appear reasonable. This violation is listed in Section 4OA7 of this report.

Report Details

Summary of Plant Status:

Unit 1 remained in Mode 1 (Power Operation) throughout the inspection period. Unit 1 began the inspection period in a power ascension at approximately 70 percent full power. Unit 1 reached full power on October 2, 2001. On October 6, 2001 and again on October 28, 2001, power was briefly reduced to approximately 82 percent to allow removal of Circulating Water Pump 13 from service. In both instances, Unit 1 was returned to full power on the same day. On October 29, 2001, Unit 1 power was reduced to 82 percent due to degraded main condenser vacuum caused by sustained rough lake conditions. Unit 1 was returned to full power on October 31, 2001 and operated at or near full power for the remainder of the inspection period.

Unit 2 began this report period in Mode 5 (Cold Shutdown). On October 5, 2001, Unit 2 entered Mode 2 (Startup). However, during the startup, the licensee identified a problem with the rod control system. The control rods were all reinserted and Unit 2 was placed in Mode 3 (Hot Standby). The rod control system was repaired, and Unit 2 was entered Mode 2 on October 7, 2001. After reaching Mode 1, the reactor unexpectedly tripped from approximately 7 percent power due a loss of the north control rod motor-generator output voltage. Unit 2 was placed in Mode 3 following the trip. After troubleshooting and repairing the north control rod motor-generator set, Unit 2 again entered Mode 2 on October 9, 2001. Unit 2 reached full power on October 12, 2001. Unit 2 operated at full power until October 25, 2001, when the operators reduced power to 55 percent to support main feed pump condenser cleaning. Unit 2 was returned to full power on October 31, 2001, and operated at or near full power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment (71111.04)

.1 Partial Equipment Walkdowns

a. Inspection Scope

The inspectors performed a partial system walkdown of the following risk-significant systems:

Mitigating Systems Cornerstone

- Unit 2 Auxiliary Feedwater System

Barrier Integrity Cornerstone

- Unit 2 Manual Containment Isolation Valves

The inspectors selected these systems based on their risk significance relative to the reactor safety cornerstones. The inspectors reviewed operating procedures, Technical Specification (TS) requirements, Administrative Technical Requirements (ATRs), system diagrams, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered these systems incapable of performing their intended functions.

b. Findings

No findings of significance were identified.

.2 Full System Walkdown

a. Inspection Scope

The inspectors performed a complete mitigating system walkdown of the Unit 2 Emergency Core Cooling System (ECCS). The inspectors reviewed ongoing system maintenance, open job orders (JOs), and design issues for potential effects on the ability of the ECCS system to perform its design functions. The inspectors ensured that the configuration of the ECCS system was in accordance with applicable operating checklists. The inspectors also performed a complete system status check, which verified acceptable material condition of system components, availability of electrical power to system components and essential support systems, and that ancillary equipment or debris did not interfere with system performance. The Unit 2 ECCS system was selected for this inspection based on its importance as a mitigating system used to prevent core damage.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Routine Fire Zone Tours

a. Inspection Scope

The inspectors performed fire protection walkdowns of the following five risk-significant plant areas:

- Auxiliary Building East End - Elevation 587' (Fire Zones 4, 5, and 61)
- Unit 1 Control Room - Elevation 633' (Fire Zone 53)
- Unit 2 Control Room HVAC Equipment Room - Elevation 650' (Fire Zone 73)
- Unit 2 Turbine Room - Elevation 609' (Fire Zones 96, 97, 98, and 99)
- Unit 1 Turbine Deck - Elevation 633' (Fire Zone 129)
- Unit 1 Essential Service Water Pump Rooms (Fire Zones 29A and 29B)

