



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE RD. SUITE 210
LISLE, IL 60532-4352

February 5, 2016

Mr. Joel Gebbie
Senior VP and Chief Nuclear Officer
Indiana Michigan Power Company
Nuclear Generation Group
One Cook Place
Bridgman, MI 49106

SUBJECT: DONALD C. COOK NUCLEAR POWER PLANT, UNITS 1 AND 2
NRC INTEGRATED INSPECTION REPORT 05000315/2015004;
05000316/2015004

Dear Mr. Gebbie:

On December 31, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Donald C. Cook Nuclear Power Plant, Units 1 and 2. The enclosed report documents the results of this inspection, which were discussed on January 28, 2016, with Mr. Q. S. Lies, and other members of your staff.

Based on the results of this inspection, the NRC has identified four issues that were evaluated under the risk significance determination process as having very low safety significance (Green). The NRC has also determined that violations are associated with three of these issues. These violations are being treated as Non-Cited Violations (NCVs), consistent with Section 2.3.2 of the Enforcement Policy. These NCVs are described in the subject inspection report. Additionally, a licensee- identified violation is listed in Section 40A7 of this report.

If you contest the violations or significance of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to: (1) the Regional Administrator, Region III; (2) the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and (3) the NRC Resident Inspector at the Donald C. Cook Nuclear Power Plant.

In addition, if you disagree with the cross-cutting aspect assigned to any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region III, and the NRC Resident Inspector at the Donald C. Cook Nuclear Power Plant.

J. Gebbie

-2-

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records System (PARS) component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Kenneth Riemer, Chief
Branch 2
Division of Reactor Projects

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

Enclosure:
IR 05000315/2015004; 05000316/2015004

cc: Distribution via LISTSERV®

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 05000315/2015004; 05000316/2015004

Licensee: Indiana Michigan Power Company

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

Location: Bridgman, MI

Dates: October 1 through December 31, 2015

Inspectors: J. Ellegood, Senior Resident Inspector
T. Taylor, Resident Inspector
G. Edwards, Health Physicist
T. Go, Health Physicist
J. Mancuso, Reactor Engineer

Approved by: K. Riemer, Chief
Branch 2
Division of Reactor Projects

Enclosure

TABLE OF CONTENTS

SUMMARY.....	2
REPORT DETAILS.....	5
Summary of Plant Status.....	5
1. REACTOR SAFETY	5
1R01 Adverse Weather Protection (71111.01).....	5
1R04 Equipment Alignment (71111.04).....	6
1R05 Fire Protection (71111.05)	7
1R06 Flooding (71111.06).....	8
1R11 Licensed Operator Requalification Program (71111.11).....	8
1R12 Maintenance Effectiveness (71111.12).....	10
1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)	11
1R15 Operability Determinations and Functional Assessments (71111.15)	12
1R19 Post-Maintenance Testing (71111.19).....	13
1R22 Surveillance Testing (71111.22)	14
1EP6 Drill Evaluation (71114.06).....	15
2. RADIATION SAFETY	15
2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)	15
4. OTHER ACTIVITIES.....	17
4OA1 Performance Indicator Verification (71151).....	17
4OA2 Identification and Resolution of Problems (71152)	22
4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153)	29
4OA5 Other Activities.....	30
4OA6 Management Meetings.....	31
4OA7 Licensee-Identified Violations	31
SUPPLEMENTAL INFORMATION	1
Key Points of Contact.....	1
List of Items Opened, Closed, and Discussed.....	2
List of Documents Reviewed	3
List of Acronyms Used	9

SUMMARY

Inspection Report (IR) 05000315/2015004, 05000316/2015004; 10/01/2015–12/31/2015; Donald C. Cook Nuclear Power Plant, Units 1 & 2; Maintenance Effectiveness; Performance Indicator Verification; Identification and Resolution of Problems

This report covers a 3-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. Four Green findings were identified by the inspectors. Three of the findings were considered a non-cited violations (NCVs) of Nuclear Regulatory Commission (NRC) regulations. The significance of inspection findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using IMC 0609, "Significance Determination Process" dated April 29, 2015. Cross-cutting aspects are determined using Inspection Manual Chapter (IMC) 0310, "Aspects Within the Cross-Cutting Areas" dated December 4, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated July 9, 2013. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process" Revision 5, dated February 2014.

Cornerstone: Mitigating Systems

- Green. The inspectors identified a finding of very low safety significance and associated NCV of Facility Operating Licenses DPR-58 condition 1.D for Unit 1 and DPR-74 condition 1.D for Unit 2. Specifically, the licensee failed to perform structural monitoring of the Service Water Screen House as stipulated in their renewed license. The inspectors identified that the licensee had not conducted inspections of the forebay area west of the traveling screens as required by their license. Since the licensee's inspections of portions of the submerged greenhouse structure showed the structure remained in an acceptable condition, no immediate safety concern exists. The licensee has entered the condition into the Corrective Action Program (CAP) and developed plans to inspect.

The licensee's failure to perform inspections of the Service Water Screen House was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using IMC 0609, Appendix A, issued June 19, 2012, The Significance Determination Process (SDP) for Findings At-Power, Exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined the finding screened as green using question A.1 because the deficiency did not render the structure inoperable. The performance deficiency had a cross-cutting aspect of Change Management, (H.3) in the human performance area. Specifically, licensee personnel did not implement the revised license with nuclear safety as the overriding priority. (Section 1R12)

- Green. The inspectors identified a finding of very low safety significance for the failure of the licensee to follow procedure 12-EHP-9010-PRA-001, "PRA Model Update." Procedure 12-EHP-9010-PRA-001 establishes requirements to ensure that Donald C. Cook Probabilistic Risk Analysis (PRA) models represent the as-built, as-operated plant in a manner sufficient to support the applications for which they are used. One of the requirements is to perform an update every four years. The updates include activities such as reviewing internal and external operating experience, reviewing procedures that

have an impact on human error probabilities or equipment test frequencies, and updating basic event data resulting from current reliability and unavailability data. Contrary to these requirements, the Donald C. Cook internal events model was not updated for six years following the last update in 2008. The inspectors also determined the licensee did not have a formal process to ensure all of the update items were being met. Additionally, the procedure required that any needed peer reviews are performed and that any significant model issues are addressed prior to any use of the revised model for risk-informed applications. Specifically, formal peer reviews are to be performed for changes that constitute PRA “upgrades.” Contrary to the procedure, a formal peer review was not completed for a change to certain test and maintenance modeling factors that met the definition of a PRA upgrade. The change resulted in an error that affected the license amendment request for National Fire Protection Association (NFPA)–805 fire regulations and several risk-informed applications onsite.

The issue was more than minor because if left uncorrected, it could become a more significant safety concern. Specifically, the failure to ensure peer reviews were performed and the failure to perform updates as required were reflective of programmatic weaknesses. Per IMC 0612 Appendix E, “Examples of Minor Issues,” evidence of programmatic weaknesses constitute an example of a more than minor issue. The inspectors determined the Mitigating Systems cornerstone was adversely affected by the finding since it was associated with maintenance of PRA models, which could impact probabilities of mitigating systems’ ability to perform their functions. The finding screened as Green, or very low safety significance, utilizing IMC 0609 Appendix A, “The Significance Determination Process for Findings at Power.” Specifically, the inspectors answered ‘no’ to questions under both the “Mitigating Structures, Systems, and Components, and Functionality” and “External Event Mitigation Systems” sections. The finding had an associated cross cutting aspect in the Human Performance area, namely, Avoid Complacency (H.12), because of the lack of rigor applied in ensuring procedural requirements were met. (Section 4OA1)

- Severity Level IV: The inspectors identified a Severity Level (SL) IV NCV of 10 CFR 50.59(d)(1), “Changes, Tests, and Experiments,” with an associated finding of very low safety significance (Green), for the licensee’s failure to perform a written safety evaluation that provided the bases for the determination that the removal of Technical Requirements Manual (TRM) Section 8.4.3, “ASME Code Class 1, 2, and 3 Components” did not require a license amendment. TRM Section 8.4.3 directed the implementation of the Inservice Inspection (ISI) Program for ASME Class 1, 2, and 3 components and directed actions if nonconformances were discovered. The licensee had received a violation in 2014 for removing the same requirement via a 50.59 Evaluation. The inspectors reviewed the corrective actions for the previous violation. The licensee had restored the section via guidance to operators, revised the wording of the TRM section, and then subsequently deleted the section from the plant’s current licensing basis again via the 50.59 Screening process. The inspectors determined the licensee had incorrectly referenced NRC inspection guidance dealing with the operability of components when providing a basis for the deletion. Further, the operability determination process could result in less restrictive actions being taken for some degraded ASME components as compared to the TRM requirements. Therefore, the change should have received a 50.59 Evaluation. The licensee entered the issue into their CAP.

