

October 13, 2004

Mr. M. Nazar  
Senior Vice President and  
Chief Nuclear Officer  
Nuclear Generation Group  
American Electric Power Company  
500 Circle Drive  
Buchanan, MI 49107

SUBJECT: D. C. COOK NUCLEAR POWER PLANT, UNITS 1 AND 2  
NRC INTEGRATED INSPECTION REPORT 05000315/2004010;  
05000316/2004010

Dear Mr. Nazar:

On September 30, 2004, the U. S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your D. C. Cook Nuclear Power Plant, Units 1 and 2. The enclosed report documents the inspection findings which were discussed on September 30, 2004, with Mr. J. Jensen 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. A licensee-identified violation which was determined to be of very low safety significance is discussed in Section 4OA7 of this report.

If you contest the subject or severity of a 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 U. S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001; with copies to the Regional Administrator, Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U. S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at the D. C. Cook Nuclear Power Plant.

M. Nazar

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Sincerely,

*/RA/*

Eric R. Duncan, Chief  
Branch 6  
Division of Reactor Projects

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

Enclosure: Inspection Report 05000315/2004010; 05000316/2004010  
w/Attachment: Supplemental Information

cc w/encl: J. Jensen, Site Vice President  
M. Finissi, Plant Manager  
G. White, Michigan Public Service Commission  
Michigan Department of Environmental Quality  
Emergency Management Division  
MI Department of State Police  
D. Lochbaum, Union of Concerned Scientists

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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: 05000315/20040010; 05000316/2004010

Licensee: Indiana Michigan Power Company

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

Location: 1 Cook Place  
Bridgman, MI 49106

Dates: July 1, 2004, through September 30, 2004

Inspectors: B. Kemker, Senior Resident Inspector  
I. Netzel, Resident Inspector  
A. Dunlop, Senior Reactor Engineer  
B. Jose, Reactor Engineer  
R. Lerch, Senior Project Engineer  
P. Loughheed, Senior Reactor Engineer  
R. Ruiz, Reactor Engineer  
S. Sheldon, Senior Reactor Engineer  
W. Slawinski, Senior Radiation Specialist

Approved by: Eric R. Duncan, Chief  
Branch 6  
Division of Reactor Projects

Enclosure

## SUMMARY OF FINDINGS

IR 05000315/2004010, IR 05000316/20040010; 07/01/2004-09/30/2004; D. C. Cook Nuclear Power Plant, Units 1 and 2; Integrated Inspection Report.

This report covers a 13-week period of inspection by resident and region-based inspectors. No findings of significance were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

### **A. Inspector-Identified and Self-Revealed Findings**

No findings of significance were identified.

### **B. Licensee Identified Violations**

A violation of very low safety significance, which was identified by the licensee, has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. The violation and the licensee's corrective action tracking number is listed in Section 4OA7 of this report.

## REPORT DETAILS

### Summary of Plant Status

Unit 1 and Unit 2 were operated at or near full power during the inspection period.

#### 1. REACTOR SAFETY

##### **Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity**

1R04 Equipment Alignment (71111.04)

##### .1 Partial System Walkdowns

###### a. Inspection Scope

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

- Unit 2 Containment Spray System
- Unit 2 East and West Auxiliary Feedwater Systems
- Unit 1 West Centrifugal Charging System

The inspectors selected these systems based on their risk significance relative to the reactor safety cornerstones. The inspectors reviewed operating procedures, system diagrams, Technical Specification (TS) requirements, Administrative TSs, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also walked down accessible portions of the systems to verify system components were aligned correctly.

In addition, the inspectors verified that equipment alignment problems were entered into the licensee's corrective action program with the appropriate characterization and significance.

###### b. Findings

No findings of significance were identified.

##### .2 Complete System Walkdown

###### a. Inspection Scope

The inspectors performed one complete system walkdown of the following risk significant system:

- Unit 1 Component Cooling Water System performed from July 29, 2004 through August 20, 2004

The inspectors reviewed ongoing system maintenance, open job orders, and design issues for potential effects on the ability of the system to perform its design functions. The inspectors reviewed operating procedures, system diagrams, TS requirements, and applicable sections of the Updated Final Safety Analysis Report (UFSAR) to ensure the correct system lineup. The inspectors verified acceptable material condition of system components, availability of electrical power to system components, and that ancillary equipment or debris did not interfere with system performance.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Routine Resident Inspector Tours

a. Inspection Scope

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

- Unit 1 West Non-Essential Service Water Valve Area (Zone 33B)
- Unit 2 West Non-Essential Service Water Valve Area (Zone 34B)
- Units 1 and 2 Auxiliary Building North - Elevation 609' (Zone 44N)
- Units 1 and 2 Auxiliary Building South - Elevation 609' (Zone 44S)
- Unit 1 Auxiliary Cable Vault - Elevation 620'6" (Zone 56)
- Unit 2 Auxiliary Cable Vault - Elevation 620'6" (Zone 59)
- Unit 1 Charging Pump Rooms (Zone 62)
- Unit 2 Charging Pump Rooms (Zone 63)

The inspectors verified that fire zone conditions were consistent with assumptions in the licensee's Fire Hazards Analysis. The inspectors walked down fire detection and suppression equipment, assessed the material condition of fire fighting equipment, and evaluated the control of transient combustible materials. In addition, the inspectors verified that fire protection related problems were entered into the licensee's corrective action program with the appropriate characterization and significance.

b. Findings

No findings of significance were identified.

.2 Annual Fire Drill Observation

a. Inspection Scope

The inspectors assessed fire brigade performance and the drill evaluators' critique during a fire brigade drill conducted in the Unit 1 west essential service water pump room on August 18, 2004. The drill simulated an electrical fire in the pump's motor. The inspectors focused on command and control of fire brigade activities, fire fighting and communication practices, material condition and use of fire fighting equipment, and implementation of pre-fire plan strategies.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

The inspectors performed one inspection activity related to the licensee's precautions to mitigate the risk from internal flooding events. The following inspection activities were performed:

- the inspectors reviewed the Unit 1 and Unit 2 Flooding Evaluation reports, the UFSAR and other selected design basis documents to identify those areas susceptible to internal flooding;
- the inspectors performed a walkdown of the lower elevations of the Turbine Building and Auxiliary Building to assess the adequacy of watertight doors and verify that drains and sumps were clear of debris and were operable; and
- the inspectors reviewed selected operating procedures used to identify and mitigate flooding events and verified that these procedures were adequate.
- the inspectors reviewed the licensee's inspection of underground manholes susceptible to external flooding which contained risk-significant cables and verified that these inspections were adequate.

In addition, the inspectors verified that flood protection related problems were entered into the licensee's corrective action program with the appropriate characterization and significance.

b. Findings

No findings of significance were identified.



1R11 Licensed Operator Requalification (71111.11)

.1 Resident Inspector Quarterly Review

a. Inspection Scope

The inspectors assessed licensed operator performance and the training evaluators' critique during a licensed operator requalification evaluation in the D. C. Cook Plant operations training simulator on July 20, 2004. The inspectors focused on alarm response, command and control of crew activities, communication practices, procedural adherence, and implementation of emergency plan requirements.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Resident Inspector Quarterly Review

a. Inspection Scope

The inspectors evaluated the licensee's handling of selected degraded performance issues involving the following two risk-significant structures, systems, and components (SSCs):

- Unit 1 #12 Reactor Coolant Pump #1 Seal Erratic Leakoff
- Unit 1 and 2 Post Accident Containment Hydrogen Monitoring System Backup Air Pressure Regulator Failures

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the SSCs. Specifically, the inspectors independently verified the licensee's handling of SSC performance or condition problems in terms of:

- appropriate work practices,
- identifying and addressing common cause failures,
- scoping of SSCs in accordance with 10 CFR 50.65(b),
- characterizing SSC reliability issues,
- tracking SSC unavailability,
- trending key parameters (condition monitoring),
- 10 CFR 50.65(a)(1) or (a)(2) classification and reclassification, and
- appropriateness of performance criteria for SSCs/functions classified (a)(2) and/or appropriateness and adequacy of goals and corrective actions for SSCs/functions classified (a)(1).

In addition, the inspectors verified that problems associated with the effectiveness of plant maintenance were entered into the licensee's corrective action program with the appropriate characterization and significance.

b. Findings

No findings of significance were identified.

.2 Periodic Evaluation

a. Inspection Scope

The inspectors reviewed the Maintenance Rule periodic evaluation report, which was required per 10 CFR 50.65(a)(3). This evaluation was a periodic assessment of the effectiveness of maintenance for those SSCs included within the scope of the rule. The licensee monitors SSCs where maintenance has not been effective, by either excessive failures or unavailability, under (a)(1) of the rule, such that the SSCs receive appropriate attention to correct the deficiencies. The licensee monitors the remaining SSCs where maintenance has been demonstrated as being effective under (a)(2) of the rule, to ensure the SSCs will continue to be able to perform their intended function. The objectives of the inspection were to:

- Verify that the periodic evaluation was completed within the time constraints defined in 10 CFR 50.65 (once per refueling cycle, not to exceed 2 years), ensuring that the licensee reviewed its goals, monitoring, preventive maintenance activities, industry operating experience, and made appropriate adjustments as a result of that review;
- Verify that the licensee balanced reliability and unavailability for safety significant SSCs during the previous refueling cycle;
- Verify for SSCs being monitored under (a)(1) of the rule, that goals were being met, corrective actions were appropriate to correct the defective condition including the use of industry operating experience, and (a)(1) activities and related goals were adjusted as needed; and
- Verify that the licensee had established (a)(2) performance criteria, examined any SSCs that failed to meet the performance criteria, or reviewed any SSCs that had incurred repeated maintenance preventable functional failures, including a verification that the SSCs were considered for monitoring under (a)(1) of the rule.