The inspectors verified that fire zone conditions were consistent with assumptions in the licensee's fire hazard analysis. The inspectors walked down fire detection and

suppression equipment, assessed the material condition of fire control equipment, and evaluated the control of transient combustible materials.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12)

a. Inspection Scope

The inspectors evaluated the licensee's implementation of 10 CFR 50.65 (the Maintenance Rule). The inspectors assessed: (1) functional scoping in accordance with the Maintenance Rule; (2) characterization of system functional failures; (3) safety significance classification; (4) 10 CFR 50.65 (a)(1) or (a)(2) classification for system functions; and (5) performance criteria for systems classified as (a)(2) or goals and corrective actions for systems classified as (a)(1). The inspectors reviewed the following risk-significant systems:

Mitigating Systems Cornerstone

- On-site 4kV Distribution System
- Plant Process Computer
- Hydrogen Recombiner System
- Containment Spray System
- Essential Service Water System

b. Findings

Findings of significance relative to this inspection are discussed in Section 4OA7 below.

1R13 Maintenance and Emergent Work (71111.13)

a. Inspection Scope

The inspectors reviewed the risk assessment and risk management for the following risk significant maintenance activities:

Initiating Events Cornerstone

- Unit 1 Plant Air Compressor Routine Preventative Maintenance

Mitigating Systems Cornerstone

- Unit 2 Reactor Startup
- Unit 1 Circulating Water Pump #13 Maintenance
- Unit 1 East Residual Heat Removal Pump Maintenance

These activities were selected based on their potential risk significance relative to the reactor safety cornerstones. For each of the above activities, the inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst, and verified that plant conditions were consistent with the risk assessment. The inspectors also reviewed TS and ATR requirements and walked down portions of redundant safety systems, when applicable, to verify that risk analysis assumptions were valid and applicable requirements were met.

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Nonroutine Evolutions (71111.14)

a. Inspection Scope

The inspectors observed the licensee's performance during the following non-routine events:

- Unit 2 Restart Following Forced Outage
- Unit 2 Downpower Due to Degraded Main Feedwater Pump Condenser Performance

The inspectors observed the licensee's conduct of operations, attended briefings, and reviewed procedures during these events. The inspectors verified that plant operation was conducted safely and in accordance with appropriate plant procedures.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the following operability determinations and evaluations affecting the reactor safety cornerstones to determine whether operability was properly justified and that no unrecognized risk increase had occurred.

Mitigating Systems Cornerstone

- CR 1291039 Internal Parts of the Motor-driven Auxiliary Feedwater Pump Are Classified as Non-safety-related, These Parts Should Be Classified as Safety-related.

Barrier Integrity Cornerstone

- CR 01290050 2-VFI-331 (2-HV-AES-2 Outlet Flowmeter) Reading High. This Condition Potentially Reduces Filter Residence Time When in Charcoal Mode.
- CR 01304002 1-FPI-240 (Feedwater Pressure to Number 4 S/G) Indication Reading 130 Psi Greater than Other Channels. This Condition Non-conservatively Impacts the Plant Process Computer Thermal Power Calculation.

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (71111.16)

.1 Review of the Cumulative Effect of Operator Workarounds (Unit 2)

a. Inspection Scope

The inspectors reviewed the cumulative effect of Operator Workarounds (OWAs), control room deficiencies, and degraded conditions on equipment availability, initiating event frequency, and the ability of the operators to implement abnormal or emergency operating procedures.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed the post maintenance testing requirements associated with the following scheduled maintenance activities:

Mitigating Systems Cornerstone

- JO 01288008 Replace failed pressurizer module 2-H2V-R1N1S5 (current to voltage converter card)
- JO 01060044 Investigate 2-HV-AES-2, shaft rotating backwards
- JO 01280017 Unit 2 North Control Rod Drive Motor-Generator
- JO R0087052 Unit 2 "B" Train Reserve Feed Supply Breaker Replacement
- JO R0087053 Unit 2 "B" Train Reserve Feed Supply Breaker Replacement
- JO 01287005 Unit 2 AB D/G Output Breaker Replacement

The inspectors reviewed post maintenance testing criteria specified in the applicable preventive and corrective maintenance work orders. The inspectors verified that test

methodology and acceptance criteria were appropriate for the scope of work performed. Documented test data was reviewed to verify that the testing was complete and that the equipment was able to perform the intended safety functions.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

