July 19, 2001

Mr. R. P. Powers
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 50-315/01-11(DRP); 50-316/01-11(DRP)

Dear Mr. Powers:

On June 30, 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 June 26, 2001, with you 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. Based on the results of this inspection, no findings of significance were identified.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/NRC/ADAMS/index.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Anton Vegel, Chief
Branch 6
Division of Reactor Projects

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

Enclosure: Inspection Report 50-315/01-11(DRP);
50-316/01-11(DRP)

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REGION III

Docket Nos:	50-315; 50-316
License Nos:	DPR-58; DPR-74
Report No:	50-315/01-11(DRP); 50-316/01-11(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:	May 13, 2001 through June 30, 2001
Inspectors:	B. L. Bartlett, Senior Resident Inspector K. A. Coyne, Resident Inspector D. E. Jones, Region III Inspector R. A. Langstaff, Region III Inspector T. A. Madeda, Region III Inspector J. D. Maynen, Resident Inspector
Approved by:	A. Vegel, Chief Branch 6 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000315-01-11(DRP), IR 05000316-01-11(DRP), on 05/13-06/30/2001, Indiana Michigan Power Company, D.C. Cook Nuclear Power Plant, Units 1 and 2. Resident Inspector Report.

This report covers a 6-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

No findings of significance were identified.

Report Details

Summary of Plant Status:

Unit 1 operated at 100 percent power until June 30, 2001, when a planned downpower to 55 percent power was performed to support biocide treatment of the circulating water system.

Unit 2 began the inspection period at 100 percent power. On June 2, 2001, operators reduced reactor power to 55 percent to support modifications to the main feed pump condenser water boxes. Unit 2 reactor power was restored to 100 percent on June 4, 2001. On June 30, 2001, a planned downpower to 55 percent power was performed to support biocide treatment of the circulating water system.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment (71111.04)

a. Inspection Scope

The inspectors performed partial system walkdowns of the following four risk-significant systems:

Initiating Events Cornerstone

- Unit 2 Main Feedwater System

Mitigating Systems Cornerstone

- Unit 1 Train “A” Emergency Diesel Generator (D/G)
- Unit 2 Train "A" Engineered Safety Features (ESF) Ventilation System
- Unit 1 Train "B" Residual Heat Removal (RHR)

The inspectors selected these systems based on their risk significance relative to each reactor safety cornerstone. The inspectors reviewed operating procedures, 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.

1R05 Fire Protection (71111.05)

a. Inspection Scope

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

- Unit 2 Train "A" RHR Pump Room (Fire Zone 1G)
- Unit 2 Train "B" RHR Pump Room (Fire Zone 1H)
- Unit 2 East Main Steam Valve Enclosure and Main Steam Line Area (Fire Zones 34 and 34A)
- Unit 2 Turbine Deck (Fire Zone 130)

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)

The inspectors evaluated the licensee's implementation of 10 CFR 50.65 (the Maintenance Rule) for the Control Rod Drive System, the ESF Ventilation and Auxiliary Building Ventilation Systems, and the Nuclear Instrumentation System.

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 have previously documented weaknesses in the licensee's implementation of the Maintenance Rule in NRC Inspection Reports 50-315/00-20, 50-316/00-20; 50-315/00-22, 50-316/00-22; 50-315/01-07, 50-316/01-07; and 50-315/01-09, 50-316/01-09. These Maintenance Rule implementation weaknesses were related to inadequate failure evaluations; system, structure, or component (SSC) performance monitoring; and effectiveness of corrective action for SSCs with identified performance problems. The licensee's corrective actions for these issues included additional training, re-evaluation of SSC Maintenance Rule functions and monitoring programs, and historical SSC performance reviews. At the time of this inspection, the licensee was still in the process of implementing corrective actions for these previously identified actions. Therefore, for instances when the inspectors identified issues associated with previously identified weaknesses, the inspectors assessed the effectiveness of planned corrective actions.

.1 Control Rod Drive System

a. Inspection Scope

The inspectors reviewed the implementation of Maintenance Rule requirements for the Control Rod Drive (CRD) System. The CRD system includes the control rod drive mechanisms, the rod drive power supplies, reactor trip breakers, and rod position indicators. Based on the results of SSC performance reviews completed in December 2000, CRD system functions were monitored in accordance with the requirements of 10 CFR 50.65 paragraph (a)(2). In response to previously identified Maintenance Rule implementation weaknesses, the licensee completed an additional CRD system performance review in May 2001, and determined that certain functions of the CRD system required monitoring in accordance with the requirements of 10 CFR 50.65 paragraph (a)(1). The inspectors independently reviewed CRD system performance in order to assess the effectiveness of the licensee's system performance reviews. Additionally, the inspectors reviewed CRD system monitoring plans, the CRD system Maintenance Rule scoping document, and discussed system performance and monitoring with engineering personnel. Because the CRD system Maintenance Rule function was associated with the ability to control core reactivity and shutdown the reactor following an accident, the inspectors determined that this system was within the mitigating systems cornerstone.

b. Findings

No findings of significance were identified.