The inspectors examined the periodic evaluation report for the time frame of October 5, 2001 through June 30, 2003. To evaluate the effectiveness of (a)(1) and (a)(2) activities, the inspectors examined (a)(1) action plans, justifications for returning SSCs from (a)(1) to (a)(2), and a number of condition reports to evaluate the licensee's functional failure determinations. In addition, the condition reports were reviewed to verify that the threshold for identification of problems was at an appropriate level and the associated corrective actions were appropriate. The inspectors focused the inspection on the following systems (5 samples):

- Essential Service Water
- Emergency Diesel Generator Ventilation

- 250 Volt Direct Current (DC) Power
- Auxiliary Feedwater
- Residual Heat Removal

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation (71111.13)

a. Inspection Scope

The inspectors reviewed the licensee's evaluation and management of plant risk for the following six maintenance and operational activities affecting safety-related equipment:

- Unit 1 Ice Condenser Cooling Relief Valve Lifting
- Unit 1 CD Emergency Diesel Generator Starting Air Actuator Replacement Emergent Work
- Unit 2 Turbine Driven Auxiliary Feedwater Pump Maintenance
- Unit 1 Pressurizer Sensing Line Root Valve Leak
- Unit 2 Switchyard High Risk Maintenance Activities
- Unit 2-IMO-331 Residual Heat Removal Spray Valve Planned Maintenance

These activities were selected based on their potential risk significance relative to the reactor safety cornerstones.

As applicable 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/or shift technical advisor, and verified that plant conditions were consistent with the risk assessment assumptions. The inspectors also reviewed TS requirements and walked down portions of redundant safety systems, when applicable, to verify that risk analysis assumptions were valid and applicable requirements were met.

In addition, the inspectors verified that maintenance risk-related problems were entered into the licensee's corrective action program with the appropriate characterization and significance.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the following condition reports (CRs) to ensure that either the condition did not render the involved equipment inoperable or result in an unrecognized increase in plant risk, or the licensee appropriately applied TS limitations and appropriately returned the affected equipment to an operable status.

- CR P-99-07602, "Momentary Ratings Exceeded on 4KV Breaker for Fault Conditions"
- CR P-99-08330, "Calculation Shows Fault Currents at the 4KV Buses are Higher than Manufacturer's Rating"
- CR 03099017, "TS 3.6.3.1 Applicability With Respect to Certain Dual Function Valves," and CR 03098003, "2-ICM-250 Failed to Stroke Open Within Maximum Stroke Time"
- CR 04208040, "2-GFW-L-825 Material Loss Due to an Aggressive Environment"
- CR 04061032, "Undersized O-Ring Installed on 2-PP-50W West Centrifugal Charging Pump"
- CR 04165014, "Performance of 2-OHP-4021-055-005 Feed Pump Turbine Miscellaneous Trip Test Causes Both Motor Driven Auxiliary Feedwater Pumps to Become Inoperable"
- CR 04175023, "No Testing Is Performed on Slave Relay K627, Reactor Coolant Pump Trip on Bus Under-frequency Output Relays"
- CR 01125013, "#4 Accumulator Filled When the South Safety Injection Pump Was Started"

In addition, the inspectors verified that problems related to the operability of safety-related plant equipment were entered into the licensee's corrective action program with the appropriate characterization and significance.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing (71111.19)

a. Inspection Scope

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

- Unit 1 Turbine Driven Auxiliary Feedwater Pump Planned Maintenance
- Unit 1 AB Emergency Diesel Generator Planned Maintenance
- Unit 1 East Essential Service Water Pump Discharge Valve (1-WMO-701) Planned Maintenance
- Unit 2 South Safety Injection Pump Planned Maintenance
- Unit 2 West Motor Driven Auxiliary Feedwater Pump Recirculating Line Check Valve Replacement Planned Maintenance

- Unit 2 Reactor Protection Control Group Cabinet #17 Math Unit Replacement Emergent Repair

The inspectors reviewed the scope of the work performed and evaluated the adequacy of the specified post maintenance testing. The inspectors verified that the post maintenance testing was performed in accordance with approved procedures, that the procedures clearly stated acceptance criteria, and that the acceptance criteria were met. The inspectors interviewed operations, maintenance, and engineering department personnel and reviewed the completed post maintenance testing documentation.

In addition, the inspectors verified that post maintenance testing problems were entered into the licensee's corrective action program with the appropriate characterization and significance.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed portions of the following five surveillance testing activities and/or reviewed the test results to determine whether risk significant systems and equipment were capable of performing their intended safety function and to verify that testing was conducted in accordance with applicable procedural and TS requirements.

- Unit 1 East Component Cooling Water System Test
- Unit 1 AB Emergency Diesel Generator Monthly Test
- Unit 1 "B" and "C" Local Leak Rate Test, Penetration 82
- Unit 2 West Essential Service Water System Test
- Unit 2 "B" and "C" Local Leak Rate Test, Penetration 82

The inspectors reviewed the test methodology and test results to verify that equipment performance was consistent with safety analysis and design basis assumptions. In addition, the inspectors verified that surveillance testing problems were being entered into the corrective action program with the appropriate significance characterization.

The inspectors also reviewed the last containment local leak rate test results for penetration 82 in both Unit 1 and Unit 2. This included an overall review of the procedure, review of specific work packages for four containment isolation valves, and review of the method used to verify compliance with the TS for maintaining total leakage from all containment penetrations within 60 percent of the allowable leakage. Because both the inner and outer valves were tested during the same surveillance, the inspectors considered review of both the inboard and outboard valves on one unit to be one sample under the baseline inspection program.

b. Findings

No findings of significance were identified.

1R23 Temporary Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed two temporary modifications and verified that the installation was consistent with design modification documents and that the modifications did not adversely impact system operability or availability.

- 1-TM-04-46-R0, "Instrumentation to Monitor Vibration Levels on Unit 1 Circulating Water Pump Motors"
- ICP-01024, "Unit 1 Pressurizer Enclosure High Temperature Alarm Change," and ICP-01027, "Unit 1 Lower Containment Temperature Alarm Setpoint Change for 1-SG-18 Recorder Point Numbers 8, 11, and 12"

The inspectors verified that configuration control of the modifications were correct by reviewing design modification documents and confirmed that appropriate post-installation testing was accomplished. The inspectors interviewed engineering, and operations department personnel and reviewed the design modification documents and 10 CFR 50.59 evaluations against the applicable portions of the TS and UFSAR.

b. Findings

No findings of significance were identified.

**Cornerstone: Emergency Preparedness**

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

The inspectors observed activities in the plant simulator, the Operations Support Center, and the Technical Support Center during an emergency preparedness training drill conducted on July 27, 2004. The inspectors verified that the emergency classifications and notifications to offsite agencies were completed in an accurate and timely manner as required by the emergency plan implementing procedures. The inspectors also verified that the training drill was conducted in accordance with the prescribed sequence of events, drill objectives were satisfied and that the required prompts from the licensee drill controllers were appropriately communicated to the drill participants.

The inspectors observed the post-drill critique in the Technical Support Center and reviewed documented post-drill critique comments by licensee evaluators to verify that licensee personnel and licensee drill evaluators adequately self-identified drill performance problems of significance. The inspectors also verified that condition reports were generated for drill performance problems of significance and entered into the corrective action program with the appropriate characterization and significance.

b. Findings

No findings of significance identified.

**2. RADIATION SAFETY**

**Cornerstone: Occupational Radiation Safety**

2OS1 Access Control to Radiologically Significant Areas (71121.01)

.1 Review of Licensee Performance Indicators for the Occupational Exposure Cornerstone

a. Inspection Scope

The inspectors reviewed licensee event reports, corrective action documents and data reported on the NRC's web site relative to the licensee's occupational exposure control performance indicator to determine whether or not the conditions surrounding any actual or potential performance indicator occurrences had been evaluated, and identified problems had been entered into the corrective action program for resolution.

This review represented one inspection sample.

b. Findings

No findings of significance were identified.

.2 Plant Walkdowns/Boundary Verifications and Radiation Work Permit Reviews

a. Inspection Scope

The inspectors identified work areas during the inspection located within high and locked high radiation areas of the plant and selectively reviewed radiation work permit (RWP) packages and radiation surveys for these areas. The inspectors evaluated the radiological controls for these areas to determine if these controls including postings and access control barriers were adequate.

The inspectors reviewed active RWPs and as-low-as-is-reasonably-achievable (ALARA) plans which governed activities in radiologically significant areas to identify the work control instructions and control barriers that had been specified. Electronic dosimeter alarm set points for both integrated dose and dose rate were evaluated for conformity with survey indications and RWP policy. Workers were questioned by the inspectors to verify that they were aware of the actions required when their electronic dosimeters malfunctioned or alarmed.