For each of the surveillance test procedures listed below, the inspectors observed selected portions of the surveillance test and reviewed the test results to determine whether risk significant systems and equipment were capable of performing their intended safety functions and to verify that testing was conducted in accordance with applicable procedural and TS requirements:

Mitigating Systems Cornerstone

- 02-OHP 4030.001.002, Containment Inspection Tour, October 2, 2001
- 01-OHP 4030.STP.050E, East Residual Heat removal Train Operability Test Modes 1-4, November 1, 2001
- 02-OHP 4030.STP.051S, Unit 2 SI pump inservice testing, November 11, 2001

Barrier Integrity Cornerstone

- 12-IHP 4030.STP.605, DIS Quarterly Surveillance and Baseline Testing, May 8, 2001 and July 31, 2001 (Unit 1)

The inspectors reviewed the test methodology and test results in order to verify that equipment performance was consistent with safety analysis and design basis assumptions. The inspectors also reviewed condition reports concerning surveillance testing activities to verify that identified problems were appropriately characterized.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

The inspectors reviewed the licensee's gathering and submittal of data for the following performance indicators for April 2000 through August 2001:

- Unit 1 and Unit 2 Reactor Coolant Activity
- Unit 1 Reactor Coolant System Leak Rate

b. Findings

No findings of significance were identified.

4OA3 Event Follow-Up (71153)

Licensee Event Reports

The inspectors reviewed the corrective actions associated with the following licensee event reports.

(Closed) Licensee Events Report 50-315/99008-01: Residual heat removal piping vibrations could potentially cause residual heat removal piping failures. On January 15, 1999, with both units in Mode 5, the operators reported excessive piping vibration in both Residual Heat removal (RHR) rooms. Since initial operation, noise and vibration had been known to occur in both the Unit 1 and Unit 2 RHR systems when the systems operated in shutdown cooling with low decay heat, a depressurized reactor coolant system (RCS) and low RCS temperature. On March 10, 1999, the licensee notified the NRC and subsequently submitted LER 50-315/99008-00 for the plant being in an unanalyzed condition. The source of the excessive vibration in the RHR system was cavitation across the RHR flow-control valves. The NRC, after determining that the issue was correctly characterized and classified in the licensee's corrective action program, and that appropriate corrective actions were specified and completed (or planned and tracked for completion), closed LER 50-315/99008-00 in Inspection Report 50-315/99029; 50-316/99029. On July 13, 2001, the licensee submitted LER 50-315/99008-01 to document the root cause determination and corrective actions for the excessive RHR vibration.

The corrective actions included changing the flowpath to use the emergency core cooling flowpath as the preferred flowpath instead of the normal cooldown flowpath. The NRC reviewed the operability determination in Section O2.2.b2 of Inspection Report 50-315/00-13; 50-316/00-13. Additional corrective actions included revising procedures and monitoring the RHR systems during testing and operation to ensure the effectiveness of the corrective actions. A final design change to resolve the system vibration is planned to be completed by the end of the next refueling for Unit 1 and by the end of Cycle 14 for Unit 2. The licensee documented the RHR vibrations in CRs 99-00996, 99-02455, and 99-02466. This LER is closed.

(Closed) Licensee Event Report 50-315/99026-01: High energy line break programmatic inadequacies result in unanalyzed conditions. In this LER the licensee discussed corrective actions and potential safety significance associated with vulnerability of safety related equipment such as the auxiliary feedwater pumps and component cooling water pumps to postulated high energy steam line breaks. The issues described in this licensee event report were the subject of the Unit 1 Restart Action Matrix Items R.1.14, R.1.24 and R.1.35. The licensee's corrective actions for these issues were reviewed, considered satisfactory, and Revision 0 of this LER was

closed in NRC Inspection Report 50-315/00-07; 50-316/00-07. The risk significance of the issues described in this LER were evaluated by the NRC and documented in NUREG-1728 "Assessment of Risk Significance Associated With Issues Identified at D.C. Cook Nuclear Power Plant," dated October 2000. This LER is closed.