.2 Engineered Safety Features and Auxiliary Ventilation Systems

a. Inspection Scope

The inspectors reviewed the implementation of the Maintenance Rule requirements for the Engineered Safety Features ventilation (AES) system. The licensee also monitored the performance of other important auxiliary ventilation systems as part of the AES Maintenance Rule system monitoring. Consequently, as part of the AES review, the inspectors also reviewed the licensee's Maintenance Rule implementation for the component cooling water fans, the ESW fans, and the auxiliary feedwater pump ventilation units. These ventilation systems provided both a cooling function for safety-related equipment and an isolation function for preventing an off-site radiological release. However, the inspectors determined that this inspection was predominantly associated with the mitigating systems cornerstone.

b. Findings

No findings of significance were identified.

.3 Power Range Nuclear Instruments

a. Inspection Scope

The inspectors reviewed the implementation of Maintenance Rule requirements for the power range nuclear instruments. The inspectors reviewed the Nuclear Instrumentation System Maintenance Rule scoping document and historical power range nuclear instrumentation surveillance test results. Additionally, the inspectors discussed the power range nuclear instrumentation performance and monitoring with engineering personnel. Because the power range nuclear instrumentation Maintenance Rule functions reviewed by the inspectors were primarily associated with alerting operators to abnormal conditions and core reactivity control, the inspectors determined this review to be within the mitigating systems cornerstone.

b. Findings

No findings of significance were identified.

1R13 Maintenance and Emergent Work (71111.13)

a. Inspection Scope

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

Initiating Events Cornerstone

- Installation of Limited Design Change 2-LDCP-5083 on Both Unit 2 Main Feed Pump Condensers (June 1, 2001)

Mitigating Systems Cornerstone

- Replacement of the Unit 2 Train "A" ESW Pump (June 7-9, 2001)
- Unit 1 Train “B” Emergency D/G Outage (May 22, 2001)

Barrier Integrity Cornerstone

- Unit 1 Train "B" Containment Spray and Component Cooling Water Pump Maintenance (May 24, 2001)
- Repair of Spent Fuel Pool Filter Isolation Valve 12-SF-129 (June 21, 2001)

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 to verify that risk analysis assumptions were valid and applicable requirements were met.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the operability impact associated with the following risk-significant issues:

Mitigating Systems Cornerstone

- Condition Report 01125013, Unit 1 Loop 4 Accumulator Filled When the Train "B" Safety Injection Pump Was Started.

  On May 5, 2001, the Unit 1 reactor operator noted that the level in the loop 4 emergency core cooling system (ECCS) accumulator increased after starting a safety injection pump but prior to aligning the flow path for accumulator filling. The licensee determined that the cause of the accumulator level rise was seat leakage through several normally shut valves in the accumulator fill header flow path. The licensee initiated CR 01125013 to document this condition and to evaluate the operability impact on ECCS performance. The inspectors reviewed the operability impact of this condition on safety injection pump and accumulator performance.

- Design Information Transmittal B-02509, Operability Impact on ESW Pumps with a Circulating Water Intake Tunnel Isolated.

  On June 1, 2001, the licensee revised the normal operating procedure 01-OHP [Operations Head Procedure] 4021.057.001, "Circulating Water System Operation," to permit isolation of one of the three circulating water intake tunnels to support biocide treatment of the circulating water system. Isolation of an intake tunnel resulted in a decreased screenhouse forebay level and a reduction in essential service water pump suction pressure. Therefore, because isolation of one of the circulating water intake tunnel could impact the operability of the essential service water pumps, the inspectors reviewed the engineering analysis that supported the circulating water system procedure change.

- Condition Report 01138010, Motor Operated Valve Setup Calculation for the Containment Recirculation Sump Isolation Valves, 1-ICM-305 and 1-ICM-306, Contains Non-conservative Value for Design Starting Motor Terminal Voltage.

  The inspectors reviewed the licensee’s input assumptions, calculational methodology, and results for determining that the motor operators for valves 1-ICM-305 and 1-ICM-306 were producing enough thrust to operate the valves.

For each of the above operability determinations, the inspectors reviewed the applicable Updated Final Safety Analysis Report (UFSAR), TS, and operating procedure requirements. In addition, the inspectors assessed the basis for the operability conclusions, and discussed the operability conclusions with engineering and operations personnel. The inspectors verified that the operability assessments were technically adequate and that the components remained available, such that no unrecognized increase in plant risk had occurred.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing (71111.19)

a. Inspection Scope

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

Mitigating Systems Cornerstone

- Troubleshooting and Repair of Unit 2 Loop 4 Feed Flow Instrument, 2-FFC-241 (May 20, 2001)
- Repair of Unit 1 Train "B" Containment Spray Pump and Component Cooling Water Pump Breakers (June 15, 2001)
- Preventative Maintenance on the Unit 1 Train "A" ESW Pump Discharge Strainer (June 14, 2001)

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

The inspectors observed portions of the following surveillance tests to verify that testing was conducted in accordance with applicable procedural and TS requirements:

- Unit 2 Ice Condenser Weekly Surveillance Associated with TS 4.6.5.3.2, "Ice Condenser Doors," (June 27, 2001)
- Unit 1 Train “B”, Emergency Core Cooling System Valve Operability Testing Associated with TS 4.0.5, "Inservice Inspection and Testing," (June 26, 2001)
- Unit 1 Train "B", Essential Service Water Pump Surveillance Associated with TS 4.0.5, "Inservice Inspection and Testing," (June 8, 2001)

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.

b. Findings

No findings of significance were identified.