The inspectors walked down and surveyed (using an NRC survey meter) radiologically significant area boundaries in the Unit 1 and 2 Auxiliary Building and at the fuel transfer tube access barriers in the Unit 1 and 2 Turbine Building to verify that the necessary radiological access controls were in place, that licensee postings were complete and accurate, and that physical barricades/barriers were adequate. During the walkdowns,

the inspectors challenged access control boundaries to verify that high radiation area, locked high radiation area (LHRA), and very high radiation area (VHRA) access was controlled consistent with the licensee's procedures, TSs, the requirements of 10 CFR 20.1601 and 20.1602 and were consistent with Regulatory Guide 8.38, "Control of Access to High and Very High Radiation Areas in Nuclear Power Plants."

The inspectors reviewed RWP and post job review documents for selected activities performed in 2004 to verify barrier integrity and engineering controls performance (e.g., filtered ventilation system operation) and to determine if there was a potential for individual worker internal exposures of >50 millirem committed effective dose equivalent. The inspectors reviewed the licensee's procedures and its methods for the assessment of internal dose as required by 10 CFR 20.1204, to ensure methodologies were technically sound and included an assessment of the impact of hard to detect radionuclides such as pure beta and alpha emitters, as applicable. No worker intakes occurred since internal dose calculations were last reviewed by the inspectors as described in NRC Inspection Report 50-315/03-16(DRS); 50-316/03-16(DRS).

The inspectors reviewed the licensee's physical and programmatic controls for highly activated and/or contaminated materials (non-fuel) stored within spent fuel or other storage pools. To conduct this review, radiation protection (RP) staff were interviewed, RP and foreign material exclusion procedures were reviewed as was the latest inventory record for the spent fuel pool and transfer canal. Given that the licensee seldom stores activated or highly contaminated materials in the spent fuel pool in a manner which would allow them to be readily removed, the radiological controls for such storage was discussed with RP supervisors to ensure adequate barriers would be established to reduce the potential for the inadvertent movement of irradiated materials.

These reviews represented five inspection samples.

b. Findings

No findings of significance were identified.

.3 Problem Identification and Resolution

a. Inspection Scope

The inspectors reviewed the results of a recently completed self-assessment of the radiological access control program, the condition report database for all RP-related issues generated between January and July 2004 along with individual condition reports related to the radiological access and exposure control programs to verify that identified problems were entered into the corrective action program for resolution. The inspectors screened all high radiation area (HRA) related radiological incidents and reviewed those which were of greatest potential significance (non-performance indicator occurrences identified by the licensee in high and locked high radiation areas) to verify that follow-up activities were conducted in an effective and timely manner commensurate with their importance to safety and risk based on the following:



- Initial problem identification, characterization, and tracking;
- Disposition of operability/reportability issues;
- Evaluation of safety significance/risk and priority for resolution;
- Identification of repetitive problems;
- Identification of contributing causes; and
- Identification and implementation of corrective actions.

The inspectors evaluated the licensee's process for problem identification, characterization, prioritization, and verified that problems were entered into the corrective action program and were being resolved. For repetitive deficiencies, the inspectors verified that the licensee's self-assessment activities were capable of identifying and addressing these deficiencies, if applicable.

The inspectors reviewed licensee documentation packages for all potential performance indicator events occurring since the last inspection to determine if any of these events involved dose rates >25 Rem/hr at 30 centimeters or >500 Rem/hr at 1 meter or involved unintended exposures >100 millirem total effective dose equivalent (or >5 Rem shallow dose equivalent or >1.5 Rem lens dose equivalent). None were identified.

These reviews represented four inspection samples. Specifically, the samples pertained to the licensee's self-assessment capabilities, its problem identification and resolution program for HRA incidents, a review of the licensee's ability to identify and address repetitive deficiencies, and a review of those potential performance indicator occurrences of greatest radiological risk.

b. Findings

No findings of significance were identified.

.4 Job-In-Progress Reviews and Review of Work Practices in Radiologically Significant Areas

a. Inspection Scope

The inspectors accompanied RP and maintenance staffs into the Unit 2 boric acid storage tank room and evaluated filter change-out activities and the associated radiological controls. The inspectors reviewed the radiation survey and associated radiological job requirements for this work activity as provided in the RWP package, and attended the pre-job briefing to assess the adequacy of the information exchanged. The inspectors also reviewed the RWP and ALARA plan and attended the pre-job briefing for the handling of high level radioactive waste (filters) in the drumming room, an activity scheduled to take place the week following the inspection.

Job performance during the boric acid filter replacement was observed to verify that radiological conditions in the work area were adequately communicated to workers through the pre-job brief and postings. The inspectors also verified the adequacy of the radiological oversight provided by the radiation protection staff including the radiological surveys and radiation protection technician job coverage.

Previously completed work in high radiation areas that had significant dose rate gradients were reviewed to evaluate the application of dosimetry to effectively monitor exposure to personnel. Also, the inspectors reviewed the licensee's procedure and its generic practices associated with dosimetry placement, use of extremity dosimetry, practices for monitoring neutron exposure and for the use of multiple whole body dosimetry for work in areas with significant dose rate gradients for compliance with the requirements of 10 CFR 20.1201(c) and applicable industry guidelines.

The inspectors also reviewed the licensee's procedures and discussed with RP staff its practices for at-power containment entries and for entry into the reactor pit and in-core detector instrument room to determine the adequacy of the radiological controls and hazards assessment associated with such entries. Work instructions provided in radiation work permits, pre-entry briefings and the administrative and physical controls to prevent unauthorized entry into these radiologically significant areas were discussed with RP staff to determine their adequacy relative to industry practices and NRC Information Notices.

These reviews represented three inspection samples.

b. Findings

No findings of significance were identified.

.5 High Risk Significant, LHRA and VHRA Access Controls

a. Inspection Scope

The inspectors reviewed the licensee's procedures, associated RP guidelines and evaluated RP practices for the control of access to radiologically significant areas (high, locked high, and very high radiation areas), and assessed compliance with the licensee's TSs, the requirements of 10 CFR Part 20, and the guidance contained in Regulatory Guide 8.38. In particular, the inspectors evaluated the RP staff's control of keys to LHRAs and VHRAs, the use of RP supervisors to control access into these areas while work is taking place, and methods and practices for independently verifying proper closure and locking of access doors upon area egress. The inspectors selectively reviewed high radiation area key issuance/return and inventory records for the second quarter of 2004 to verify the adequacy of accountability practices and documentation. The inspectors also reviewed the licensee's procedure and practices for radiation protection manager and plant ALARA Committee approval for access into VHRAs for compliance with 10 CFR 20.1602.

The inspectors discussed with RP staff the controls that were in place for areas that had the potential to become high radiation areas or greater during certain plant operations to determine if these plant operations required communication before hand with the RP group, so as to allow corresponding timely actions to properly post and control the radiation hazards. In particular, operations procedures for reactor coolant drain tank and volume control tank operations, for residual heat removal system actuation and for other reactor operations activities that could affect plant radiological conditions were reviewed along with recently developed radiological survey guidance to determine if

adequate mechanisms were in-place to identify and control potential emerging radiological hazards.

The inspectors conducted plant walkdowns to verify the adequacy of postings and physical barriers including the locking of entrances to numerous LHRAs and those VHRAs accessible to the inspectors.

These reviews represented three inspection samples.

b. Findings

No findings of significance were identified.

.6 Radiation Worker Performance

a. Inspection Scope

During the filter replacement work in the boric acid storage tank room, the inspectors evaluated radiation worker performance with respect to stated radiation protection work requirements and to determine whether workers were aware of the radiological conditions, the RWP controls and limits in place, and that their performance had accounted for the level of radiological hazards present.

The inspectors reviewed radiological problem reports generated from January 2004 through July 2004 which found that the cause or contributor to the event was radiation worker error to determine if there was an observable pattern traceable to a similar cause, and to determine if this matched the corrective action approach taken by the licensee to resolve the identified problems.

These reviews represented two inspection samples.

b. Findings

No findings of significance were identified.

.7 Radiation Protection Technician Proficiency

a. Inspection Scope

During job observations, the inspectors evaluated radiation protection technician performance with respect to radiation protection work requirements, conformance with procedures and those requirements specified in the RWP, and to determine if their performance was consistent with the radiological hazards that existed.

The inspectors reviewed selected radiological problem reports generated between December 2003 and August 2004 to determine the extent of any specific problems or trends caused by RP technician errors, and to determine if the corrective action approach taken by the licensee to resolve the reported problems, if applicable, was adequate.

These reviews represented two inspection samples.

b. Findings

No findings of significance were identified.

**4. OTHER ACTIVITIES**

4OA1 Performance Indicator Verification (71151)

**Cornerstones: Mitigating Systems and Barrier Integrity**

.1 Safety System Functional Failures

a. Inspection Scope

The inspectors verified the Safety System Functional Failures Performance Indicator for both units. The inspectors reviewed each Licensee Event Report (LER) from October 2003 to June 2004, determined the number of safety system functional failures that occurred, evaluated each LER against the performance indicator definitions, and verified the number of safety system functional failures reported.

b. Findings

No findings of significance were identified.

.2 Reactor Coolant System Leakage

a. Inspection Scope

The inspectors verified the Reactor Coolant System (RCS) Leakage performance Indicator for both units. The inspectors reviewed operating logs and the results of RCS water inventory balance calculations performed from October 2003 through June 2004 and verified the licensee's calculation of RCS leakage for both units.

b. Findings

No findings of significance were identified.