(Closed) Licensee Event Report 50-315/00014-01: Reactor trip signal not verified as required by Technical Specifications. On September 15, 2000, the licensee identified that the Technical Specification requirements for testing the reactor trip breakers were not met during the Unit 2 startup following the extended outage. This issue was previously discussed in NRC Inspection Report 50-315/01-03; 50-316/01-03 and entered into the licensee's corrective action program as CR P-00-11677. Supplement 1 to the LER did not identify any new issues; therefore, this LER is closed.

40A6 Management Meetings

The inspectors presented the inspection results to licensee management listed below on November 20, 2001. The licensee acknowledged the findings presented. No proprietary information was identified.

40A7 Licensee Identified Violations

The following finding of very low safety significance was identified by the licensee and is a violation of NRC requirements which meet the criteria of Section IV of the NRC Enforcement Policy, NUREG-1600 for being dispositioned as a Non-Cited Violation (NCV).

If you deny this Non-Cited Violation, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region III; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the D.C. Cook facility.

NCV Tracking Number

Requirement Licensee Failed to Meet

50-315/01-18-01
50-316/01-18-01

10 CFR 50.65 (a)(1) required licensees to monitor the performance or condition of structures, systems, or components, against licensee-established goals, in a manner sufficient to provide reasonable assurance that such systems, structures, and components are capable of fulfilling their intended functions. Contrary to the above, on October 5, 2001, the licensee identified that they had not established performance goals for seven systems and that the licensee had not demonstrated that the performance of these seven systems was being effectively controlled through the performance of appropriate preventive maintenance. This issue was entered into the licensee's corrective action program as CR 01296054. This is being treated as a Non-Cited Violation.

KEY POINTS OF CONTACT

Licensee

R. Gaston, Regulatory Affairs Manager
E. Larson, Manager, Operations
R. Meister, Regulatory Affairs
T. Noonan, Director, Performance Assurance
J. Pollock, Plant Manager
E. Ridgell, Regulatory Affairs
R. Smith, System Engineering

NRC

A. Vogel, Chief, Reactor Projects Branch 6
J. Lennartz, Senior Resident Inspector - Palisades

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-315/01-18-01 50-316/01-18-01	NCV	Licensee identified failure to monitor 7 SSC's against licensee-established goals (Section 4OA7)
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Closed

50-315/99008-01	LER	Residual heat removal piping vibrations could potentially cause RHR piping failures (Section 4OA3)
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50-315/99026-01	LER	High energy line break programmatic inadequacies result in unanalyzed conditions (Section 4OA3)
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50-315/00014-01	LER	Reactor trip signal not verified as required by Technical Specifications (Section 4OA3)
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50-315/01-18-01 50-316/01-18-01	NCV	Licensee identified failure to monitor 7 SSC's against licensee-established goals (Section 4OA7)
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Discussed

None

LIST OF ACRONYMS USED

AEP	American Electric Power
AFW	Auxiliary Feedwater System
AFX	Spent Fuel Pool Ventilation System
ATR	Administrative Technical Requirement
CDF	Core Damage Frequency
CEQ	Hydrogen Skimmer System
CFR	Code of Federal Regulations
CR	Condition Report
CRID	Control Room Instrument Distribution
DRP	Division of Reactor Projects
EP	Emergency Preparedness
ESW	Essential Service Water
FIN	Finding
HELB	High Energy Line Break
IMC	Inspection Manual Chapter
LERF	Large Early Release Frequency
MDAFWP	Motor Driven Auxiliary Feedwater Pump
ml	Milliliters
MS	Main Steam
NESW	Non-Essential Service Water
NRC	Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulation
OA	Other Activities
OHP	Operations Head Procedure
ORW	Operating Reserve Warning
OWA	Operator Workaround
PDR	Public Document Room
PI	Performance Indicator
PMP	Plant Manager's Procedure
PMT	Post-maintenance Testing
PPC	Plant Process Computer
ppm	parts per million
RHR	Residual Heat Removal
SDP	Significance Determination Process
SRO	Senior Reactor Operator
SSC	Structures, Systems, and Components
SSPS	Solid State Protection System
STP	Surveillance Test Procedure
TDAFWP	Turbine Driven Auxiliary Feedwater Pump
TS	Technical Specification
UHS	Ultimate Heat Sink
URI	Unresolved Item
UFSAR	Updated Final Safety Analysis Report
VAC	Volts, Alternating Current
VIO	Violation