The issue was more than minor because it adversely affected the Mitigating Systems Cornerstone. Specifically, a series of changes (which ultimately resulted in the deletion of TRM Section 8.4.3) had an adverse effect on component reliability given that required actions to address nonconformances within the ISI program were removed. In addition, violations of Title 10 of the *Code of Federal Regulations* (CFR) 50.59 are disposed using the traditional enforcement process in addition to the SDP because they are considered to be violations that potentially impede or impact the regulatory process. The associated traditional enforcement violation was determined to be more than minor because the inspectors could not reasonably determine if the changes would have ultimately required NRC prior-approval. The finding screened as Green, or very low safety significance, because there was no actual known loss of functionality of components. The traditional enforcement violation was categorized as SL IV because the associated finding screened as Green in the SDP. The inspectors determined that the finding had a cross-cutting aspect in the area of problem identification and resolution because the licensee did not take effective corrective action to address the issue. Specifically, the licensee received a previous finding for not evaluating the adverse effects of deleting TRM Section 8.4.3. As part of the corrective actions, the licensee revised and then deleted the TRM section; however, the resulting adverse effects were not recognized nor subsequently evaluated (P.3). (Section 4OA2)

- Severity Level IV: The inspectors identified an SL IV NCV of very low safety significance of 10 CFR 50.59 for the licensee's improper deletion of procedures for the operation of the hot shutdown (HSD) panel. Specifically, in 2003, the licensee used a 50.59 screen to delete procedures associated with operation of the hot shutdown panel. The screen failed to recognize that the change impacted technical specifications and included adverse impacts. Therefore, 10 CFR 50.59 required a written evaluation to show why a license amendment was not required. The inspectors discussed the condition with the licensee and the licensee entered the condition in the CAP and developed procedures for use of the HSD.

The licensee's failure to comply with 10 CFR 50.59 was a performance deficiency that warranted a significance determination. Because the finding included both traditional and ROP aspects, the inspectors evaluated using both process. Under the Reactor Oversight Process, the inspectors determined that the finding was more than minor because it adversely affected the Mitigating system cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events and adversely affected the attribute of procedure quality. Using IMC 0609 appendix A Ex2-1, the inspectors answered no to questions A 1 thru 4. Therefore, the finding screens as Green. For traditional enforcement, the enforcement policy considers 50.59 violations of Green significance to be SL IV. Although the performance deficiency occurred in 2003, the corrective action program documents recent opportunities to identify and correct the condition. In this instance, the inspectors concluded that the licensee did not take effective corrective actions. Therefore, the finding includes a cross-cutting aspect P.3, resolution, in the Problem Identification and Resolution area. (4OA2)

Cornerstone: Emergency Preparedness

- Violations of very low safety or security significance or SL IV that were identified by the licensee have been reviewed by the NRC. Corrective actions taken or planned by the licensee have been entered into the licensee's CAP. These violations and CAP tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Both Units 1 and 2 remained at or near 100 percent power for the entire inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Winter Seasonal Readiness Preparations

a. Inspection Scope

The inspectors conducted a review of the licensee's preparations for winter conditions to verify that the plant's design features and implementation of procedures were sufficient to protect mitigating systems from the effects of adverse weather. Documentation for selected risk-significant systems was reviewed to ensure that these systems would remain functional when challenged by inclement weather. During the inspection, the inspectors focused on plant specific design features and the licensee's procedures used to mitigate or respond to adverse weather conditions. Additionally, the inspectors reviewed the Updated Final Safety Analysis Report (UFSAR) and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant specific procedures. Cold weather protection, such as heat tracing and area heaters, was verified to be in operation where applicable. The inspectors also reviewed corrective action program (CAP) items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their CAP in accordance with station corrective action procedures. Documents reviewed are listed in the Attachment to this report. The inspectors' reviews focused specifically on the following plant systems due to their risk significance or susceptibility to cold weather issues:

- Refueling water storage tank;
- fire water storage tanks; and
- dry cask storage.

This inspection constituted one winter seasonal readiness preparations sample as defined in Inspection procedure (IP) 71111.01-05.

b. Findings

No findings were identified.

.2 Readiness for Impending Adverse Weather Condition—Extreme Wind Inspection Scope

a. Inspection Scope

Since extreme wind conditions were forecast in the vicinity of the facility for October 29, 2015, the inspectors reviewed the licensee's overall preparations/protection for the expected weather conditions. On October 29th, the inspectors walked down the

exterior of the plant and screen house roof to ensure the licensee had secured items that could become airborne missiles. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one readiness for impending adverse weather condition sample as defined in IP 71111.01–05.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Quarterly Partial System Walkdowns

a. Inspection Scope

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

- Unit 1 west motor driven auxiliary feedwater (AFW) pump and turbine driven AFW pump;
- Unit 1 west containment spray; and
- Unit 1 AB diesel generator.

The inspectors selected these systems based on their risk significance relative to the Reactor Safety Cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could impact the function of the system and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, UFSAR, Technical Specification (TS) requirements, outstanding work orders (WOs), condition reports, 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 and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

These activities constituted three partial system walkdown samples as defined in IP 71111.04–05.

b. Findings

No findings were identified.

.2 Semi-Annual Complete System Walkdown

a. Inspection Scope

On December 23, 2015, the inspectors finished a complete system alignment inspection of the Unit 2 Emergency Diesel Generator (EDG) system to verify the functional capability of the system. This system was selected because it was considered both safety significant and risk significant in the licensee's probabilistic risk assessment. The inspectors walked down the system to review mechanical and electrical equipment lineups; electrical power availability; system pressure and temperature indications, as appropriate; component labeling; component lubrication; component and equipment cooling; hangers and supports; operability of support systems; and to ensure that ancillary equipment or debris did not interfere with equipment operation. A review of a sample of past and outstanding WOs was performed to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the CAP database to ensure that system equipment alignment problems were being identified and appropriately resolved. Documents reviewed are listed in the Attachment to this report.

These activities constituted one complete system walkdown sample as defined in IP 71111.04–05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope

The inspectors conducted fire protection walkdowns which were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- Unit 1 east cable tunnels (FZ 7 and 8);
- Unit 1 west cable tunnels (FZ 8, 9, and 10);
- fire pump house; and
- Unit 1 safety injection pump rooms (FZ 64A and 64B).

The inspectors reviewed areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capability, maintained passive fire protection features in good material condition, and implemented adequate compensatory measures for out-of-service, degraded or inoperable fire protection equipment, systems, or features in accordance with the licensee's fire plan.

The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to impact equipment which could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. Using the documents listed in the Attachment to this report, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient

material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's CAP. Documents reviewed are listed in the Attachment to this report.

These activities constituted four quarterly fire protection inspection samples as defined in IP 71111.05–05.

b. Findings

No findings were identified.