.3 Reactor Coolant System Specific Activity

a. Inspection Scope

The inspectors verified the Reactor Coolant System Specific Activity performance Indicator for both units. The inspectors reviewed chemistry department records including selected isotopic analyses for the period April 2003 through mid-August 2004, to verify that the greatest Dose Equivalent Iodine (DEI) values determined during steady state operations for those months corresponded with the values reported to the NRC. The inspectors selectively reviewed DEI calculations to verify that the appropriate

conversion factors were used in the assessment as required by the licensee's procedure. Also, sample analyses and DEI calculation methods were discussed with chemistry staff to determine their adequacy. To verify the accuracy of the performance indicator data reported, performance indicator definitions and guidance contained in Revision 2 of Nuclear Energy Institute 99-02, "Regulatory Assessment Performance Indicator Guideline," were used.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

As discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that they were being entered into the licensee's corrective action system at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. Some minor issues entered into the licensee's corrective action system as a result of inspectors' observations are included in the list of documents reviewed which are attached to this report.

b. Findings

No findings of significance were identified.

.2 Annual Sample Review

a. Inspection Scope

The inspectors selected the following two issues for in-depth review:

- CR 03016039, "Significant Operating Event Report 03-01, Emergency Power Reliability"
- CR 04128084, "Troubleshooting Steps Delineated in Job Order 04001006-01 Only Partially Covered the Vendor Recommended Troubleshooting Steps"

The inspectors verified the following attributes during their review of the licensee's corrective actions for the above condition reports and other related condition reports:

- consideration of the extent of condition, generic implications, common cause and previous occurrences;
- classification and prioritization of the resolution of the problem, commensurate with safety significance;
- identification of the root and contributing causes of the problem; and

- identification of corrective actions which were appropriately focused to correct the problem.

The inspectors discussed the corrective actions and associated condition report evaluations with site personnel.

b. Findings

No findings of significance were identified. However, the inspectors had the following observations regarding the licensee's troubleshooting efforts, condition evaluation and corrective actions associated with CR 04128084 and other related condition reports.

During a Unit 2 reactor startup on January 1, 2004, control rod K-10 dropped 60 steps. The licensee formed a troubleshooting team to address the problem and evaluated the condition. The inspectors provided several observations at that time and several condition reports were generated as a result. Those observations included:

- 1) the troubleshooting procedure for measuring the resistance of the gripper coil connector used the wrong acceptance criteria (CR 04128083);
- 2) not all of the applicable troubleshooting steps provided in the vendor manual were used (CR 04128084); and
- 3) vendor identified deficiencies in previously performed job orders had not been evaluated (CR 04128085).

The inspectors found that the condition report evaluation for CR 04128084 was ambiguous and did not appear to acknowledge that mistakes had been made during the licensee's troubleshooting. The evaluations justified the actions of the troubleshooting team, provided unrelated information, and did not reference plant procedures which would have more succinctly answered the inspectors' questions. Resolution of these concerns required additional inspector involvement and the condition report evaluations were revised appropriately.

As a result, the inspectors concluded that replacing the K-10 gripper coil connector was unnecessary, that two other connectors were damaged in the process of replacing the K-10 connector, and that the probable cause of the rod slippage was not determined although the problem did not recur during the subsequent startup.

40A3 Event Response (71153)

- .1 (Closed) LER 50-315/2004-001-00: "Failure to Comply with TS 3.7.5.1, Control Room Emergency Ventilation System." The licensee identified that combined leakage from the Unit 2 South safety injection pump discharge valve (2-SI-206) manual isolation pressure seal ring and seat leakage past the pump's three drain valves was greater than that assumed in the safety analysis for TS 3.7.5.1. This condition existed for 66 hours and 43 minutes from July 18, 2003 through July 21, 2003, and rendered the Control Room emergency ventilation system filter units for both Unit 1 and Unit 2 inoperable. The licensee failed to recognize at that time that this condition constituted a failure to meet the requirements of TS 3.7.5.1 and failed to comply with the 24-hour action requirement to restore the Control Room emergency ventilation system filter unit to an operable

status or be in at least Mode 3 (Hot Standby) within the next 6 hours and Mode 5 (Cold Shutdown) within the following 30 hours. The licensee discovered this non-compliance on May 4, 2004, while investigating the cause of a very slow decrease in volume from the Unit 2 refueling water storage tank, which revealed the problem with the leaking drain valves. The licensee reported this event as a condition which was prohibited by the plant's TSs in accordance with 10 CFR 50.73(a)(2)(i)(B). The licensee determined that the apparent cause for this event was excessive leakage from 2-SI-206 and the pump's three drain valves. In addition, the licensee identified that its RCS leakage monitoring program did not include an accounting of seat leakage past numerous emergency core cooling and containment spray system pump casing and nozzle drain lines that would be relied upon to isolate the drain lines from the rest of the system piping that must remain in service during the recirculation mode following an accident. The inspectors concluded that the licensee implemented reasonable immediate corrective actions for this event including replacing the pump's three drain valves and repairing 2-SI-206. The inspectors concluded that this event was a licensee performance deficiency warranting a significance evaluation.

The inspectors assessed this finding using the Significance Determination Process (SDP). The inspectors reviewed the samples of minor issues in NRC Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix E, "Examples of Minor Issues," and determined that there were no examples related to this issue. Consistent with the guidance in IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Disposition Screening," the inspectors determined that this failure to comply with the TS Limiting Condition for Operation action requirement could become a more significant safety concern if left uncorrected and was therefore more than a minor concern. Specifically, the failure to correctly implement the requirements of the TS 3.7.5.1 could reasonably result in conditions affecting habitability for Control Room operators during an accident. Because this issue affected the operability of the Control Room emergency ventilation system, the inspectors concluded that this issue was associated with the barrier integrity cornerstone. The inspectors performed a Phase 1 SDP review of this finding using the guidance provided in IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," and determined that this finding was a licensee performance deficiency of very low safety significance because the finding only represented a degradation of the radiological barrier function provided for the Control Room.

The inspectors concluded that this event constituted a violation of TS 3.7.5.1. A licensee-identified Non-Cited Violation is documented in Section 4OA7.1 of this report. This LER is closed.

#### 4OA6 Meetings

##### .1 Resident Inspectors' Exit Meeting

The inspectors presented the inspection results to Mr. J. Jensen and other members of licensee management at the conclusion of the inspection on September 30, 2004. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary.

Proprietary information was examined during this inspection, but is not specifically discussed in this report.

.2 Interim Exit Meetings

- Maintenance Rule Implementation - Periodic Evaluation inspection with Mr. M. Nazar on July 23, 2004.
- Occupational Radiation Safety Radiological Access Controls inspection with Mr. J. Jensen on August 19, 2004.

4OA7 Licensee-Identified Violation

The following violation of very low safety significance was identified by the licensee and was a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as a Non-Cited Violation.

Unit 1 and Unit 2 TS 3.7.5.1 required, in part, that the Control Room emergency ventilation system be operable in Modes 1, 2, 3, 4 and during the movement of irradiated fuel assemblies. Condition (b) of TS 3.7.5.1 required that with one charcoal adsorber/high efficiency particulate air filter unit inoperable, restore the filter unit to operable status within 24 hours or be in at least Hot Standby within the next 6 hours and in Cold Shutdown within the following 30 hours. Contrary to the above, at 1:37 p.m. on July 19, 2003, with Unit 1 and Unit 2 in Mode 1, the licensee failed to restore the filter units to an operable status within 24 hours or be in at least Hot Standby within the next 6 hours and in Cold Shutdown within the following 30 hours. This was a violation of TS 3.7.5.1. However, because of the very low safety significance, this violation is being treated as a Non-Cited Violation consistent with Section VI.A of the NRC Enforcement Policy. This issue was discussed in Section 4OA3.1 of this report. The licensee entered this violation into the corrective program as CR 04128075.

ATTACHMENT: SUPPLEMENTAL INFORMATION



## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee

J. Eaton, Maintenance Rule Coordinator  
H. Etheridge, Regulatory Affairs Engineer  
D. Fadel, Vice President Engineering  
M. Finissi, Plant Manager  
J. Gebbie, Engineering Programs Manager  
J. Jensen, Site Vice President  
M. Nazar, Senior Vice President, Chief Nuclear Officer  
R. Serocke, Radiation Protection Manager  
S. Vazquez, System Engineering Manager  
J. Zwolinski, Safety Assurance Director

## LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened

None

### Closed

50-315/2004-001-00 LER Failure to Comply with TS 3.7.5.1, Control Room Emergency Ventilation System (Section 4OA3.1)

### Discussed

None

## LIST OF DOCUMENTS REVIEWED

The following is a list of licensee documents reviewed during the inspection. Inclusion on this list does not imply the NRC inspectors reviewed the documents in their entirety but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document in this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