LIST OF DOCUMENTS REVIEWED

1R04 Equipment Alignment

.1 Partial Equipment Walkdowns

Drawing Number OP-2-5106A	Flow Diagram Auxiliary Feedwater, Unit 2	
12-MHP 5021.001.154	Inspection of Rubber Expansion Joints	Revision 1
02-OHP 4030.STP.010	Containment Isolation	Revision 10
AR 01308007	NRC identified emergency lighting 1-BATLIT-191 not aimed properly	November 3, 2001
CR 01308020	NRC identified padlock on 12-DR-123 containment sump discharge to dirty waste holdup tank.	November 3, 2001
CR 01308009	NRC identified that control rods for essential service water supply to Unit 2 diesel generator expansion joints were set inconsistently.	November 3, 2001

.2 Full System Walkdown

UFSAR Section 6.2	Emergency Core Cooling Systems	Revision 17
TS 3.5.1	Accumulators	Amendment 219
TS 3.5.2	ECCS Subsystems - $T_{avg} \geq 350^{\circ}\text{F}$	Amendment 167
TS 3.5.5	Refueling Water Storage Tank	Amendment 217
Flow Diagram OP-2-5129	CVCS - Reactor Letdown and Charging	
Flow Diagram OP-2- 5129A	CVCS - Reactor Letdown and Charging	
Flow Diagram OP-2-5142	Emergency Core Cooling (SIS)	
Flow Diagram OP-2-5143	Emergency Core Cooling (RHR)	
02-OHP 4021.003.001	Letdown, Charging, and Seal Water Operation	Revision 17a
02-OHP 4021.008.001	Filling and Venting the Safety Injection System, Residual Heat Removal System, and Boron Injection Tank	Revision 9

02-OHP 4021.008.002	Placing the Emergency Core Cooling System in Standby Readiness	Revision 12c
02-OHP 4030.STP.030	Daily and Shiftly Surveillance Checks	Revision 37
02-OHP 4030.STP.053V	ECCS Valve Position Verification	Revision 2
12-THP 6020.CHM.102	Accumulators	Revision 4a
12-THP 6020.CHM.104	Refueling Water Storage Tank	Revision 4a
1R05 <u>Fire Protection</u>		
UFSAR Section 7.7.6	Control Room Fire Prevention Design	
UFSAR Section 9.8.1	Fire Protection System	
	D. C. Cook Nuclear Plant Fire Hazards Analysis, Units 1 and 2	Revision 8
	D. C. Cook Nuclear Plant Units 1 and 2 Probabilistic Risk Assessment, Fire Analysis Notebook	February 1995
PMP 2270.CCM.001	Control of Combustible Materials	Revision 1
PMP 2270.FIRE.002	Responsibilities for Cook Plant Fire Protection Program Document Updates	Revision 0
PMP 2270.WBG.001	Welding, Burning and Grinding Activities	Revision 0
PMI 2270	Fire Protection	Revision 26
CR 01307009	The hose on the hose reel for Unit 2 4kV has a kink near one of the couplings	November 3, 2001
CR 01317058	NRC identified that control room furniture does not conform to UFSAR description	November 13, 2001
1R12 <u>Maintenance Rule Implementation</u>		
<u>4kV/600V AC Electrical Distribution</u>		
	Maintenance Rule Scoping Document - 4kV/600V AC Electrical Distribution	Revision 4
System Health Report	4kV/600V Electrical Distribution	April 1, 2001 through June 30, 2001