1R06 Flooding (71111.06)

a. Inspection Scope

The inspectors reviewed selected risk important plant design features and licensee procedures intended to protect the plant and its safety-related equipment from internal flooding events. The inspectors reviewed flood analyses and design documents, including the UFSAR, engineering calculations, and abnormal operating procedures to identify licensee commitments. The specific documents reviewed are listed in the Attachment to this report. In addition, the inspectors reviewed licensee drawings to identify areas and equipment that may be affected by internal flooding caused by the failure or misalignment of nearby sources of water, such as the fire suppression or the circulating water systems. The inspectors also reviewed the licensee's corrective action documents with respect to past flood-related items identified in the corrective action program to verify the adequacy of the corrective actions. The inspectors performed a walkdown of the following plant area to assess the adequacy of watertight doors and verify drains and sumps were clear of debris and were operable, and that the licensee complied with its commitments:

- Unit 1 EDG rooms

Documents reviewed during this inspection are listed in the Attachment to this report. This inspection constituted one internal flooding sample as defined in IP 71111.06–05.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11)

.1 Resident Inspector Quarterly Review of Licensed Operator Requalification (71111.11Q)

a. Inspection Scope

On December 2, 2015, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator requalification training to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

- licensed operator performance;

- crew's clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms;
- correct use and implementation of abnormal and emergency procedures;
- control board manipulations;
- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications.

The crew's performance in these areas was compared to pre-established operator action expectations and successful critical task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly licensed operator requalification program simulator sample as defined in IP 71111.11-05.

b. Findings

No findings were identified.

.2 Resident Inspector Quarterly Observation During Periods of Heightened Activity or Risk (71111.11Q)

a. Inspection Scope

On November 19, 2015, the inspectors observed recovery of a feedwater heater string. This was an activity that required heightened awareness because the licensee had not performed this activity in many years. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms;
- correct use and implementation of procedures;
- control board manipulations; and
- oversight and direction from supervisors.

The performance in these areas was compared to pre-established operator action expectations, procedural compliance and task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly licensed operator heightened activity/risk sample as defined in IP 71111.11-05.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors evaluated degraded performance issues involving the following risk-significant systems:

- Offsite power; and
- emergency core cooling system.

The inspectors reviewed events such as where ineffective equipment maintenance had resulted in valid or invalid automatic actuations of engineered safeguards systems and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- implementing appropriate work practices;
- identifying and addressing common cause failures;
- scoping of systems in accordance with 10 CFR 50.65(b) of the maintenance rule;
- characterizing system reliability issues for performance;
- charging unavailability for performance;
- trending key parameters for condition monitoring;
- ensuring 10 CFR 50.65(a)(1) or (a)(2) classification or re-classification; and
- verifying appropriate performance criteria for structures, systems, and components (SSCs)/functions classified as (a)(2), or appropriate and adequate goals and corrective actions for systems classified as (a)(1).

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were entered into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two quarterly maintenance effectiveness samples as defined in IP 71111.12-05.

b. Findings

Introduction: The inspectors identified a finding and associated Non-Cited Violation (NCV) of Facility Operating Licenses DPR-58 condition 1.D for Unit 1 and DPR-74 condition 1.D for Unit 2. Specifically, the licensee failed to perform structural monitoring of the Service Water Screen House as stipulated in their renewed license.

Description: The inspectors identified that the licensee has not conducted inspections of the forebay area in the screen house west of the trash racks. The inspectors inquired why the licensee had not performed these inspections. The licensee stated that this area was not accessible and therefore no inspections were required. The licensee informed the inspectors that a diving incident several years ago led the licensee to prohibit diving west of the trash racks because of strong currents that created the potential for divers to become disoriented. However, the inspectors were aware that divers had entered the area west of the trash racks during a dual unit outage in November of 2014. The licensee informed the inspectors that this access was acceptable because the screens could be used to orient the diver and maintain diver

safety. The inspectors also pointed out that during the dual unit trip circulating water pumps were secured and inspections could have been conducted. The licensee stated they had not considered performing inspections during the outage.

The inspectors asked the licensee about options to use methods aside from divers to perform the inspections. The licensee had not considered other options. After further review of potential inspection methods, the licensee determined that an inspection by divers remained the best option. The licensee has included inspection of the forebay into the 2016 refueling outages with the proviso that the diving can be conducted safely.

Analysis: The licensee's failure to perform inspections of the forebay west of the trash racks was a performance deficiency that warranted a significance determination. The performance deficiency was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In particular, the failure to inspect the forebay area west of the trash racks limits the ability to detect and correct degradation of the intake structure. In accordance with IMC 0609, Appendix A, issued June 19, 2012, The Significance Determination Process (SDP) for Findings At-Power, Exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined the finding screened as green using question A.1 because the deficiency did not render the structure inoperable. The performance deficiency had a cross-cutting aspect of Change Management, (H.3) in the human performance area. Specifically, the licensee personnel did not implement the revised license with nuclear safety as the overriding priority.

Enforcement: Facility Operating Licenses DPR-58 condition 1.D and DPR-74 Condition 1.D. C3, require, in part, that the licensee will operate in conformity with the application, as amended. As part of the license amendment, the licensee included structural monitoring of the screenhouse below grade walls, beams and slabs. Specifically, table 3.5.1-22 states the structural monitoring program will manage the effects of aging on accessible/inaccessible concrete. Table 3.5.2-3 specifically links the screen house below grade walls to this requirement. Contrary to this requirement, through September 2, 2015, the licensee failed to monitor the structure of the screen house west of the forebay. Subsequent to inspector inquiries, the licensee has developed plans to inspect the forebay West of the trash racks. Review of records for portions of the forebay that have been inspected showed that the structure remains sound. Because this violation was of very low safety significance (Green) and was entered into the CAP as AR 2015-11541, "NRC Question," this violation is being treated as an NCV, consistent with Section 2.3.2.a of the Nuclear Regulatory Commission (NRC) Enforcement Policy. **(NCV 05000315/2015004-01: Failure to Monitor Forebay Structure)**

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

a. Inspection Scope

The inspectors reviewed the licensee's evaluation and management of plant risk for the maintenance and emergent work activities affecting risk-significant and safety-related equipment listed below to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- Unit 2 main turbine vibration control system emergent repairs;
- Unit 1 CD EDG critical maintenance project;
- Unit 1 AFW ventilation repairs; and
- emergent repairs of the Unit 2 Control Room indication inverter.

These activities were selected based on their potential risk significance relative to the Reactor Safety Cornerstones. As applicable for each activity, the inspectors verified that risk assessments were performed as required by Title 10 of the *Code of Federal Regulations* (CFR) 50.65(a)(4) and were accurate and complete. When emergent work was performed, the inspectors verified that the plant risk was promptly reassessed and managed. The inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed TS requirements and walked down portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

Documents reviewed during this inspection are listed in the Attachment to this report. These maintenance risk assessments and emergent work control activities constituted four samples as defined in IP 71111.13–05.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functional Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed the following issues:

- Operator work arounds;
- containment spray;
- degraded battery post on Unit 1 N-train battery;
- Unit 2 emergency core cooling system (ECCS) seal injection line resistance outside acceptance band;
- 2-NCR-106 RCS sample line containment isolation valve slow operation; and
- AFW to main feedwater check valve FW–118–3 leakage.

The inspectors selected these potential operability issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TS and UFSAR to the licensee's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies

associated with operability evaluations. Documents reviewed are listed in the Attachment to this report.

This operability inspection constituted six samples as defined in IP 71111.15–05.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed the following post-maintenance activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- Unit 1 AB EDG fuel oil flow gage;
- Unit 1 east Residual Heat Removal (RHR) pump and valve preventative maintenance;
- Control Room indication inverter following emergent work; and
- Unit 2 east essential service water pump and strainer maintenance.

These activities were selected based upon the structure, system, or component's ability to impact risk. The inspectors evaluated these activities for the following (as applicable): the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing (temporary modifications or jumpers required for test performance were properly removed after test completion); and test documentation was properly evaluated. The inspectors evaluated the activities against TSs, the UFSAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with post-maintenance tests to determine whether the licensee was identifying problems and entering them in the CAP and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment to this report.