3. SAFEGUARDS

Cornerstone: Physical Protection

3PP4 Security Plan Changes (71130.04)

a. Inspection Scope

The inspector reviewed Revision 2 to the Donald C. Cook Nuclear Plant Physical Security Plan, and Revision 0 to the Security Training and Qualification Plan and Safeguard Contingency Plan to verify that the changes did not decrease the effectiveness of the submitted documents. The referenced revisions were submitted in accordance with regulatory requirement (10 CFR 50.54(p)) by a licensee letter dated May 9, 2001.

b. Findings

The inspector's review of the Training and Qualification Plan identified a security plan language change that required additional clarification by the licensee to ensure adherence to regulatory requirements. Section 4.0 of the subject plan required additional language to ensure that each individual shall requalify at least every 12-months with their assigned weapon(s). That issue was discussed with a licensee security staff member on May 14 and 31, 2001. The licensee agreed to submit a plan change that will address the issue that required clarification. This issue will be reviewed by a Region III Safeguards Inspector.

No significant findings were identified with Revision 2 of the Security Plan and Revision 0 of the Safeguard Contingency Plan.

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, first quarter of 2001, information:

- Unit 1 Unplanned Scrams per 7,000 Critical Hours portion of the Initiating Events cornerstone and Scrams with Loss of Normal Heat Sink

- Unit 2 Unplanned Power Changes

b. Findings

No findings of significance were identified.

4OA3 Event Follow-Up (71111.14 and 92700)

.1 Licensee Event Reports

a. Inspection Scope

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

b. Findings

(Closed) Licensee Event Report 50-315/97002-01: Retraction - Stresses for piping found to exceed allowable values during postulated design basis accident due to inadequate analysis during original design. In response to Generic Letter (GL) 96-06, the licensee identified several segments of piping which were potentially subject to overpressurization following a LOCA and containment isolation. This condition was reported under LER 50-315/97002-00. The licensee evaluated the condition in 1997 and determined that the subject piping would meet its design bases; therefore, the licensee retracted the LER under Supplement 1 to LER 50-315/97002. The inspectors reviewed the supplement and concluded that the retraction of LER 50-315/97002 was not justified based on the information in the supplement. Following the inspectors' questions, the licensee issued CR 01121003 to investigate the retraction.

The licensee's investigation identified that the evaluation done in 1997 to support the LER retraction was in error. However, a second analysis was done in 1999 to support supplements to the licensee's GL 96-06 response to support restart. Based on the results of the second analysis, the licensee added relief paths to several sections of piping and developed Technical Specification amendments to support leaving the remaining piping as is. The licensee's analyses and modifications were described in the licensee's GL 96-06 response supplements C0800-01, dated August 15, 2000, and C1100-01, dated November 7, 2000. The inspectors reviewed the licensee's analyses and concluded that the originally reported issue regarding thermal overpressurization has been addressed and that the condition was of minimal risk significance.

The inspectors discussed the investigation with members of the plant licensing staff. The license agreed that the retraction to the LER as written was inadequate. The inspectors determined that the non-conformance as originally reported in LER 50-315/97002-00, would not be reportable under the revised 10 CFR 50.73. Therefore, the licensee stated that no new supplements to this LER would be submitted. This LER is closed.

(Closed) Licensee Event Report 50-316/98002-00,-01: Power Operated Relief Valve (PORV) inoperability results in condition outside design basis. The issue described in this licensee event report was the subject of Unit 2 RAM Item R2.1.7 and EEI 50-315/98007-07; EEI 50-316/98007-07, which were closed in NRC Inspection Report 50-315/99033; 50-316/99033. The licensee wrote CR 98-0804 to document the issue. This LER is closed.

(Closed) Licensee Event Report 50-315/98054-00-01: Main steam safety valves not reset as required by Technical Specifications. On December 2, 1998, the licensee determined that, due to a rounding error, the procedures for controlling main steam safety valve (MSSV) lift setpoints had allowed the licensee to leave two MSSVs in operation without resetting the lift setpoints as required by TS 4.7.1.1. This TS required, in part, that MSSVs be reset to the nominal lift setting of plus or minus one percent whenever found outside the one percent tolerance. Contrary to the above, the licensee identified that two MSSVs lift settings had been left outside tolerance band allowed by TS 4.7.1.1. This issue was of minimal safety significance in that the identified MSSVs were found to lift within the three percent tolerance allowed by TS 4.7.1.1 for as-found testing; therefore, the valves would have been able to perform their safety function if needed. The licensee documented this issue in CR 98-7004 and CR 99-8653 and revised the plant procedures to correct the setpoint errors. Each units' MSSVs were tested prior to restart and set within the allowable tolerance per TS 4.7.1.1. The inspectors concluded that the failure to set MSSV lift setpoints within the allowable tolerance of TS 4.7.1.1 constituted a violation of minor significance that was not subject to enforcement action in accordance with Section IV of the NRC's Enforcement Policy. This LER is closed.