Electrical Safety Bus Performance
Monitoring Plan

UFSAR Section 8

Unit 2 TS Table 3.3-4	Engineered Safety Feature Actuation System Instrumentation Trip Setpoints	Amendment 134
PMP 5030.001.003	Preventive Maintenance	Revision 9
DIT-B-01099	Minimum and maximum acceptable voltages at the 4160V and 600V safety buses for Modes 1 through 6 and defueled condition	Revision 6
CR 00355014	Integrated results of Maintenance Rule recovery project for the 4kV/600V AC electrical distribution	December 20, 2000

Plant Process Computer

	Maintenance Rule Scoping Document - Plant Process Computer	Revision 0
12-ICP 5030.IMP.590	Computer Preventive Maintenance Program	Revision 1
12-ICP 4031.STP.001	PPC Operability Surveillance	Revision 1

Hydrogen Recombiner

TS 3.6.4.2	Electric Hydrogen Recombiners	Amendment 242 (Unit 1) Amendment 168 (Unit 2)
CR 00354076	Evaluation of equipment history for the DC Cook Nuclear plant Unit 1 and Unit 2 hydrogen recombiner systems	December 19, 2000
CR 01214004	2-HR2 power supply phase C failed during testing	August 2, 2001
CR 01226024	Maintenance Rule review for hydrogen recombiner system performed on August 14, 2001 determined that the Maintenance Rule review for CR 00-7109 was not adequate and complete	August 14, 2001

CR 01226025	Maintenance Rule review for hydrogen recombiner system performed on August 14, 2001 determined that the Maintenance Rule review for CR 00-7077 was not adequate and complete	August 14, 2001
CR 01296054	Maintenance Rule systems are not being evaluated and (a)(1) action plans are not being developed, approved, and implemented in a timely manner	October 5, 2001

Containment Spray System

	Maintenance Rule Scoping Document Containment Spray	Revision 1
	System Health Report Containment Spray	July 1, 2001 - September 30, 2001
	Maintenance Rule (a)(1) Action Plan Unit 2 Containment Spray Train A	May 23, 2001
CR 00-9181	Unit 2 Spray Additive Tank is losing about 1 psig of nitrogen overpressure per day	June 25, 2000
CR 00351011	2-CTS-120E is possibly causing the test to fail	December 16, 2001

Essential Service Water

	Maintenance Rule (a)(1) Action Plan Essential Service Water	March 2, 2001
	Maintenance Rule Scoping Document Essential Service Water	May 10, 2001
CR 01157043	1-WMO-702 thermal overload opened when starting the Unit 1 west ESW pump	June 6, 2001
CR 01158006	The Unit 2 East ESW pump differential pressure was below the action limit during surveillance testing	June 7, 2001
CR 01165061	The Unit 1 East ESW pump discharge stainer inlet strainer gate failed to shift out of manual mode	June 14, 2001

CR 01242013	Silt/mud intrusion into the Unit 1 and Unit 2 ESW systems	August 29, 2001
CR 01262077	Unit 1 East ESW train failed to meet ESW flow balance as-found test acceptance criteria	September 19, 2001
CR 01268022	ESW valve 1-WMO-737 west CCW outlet as found position did not meet Technical Data Book position	September 25, 2001
CR 01268041	Unit 1 West ESW train failed to meet ESW flow balance as-found test acceptance criteria	September 25, 2001
CR 01271020	2 West ESW pump tripped on instantaneous overcurrent	September 28, 2001
CR 01297093	Maintenance Rule (a)(3) assessment identified several instances of inadequate functional failure evaluations	October 5, 2001
CR 01325031	NRC identified that the maintenance rule functional failure evaluation for a failure of the Unit 1 east ESW pump strainer motor operated valve was inadequate	November 21, 2001
CR 01325032	NRC identified documentation inconsistencies regarding the Maintenance Rule monitoring of the screenhouse structure	November 21, 2001