### 1R04 Equipment Alignment

- D. C. Cook Unit 1 TSs and Bases
- D. C. Cook Unit 2 TSs and Bases
- D. C. Cook Updated Final Safety Analysis Report, Revision 19
- Unit 1 Technical Data Book Figure 19.8, "Safety Related Throttled Valves," Revision 23
- 01-OHP-4021-003-001, "Letdown, Charging and Seal Water Operation," Revision 29
- 01-OHP-4021-016-003, "Operation of the Component Cooling Water System During System Startup and Power Operation," Revision 18
- 01-OHP-4030-116-020W, "West Component Cooling Water Loop Surveillance Test," Lineup Sheet 1, "Unit 1 West CCW Loop Flow Path Verification," Revision 1b
- 01-OHP-4030-116-020E, "East Component Cooling Water Loop Surveillance Test," Lineup Sheet 1, "Unit 1 East CCW Loop Flow Path Verification," Revision 1b
- 02-OHP-4022-056-001, "Steam Binding in Auxiliary Feedwater system," Revision 4
- 02-OHP-4022-055-003, "Loss of Condensate to Auxiliary Feedwater Pumps," Revision 6B
- 02-OHP-4021-056-002, "Auxiliary Feed Pump Operation," Revision 15a
- 02-OHP-4021-009-001, "Placing the Containment Spray System in Standby Readiness," Revision 7c
- 02-OHP-4021-009-001, Lineup Sheet 1, "Placing the Containment Spray System in Standby Readiness," Revision 7c
- OP-1-5129-47, "Flow Diagram CVCS-Reactor Letdown and Charging Unit 1," Revision 47
- OP-1-5129A-31, "Flow Diagram CVCS-Reactor Letdown and Charging Unit 1," Revision 31
- OP-1-5135-41, "Flow Diagram Component Cooling Water Pumps and Heat Exchangers," Revision 21
- OP-1-5135A-42, "Flow Diagram Component Cooling Water Safety Related Loads," Revision 42
- OP-1-5135B-21, "Flow Diagram Component Cooling Water Miscellaneous Services Auxiliary Building," Revision 21
- OP-1-5135C-7, "Flow Diagram Component Cooling Water Miscellaneous Services Auxiliary Building," Revision 7
- OP-2-5106A-51, "Flow Diagram Auxiliary Feedwater Unit 2," Revision 51
- OP-2-5144, "Flow Diagram Containment Spray Unit 2," Revision 50
- PRA-NB-CCW, "Component Cooling Water System Probabilistic Risk Assessment Model Notebook," Revision 2
- CR 04217057, "1-CTI-411 Can't Be Read Due to Piping Blocking the View," August 4, 2004
- CR 04217045, "Very Small Grease Leak at Gear Box for 1-CCW-165," August 4, 2004

- CR 04215081, "Gear Box for Handwheel on 1-CCW-180E Is Leaking Oil," August 2, 2004
- CR 04218094, "Received Unexpected Annunciator 'West Motor Drive Auxiliary Feedwater Pump Strainer Differential Pressure High'," August 5, 2004

#### 1R05 Fire Protection

- D. C. Cook Fire Hazards Analysis, Units 1 and 2, Revision 10
- D. C. Cook UFSAR, Section 9.8.1, "Fire Protection System", Revision 19
- Drawing 12-5973-10, "Fire Facilities Basement Plan, El. 591'-0" and 587'-0"," Revision 10
- Drawing 12-5268-8, "Fire Facilities Mezzanine floor, El. 609'-0," Revision 8
- Drawing 12-5268-5, "Fire Facilities Cable Vault Plans, El. 625'-10"," Units 1 and 2," Revision 5
- Drawing 12-5973-9, "Fire Hazards Analysis Basement Plan, El. 591'-0" and 587'-0"," Revision 9
- Drawing 12-5974-8, "Fire Hazards Analysis Mezzanine Floor, El. 609'-0" Units 1 and 2," Revision 8
- Drawing 12-5975-4, "Fire Hazard Analysis Plan, El. 601'-0", 609'-0", 620'-6" to 625'-10"," Units 1 and 2," Revision 4
- Drawing 12-5980-4, "Fire Hazards Analysis, Sections D-D, E-E, & F-F," Revision 4

#### 1R06 Flood Protection Measures

- D. C. Cook Nuclear Plant Updated Final Safety Analysis Report Section 14.4.2.7, "Flooding," Revision 19
- Flooding Evaluation for AEP, D. C. Cook Unit 2, S&L Report No. SL-5369, Revision 0, AEP Report NED-2000-537-REP, May 19, 2000
- HELB [High Energy Line Break] Program Flooding Evaluation Report, D. C. Cook Unit 1, AEP Report NED-2000-560-REP, October 2, 2000
- NRC Information Notice 2002-12, "Submerged Safety-related Electrical Cables," March 21, 2002
- Job Order Activity 04180022, "Perform Visual Inspection of Offsite Power Cables in Three Manholes," July 9, 2004
- Drawing 12-1141-46, "34.5 kV & 4 kV Power Duct Runs & Control Cable Pipe Runs in Plant Yard Area," Revision 46
- Drawing 12-13900-10, "Dedicated Fire Protection Water Supply Plan of Electrical Conduits and Cables South of Plant Yard," Revision 10
- CR 04203063, "The Cables Within Two Electrical Medium Voltage Manholes Are Submerged," July 21, 2004
- CR 04209089, "Unit 2 Received Heater Drain Pump Room Sump Level High Alarm," July 27, 2004
- CR 0418050, "NRC Resident Concerns with Underground Cable Aging Management Program," June 29, 2004
- CR 04104062, "The NSRB [Nuclear Safety Review Board] Noted That There Is No Program for Cable Submergence," April 13, 2004

## 1R12 Maintenance Effectiveness

- PMI-5035; Maintenance Rule Program; Revision 11
- PMP-5035-MRP-001; Maintenance Rule Program Administration; Revision 4
- 12-EHP-5035-MRP-001; Maintenance Rule Program Administration; Revision 10
- D. C. Cook Nuclear Power Plant Periodic Assessment of Maintenance Effectiveness Report October 5, 2001 - June 30, 2004; October 31, 2003
- SA-2004-ESY-005-QH; Maintenance Rule Self-Assessment Report; July 19, 2004
- Maintenance Rule Scoping Radiation Monitoring; July 19, 2002
- Maintenance Rule Scoping 250 Volt DC; April 26, 2002
- Maintenance Rule Scoping Nuclear Instrumentation; June 15, 2001
- Maintenance Rule Scoping Diesel Generator Room Ventilation; February 28, 2002
- Maintenance Rule Scoping Essential Service Water; April 18, 2002
- Maintenance Rule Expert Panel Meeting Minutes; January 18, 2002, through July 15, 2004
- System Health Overview Reports for Maintenance Rule Program, Essential Service Water, Emergency Diesel Generator Ventilation, 250 Volt DC, Auxiliary Feedwater, and Residual Heat Removal; from 4th Quarter 2001 through 3rd Quarter 2003
- (a)(1) Action Plans - 250 Volt DC Battery Chargers; March 10, 2004, March 28, 2002, and January 26, 2002
- (a)(1) Action Plans - 250 Volt DC System; March 28, 2002, and March 16, 2001
- (a)(1) Action Plans - Auxiliary Feedwater System; June 15, 2001, June 19, 2001, June 29, 2001, August 23, 2001, and March 28, 2002
- (a)(1) Action Plans - Radiation Monitoring System; January 26, 2004, April 17, 2002, and March 14, 2001
- (a)(1) Action Plans - Diesel Generator Ventilation System; September 19, 2002, January 24, 2002, and November 30, 2001
- (a)(1) Action Plan Return to (a)(2) - Auxiliary Feedwater System; February 27, 2003
- (a)(1) Action Plan Return to (a)(2) - Essential Service Water; July 19, 2004
- (a)(1) Action Plan Return to (a)(2) - Post Accident Containment Hydrogen Monitoring, March 19, 2004
- System Health Report for Post Accident Containment Hydrogen Monitoring System, 1Q 2004
- CR 01341004; 1-BC-CD-2 Battery Charger Failure; December 6, 2001
- CR 02015059; Train A Battery Charger Output <250 Volt DC; January 15, 2002
- CR 02032010; Unit 2 CD2 Battery Charger Tripped Off; February 1, 2002
- CR 02044093; Corrosion Found on Cell 87; February 13, 2002
- CR 02073051; Station Battery Charger Design Indicates Relay Replacement; March 14, 2002
- CR 02113067; Crack Found in Unit 2 AB Battery Cell 31; April 23, 2002
- CR 02150010; 1-FRV-244 and 1-FRV-245 Failed to Close; May 30, 2002
- CR 02211083; 2-IRV-320 Leaks; July 30, 2002
- CR 03032020; Main Steam to Turbine AFW Pump Shutoff Valves; February 1, 2003
- CR 03073001; 1-PP-4 Turbine AFW Pump Out Board Pump Seal; March 13, 2003
- CR 03158019; Valve 2-WMO-712 Would Not Stroke Open; July 7, 2003
- CR 04132003; U-2 W ESW Pump Inoperable Due to Failed Surveillance Low Pump DP at 63.6psid; May 11, 2004
- CR 04180002; U-2 E ESW Pump Failed Surveillance; June 27, 2004

- CR 04204020; NRC Comments on Maintenance Rule Periodic Evaluation Report; July 22, 2004
- CR 04204027; NRC Comments on Maintenance Rule Periodic Evaluation Report; July 22, 2004
- CR 04204029; NRC Comment on Radiation Monitoring Unavailability Criteria; July 22, 2004
- Job Order 02150010; Investigate 1-FRV-245 Failure to Close; June 2, 2002
- CR 04204021, "Received Annunciator 107 Drop 33, Reactor Coolant Pump 2 Seal 1 Leakoff Flow Low," July 22, 2004
- Design Information Transmittal DIT-S-01396-00, "Reactor Coolant System," July 27, 2004
- CR 04236056, "During a Review of CR 03014011 by the NRC Senior Resident Inspector a Concern Was Identified Relative to the Extent of Condition," August 23, 2004
- CR 03014011, "Unit 1 Train A Post Accident Containment Hydrogen Monitoring Backup Air System Is Not Functioning," January 14, 2003
- CR 02283047, "Unit 1 Train A Post Accident Containment Hydrogen Monitoring Was Voted to a(1) Maintenance Rule Status by the Expert Panel," October 10, 2002
- CR 03007019, "The Unit 2 Train B Post Accident Containment Hydrogen Monitoring Backup Air System Is Not Functioning," January 7, 2003
- CR 03097017, "1-XRV-101 Delayed Approximately 15 Minutes Before Activating," April 7, 2003