(Closed) Licensee Event Report 50-315/98055-01: Retraction - Procedural deficiency could result in rod withdrawal speed greater than design. The licensee consulted the rod control vendor and concluded that the safety analysis contained in the UFSAR bounded the condition reported in the LER; therefore, the plant remained within its design bases. The licensee has developed an UFSAR change request (UCR-1500) to correct the maximum rod speed listed in the UFSAR. The inspectors reviewed the vendor documents and concluded that this condition did not result in the plant being outside its design basis; therefore, the condition was not reportable. This LER is closed.

(Closed) Licensee Event Report 50-316/00001-00,-01: Through-liner hole discovered in containment liner. Surface preparation for further inspection of a weld repair of the liner plate dislodged the repair material causing a hole which was repaired. Since the containment had passed the most recent integrated leak rate test; there was no serious degradation of the principal safety barrier as was originally reported in the LER. This LER was retracted by the licensee in LER 50-316/00001-01 dated March 16, 2001. This LER is closed.

4OA5 Other

(Closed) Unresolved Item 50-315/99033-02; 50-316/99033-02: Justification for emergency operating procedure shutdown criteria. The criteria used in emergency operating procedures for determining whether boration was necessary was non-conservative with respect to the supporting deterministic analyses. Specifically, the deterministic analyses performed by the licensee (a bounding hand calculation) only demonstrated that having all rods out by seven steps would provide adequate shutdown margin. The licensee's emergency operating procedures used ten steps out as a criteria which was non-conservative with respect to the deterministic analyses performed by the licensee. The licensee had also performed probabilistic analyses based on uncertainties of the rod position indication system which, they believed, provided adequate basis for the ten step criteria used in their emergency operating procedures. The NRC reviewed the licensee's justification provided by letter dated April 7, 2000, and determined that it was inappropriate for the licensee to combine deterministic and probabilistic analyses in this case to support the criteria used in emergency operating procedures. The NRC review was documented in an NRC memorandum to J. Grobe from S. Black dated March 12, 2001. The NRC considered it possible to perform more sophisticated, but still conservative, analysis which would support the emergency operating procedure guidance. The licensee has included this item in their corrective action program (Condition Report 01109047). This item is considered closed.

4OA6 Management Meetings

The inspectors presented the inspection results to licensee management listed below on June 26, 2001. The licensee acknowledged the findings presented. No proprietary information was identified.

KEY POINTS OF CONTACT

Licensee
J. Bradshaw, Performance Supervisor
R. Gaston, Regulatory Affairs Manager
S. Greenlee, Director, Design Engineering and Regulatory Affairs
M. Hoskins, System Engineering
J. Johns, Maintenance Rule Program Owner
S. Lacey, Director, Plant Engineering
J. LaPlante, Performance Assurance Manager
J. Mathis, Regulatory Affairs
R. Meister, Regulatory Affairs
J. Molden, Maintenance Department Director
D. Moul, Assistant Operations Superintendent
T. Noonan, Director, Performance Assurance
S. Partin, Assistant Operations Manager
J. Piazza, Chemistry Supervisor
J. Pollock, Plant Manager
R. Powers, Senior Vice President
M. Rencheck, Vice President, Nuclear Engineering
E. Ridgell, Regulatory Affairs, Compliance Supervisor
H. Torberg, Security Operations Supervisor
L. Weber, Manager, Operations

NRC
A. Vegel, Chief, Reactor Projects Branch 6
J. Stang, Project Manager, NRR
G. Grant, Director, Division of Reactor Projects

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

50-315/97002-01	LER	Retraction - Stresses for piping found to exceed allowable values during postulated design basis accident due to inadequate analysis during original design (Section 4OA3)
50-316/98002-00 50-316/98002-01	LER	PORV inoperability results in condition outside design basis (Section 4OA3)
50-315/98054-00 50-315/98054-01	LER	Main steam safety valves not reset as required by Technical Specifications (Section 4OA3)
50-315/98055-01	LER	Retraction - Procedural deficiency could result in rod withdrawal speed greater than design (Section 4OA3)
50-316/00001-00 50-316/00001-01	LER	LER Retraction - Through-liner hole discovered in containment liner (Section 4OA3)
50-315/99033-02 50-316/99033-02	URI	Justification for emergency operating procedure shutdown criteria (Section 4OA5)

Discussed

None

LIST OF ACRONYMS USED

AES	Engineered Safety Features Ventilation
AFW	Auxiliary Feedwater System
ATR	Administrative Technical Requirement
CCW	Component Cooling Water
CFR	Code of Federal Regulations
CR	Condition Report
CRD	Control Rod Drive
D/G	Diesel Generator
DRP	Division of Reactor Projects
ECCS	Emergency Core Cooling System
EEI	Escalated Enforcement Item
ESF	Engineered Safety Features
ESW	Essential Service Water
FSAR	Final Safety Analysis Report
GL	Generic Letter
IMC	Inspection Manual Chapter
JO	Job Order
LER	Licensee Event Report
LOCA	Loss of Coolant Accident
MHP	Maintenance Head Procedure
MOV	Motor Operated Valve
MSSV	Main Steam Safety Valve
NRC	Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulation
ODE	Operability Determination Evaluation
OHI	Operations Head Instruction
OHP	Operations Head Procedure
PDR	Public Document Room
PI	Performance Indicator
PMI	Plant Manager's Instruction
PMP	Plant Manager's Procedure
PMT	Post-maintenance Testing
PORV	Power Operated Relief Valve
PPC	Plant Process Computer
RAM	Restart Action Matrix
RCS	Reactor Coolant System
RHR	Residual Heat Removal
SSC	Structures, Systems, and Components
STP	Surveillance Test Procedure
TS	Technical Specification
URI	Unresolved Item
UFSAR	Updated Final Safety Analysis
VAC	Volts, Alternating Current
VIO	Violation