1R13 Maintenance and Emergent Work Control

TS 3.5.2	ECCS Subsystems - $T_{ave} \geq 350^{\circ}\text{F}$	Amendment 80
PMP 2291.OLR.001 Data Sheet 1	Work Schedule Review and Approval Form, Cycle 38, Week 12	October 14, 2001 through October 20, 2001
Clearance 1013139	Unit 1 East RHR Pump	November 1, 2001
JO R0082584	Calibrate time delay relay 1-62-SIS-TD6	November 1, 2001
JO R0209486	Calibrate flow switch 1-IFC-315	November 1, 2001
JO R0219879	STP.050, E RHR train operability Mode 1 to 4	November 1, 2001

CR 01302004	1-WMO-13, #13 circulating water pump discharge valve failed to fully close causing circulating water pump to rotate backwards and lowering vacuum in secondary condensers	October 28, 2001
CR 01305044	High and low switches as-found data out of specification on 1-IFC-315	November 1, 2001

1R14 Nonroutine Evolutions

02-OHP 4021.001.002	Reactor Start-Up	Revision 21
CR 01279030	Control Bank B stopped moving at 223 steps when withdrawing rods during reactor startup	October 6, 2001
CR 01280015	2-FMO-242 failed to throttle following a valid flow retention signal	October 7, 2001
CR 01280017	Unit 2 reactor tripped from approximately 8 percent power	October 7, 2001
CR 01280019	After the reactor trip it was noticed that the generator line voltage on the MG sets was indicating 0 volts	October 7, 2001
CR 01282001	Pump packing gland stud has backed out of the pump	October 9, 2001
Event Notification 38362	Unexpected reactor trip during plant startup operations	October 7, 2001

1R15 Operability Evaluations

PMP 2291.TRS.001 Data Sheet 1	Troubleshooting Control Form Plan for CR 01290050	October 18, 2001
	Unit 1 Control Room Log	October 31, 2001 - November 1, 2001
CR 01198051	During performance of post-maintenance testing on 2-HV-AES-2, fan flow exceeded the maximum allowed flowrate	July 17, 2001

CR 01290050	2-VFI-331 (2-HV-AES-2 outlet flowmeter) reading high out of specification (27,000 scfm vice 26,500 scfm)	October 17, 2001
CR 01291039	Internal piece parts of the motor-driven auxiliary feedwater pump are classified as non-safety-related, these parts should be classified as safety-related	October 18, 2001
CR 01304002	1-FPI-240 (Feedwater to Steam Generator #4) pressure indication is reading 130 psig greater than the indications for S/Gs 1, 2, and 3	October 31, 2001
CR 01304060	NRC identified that operability determination for CR 01304002 was inadequate	October 31, 2001

1R19 Post Maintenance Testing

Unit 2 "B" Train Reserve Feed Supply Breaker Replacement

12-IHP 5021.EMP.012	ITE 4kV Circuit Breaker Maintenance	Revision 5
PMP 2291.PMT.001	Work Management Post Maintenance Testing Matrices	Revision 2
JO R0087052	Clean, inspect, test breaker 2-2A5	November 5, 2001
JO R0087053	Clean, inspect, test breaker 2-2B5	November 5, 2001

Unit 2 AB D/G Output Breaker Replacement

02-OHP 4024.201	Annunciator #201 Response: Plant Fire System	Revision 9a
02-OHP 4024.219	Annunciator #219 Response: Station Auxiliary AB	Revision 6
02-OHP 4030.STP.027AB	AB Diesel Generator Operability Test (Train B)	Revision 16
12-OHP 4021.082.012	Locating 250 VDC Grounds	Revision 1
PMP 2291.PMT.001	Work Management Post Maintenance Testing Matrices	Revision 2
JO 01287005	2-T21B4, investigate 250 VDC controls	October 19, 2001

CR 01287005	When diesel generator output breaker 2-T21B4 was closed, an AB battery ground was received while the closing circuit was energized by the DG2AB synchronizer master close switch	October 14, 2001
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Unit 2 North Control Rod Drive Motor-Generator

02-OHP 4021.012.001	Operation of the Control Rod Drive System	Revision 10
PMP 2291.PMT.001	Work Management Post Maintenance Testing Matrices	Revision 2
PMP 2291.TRS.001	Troubleshooting	Revision 1a
JO 01280017	Unit 2 Reactor Trip	October 9, 2001