This inspection constituted four post-maintenance testing samples as defined in IP 71111.19–05.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the test results for the following activities to determine whether risk-significant systems and equipment were capable of performing their intended safety function and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- Spent fuel pool pump test (routine);
- calibration of the Unit 1 CD EDG speed sensor (routine);
- Unit 2 RHR pump test (Inservice Test);
- Unit 2 4kV undervoltage relay calibrations (routine); and
- Unit 2 control rod operability testing (routine).

The inspectors observed in-plant activities and reviewed procedures and associated records to determine the following:

- did preconditioning occur;
- the effects of the testing were adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- acceptance criteria were clearly stated, demonstrated operational readiness, and were consistent with the system design basis;
- plant equipment calibration was correct, accurate, and properly documented;
- as-left setpoints were within required ranges; and the calibration frequency was in accordance with TSs, the USAR, procedures, and applicable commitments;
- measuring and test equipment calibration was current;
- test equipment was used within the required range and accuracy; applicable prerequisites described in the test procedures were satisfied;
- test frequencies met TS requirements to demonstrate operability and reliability; tests were performed in accordance with the test procedures and other applicable procedures; jumpers and lifted leads were controlled and restored where used;
- test data and results were accurate, complete, within limits, and valid;
- test equipment was removed after testing;
- where applicable for inservice testing activities, testing was performed in accordance with the applicable version of Section XI, American Society of Mechanical Engineers code, and reference values were consistent with the system design basis;
- where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared inoperable;
- where applicable for safety-related instrument control surveillance tests, reference setting data were accurately incorporated in the test procedure;
- where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished;
- prior procedure changes had not provided an opportunity to identify problems encountered during the performance of the surveillance or calibration test;
- equipment was returned to a position or status required to support the performance of its safety functions; and

- all problems identified during the testing were appropriately documented and dispositioned in the CAP.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted four routine surveillance testing samples and one inservice testing sample as defined in IP 71111.22, Sections–02 and–05.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine licensee emergency drill on October 14, 2015, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the Emergency Operations Facility and Control Room Simulator to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the licensee drill critique to compare any inspector-observed weakness with those identified by the licensee staff in order to evaluate the critique and to verify whether the licensee staff was properly identifying weaknesses and entering them into the corrective action program. As part of the inspection, the inspectors reviewed the drill package and other documents listed in the Attachment to this report.

This emergency preparedness drill inspection constituted one sample as defined in IP 71114.06–06.

b. Findings

No findings were identified.

2. RADIATION SAFETY

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

The inspection activities supplement those documented in Inspection Report 05000315/2015002; 05000316/2015002, and constitute one complete sample as defined in IP 71124.01–05.

.1 Contamination and Radioactive Material Control (02.04)

a. Inspection Scope

The inspectors selected several sealed sources from the licensee’s inventory records and assessed whether the sources were accounted for and verified to be intact.

The inspectors evaluated whether any transactions, since the last inspection, involving nationally tracked sources were reported in accordance with 10 CFR 20.2207.

b. Findings

No findings were identified.

.2 Radiation Worker Performance (02.07)

a. Inspection Scope

The inspectors reviewed radiological problem reports since the last inspection that found the cause of the event to be human performance errors. The inspectors evaluated whether there was an observable pattern traceable to a similar cause. The inspectors assessed whether this perspective matched the corrective action approach taken by the licensee to resolve the reported problems. The inspectors discussed with the radiation protection manager any problems with the corrective actions planned or taken.

b. Findings

No findings were identified.

.3 Radiation Protection Technician Proficiency (02.08)

a. Inspection Scope

The inspectors reviewed radiological problem reports since the last inspection that found the cause of the event to be radiation protection technician error. The inspectors evaluated whether there was an observable pattern traceable to a similar cause. The inspectors assessed whether this perspective matched the corrective action approach taken by the licensee to resolve the reported problems.

b. Findings

No findings were identified.

.4 Problem Identification and Resolution (02.09)

a. Inspection Scope

The inspectors evaluated whether problems associated with radiation monitoring and exposure control were being identified by the licensee at an appropriate threshold and were properly addressed for resolution in the licensee's CAP. The inspectors assessed the appropriateness of the corrective actions for a selected sample of problems documented by the licensee that involve radiation monitoring and exposure controls. The inspectors assessed the licensee's process for applying operating experience to their plant.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Security

4OA1 Performance Indicator Verification (71151)

.1 Mitigating Systems Performance Index—Emergency AC Power Systems

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index (MSPI)—Emergency Alternating Current (AC) Power Systems performance indicator (PI) for Units 1 and 2 for the period from the fourth quarter 2014 through the third quarter of 2015. To determine the accuracy of the Performance Indicator (PI) data reported during those periods, PI definitions and guidance contained in the Nuclear Energy Institute (NEI) Document 99–02, “Regulatory Assessment Performance Indicator Guideline,” Revision 7, dated August 31, 2013, were used. The inspectors reviewed the licensee’s operator narrative logs, issue reports, MSPI derivation reports, event reports and NRC Integrated Inspection Reports for the period of the third quarter of 2014 through the second quarter of 2015 to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee’s issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two MSPI Emergency AC Power System samples as defined in IP 71151–05.

b. Findings

No findings were identified.

.2 Mitigating Systems Performance Index—Cooling Water System

a. Inspection Scope

The inspectors sampled licensee submittals for the MSPI—Cooling Water System performance indicator for Unit 1 and Unit 2 for the period from the fourth quarter of 2014 through the third quarter of 2015. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99–02, “Regulatory Assessment Performance Indicator Guideline,” Revision 7, dated August 31, 2013, were used. The inspectors reviewed the licensee’s operator narrative logs, issue reports, event reports, MSPI derivation reports, and NRC Integrated Inspection Reports for the period of the third quarter of 2014 through the second quarter of 2015 to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee’s issue report database to

determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two MSPI Cooling Water System samples as defined in IP 71151–05.

b. Findings

No findings were identified.

.3 Reactor Coolant System Specific Activity

a. Inspection Scope

The inspectors sampled licensee submittals for the reactor coolant system (RCS) specific activity performance indicator (PI) for Donald C. Cook Nuclear Power Plant, Units 1 and 2, for the period from the first quarter 2014 through the first quarter 2015. The inspectors used Performance Indicator definitions and guidance contained in the NEI Document 99–02, “Regulatory Assessment Performance Indicator Guideline,” Revision 7, dated August 2013, to determine the accuracy of the PI data reported during those periods. The inspectors reviewed the licensee’s RCS chemistry samples, technical specification requirements, issue reports, event reports and U.S. NRC Integrated IRs to validate the accuracy of the submittals. The inspectors also reviewed the licensee’s issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator. In addition to record reviews, the inspectors observed a chemistry technician obtain and analyze a RCS sample. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two RCS specific activity samples as defined in IP 71151–05.

b. Findings

No findings were identified.