LIST OF DOCUMENTS REVIEWED

1R04 Equipment Alignment

Partial Walkdown of Unit 2 Main Feedwater System

02-OHP 4021.055.001	Filling and Venting the Main Feedwater System	Revision 8a
02-OHP 4021.055.003	Placing a Main Feed Pump in Service	Revision 8
OP-2-5106	Flow Diagram - Feedwater	
CR 01060020	2-FMO-201 steam generator 1 feed water shutoff valve chatters	March 1, 2001
CR 01151019	Provide a more detailed operability response to address a condition where 2-FMO-201 is making a chattering noise	May 31, 2001

Partial Walkdown of the Unit 1 Train “A” Emergency Diesel Generator (D/G)

01-OHP 4021.032.008CD	Operating the DG1CD Subsystem	Revision 1

Partial Walkdown of the Unit 2 Train "A" Engineered Safety Features (ESF) Ventilation System Exhaust Air Filter

Flow Diagram OP-12-5148A	Auxiliary Building Ventilation Units 1 & 2	
Flow Diagram OP-12-5148	Auxiliary Building Ventilation Units 1 & 2	

Partial Walkdown of the Unit 1 Train "B" Residual Heat Removal (RHR)

01-OHP 4021.008.002	Placing Emergency Core Cooling System in Standby Readiness	Revision 15a
OP-1-5143	Flow Diagram, Emergency Core Cooling System Unit No. 1	Revision 53
Clearance 1011179	Unit 1 Train "A" RHR pump	May 17, 2001
Clearance 1010994	1-RH-151E	May 17, 2001

1R05 Fire Protection (71111.05)

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
ATR 1-FP-1	Unit 1 Fire Detection	
PMP 2270.CCM.001	Control of Combustible Materials	Revision 0
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

1R12 Maintenance Rule Implementation (71111.12)

.1 Control Rod Drive System

CR 00-9358	IRPIs for Rods H12 and M8 drifted outside the allowable rod deviation limit	June 28, 2000
CR 00353007	Control rod RPI F-2 is erratic by +/- 10 steps	December 18, 2000
CR 01022040	Request MTI perform RPI temperature adjustments during Unit 2 power ascension	January 22, 2001
CR 01023009	Shutdown Bank D would not withdrawal	January 23, 2001
CR 01025001	Rod K-10 does not appear to be withdrawing	January 25, 2001
CR 01025069	Control Bank A rods moved when shutdown bank A was selected	January 25, 2001
CR 01029009	Multiple electrical connection problems in the Rod Control system have resulted in an extended forced outage	January 29, 2001
CR 01056001	Control rod G-13 IRPI is fluctuating, causing rod sequence violation in Unit 1 control room	February 25, 2001

CR 01136055	Maintenance Rule scoping document for CRD revised	May 16, 2001
CR 01159045	NRC identified that a potential Maintenance Rule failure was not documented in a condition report	June 9, 2001
	Maintenance Rule Expert Panel Meeting Meetings for May 31, 2001	

.2 Engineered Safety Features and Auxiliary Building Ventilation Systems

	Maintenance Rule Scoping Document	Revision 2
SD-12-AUXVT-100	System Description - Auxiliary Building Ventilation System	Revision 0
UFSAR 9.9.3	Ventilation System Descriptions	Revision 16.6
	Maintenance Rule Expert Panel Meeting Minutes EP-01-008	January 26, 2001
TS 3.7.6.1	ESF Ventilation	Amendment Number 124 (Unit 1) and Number 111 (Unit 2)
02-OHP 4030.STP.025A	Engineered Safety Fan No. 1 (2-HV-AES-1) Ventilation Exhaust Air Filter Train Test	Revision 9
02-OHP 4030.STP.025B	Engineered Safety Fan No. 1 (2-HV-AES-2) Ventilation Exhaust Air Filter Train Test	Revision 9
01-OHP 4030.STP.025B	Engineered Safety Fan No. 1 (1-HV-AES-2) Ventilation Exhaust Air Filter Train Test	Revision 9
12-OHP 4021.028.011	Auxiliary Building Ventilation	Revision 11
01-OHP 4030.STP.025A	Engineered Safety Fan No. 1 (1-HV-AES-1) Ventilation Exhaust Air Filter Train Test	Revision 9
OP-12-5148	Flow Diagram Auxiliary Building Ventilation	Revision 60