Replace Failed Pressurizer Module

JO 01288008	Replace failed pressurizer module 2-H2V-R1N1S5	
02 IHP 4030.SMP.208	Pressurizer Level Protection Set I Functional Test and Calibration	Revision1
02 IHP 4030.SMP.211	Pressurizer Pressure Protection Set I Functional TEST. and Calibration	Revision 3
CR 01288008	Unit 2, Pressurizer level and pressure failed low (2-NLP-151 and 2-NPP-151)	October 15, 2001
Elementary Diagram OP-2-985501	Pressurizer Pressure & Level Channel 1	Revision 2
CR 01289004	Replacement current to voltage card obtained for pressurizer pressure and level channel 1 was defective	October 15, 2001
CR 01289003	Components found out of specification during post maintenance testing of Channel 1 pressurizer pressure and level instrument	October 16, 2001

Repair 2-HV-AES-2 Backdraft Damper

CR 01257060	Unit 2 backdraft dampers have been identified to not move freely	September 14, 2001
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CR 01020010	2-HV-AES-2 engineered safeguards ventilation fan was observed to be rotating backwards. Backdraft damper was not fully closed	January 20, 2001
CR 01265027	Repair loose damper blade on 2-HV-AES-2 engineered safeguards backdraft damper	September 22, 2001
CR 01060044	Auxiliary equipment operator identified that 2-HV-AES-2 engineered safeguards ventilation fan was rotating backwards	March 1, 2001
CR 01310063	NRC identified that more comprehensive troubleshooting needs to be performed on 2-HV-AES-2 backdraft damper	November 6, 2001
CR 01317016	Melt out grease in 1-HV-AES-BD-2 to improve damper reliability	November 13, 2001
CR 01317014	Melt out grease in 1-HV-AES-BD-1 to improve damper reliability	November 13, 2001

1R22 Surveillance Testing

Unit 2 SI Pump Inservice Testing

TS 3.5.2	ECCS Subsystems - $T_{ave} \geq 350^{\circ}\text{F}$	Amendment 167
02-OHP 4030.STP.051S	South Safety Injection Pump System Test	Revision 12
Technical Data Book Figure 2-15.1	Safety Related Pump Inservice Test Hydraulic Reference	Revision 56
CR 01292027	Non-conservative acceptance criteria in Technical Data Book for SI pump	October 19, 2001
CR 01305031	NRC identified that the auxiliary operator failed to open the south SI pump suction pressure instrument isolation valve prior to reading suction pressure	November 11, 2001

Unit 2 Containment Closeout

TS 3.6.1.1	Containment Integrity	Amendment 165
TS 3.6.5.5	Divider Barrier Personnel Access Doors and Equipment Hatches	Original

02-OHP 4030.001.002 Containment Inspection Tours Revision 13

Unit 1 East RHR Pump Surveillance

TS 3.5.2 ECCS Subsystems - $T_{ave} \geq 350^{\circ}\text{F}$ Amendment 80

01-OHP 4030.STP.050E East Residual Heat removal Train
Operability Test Modes 1-4 Revision 9

Technical Data Book Safety Related Pump Inservice Test Revision 72
Figure 1-15.1 Hydraulic Reference

Unit 2 Distributed Ignition System Test

TS 3.6.4.3 Distributed Ignition System Amendment 223

12-IHP 4030.STP.605 DIS Quarterly Surveillance and Baseline
Testing Revision 0

4OA3 Event Followup

NUREG-1728 Assessment of Risk Significance
Associated With Issues Identified at
D.C. Cook Nuclear Power Plant October 2000

CR 99-0996 Excessive vibration in the Residual Heat
Removal systems when the flow path is
aligned to the normal cooldown line January 15, 1999

CR 99-02455 RHR pumps may be experiencing
cavitation February 11, 1999

CR 99-02466 RHR pumps may be experiencing
cavitation February 11, 1999

CR 00-11677 Possible cognitive trend identified by
plant management in verbatim Technical
Specification requirement compliance August 22, 2000