#### 1R13 Maintenance Risk Assessments and Emergent Work Evaluation

- D. C. Cook TSs and Bases
- D. C. Cook Updated Final Safety Analysis Report, Revision 119
- PMP-2291-OLR-001, "On-Line Risk Management," Revision 5
- PMP-2291-OLR-001, "On-Line Risk Management," Data Sheet 1, "Work Schedule Review and Approval Form," Cycle 51, Week 7, September 5, 2004 through September 11, 2004
- OP-2-5143-54, "Flow Diagram, Emergency Core Cooling (Residual Heat Removal) Unit 2," Revision 54
- OP-2-5144-50, "Flow Diagram, Containment Spray Unit 2," Revision 50
- PMP-2291-OLR-001, "On-Line Risk Management," Data Sheet 1, "Work Schedule Review and Approval Form," Cycle 51, Week 2, August 1, 2004 through August 7, 2004
- OP-2-5106A-51, "Flow Diagram Auxiliary Feedwater Unit 2," Revision 51
- Unit 2 Control Room Logs, August 5, 2004 through August 6, 2004
- 1-IHP6030.IMP.367, "Pressurizer Level Transmitter Calibration," Revision 1
- PMP-2291-OLR-001, "On-Line Risk Management," Data Sheet 1, "Work Schedule Review and Approval Form," Cycle 51, Week 3, August 8, 2004 through August 14, 2004
- OP-1-5128A-47, "Flow Diagram, Reactor Coolant Unit 1 Sheet 2 of 2," Revision 47
- 1-5581-25, "Instrument Piping Instrumentation Room Unit 1 Sheet Number 1 of 7," Revision 25
- 1-5581A-32, "Instrument Piping Instrumentation Room Unit 1 Sheet Number 2 of 7," Revision 32
- 1-5581B, "Instrument Piping Instrumentation Room Unit 1 Sheet Number 3 of 7," Revision 27

- PMP-2291-OLR-001, "On-Line Risk Management," Data Sheet 1, "Work Schedule Review and Approval Form," Cycle 50, Week 11, July 11, 2004 through July 17, 2004
- CR 04196001, "Unit 1 Received Glycol Expansion Tank Level Low Low Alarm and Glycol Isolation Valves Went Closed," July 13, 2004
- CR 04196008, "1-SV-123, the Unit 1 Glycol Safety Valve, Leaks By at About 2 Drops a Second," July 14, 2004
- CR 04196005, "Unit 1 Did Not Receive Annunciator #122 Drop #87, Ice Condenser Refrigeration Abnormal When Glycol Expansion Tank Level Low Alarm was Standing," July 13, 2004
- PMP-2291-OLR-001, "On-Line Risk Management," Data Sheet 1, "Work Schedule Review and Approval Form," Cycle 50, Week 10, July 4, 2004 through July 10, 2004
- CR 04189005, "Very Loud High Pitched Noise Coming From Inside the Unit 1 CD Emergency Diesel Generator Room," July 7, 2004
- Unit 1 Control Room Logs, July 7, 2004 through July 8, 2004
- Job Order Activity 04155008-01, "1-SRV-227-ACT, Tighten Actuation Cylinder Bolts," July 8, 2004
- Job Order Activity 04155008-03, "1-SRV-227-ACT, Perform Leak Inspection," July 8, 2004
- Job Order Activity 04155008-06, "1-SRV-227-ACT, Replace Actuator," July 8, 2004

#### 1R15 Operability Evaluations

- D. C. Cook Nuclear Plant Updated Final Safety Analysis Report, Revision 19
- D. C. Cook Plant TSs and Bases
- CR 04061032, "Undersized O-Ring Was Received From Vendor, Issued and Apparently Installed on 2-PP-50W," March 1, 2004
- Job Order Activity 02058038-01, "Replace the Unit 2 West Charging Pump Rotating Assembly," May 25, 2003
- CR 04165014, "Performance of 2-OHP-4021-055-005, Feed Pump Turbine Miscellaneous Trip Test, Causes Both Motor Driven Auxiliary Feedwater Pumps To Become Inoperable," June 13, 2004
- 02-OHP-4021-055-005, "Feed Pump Turbine Miscellaneous Trip Test," Revision 8
- OP-2-98211-21, "Steam Generator Feedwater Turbine "E" Control Sheet #1 Elementary Diagram," Revision 21
- OP-2-98217-24, "Steam Generator Feedwater Turbine "W" Control Sheet #1 Elementary Diagram," Revision 24
- CR 04175023, "During the Single Point Vulnerability Analysis It Was Discovered That No Testing Is Performed of Relay K627, Reactor Coolant Pump Trip on Bus Under Frequency Output Relays," June 6, 2004
- OP-1-98381-10, "Solid State Reactor Protection and Safeguard System Primary Coolant Trips Train B Elementary Diagram," Revision 10
- OP-1-98361-9, "Solid State Reactor Protection and Safeguard System Primary Coolant Trips Train A Elementary Diagram," Revision 9
- OP-1-98201-12, "Reactor Coolant System Sheet Number 1 Elementary Diagram," Revision 12
- OP-1-98394-7, "Reactor Protection and Safeguards Block-Test Schemes Sheet 2 Elementary Diagram," Revision 7

- OP-1-98042-24, "4kV Auxiliary Transformers 1CD and 101CD Elementary Diagram," Revision 24
- OP-1-98370-7, "Solid State Reactor Protection and Safeguard System Tester Switches and Alarm Train A Elementary Diagram," Revision 7
- CR 01125013, "#4 Accumulator Unit 1 Filled When the South Safety Injection Pump Was Started," May 5, 2001
- 02-OHP-4021-008-006, "Adjusting Pressure in an Accumulator," Revision 5
- Unit 2 Control Room Logs, September 10, 2004
- OP-2-5143A-1, "Flow Diagram Emergency Core Cooling (Residual Heat Removal) Accumulator Piping, Unit 2," Revision 1
- OP-2-5143-54, "Flow Diagram Emergency Core Cooling (Residual Heat Removal), Unit 2," Revision 54
- OP-2-5142-45, "Flow Diagram Emergency Core Cooling (Safety Injection System)," Revision 45
- CR 04208040, "2-GFW-L-825 Material Loss Due to an Aggressive Environment," July 26, 2004
- ES-PIPE-1002-QCN, "Operability Screening Guideline for Pipe Support Conditions and Discrepancies Found by In-service Inspections," Revision 0, Change 1
- CR 03099017, "Request Licensing Position Regarding TS 3.6.3.1 Applicability With Respect to Certain Dual Function Valves," April 8, 2003
- CR P-99-08330, "Calculation Shows Fault Currents at the 4kV Buses are Higher than Manufacturer's Rating," April 14, 1999
- CR P-99-07602, "Momentary Ratings Exceeded on 4kV Breaker for Fault Conditions," April 5, 1999

#### 1R19 Post Maintenance Testing

- 12-IHP-5030-EMP-014, "Motor Operated Valve Diagnostic Testing Using VIPER Test System," Revision 1
- Job Order Activity R244137-01, "Diagnostic Testing of 1-WMO-701," September 2, 2004
- 02-OHP-4030-STP-017W, "West Motor Driven Auxiliary Feedwater System Test," Revision 12
- Job Order Activity 02137070-01, "Replace 2-FW-160 Check Valve Per EE-2003-0031," July 22, 2004
- 02-OHP-4030-208-051S, "South Safety Injection Pump System Test," Revision 0a
- CR 04201070, "During Performance of 02-OHP-4030-208-051S, South Safety Injection Pump System Test, an Instrument Valve (2-IPI-252-II) was Discovered Closed with No Procedure Step to Open It," July 19, 2004
- OP-2-5142-44, "Flow Diagram, Emergency Core Cooling (SIS)," Revision 44
- Job Order Activity 04237031 Number 01, "2-MY-153, Configure and Replace Math Unit," August 24, 2004
- PMP-2291-WAR-002, Data Sheet 1, "Risk Activity Risk Evaluation Form," August 24, 2004
- 12-EHP-5043-SCD-001, Data Sheet 1, "Safety Classification Determinations," Revision 4
- PMP-4010-JOB-001, Data Sheet 1, "Pre-Job Brief Checklist," Revision 3
- 2-IHP-6030-IMP-426, "Volume Control Tank Level Control Calibration," Revision 3