OP-12-5148L	Flow Diagram Auxiliary Building “East” Ventilation Floor Elev. 609'	Revision 3
OP-12-5148B	Flow Diagram Miscellaneous Safety Related Ventilation Systems	Revision 12
OP-12-5148A	Flow Diagram Auxiliary Building Ventilation	Revision 24
Calculation EVAL-MD-12-ACCP-001-N	Auxiliary Building Temperature Evaluation with One CCW Pump Area Supply Fan	Revision 1
CR 01145058	Previously performed Maintenance Rule evaluations have been determined to be unsatisfactory	May 25, 2001
CR 01143034	Maintenance Rule evaluation for CR 00-7477 was determined to be unsatisfactory	May 23, 2001
CR 00-7477	A complete damper louver was found wedged in CCW damper 12-HV-ABD-2	May 24, 2000
CR 01143036	Maintenance Rule evaluation for CR 00-3780 was determined to be unsatisfactory	May 23, 2001
CR 00-3780	CCW area fan “ACCP” low flow during testing	March 6, 2000
CR 01143032	Maintenance Rule evaluation for CR 00-7088 was determined to be unsatisfactory	May 23, 2001
CR 01031038	Unit 2 vestibule door was found open	January 31, 2001
CR 01060044	Standby AES fan found rotating backwards	March 1, 2001

CR 01144034	NRC identified difference between UFSAR operation of CCW fans and actual fan operation	May 24, 2001
CR 01144052	NRC identified need to have function 2 of AES with either unit in Modes 1 - 4	May 24, 2001

.3 Power Range Nuclear Instruments

	Nuclear Instrumentation Maintenance Rule Scoping Document	April 27, 2001
	Nuclear Instrumentation System Health Report	January 1, 2001 through March 31, 2001
	Maintenance Rule (a)(1) Action Plan for Power Range Nuclear Instruments	
1-IHP 4030.SMP.131	Power Range Nuclear Instrumentation Functional Test and Calibration	Revision 0
2-IHP 4030.SMP.231	Power Range Nuclear Instrumentation Functional Test and Calibration	Revision 0
OP-1-98529	Power Range N-41 Elementary Diagram	Revision 12
CR 00-8137	Isolation amplifiers found out of specification in 2-N-43	June 5, 2000
CR 00-11185	As-found data out of specification	August 10, 2000
CR 00279045	Nuclear instrumentation components found out of specification while performing routine calibration	October 5, 2000
CR 00355025	Integrated results of Maintenance Rule recovery project for the nuclear instrumentation system	December 20, 2000
CR 01006013	As-found data out of specification on 1-N-42	January 6, 2001
CR 01007004	As-found data out of specification on 1-N-43	January 7, 2001
CR 01034015	As-found out of specification items for trending on excore nuclear instrumentation	February 3, 2001

CR 01088061	As-found data out of specification during routine calibration	March 29, 2001
CR 01090007	Isolation amplifiers NM-302 and NM-303 found out of specification for 1-N-42	March 31, 2001
CR 01090008	NM-302 and NM-305 found out of specification for 1-N-43	March 31, 2001
CR 01110055	Components found out of specification during Unit 1 power range nuclear instrument calibration	April 20, 2001
CR 01136035	Nuclear Instrumentation System Maintenance Rule scoping document requires revision	May 16, 2001

1R13 Maintenance and Emergent Work (71111.13)

Installation of Limited Design Change 2-LDCP-5083 on both Unit 2 Main Feed Pump Condensers

02-OHP 4021.055.001	Filling and Venting the Main Feedwater System	Revision 8a
02-OHP 4021.055.003	Placing a Main Feed Pump in Service	Revision 8
02-OHP 4021.057.001	Circulating Water System Operation	Revision 17a
OP-2-5106	Flow Diagram - Feedwater	
JO 1124025	Install 2-LDCP-5082, alternate means of debris removal, on Unit 2 east MFP condenser	June 2, 2001
JO 1124046	Install 2-LDCP-5082, alternate means of debris removal, on Unit 2 west MFP condenser	June 2, 2001
Clearance 2011574	Tagout for the Unit 2 east MFP	June 2, 2001
Clearance 2011575	Tagout for the Unit 2 west MFP	June 2, 2001
CR 01152059	2-OHP 4021.001.003 procedure enhancements	June 1, 2001

Replacement of the Unit 2 Train "A" ESW Pump

CR 01158006	The Unit 2 Train "A" ESW pump did not develop the required differential pressure during pump testing	June 7, 2001
CR 01157043	The Unit 1 Train "B" ESW pump discharge valve thermal overload tripped during pump starting	June 6, 2001
PMP 2291.OLR.001	On-Line Risk Management	Revision 1
PMP 2291.OLR.001 Data Sheet 1 for Cycle 37, Week 5 (June 3 - 9, 2001)	Work Schedule Review and Approval Form	
CR 01159063	NRC identified tools and equipment inappropriately stored in the Unit 2 Train "B" ESW pump room while the Unit 2 Train "A" ESW pump was out of service	
Fire Hazards analysis Report, Section 7.5	Fire Zones 29C, 29D, and 29F Unit 2 Essential Service Water Pumps	Revision 1
PMP 2270.CCM.001 Data Sheet 1	Transient Combustible Material Permit Request, Permit Number 01/37 for storage of tools and equipment to support change out of 2E ESW pump	