.4 Occupational Exposure Control Effectiveness

a. Inspection Scope

The inspectors sampled licensee submittals for the Occupational Exposure Control Effectiveness PI for the period from the first quarter 2014 through the first quarter 2015. The inspectors used PI definitions and guidance contained in the NEI Document 99–02, “Regulatory Assessment Performance Indicator Guideline,” Revision 7, dated August 2013, to determine the accuracy of the PI data reported during those periods. The inspectors reviewed the licensee’s assessment of the PI for occupational radiation safety to determine if indicator related data was adequately assessed and reported. To assess the adequacy of the licensee’s PI data collection and analyses, the inspectors discussed with radiation protection staff, the scope and breadth of its data review and the results of those reviews. The inspectors independently reviewed electronic personal dosimetry dose rate and accumulated dose alarms and dose reports and the dose assignments for any intakes that occurred during the time period reviewed to determine if there were potentially unrecognized occurrences. The inspectors also conducted

walkdowns of numerous locked high and very-high radiation area entrances to determine the adequacy of the controls in place for these areas. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one occupational exposure control effectiveness sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.5 Radiological Effluent Technical Specification/Offsite Dose Calculation Manual
Radiological Effluent Occurrences

a. Inspection Scope

The inspectors sampled licensee submittals for the Radiological Effluent Technical Specification (RETS)/Offsite Dose Calculation Manual (ODCM) radiological effluent occurrences PI for the period from the first quarter 2014 through the first quarter 2015. The inspectors used PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 2013, to determine the accuracy of the PI data reported during those periods. The inspectors reviewed the licensee's issue report database and selected individual reports generated since this indicator was last reviewed to identify any potential occurrences such as unmonitored, uncontrolled, or improperly calculated effluent releases that may have impacted offsite dose. The inspectors reviewed gaseous effluent summary data and the results of associated offsite dose calculations for selected dates to determine if indicator results were accurately reported. The inspectors also reviewed the licensee's methods for quantifying gaseous and liquid effluents and determining effluent dose. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one RETS/ODCM radiological effluent occurrences sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.6 Reactor Coolant System Leakage

a. Inspection Scope

The inspectors sampled licensee submittals for the RCS Leakage PI for units 1 and 2 for the period from the fourth quarter 2014 through the third quarter of 2015. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 31, 2013, were used. The inspectors reviewed the licensee's operator logs, RCS leakage tracking data, issue reports, event reports and NRC Integrated Inspection Reports for the period of fourth quarter 2014 through the third quarter of 2015 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified

with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two reactor coolant system leakage samples as defined in IP 71151–05.

b. Findings

No findings were identified.

.7 (Closed) Unresolved Item associated with Probabilistic Risk Assessment Model Errors: URI 05000315/2015003–05; 05000316/2015003–05

a. Inspection Scope

In the third quarter of 2015, the inspectors identified that the unavailability margin to the green-to-white threshold seemed unreasonably high for MSPI systems. Further review revealed that an error in the licensee's Probabilistic Risk Assessment (PRA) model was causing the values to change. In discussions with the licensee, the inspectors learned that as part of the NFPA 805 license amendment request, the NRC included as a license condition a focused scope peer review of the treatment of test and maintenance factors in the PRA model. During preparations for this review, the licensee recognized that the model did not correctly account for test and maintenance outages and this error adversely impacted multiple programs that rely on the PRA model. The licensee reviewed site applications which utilized the PRA model for impacts. Regarding MSPI calculations, the licensee did not take action to correct the error until the next PRA model update occurred approximately a year-and-a-half later. This was based on the licensee's interpretation of the guidance in NEI 99–02, "Regulatory Assessment Performance Indicator Guidance," Revision 7.

The inspectors reviewed NEI 99–02 Revision 7, license conditions associated with NFPA–805, the licensee's procedure for PRA model updates, and various AR's written by the site. Additionally, the inspectors had several discussions with plant PRA and Maintenance Rule personnel. After reviewing select MSPI data that the licensee developed both with and without the PRA model error discussed in AR–2014–3184, the inspectors did not find any issues associated with the licensee's conclusion that all indicators would have remained Green for MSPI. However, questions remained regarding the licensee's treatment of the error (and its subsequent correction) in terms of reporting performance indicator data to the NRC. The inspectors determined the most appropriate action to resolve the issue was to use the FAQ process as outlined in NEI 99–02. The licensee submitted the FAQ near the end of the fourth quarter. The FAQ will essentially seek guidance on how Appendix G to NEI 99–02, "MSPI Basis Document Development," might apply to errors discovered in PRA models-of-record. Additionally, the FAQ will explore whether or not model errors and/or their subsequent corrections need to be documented in performance indicator submittals; and if so, how.

During their review, the inspectors noted that the licensee had failed to follow their PRA Update procedure. Had additional or more periodic reviews been performed on PRA models, some errors may have been avoided (including the test and maintenance related error discussed above). The inspectors determined a finding existed with regard to adherence to the PRA Update procedure (discussed below).

This Unresolved Item (URI) is closed based on the issuance of the finding below and the utilization of the NEI 99-02 FAQ process to resolve remaining questions associated with MSPI data reporting. The inspectors will follow the FAQ process and use the result to determine if further regulatory action is required.

b. Findings

Introduction: The inspectors identified a finding of very low safety significance (Green) for the licensee's failure to follow Site Procedure 12-EHP-9010-PRA-001, "PRA Model Update." Specifically, PRA model updates were not performed at the frequency specified in the procedure, appropriate reviews were not performed for changes, and modeling errors existed such that the models did not represent the as-built, as-operated plant.

Description: Site Procedure 12-EHP-9010-PRA-001 establishes requirements to ensure that Cook PRA models represent the as-built, as-operated plant in a manner sufficient to support the applications for which they are used. One of the requirements is to perform a periodic update within four years of the previous update. Some of the actions involved with performing the update include reviewing internal and external operating experience, reviewing plant procedures that impact human error probabilities or equipment test frequencies, updating initiating event frequencies based on industry and site operating experience, and updating basic event data resulting from current plant equipment reliability and unavailability data. Contrary to the procedure, the internal events model was not updated for six years following the last update in 2008. The inspectors also determined there was no formal process for ensuring all of the procedural requirements were being met. Additionally, the procedure requires that any needed peer reviews are performed and that any significant model issues are addressed prior to any use of the revised model for risk-informed applications. Specifically, formal peer reviews are to be performed for changes that constitute PRA "upgrades." Contrary to the procedure, a formal peer review was not completed for a change to certain test and maintenance modeling factors that met the definition of a PRA upgrade. During NRC review of the license amendment request (LAR) to transition to NFPA-805 fire regulations, the NRC questioned aspects of the test and maintenance modeling. The license subsequently discovered an error that affected several PRA applications, including data used to support the NFPA-805 LAR. As a result, the licensee had to perform additional calculations to support the LAR and make several changes to risk-informed PRA applications onsite. Previous LARs were also reviewed for impacts. Another error was later discovered regarding Supplemental Diesel Generator modeling. This error was also corrected in the model following interim measures that had to be put in place in the station's online risk assessment tool. While following-up on the issues discussed above, the licensee identified several enhancements to the PRA procedure and program to help avoid further issues that could significantly impact risk-informed applications.

Analysis: The failure to perform PRA updates and peer reviews required by 12-EHP-9010-PRA-001 was a performance deficiency warranting evaluation in the significance determination process. The issue was more than minor because if left uncorrected, it could become a more significant safety concern. The inspectors based this determination on numerous examples provided in IMC 0612, Appendix E, "Examples of Minor Issues," issued August 11, 2009, that described issues reflective of programmatic weaknesses as more than minor. Specifically, the inspectors noted the

lack of formal processes to ensure updates were performed as scheduled coupled with the failure to complete required peer reviews were evidence of programmatic weaknesses.

The inspectors determined the Mitigating Systems cornerstone was adversely affected by the finding since it was associated with maintenance of PRA models, which could impact probabilities of mitigating systems' ability to perform their functions. Utilizing IMC 0609 Attachment 4, "Initial Characterization of Findings," issued June 19, 2012, the inspectors determined IMC 0609 Appendix A was appropriate to determine significance. Utilizing Appendix A, "The Significance Determination Process for Findings at Power," issued June 19, 2012, the inspectors determined the finding screened as Green, or very low safety significance, because the inspectors answered 'no' to questions under both the "Mitigating SSCs and Functionality" and "External Event Mitigation Systems" sections.

The finding had an associated cross cutting aspect in the area of Human Performance, specifically, the Avoid Complacency aspect (H.12). The inspectors referenced the associated aspect of Avoid Complacency (QA.4) in NUREG-2165, "Safety Culture Common Language," and determined H.12 applied because of the lack of rigor applied in validating updates and peer reviews were completed as required by the procedure.

Enforcement: This finding does not involve enforcement action because no violation of a regulatory requirement was identified. Because this finding does not involve a violation and is of very low safety or security significance, it is identified as a finding.