- CR 04237031, "Reactor Protection Control Group Cabinet #17 Math Unit, 2-MU-153 Has Failed," August 24, 2004
- OP-2-98271-19, "Chemical and Volume Control System, Reactor Coolant Make Up Sheet Number 1, Elementary Diagram," Revision 19
- OP-2-985561-2, "Volume Control Tank Level Elementary Diagram," Revision 2
- OP-2-985611-0, "Charging Header, Excess Letdown and Regenerative Heat Exchanger Pressure and Temperature Elementary Diagram," Revision 0
- 01-OHP-4030-STP-027AB, "AB Diesel Generator Operability Test (Train B)," Revision 20
- Unit 1 Control Room Logs, August 10, 2004 through August 11, 2004
- Job Order Activity 01170093-01, "1-HV-DOGS-1, Repair Expansion Joint," August 12, 2004
- Job Order Activity R0251136-01, "Perform Thermograph on 1-DAB-IN," August 12, 2004
- Job Order Activity 04014025-03, "1-ES-111, Post Maintenance Leak Inspection," August 10, 2004
- Job Order Activity 04014025-10, "1-ES-111, Perform Dedication Plan," August 5, 2004
- Job Order Activity 03119065-01, "1-DAB-XCT1-REG, Replace the CT," August 10, 2004
- Job Order Activity R0222943-04, "1-QT-502-AB, Perform Leak Inspection," August 10, 2004
- Job Order Activity R0262306-01, "1-ONE-150-AB-EN, Fuel Rack Inspection/Lubrication," August 12, 2004
- Job Order Activity R0208365-03, "1-DG-151A, Perform Post Maintenance Test Leak Inspection," August 9, 2004
- Job Order Activity R0208365-08, "1-DG-151A, As-Left Non-Intrusive Exam," August 10, 2004
- Job Order Activity R0244987-01, "1-SV-120-AB Setpoint Test," August 10, 2004
- Job Order Activity R0244987-02, "1-SV-120-AB Setpoint Test," August 10, 2004
- Job Order Activity 04014025-02, "1-ES-111 Perform Check Valve Exam," August 11, 2004
- Job Order Activity 04014025-05, "1-ES-111 VT-2 Inservice Exam," August 13, 2004
- Job Order Activity 03119065-02, "1-DAB-XCT1-REG Bench Test New CT," August 10, 2004
- Job Order Activity R0208365-02, "1-DG-151A, Perform Check Valve Exam," August 10, 2004
- Job Order Activity R0245044-02, "1-SV-79-AB1 Perform Leak Inspection," August 10, 2004
- Job Order Activity R0245044-01, "1-SV-79-AB1 Setpoint Test," August 10, 2004
- CR 04223048, "Check Valve 1-ES-111 Was Found In the Open Position and Was Missing 2 Small Pieces of Spring Material," August 10, 2004
- CR 04223079, "Various Discrepancies Noted During the Full Preventative Maintenance on 1-HV-DDP-AB1-ACT, Under 04076010-01," August 10, 2004

- CR 04222016, "No Scaffold Request or Support Activities Initiated for Limiting Condition of Operation Related Work on 1AB Diesel Generator," August 9, 2004

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- 01-OHP-4030-STP-017T, "Turbine Driven Auxiliary Feedwater System Test," Revision 19
- CR 03127014, "2-CCW-135 Greater than Administrative Limit During Local Leak Rate Test," May 7, 2003
- CR 03296019, "1-CCW-135 Local Leak Rate Test Found Greater than Administrative Limit," October 23, 2003
- CR 03308067, "1-CCW-135 As-Left Local Leak Rate Test Greater than Administrative Limit," November 4, 2003
- CR 04063027, "Some Reverse Direction LLRT Tests at CNP Do Not Comply with 10 CFR Part 50, Appendix J Requirements," March 3, 2004
- CR 04064042, "1-DCR-202, Appendix J/Containment Isolation Valve Has Some Evidence of Past Moisture on its Bonnet and Body," March 4, 2004
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- CR 04114071, "Evaluate D. C. Cook Compliance with UFSAR Q&A 22.15(5) Considering Postulated Leakage Through Containment Spray to Lower and Upper Containment Ring Check Valves," April 23, 2004
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- Regulatory Guide 1.163, "Performance-based Containment Leak-Test Program," September 1995
- ANSI/ANS-56.8 - 1994, "American National Standard for Containment System Leakage Testing Requirements
- Printout of Appendix J Database, July 20, 2004
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- 01-EHP-4030-001-002, "Unit 1 Primary Containment Leak Rate Running Total," Revision 0, completed November 20, 2003
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- 02-EHP-4030-234-203 Page 122, "Unit 2 B and C Leak Rate, Penetration 82," Revision 3, completed May 7, 2003
- UFSAR Section 5.4, "Containment Isolation System," and Table 5.4-1, "Unit 1(2) Containment Penetration Isolation Barriers," Revision 19
- 02-OHP-4030-219-022W, "West Essential Service Water System Test," Revision 2a
- Unit 1 Technical Data Book Figure 1-19.1, "Power Operated Valve Stroke Time," Revision 70
- Technical Data Book Figure 1-19.1, "Power Operated Valve Stroke Time Limits," Revision 68

- Technical Data Book Figure 1-15.1, "Safety Related Pump Inservice Test Hydraulic Reference," Revision 80
- Technical Data Book Figure 1-15.2, "Safety Related Pump Inservice Test Vibration Reference," Revision 73
- Unit 1 Technical Data Book Figure 1-15.1, "Safety Related Pump Inservice Test Hydraulic Reference," Revision 81
- Unit 1 Technical Data Book Figure 1-19.8, "Safety Related Throttled Valves," Revision 23
- Unit 1 Technical Data Book Figure 1-15.2, "Safety Related Pump Inservice Test Vibration Reference," Revision 75
- Unit 1 Technical Data Book Figure 1-19.9, "Diesel Generator Pot Settings," Revision 25
- 01-OHP-4030-116-020E, "East Component Cooling Water Loop Surveillance Test," Revision 1b
- Unit 1 Control Room Logs, July 7, 2004 through July 8, 2004
- 01-OHP-4030-STP-027AB, "AB Diesel Generator Operability Test (Train B)," Revision 20
- Unit 1 Control Room Logs, June 16, 2004 through June 17, 2004

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- 12-EHP-5025-EQE-002, Environmental Qualification Evaluation 2004-005, "Assessment of the Qualified Lives of the Equipment Located in the Pressurizer Enclosures," Revision 0, July 30, 2004
- Action Request 04216071, "ICP-01024 Is Changing the Temperature Alarm Setpoint for the Pressurizer Enclosure from 1-SG-18, Point 13," August 3, 2004
- Action Request 04216063, "In Accordance with ICP-01024, Return the Setpoint for the Pressurizer Enclosure to 160 Degrees Fahrenheit in 1-SG-18, Point 13, After the Current Unit 1 Operating Cycle," August 3, 2004
- CR 04217074, "The Temperature in the Pressurizer Sub-compartment may be Exceeding the 171 Degree Fahrenheit Used as Input to the Pressurizer Sub-compartment Analysis," August 4, 2004
- Job Order 04211054, "1-SG-18, Change Setpoint as per ICP-01024," August 4, 2004
- ICP-01027, "Unit 1 Lower Containment Temperature Alarm Setpoint Change for 1-SG-18 Recorder Point Numbers 8, 11, and 12," Revision 0, August 20, 2004
- Job Order 04233017, "1-SG-18, Incorporate Setpoint Change Per ICP-01027," August 23, 2004
- Action Request 04233017, "Per Issue of ICP-01027 Revision 0, a Work Request is Needed to Implement the Setpoint Change Documented in This ICP," August 20, 2004
- CR 04225074, "The Recent Unit 1 Lower Containment Quadrant 4 Temperature Will Result in Reduction of Qualified Lives for 1-NTQ-130C and 1-NTQ-131C," August 12, 2004
- CR 04225079, "Temperature Limit for Reactor Coolant Pump #1 Seal Differential Pressure 1-QDA-40 Uncertainty Analysis Exceeded," August 12, 2004
- CR 04225078, "The Recent Unit 1 Lower Containment Quadrant 4 Temperature Will Result in a Reduction of Qualified Life for 1-MFC-141," August 12, 2004
- CR 04225076, "Temperature Limit for Reactor Coolant System Flow Transmitters Uncertainty Analysis Exceeded," August 12, 2004

- CR 04223098, "Unit 1 and Unit 2 Steam Generator Enclosure Temperatures Are Above the Temperature Assumed in the Bounding Analysis for Short Term Containment Sub-compartment Pressures as Stated in Updated Final Safety Analysis Report Section 14.3.4.2.4 (Unit 1)," August 10, 2004
- CR 04225073, "The Recent Unit 1 Lower Containment Quadrant 4 Temperature Will Result in a Reduction of Qualified Life for 1-IFI-54," August 12, 2004
- 1-TM-04-46-R0, "Install Recording Instrumentation to Monitor Vibration Levels on Unit 1 Circulating Water Pump Motors," Revision 0, August 5, 2004
- Job Order 04218086, "Install Temporary Modification on Circulating Water Pumps," August 6, 2004

#### 1EP6 Emergency Preparedness Drill Evaluation

- PMP-2080-EPP-101, "Emergency Classification," Revision 4
- PMP-2080-EPP-107, "Notification," Revision 18
- RMT-2080-TSC-001, "Activation and Operation of the Technical Support Center," Revision 4
- Timeline With Initial Actions, Emergency Response Drill, July 27, 2004
- Emergency Response Drill Exercise Messages, July 27, 2004
- EMD-32A, "Nuclear Plant Event Notification," Drill Messages for Declared Unusual Event, Alert and Site Area Emergency, July 27, 2004