Unit 1 Train “B” Emergency D/G Outage

TS 3.8.1	Emergency AC Power Sources - Operating	
JO C45969	Replace cam cover gaskets on Unit 1 AB D/G	May 22, 2001
JO C47157	Correct 3 front bearing cover oil leak on Unit 1 AB D/G	May 22, 2001
JO C47493	Correct fuel injector pump oil seepage on Unit 1 AB D/G	May 22, 2001
JO C54885	Remove/inspect safety valve 1-SV-78-AB2	May 22, 2001
JO C55442	Replace damaged tubing to Unit 1 AB D/G starting air check valves	May 22, 2001

JO R74867	Calibrate pressure alarm switch, 1-LDA-150	May 22, 2001
JO 00291006	Straighten control air “tube rack” to 1-XRV-220	May 22, 2001
JO 01065034	Replace safety valve 1-SV-81-AB1 for 1-DCP-483 Revision 0A	May 22, 2001
JO 01066001	Replace intake air filter oil	May 22, 2001
CR 01142040	While performing R74867-01, 1-LDA-150 found out of specification high	May 22, 2001
CR 01143005	Safety valve 1-SV-81-AB2, Unit 1 AB D/G starting air compressor 1-QT-142-AB2 safety valve, opened intermittently, then reseated after rolling the diesel with air	May 22, 2001

Unit 1 Train "B" Containment Spray and Component Cooling Water Pump Maintenance

PMP 2291.OLR.001	On-Line Risk Management	Revision 1
PMP 2291.OLR.001 Data Sheet 3, May 20-26, 2001	Work Schedule review and Approval Form	Revision 3
CR 01144053	NRC identified that the maintenance risk assessment for May 24, 2001 did not include on-going maintenance on the Unit 2 Plant Air compressor	May 24, 2001
CR 01144049	NRC identified that the maintenance risk assessment for May 24, 2001 did not accurately reflect maintenance activities on the Unit 1 component cooling water pump	May 24, 2001
PA-00-01 EVAL	D. C. Cook 12 Week Maintenance Schedule Risk Evaluation	Revision 0

Repair of Spent Fuel Pool Filter Isolation Valve 12-SF-129

CR 00-5354	12-SF-129 is leaking by	April 9, 2000
WR A200661	Valve is closed against its stop nut but it is still passing 92 gpm flow	April 18, 2000
JO C200661	12-SF-129, repair valve to stop leak by	June 21, 2001

	Control Room Log	June 21, 2001

1R15 Operability Evaluations (71111.15)

Valve Seat Leakage into Unit 1 Loop 4 Accumulator

FSAR Section 6.2.2	Emergency Core Cooling Systems-System Design and Operation	
FSAR Section 14.3.2	Loss of Reactor Coolant from Small Ruptured Pipes	
TS 3.5.1	Emergency Core Cooling System-Accumulators	
01-OHP 4023.E-1	Loss of Reactor or Secondary Coolant	Revision 8
Flow Diagram OP-1-5143A	Emergency Core Cooling System (RHR) Accumulator Piping, Unit No. 1	
Flow Diagram OP-1-5142	Emergency Core Cooling (SIS)	
	Unit 1 Abnormal Position & Caution Tag Logs	
Performance Assurance Field Observation FO-01-F-003	Review of ODE associated with the Unit 1 Accumulator No. 14 Volume Increase Due to Fill Valve Leakby	
CR 00349092	During operation of the north safety injection pump for a leakage inspection, the Unit 1, Loop 4 accumulator level raised from 947 cubic feet to 958 cubic feet	December 14, 2000
CR 01125013	Unit 1 Loop 4 Accumulator filled when the south safety injection pump was started	May 5, 2001
CR 01166107	NRC questions regarding ODE for accumulator fill line leakage	June 15, 2001
CR 01169034	Not able to perform 1-OHP STP.053B on 1-IRV-60	June 18, 2001

Operability of Essential Service Water Pumps With a Circulating Water Intake Isolated

Calculation Number MD-02-ESW-077-N	Unit 2 Essential Service Water System Analysis to Determine the Allowable Minium Operability Requirements	Revision 1

CR 00-7659	NRC identified inconsistencies and errors in the ESW system analysis calculation MD-02-ESW-77-N	May 26, 2000
DIT B-02059	Isolation of Intake Tunnel	Revision 0
01-OHP 4021.057.001	Circulating Water System Operation	Revision 19a
01-OHP 4021.057.002	Placing In/Removing from Service of Circulating Water Deicing System	Revision 7

Motor Operated Valve Setup Calculation for 1-ICM-305 and 2-ICM-306

DB-12-ECCS	Design Basis Document for the Emergency Core Cooling System	Revision 0 November 23, 1998
2-E-N-600AC-MOV-001	Methodology for Calculating MOV Actuator Output Capability for Reliance 550 VAC and 575VAC Motors Using the KCI/ComEd Method	March 16, 2000
MD-01-RHR-009-N	Torque and Thrust Setup Calculation for 1-ICM-305 and 1-ICM-306	October 3, 2000
DIT-B-00621-08	Unit 1 & 2, AC Powered Generic Letter 89-10 Motor Operated Valves	June 16, 2000
DIT-B-00621-10	Unit 1 & 2, AC Powered Generic Letter 89-10 Motor Operated Valves	November 16, 2000
DIT-B-01099-06	Minimum and Maximum Acceptable Voltages at the 4160V and 600V Safety Buses for Modes 1 through 6 and Defueled Condition	September 15, 2000
FO-01-E-068	Review the ODE Associated with using an Incorrect Degraded Voltage Value in the MOV Setup Calculation for 1-ICM-305 and 306 (AR 01138010)	May 24, 2001
CR 00-3238	The license basis for Generic Letter (GL) 89-10 MOV degraded voltage evaluation is not clearly documented	February 24, 2000
CR 01138010	MOV setup calculation for 1-ICM-305 and 1-ICM-306 contains non-conservative value for design starting motor terminal voltage	May 18, 2001