(FIN 05000315/2015004-02; 05000316/2015004-02; Probabilistic Risk Assessment Model Errors)

4OA2 Identification and Resolution of Problems (71152)

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Security

.1 Routine Review of Items Entered into the Corrective Action Program

a. Inspection Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify they were being entered into the licensee's CAP at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. Attributes reviewed included: identification of the problem was complete and accurate; timeliness was commensurate with the safety significance; evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent-of-condition reviews, and previous occurrences reviews were proper and adequate; and that the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue. Minor issues entered into the licensee's CAP as a result of the inspectors' observations are included in the Attachment to this report.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's CAP. This review was accomplished through inspection of the station's daily condition report packages.

These daily reviews were performed by procedure as part of the inspectors' daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings were identified.

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screening discussed in Section 40A2.2 above, licensee trending efforts, and licensee human performance results. The inspectors' review nominally considered the 6-month period of April 2015 through September 2015, although some examples expanded beyond those dates where the scope of the trend warranted.

The review also included issues documented outside the normal CAP in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self-assessment reports, and Maintenance Rule assessments. The inspectors compared and contrasted their results with the results contained in the licensee's CAP trending reports. Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

This review constituted one semi-annual trend inspection sample as defined in IP 71152-05.

b. Findings

No findings were identified.

.4 Annual Follow-up of Selected Issues: Deletion of Technical Requirements Manual 8.4.3, “ASME Code Class 1, 2 and 3 Components”

a. Inspection Scope

The inspectors reviewed the licensee’s actions in response to an NRC finding/violation documented in Inspection Report “05000315/2014007; 05000316/2014007” regarding deletion of Technical Requirements Manual (TRM) Section 8.4.3. The inspectors noted the licensee had reinstated the TRM requirements, revised the TRM via an Applicability Determination (no 50.59 Screen), then deleted the revised TRM section via a 50.59 Screen.

This review constituted one annual follow-up of selected issues sample as defined in IP 71152–05.

b. Findings

Introduction: The inspectors identified a Severity Level (SL) IV NCV of 10 CFR 50.59(d)(1), “Changes, Tests, and Experiments,” with an associated finding of very low safety significance (Green), for the licensee’s failure to perform a written safety evaluation that provided the bases for the determination that the removal of TRM Section 8.4.3, “ASME Code Class 1, 2, and 3 Components” did not require a license amendment. Specifically, the licensee did not address the adverse effects of the changes made.

Description: During the transition to Improved TS’s, Custom Technical Specifications (CTS) requirements addressing structural integrity of ASME Code Class 1, 2, and 3 components were relocated into the TRM. Specifically, CTS 3/4.4.10, “ASME Code Class 1, 2, and 3 Components,” were relocated into TRM 8.4.3, “ASME Code Class 1, 2, and 3 Components.” In 2014, the inspectors identified that, in 2010, the licensee deleted TRM 8.4.3 without a written evaluation providing the bases for the determination the deletion did not require a license amendment, which was contrary to 10 CFR 50.59. As a result, the inspectors documented a SL IV NCV with an associated finding of very low safety significance (Green) in IR “05000315/2014007; 05000316/2014007.” In response to this violation, the licensee initially reinstated the TRM requirement (via direction to operations staff) as an interim measure while addressing the issue in their CAP.

During this inspection period, the inspectors noted that TRM 8.4.3 did not exist. Because IR “05000315/2014007;05000316/2014007” documented a SL IV NCV with an associated finding of very low safety significance (Green) for removal of this TRM requirement, the inspectors investigated the licensee’s long term actions to address the violation. The inspectors discovered that the licensee determined that the deleted TRM language was inconsistent with the original CTS language and the licensee decided to change the wording of the TRM section to achieve alignment with the original CTS requirement. After making this change, the licensee deleted the requirement in its entirety from the TRM using the 50.59 Screening process. The inspectors discussed the various changes made to the TRM with the licensee. As a result of the discussions, the licensee agreed that the 50.59 process had not been used properly and that the original CTS language best reflected the CLB.

The inspectors used the original CTS requirements for structural integrity as a basis from which to assess the ultimate deletion of the requirements from the CLB. The CTS

section for ASME structural integrity required the Inservice Inspection (ISI) Program to be implemented for Class 1, 2 and 3 components. It also stipulated required actions to be taken if nonconformances were identified during the inspection program, such as isolating components or controlling RCS temperature within certain ranges. In deleting these requirements from the CLB, the licensee credited their TS and NRC inspection guidance regarding the operability of components. However, the inspectors noted the information had been cited incorrectly: the licensee believed degraded Class 2 and 3 components would need to be declared inoperable. However, current NRC guidance would allow degraded components to remain operable under certain circumstances. Additionally, the TS operability determination process would not, in all cases, be equivalent to or more restrictive than the TRM requirements. In one example, if a degraded ASME Class 2 component was identified below 200 degrees, under the operability process and use of TS, a licensee may be able raise temperature above 200 degrees with a nonconformance. Under the TRM requirements, the licensee would be directed to isolate the component if full conformance could not be achieved before 200 degrees. Given the fact that in some cases deletion of the TRM requirements could result in less restrictive actions being taken, the inspectors concluded the deletion of the ASME structural integrity requirements from the TRM was an adverse change. Adverse changes require 50.59 Evaluations to be performed by the licensee to determine if a license amendment is required. When removing the structural integrity requirements from their CLB, the licensee did not perform a 50.59 Evaluation.

Analysis: The inspectors determined that the failure to provide a written safety evaluation to demonstrate the deletion of TRM Section 8.4.3 did not require a licensee amendment was contrary to the requirements of 10 CFR 50.59(d)(1) and was a performance deficiency. This violation is associated with a finding that has been evaluated by the SDP and communicated with an SDP color reflective of the safety impact of the deficient licensee performance. The SDP, however, does not specifically consider the regulatory process impact. Thus, although related to a common regulatory concern, it is necessary to address the violation and finding using different processes to correctly reflect both the regulatory importance of the violation and the safety significance of the associated finding.

For the ROP analysis, the performance deficiency was more than minor because it adversely affected the Procedure Quality attribute of the Mitigating Systems cornerstone. Specifically, a series of changes (which ultimately resulted in the deletion of TRM Section 8.4.3) had an adverse effect on component reliability given that required actions to address non-conformances within the ISI program were removed. The inspectors determined that the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," issued April 29, 2015. The inspectors evaluated the finding using Appendix A, "The Significance Determination Process for Findings At-Power," issued June 19, 2012. Specifically, in Exhibit 2, the finding screened as Green, or very low safety significance, because the inspectors answered 'no' to the questions for Mitigating SSCs and Functionality.

In addition, violations of 10 CFR 50.59 are disposed using the traditional enforcement process in addition to the SDP because they are considered to be violations that potentially impede or impact the regulatory process. The associated traditional enforcement violation was determined to be more than minor because the inspectors could not reasonably determine if the changes would have ultimately required NRC prior-approval. In accordance with Section 6.1.d of the NRC Enforcement Policy, the

traditional enforcement violation is categorized as SL IV because the resulting change was evaluated by the SDP as having very low safety significance (i.e., a Green finding).

The inspectors determined that the associated finding had a cross-cutting aspect in the area of problem identification and resolution because the licensee did not take effective corrective action to address the issue. Specifically, the licensee received a previous finding for not evaluating the adverse effects of deleting TRM Section 8.4.3. While the licensee took appropriate interim actions by effectively reinstating the requirement, the ultimate resolution of the issue did not correct the cause because when removing the requirement (albeit reworded) a second time, the adverse effects were not taken into account again (P.3).