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- 12-THP-6010-RPP-414, "Radiological Controls for Work on Flux Mapping System," Revision 5
- PMP-6010-RPP-003, "High, Locked High, and Very High Radiation Area Access," Revision 13a
- PMP-6010-RPP-006, "Radiation Work Permit Program," Revision 8
- THG-026, "Locked High Radiation Area and Very High Radiation Area Shiftly Verification Process," Revision 2
- THG-026, Data Sheet 2, "Locked High Radiation Area and Very High Radiation Area Shiftly Verification Process," Selected Records for 2<sup>nd</sup> Quarter 2004
- Radiation Protection Department Key Log, Selected Logs for July and August 2004
- THG-024, "RP Actions for Induced CRUD Burst," Revision 3
- RWP 041002, "Work Activities in the Auxiliary Building and Plant Restricted Areas," Task 1, "Work Activities and Surveillances," Revision 6
- RWP 041053, "587' Drumming Room Radwaste Cleanup," Revision 0
- ALARA Plan for Radwaste Filter Disposal, RWP 041053, Task 1, Revision 0
- RWP 041020, "Unit 1 & Unit 2 RHR Heat Exchanger Room Activities," Task 1, "Valve Maintenance," Task 2, "I&C Activities," Revision 0
- RWP 041018, "High Radiation Area Activities in Auxiliary Building and Plant Restricted Areas," Task 1, "High Radiation Area Tours, Inspections and Walkdowns," Revision 0
- RWP 041035, Tasks 1 - 3, "LHRA Maintenance, Tours, Inspections, Filter Changes and Support Activities," Revision 0
- THG-029, "Radiological Survey Guidance for Plant Evolutions or Events," Revision 2
- 01-OHP-4021-021-003, "Reactor Coolant Drain Tank Operations," Revision 15
- 01-OHP-4021-017-002, "Placing In-Service the Residual Heat Removal System," Revision 17

- 01-OHP-4021-003-001, "Letdown, Charging and Seal Water Operation," Revision 29
- PMP-2220-001-001, "Foreign Material Exclusion," Revision 5a
- 12-THP-6010-RPP-206, "Internal Dose Assessment and Calculation," Revision 5
- Scaling Factor Summary for Various Waste Streams," September 10, 2003
- 12-THP-6010-RPP-104, "Issue and Control of Special Dosimetry," Revision 4
- Radiation Protection Self-Assessment Report (SA-2004-RPS-003-F), "Radiological Access Control," July 26, 2004
- Database Listing for RP and Environmental Department Assigned/Event Code Condition Reports, Listings for January 2004 thru August 13, 2004
- CR 04115010, "Elevated Dose Rate Detected During Post Water Movement Survey," April 24, 2004
- CR 04195114, "Two LHRA Barriers in the Auxiliary Building Not 6' in Height," July 13, 2004
- CR 04216060, "Unit 1 591' Vestibule Found to be Locked Different than Usual," August 3, 2004
- CR 04146040, "Worker Received ED Dose Rate Alarm in the Unit 2 Centrifugal Charging Pump Room," May 25, 2004

#### 4OA1 Performance Indicator Verification

- Nuclear Energy Institute 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 2
- PMP-7110.PIP.001, "Regulatory Oversight Program Performance Indicators," Revision 2
- Letter from J. Jensen, American Electric Power, to the US NRC, Subject: "Cook Unit 1 and 2 -- 4Q2003 -- PI Data Elements (QR and CR)," January 21, 2004
- Letter from J. Jensen, American Electric Power, to the US NRC, Subject: "Cook Unit 1 and 2 -- 1Q2004 -- PI Data Elements (QR)," April 21, 2004
- Letter from J. Jensen, American Electric Power, to the US NRC, Subject: "Cook Unit 1 and 2 -- 2Q2004 -- PI Data Elements (QR and CR)," July 21, 2004
- Licensee Event Reports, October 1, 2003 through June 30, 2003
- Administrative Technical Requirements Units 1 and 2, Reactor Coolant System, Supplemental Operational and Surveillance Requirements, Revision 37
- OHI-4032, "Leakage Monitoring Program," Revision 2a
- 12-THP-6020-CHM-101, "Reactor Coolant System," Revision 15
- 12-THP-6020-CHM-101, Data Sheet 4, "Dose Equivalent Iodine (I-131) Determination," Selected Data Sheets for 2004 thru August 16, 2004
- Unit 1 and Unit 2 Reactor Coolant System Dose Equivalent I-131 Summary Data, Data Reviewed for 2003 - August 16, 2004
- PMP-7110-PIP-001, "Regulatory Oversight Program Performance Indicators," Data Sheet 9, "Reactor Coolant System Specific Activity Monthly Data Summary," Data Sheets for 2<sup>nd</sup> Quarter 2003 thru 2<sup>nd</sup> Quarter 2004

#### 4OA2 Identification and Resolution of Problems

- CR 04128084, "Troubleshooting Steps Delineated in Job Order Activity 04001006-01 Only Partially Covered the Vendor Recommended Troubleshooting Steps," May 6, 2004
- CR 04128085, "Could Not Be Determined if Deficiencies Noted and Recommendations Made By a Vendor Were Resolved," May 6, 2004

- CR 04128084, "Troubleshooting Steps Delineated in Job Order Activity 04001006-01 Only Partially Covered the Vendor Recommended Troubleshooting Steps," May 6, 2004
- CR 04128083, "Job Order Activity 04001006-01, Step 3.4 of the Activity Description Lists the Wrong Acceptance Criteria," May 6, 2004
- CR 04001006, "Control Bank "C" Rod K-10 Indicates That It Has Possibly Dropped Partially During Reactor Startup," January 1, 2004
- CR 04001018, "Investigate and Take Long Term Action for Unit 2 Repeated Rod K-10 Failures," January 1, 2004
- PMP-2030-VIP-001, "Vendor Document Control," Revision 5
- PMI-5043, "Configuration Management Program," Revision 0a
- Job Order Activity 04001006-01, "2-CRDM-K10: Investigate/Repair. Test Unit 2 CRDM and Messenger Connections," January 1, 2004
- VTD-WEST-0490, "Westinghouse Instruction and operating Book for Model L-106A Magnetic Control Rod Drive Mechanism," Revision 1
- D. C. Cook Nuclear Plant, Significant Operating Experience Report 03-1, "Emergency Power Reliability" Final Report, June 21, 2004
- OP-1-12002-59, "Main Auxiliary One-Line Diagram Bus "C" and "D" Engineered Safety System (Train "A")," Revision 59
- OP-1-12001-71, "Main Auxiliary One-Line Diagram Bus "A" and "B" Engineered Safety System (Train "B")," Revision 59
- PMP-4030-001-001, "Impact of Safety Related Ventilation on the Operability of TS Equipment," Attachment 9, "AB and CD Diesel Generator Rooms Ventilation," Revision 5
- CR 03155096, "Reviews Resulting From Significant Operating Experience Report 03-1 Reveal Documentation Errors Regarding Application of General Design Criteria 17 and Safety Guide 6 Criterion to 600 Volt AC Tie Breakers," June 4, 2004
- LC-02, One Line Diagram, Donald C. Cook Nuclear Power Plant, 12/16/99," Sheet 1 of 1, Revision 0
- CR 03016039, "Significant Operating Experience Report 03-1, Emergency Power Reliability," January 16, 2003

#### 40A3 Event Follow-up

- Unit 1 TS 3.7.5.1, "Control Room Emergency Ventilation System," Amendment 276
- Unit 2 TS 3.7.5.1, "Control Room Emergency Ventilation System," Amendment 258
- LER 50-315/2004-0018-00, "Failure to Comply with TS 3.7.5.1, Control Room Emergency Ventilation System," June 28, 2004
- Shift Manager's Logs, July 18, 2003 through July 21, 2003
- CR 04111017, "Valves Relied Upon to Isolate the Emergency Core Cooling System and Containment Spray System Pump Drains from Recirculation Piping Network Are Not Leak Tested," April 19, 2004
- CR 04128075, "New Information Pertaining to CR 04075005 for Unit 2 Refueling Water Storage Tank Level Decreasing Requires Re-evaluating Operability for Leakage Described in CR 03175042," May 7, 2004
- CR 03175042, "Increased Leakrate at 2-SI-206, 2-ICM-265 Outlet Shutoff Valve," June 24, 2003
- CR 04075005, "Unit 2 Refueling Water Storage Tank Is Slowly Losing Inventory," March 15, 2004

## LIST OF ACRONYMS USED

ADAMS	Agency-wide Documents and Management System
AEP	American Electric Power
ALARA	As Low As Is Reasonably Achievable
CCW	Component Cooling Water
CFR	Code of Federal Regulations
CR	Condition Report
DC	Direct Current
DEI	Dose Equivalent Iodine
DRP	Division of Reactor Projects
DRS	Division of Reactor Safety
EHP	Engineering Head Procedure
ESW	Essential Service Water
HRA	High Radiation Area
ICP	Instrument Change Procedure
IMC	Inspection Manual Chapter
KV	Kilovolt
LER	Licensee Event Report
LHRA	Locked High Radiation Area
NRC	Nuclear Regulatory Commission
OA	Other Activities
OHP	Operations Head Procedure
PARS	Publically Available Records
PI	Performance Indicator
PMI	Plant Manager's Instruction
PMP	Plant Manager's Procedure
RCS	Reactor Coolant System
RP	Radiation Protection
RWP	Radiation Work Permit
SDP	Significance Determination Process
SG	Steam Generator
SSCs	Structures, Systems, and Components
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
VHRA	Very High Radiation Area
WR	Work Request