1R19 <u>Post Maintenance Testing</u> (71111.19)

Troubleshooting and Repair of Unit 2 Loop 4 Feed Flow Instrument, 2-FFC-241

CR 01140002	2-FFC-241, #4 Steam Generator flow control transmitter Channel 2 failed partially	May 9, 2001
JO 01140002	Investigate/Calibrate 2-FFC-241-Loop	May 24, 2001
02-IHP 4030.SMP.222	Steam Generator 2 & 4 Steam/Feed Flow Mismatch and Steam Pressure Protection Set II Functional Test and Calibration	Revision 2a
Elementary Diagram OP-2-985782	Steam Generator 4 Flow Mismatch Protection Channel 2	
	Control Room Logs, Unit 2	May 20 - 21, 2001

Repair of Unit 1 Train "B" Containment Spray Pump and Component Cooling Water Pump Breakers

12-EHP 5030.TGY.001	Thermography Program	Revision 1
JO R67502	Perform infrared inspection on 1-T11A3 breaker cubicle	November 13, 2000
JO 311068	1-T11A7 predictive thermography cable 1-8006R-1	May 17, 2001
JO 314027	1-T11A3 phase “A” thermal image high	June 14, 2001
JO 1072030	Inspect/repair cable 1-8006R-1 in breaker 1-T11A7T1	June 15, 2001
CR 99-15216	There are five JO’s that are past their drop dead date on the 4kV system	June 11, 1999

Preventative Maintenance on the Unit 1 Train "A" ESW Pump Discharge Strainer

12-IHP 5030.EMP.001	Limitorque Valve Operator Preventive Maintenance	Revision 2
12-OHP 4021.019.001	Operation of the Essential Service Water System	Revision 21b
JO R66177	Perform Preventive Maintenance on Train "A" ESW Pump Discharge Strainer Inlet Drive Positioner Motor	June 15, 2001

CR 01166039	CR 01165073 did not fully document NRC concerns. Specifically, the job work package did not identify the need for compensatory actions and operations were not briefed on manual operation prior to removing power from the strainer actuator	June 15, 2001
CR 01165073	NRC identified that Operations failed to brief a sufficient number of operators to perform manual ESW strainer backwashing	June 14, 2001
CR 01165061	Unit 1 Train "A" ESW pump discharge strainer inlet gate motor would not move gate	June 14, 2001

1R22 Surveillance Testing (71111.22)

Unit 1 Train "B" Essential Service Water Pump Surveillance

TS 4.7.4.1	Essential Service Water System	
01-OHP 4030.STP.022W	West Essential Service Water System Test	Revision 9

4OA3 Event Followup

(Closed) Licensee Event Report 50-315/97002-01

GL 96-06	Assurance of Equipment Operability and Containment Integrity During Design Basis Accident Conditions	
C0800-01	Letter from A. C. Bakken to NRC Document Control Desk, “Donald C Cook Nuclear Plant Unit 2 Generic Letter 96-06, ‘Assurance of Equipment Operability and Containment Integrity During Design Basis Accident Conditions’”	August 15, 2000

C1100-01	Letter from M. W. Rencheck to NRC Document Control Desk, "Donald C Cook Nuclear Plant Unit 1 Generic Letter 96-06, 'Assurance of Equipment Operability and Containment Integrity During Design Basis Accident Conditions'"	November 7, 2000
CR 00-4799	This CR documents the GL 96-06 disposition of four Unit 2 piping segments	January 30, 2000
CR 00295012	To support restart of Unit 1, an evaluation was performed for those piping segments that are susceptible o thermal overpressurization in response to GL 96-06 concerns	October 21, 2000
CR 01067006	Controls need to be developed to identify and track implementation of GL 96-06 issues so that inappropriate changes are not made in the future	March 8, 2001

4OA5 Other

01-OHP 4023 E-0	Reactor Trip or Safety Injection	Revision 15a
01-OHP 4023 ES-0.1	Reactor Trip Response	Revision 14a
02-OHP 4023 E-0	Reactor Trip or Safety Injection	Revision 16b
02-OHP 4023 ES-0.1	Reactor Trip Response	Revision 14b
C0400-11	Letter to NRC from American Electric Power Response to Unresolved Item 50-315/99033-02, 50-316/99033-02	April 7, 2000
	Memorandum to J. Grobe, NRC Region III, from S. Black, NRC Office of Nuclear Reactor Regulation, Evaluation of Emergency Operating Procedure Shutdown Criteria at the Donald C. Cook Plant	March 12, 2001