Enforcement: Title 10 CFR 50.59 Section (d)(1) requires, in part, that the licensee maintain records of changes in the facility, of changes in procedures, and of tests and experiments made pursuant 10 CFR 50.59(c). These records must include a written evaluation which provides the bases for the determination that the change, test, or experiment does not require a license amendment pursuant to Paragraph (c)(2) of this section. Paragraph (c)(2)(i) states, in part, that a licensee shall obtain a license amendment pursuant to 10 CFR 50.90 prior to implementing a proposed change, test, or experiment if the change, test, or experiment would result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the UFSAR. Paragraph (c)(2)(ii) states, in part, that a licensee shall obtain a license amendment pursuant to 10 CFR 50.90 prior to implementing a proposed change, test, or experiment if the change, test, or experiment would result in more than a minimal increase in the likelihood of occurrence of a malfunction of an SSC important to safety previously evaluated in the UFSAR. The Safety Evaluation (ML050620034) associated with the relocation of the ASME Code Class 1, 2 and, 3 Component TS requirements to the TRM stated “The TRM is a general reference in the UFSAR and changes to it are accordingly also subject to 10 CFR 50.59.”

Contrary to the above, December 8, 2014, the licensee failed to maintain a record of the deletion of TRM Section 8.4.3 that included a written evaluation providing the bases for the determination the change did not require a license amendment. Specifically, in the process of deleting TRM 8.4.3, the licensee did not address the adverse effects of the change. Depending on the SSC found to be in nonconformance with the Code, the change could result in a more than a minimal increase in either the likelihood of occurrence of a malfunction of an SSC important to safety or occurrence of an accident, because required actions to address the nonconformances were removed. The licensee entered the issue into the CAP as AR 2015-12261 and is still evaluating its planned corrective actions. The violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy because it was of very low safety significance and was entered into the licensee's CAP. **(NCV 05000315/2015004-03; 05000316/2015004-03; Failure to Evaluate the Adverse Effects of TRM Section Deletion).**

The associated finding is evaluated separately from the traditional enforcement violation; and therefore, the finding is being assigned a separate tracking number **(FIN 05000315/2015004-04; 05000316/2015004-04; Failure to Evaluate the Adverse Effects of TRM Section Deletion).**

.5 Annual Follow-up of Selected Issues: Elimination of the Hot Shutdown Panel

a. Inspection Scope

In report 05000315/2015003; 05000316/2015003, the inspectors identified an unresolved item (URI 05000315/2015003-03; 05000316/2015003-03) for the deletion of procedures used to operate the hot shutdown (HSD) panel. During the fourth quarter, the licensee completed an apparent cause evaluation of the elimination of procedures for the use of the panel. In their review, the licensee concluded that the current license bases included use of the hot shutdown panel and developed procedures for its use. In the apparent cause evaluation, the licensee determined that site personnel focused on the fire mitigation aspects of the HSD and did not perform thorough reviews of the license bases. In addition, the ACE identified a weakness in the site's understanding that operating procedures fall under configuration control requirements and are required by both the UFSAR and quality assurance program. The licensee maintained portions of the hot shutdown panel and continued to surveil the indications referenced in the TS bases for Remote Shutdown Capability.

As part of the evaluation, the licensee included a licensing history of the HSD. The timeline includes some commentary regarding missed opportunities to identify and align the HSD with the current license bases. The inspectors concluded that in converting to standard technical specifications the licensee could have either reinstated procedures for the use of the HSD or used the LAR as a means eliminate the HSD from the CLB. The inspectors concluded that a 50.59 violation dominated the regulatory non-compliances.

This review constituted one annual follow-up of selected issues sample as defined in IP 71152-05.

b. Findings

Introduction: The inspectors identified a Green finding and associated SL IV non-cited violation of very low safety significance associated with 10 CFR 50.59 for the licensee's improper deletion of procedures for the operation of the hot shutdown panel. Specifically, in 2003, the licensee used a 50.59 screen to delete procedures associated with operation of the hot shutdown panel.

Description: In March 2003, the licensee approved a 50.59 screen that, in part, eliminated the use of the Hot Shutdown Panel. As part of the change the licensee deleted procedures that governed operation of the hot shutdown panels. At the time the licensee deleted these procedures, custom technical specifications included instrumentation on the hot shutdown panel in the Technical Specification. In addition, the Technical Specification bases at the time stated;

“The operability of the remote shutdown instrumentation ensures that sufficient capability is available to permit shutdown and maintenance of HOT STANDBY of the facility from locations outside of the control room. This capability is required in the event control room habitability is lost and is consistent with general Design Criteria 10 of 10 CFR 50.”

Despite its inclusion in the TS, the licensee checked “no” to the question “Does the proposed activity require a change to the Technical Specification?” If answered Yes, the

licensee would have needed to perform a 50.59 evaluation to determine if the change could be made without prior NRC approval. The licensee also failed to recognize that the UFSAR described the hot shutdown panel and its use for fire or other events that require evacuation of the control room. The inspectors determined that reliance on local shutdown instrumentation panels created an adverse effect on an UFSAR described design function because operators would need to go to multiple panels in the auxiliary building vice one panel in the adjacent units control room.

Since 2003, the licensee submitted and the NRC approved significant licensing actions germane to the elimination of the use of the hot shutdown panel. In 2005, the NRC approved the conversion of Cook from Custom TS to Improved TS. In their submittal, the bases section included HSD panel instrumentation to meet the LCO for remote shutdown instrumentation. In addition, the bases still described the use of the HSD as necessary to reach and maintain hot shutdown. Similar descriptions remained in the UFSAR. In addition, in October 2013, the NRC approved Cooks license amendment request to convert to NFPA 805. In this amendment, the licensee relied on local shutdown indications, vice the hot shutdown panel, to mitigate fires that required evacuation of the control room.

Over the next few years, the licensee generated several action requests related to the hot shutdown panel; however, the corrective action program did not result in correction of the improper screen. In particular, the inspectors reviewed AR 00860618 written to delete the HSD description from the UFSAR resulted in deletion of a single sentence referencing use of the HSD “when the control room is no longer habitable due to fire (or other hazardous conditions).” In this AR, the licensee did not recognize that an improper 50.59 evaluation had been performed in 2003. In 2015, the licensee initiated another AR to address the hot shutdown panel as abandoned equipment. Although the AR recognized that the 50.59 screening process had not been properly used in 2003, the licensee closed the action to perform a 50.59 evaluation without performing an evaluation.

The inspectors discussed the HSD with the licensee and verified that instrumentation on the panel included in the TS bases had been calibrated and could be used to monitor the associated plant parameters. The licensee also initiated corrective actions to restore operating procedures for the panel and re-instate operator training on the HSD.

Analysis: The licensee’s failure to evaluate the deletion of procedures for use of the HSD pursuant to 50.59 was a performance deficiency that warranted a significance determination. This violation is associated with a finding that has been evaluated by the SDP and communicated with an SDP color reflective of the safety impact of the deficient licensee performance. The SDP, however, does not specifically consider the regulatory process impact. Thus, although related to a common regulatory concern, it is necessary to address the violation and finding using different processes to correctly reflect both the regulatory importance of the violation and the safety significance of the associated finding.

For the ROP analysis, the inspectors determined that the finding was more than minor because it was associated with the Mitigating system cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events and adversely affected the attribute of procedure quality. Specifically, the licensee deleted procedures for operating the HSD, effectively precluding its use as described in UFSAR

and technical specification bases. Using IMC 0609 appendix A Ex2-1, issued June 19 2012, the inspectors answered no to questions A 1 thru 4. Therefore, the finding screens as Green.

For traditional aspects, the inspectors used the Enforcement Policy dated February 4, 2015. Findings involving 50.59 impact the NRC's ability to regulate and are subject to traditional enforcement. The associated traditional enforcement violation was determined to be more than minor because the inspectors could not reasonably determine if the changes would have ultimately required NRC prior-approval. Section 6.1 for reactor operations, includes example 2 for SLIV which states "Violations of 10 CFR 50.59 result in conditions evaluated as having very low safety significance (i.e., green) by the SDP." Therefore, the inspectors determined the traditional enforcement portion was SL IV.

Although the performance deficiency occurred in 2003, the corrective action program documents opportunities in 2015 to identify and correct the condition. In this instance, the inspectors concluded that the licensee did not take corrective actions to restore compliance. Therefore, the finding includes a cross-cutting aspect P.3, resolution, in the Problem and Identification area.

Enforcement: 10 CFR 50.59 (d)(1) requires, in part, "The licensee shall maintain records of changes in the facility, of changes in procedures, and of tests and experiments made pursuant to paragraph (c) of this section. These records must include a written evaluation which provides the bases for the determination that the change, test, or experiment does not require a license amendment pursuant to paragraph (c)(2) of this section." Contrary to this requirement, as of September 2, 2015, the licensee failed to maintain a written evaluation providing a bases that the deletion of procedures for operation of the HSD did not require a license amendment. More specifically, the licensee deleted procedures, which constitute a change to the facility, without a written evaluation stating why a license amendment was not required. The procedures provided instruction on operation of the hot shutdown panel which was described in both the UFSAR and Technical Specification Bases. The licensee has developed procedures for use of the HSD. Because this violation was not repetitive or willful, and was entered into the licensee's CAP as AR 2015-14259, it is being treated as a NCV consistent with Section 2.3.2.a of the NRC Enforcement Policy (**NCV 05000315/2015004-05; 05000316/2015004-05, Deletion of Hot Shutdown Panel Procedures**)

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153)

.1 (Closed) Licensee Event Report 05000315/2015-001-00: Completed Shutdown Required by Technical Specification

a. Inspection Scope

On June 1, 2015, Unit 1 was shutdown to comply with TS 3.8.1, "AC Sources-Operating," due to the inability of the licensee to restore the 1AB EDG to operable status within the timeframe allowed by TS during a planned maintenance period. During one of the post-maintenance test runs, the EDG tripped shortly after startup on a high bearing temperature due to failure of the number 4 bearing. The licensee, with third-party support, determined the cause was air in the lube oil system, which left the bearing susceptible to electrical pitting and eventual damage. Inspection Report 05000315/2015003; 05000316/2015003 documents a Licensee-Identified finding

with an associated NCV regarding this issue. Documents reviewed are listed in the Attachment to this report.

This Licensee Event Report (LER) is closed.

This event follow-up review constituted one sample as defined in IP 71153–05.

b. Findings

No findings were identified.

.2 (Closed) Licensee Event Report 05000315/2014–002–00: Non-Compliance with LCO 3.8.1 During Surveillance Preparations

a. Inspection Scope

During a planned surveillance activity associated with the AB Fuel Oil Storage Tank (FOST), the licensee inadvertently covered the tank vent with an FME cover. When operations staff later went to pump the tank, a vacuum was created which provided an indication of lowering fuel oil volume (no actual loss of fuel oil occurred). The licensee identified the bag, removed it, and the system returned to normal. During the time the bag was installed (approximately 16 hours), the FOST and the AB EDGs on Unit 1 and Unit 2 were inoperable. The inspectors documented a finding with an associated NCV regarding this issue in Inspection Report 05000315/2014005; 05000316/2014005. Documents reviewed are listed in the Attachment to this report.

This LER is closed.

This event follow-up review constituted one sample as defined in IP 71153–05.

b. Findings

No findings were identified.

4OA5 Other Activities

.1 (Closed) NRC Temporary Instruction (TI) 2515/190–Inspection of the Proposed Interim Actions Associated with Near-Term Task Force Recommendation 2.1 Flooding Hazard Evaluations

a. Inspection Scope

Inspectors verified that the licensee’s interim actions will perform their intended function for flooding mitigation.

The inspectors independently verified that the licensee’s proposed interim actions would perform their intended function for flooding mitigation.

- Inspectors reviewed the reevaluated hazard and compared it to the licensee’s interim actions;
- Inspectors performed a walkdown of the areas affected by the reevaluated hazard and inspected the flood protection features that had been installed;

- Inspectors reviewed current design basis information regarding internal flooding events to ensure mitigating measures were not impacted by the interim actions; and
- The inspectors reviewed the remaining proposed interim actions.

b. Findings

No findings were identified.

.2 Review of D.C. Cook 2015 Institute of Nuclear Power Operations Evaluation

a. Inspection Scope

The inspectors reviewed the results of the 2015 Institute of Nuclear Power Operations (INPO) Evaluation per Executive Director of Operations Policy 220.

b. Findings

No findings were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On January 28, 2016, the inspectors presented the inspection results to Mr. Q. S. Lies, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

.2 Interim Exit Meetings

Interim exits were conducted for:

- The inspection results for the areas of radiological hazard assessment and exposure controls; and RCS specific activity, occupational exposure control effectiveness, and RETS/ODCM radiological effluent occurrences performance indicator verification were discussed with Mr. S. Partin, then Plant Manager, on October 29, 2015.

The inspectors confirmed that none of the potential report input discussed was considered proprietary. Proprietary material received during the inspection was returned to the licensee.

4OA7 Licensee-Identified Violations

The following violation of very low significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of the NRC Enforcement Policy for being dispositioned as an NCV.

- A finding of very low safety significance (Green) with an associated NCV of TS 5.4, "Procedures," was identified by the licensee on October 23, 2015, when the boron concentration in the #3 ECCS Accumulator on Unit 1 was found below the TS minimum value of 2400 ppm. This placed the Unit in an unplanned 72

hour TS LCO action statement. The licensee had just completed a drain-and-fill of the accumulator to raise boron concentration. Boron concentration had slowly been decreasing over several weeks due to RCS back-leakage through a check valve between the ECCS and the RCS. In September, Engineering identified that the header between the RCS and ECCS was likely filled with the more dilute RCS water; therefore, Engineering concluded that the header would need to be flushed before any drain-and-fill evolutions were performed. However, this information did not reach the operations staff that attempted to raise boron concentration on October 23. As a result, boron concentration in two samples taken after the fill were 2390 ppm and 2396 ppm which is below TS minimum. The finding was more than minor because it adversely affected the Procedure Quality aspect of the Mitigating Systems cornerstone, whose objective is to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The issue screened as Green utilizing IMC 0609 Appendix A, "The Significance Determination Process for Findings at Power." Specifically, in Exhibit 2, the inspectors answered 'no' to the questions in Section A. The licensee entered the issue into their CAP as AR-2015-13758.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

D. Wood, Radiation Protection Manager
D. Raye, RP General Supervisor
S. Mitchell, Regulatory Affairs

U.S. Nuclear Regulatory Commission

K. Riemer, Chief, Reactor Projects Branch 2
L. Kozak, Senior Risk Analyst

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

05000315/2015004-01	NCV	Failure to Monitor Forebay Structure (1R12)
05000315/2015004-02; 05000316/2015004-02	FIN	Probabilistic Risk Assessment Model Errors (4OA1.7)
05000315/2015004-03; 05000316/2015004-03	SL IV	Failure to Evaluate the Adverse Effects of TRM Section Deletion (4OA2.4)
05000315/2015004-04; 05000316/2015004-04	FIN	Failure to Evaluate the Adverse Effects of TRM Section Deletion (4OA2.4)
05000315/2015004-05; 05000316/2015004-05	SL IV	Deletion of Hot Shutdown Panel Procedures (4OA2.5)

Closed

05000315/2015004-01	NCV	Failure to Monitor Forebay Structure (1R12)
05000315/2015003-05; 05000316/2015003-05	URI	Probabilistic Risk Assessment Model Errors (4OA1.7)
05000315/2015004-02; 05000316/2015004-02	FIN	Probabilistic Risk Assessment Model Errors (4OA1.7)
05000315/2015004-03; 05000316/2015004-03	SL IV	Failure to Evaluate the Adverse Effects of TRM Section Deletion (4OA2.4)
05000315/2015004-04; 05000316/2015004-04	FIN	Failure to Evaluate the Adverse Effects of TRM Section Deletion (4OA2.4)
05000315/2015003-03; 05000316/2015003-03	URI	Deletion of Hot Shutdown Panel Procedures (4OA2.5)
05000315/2015004-05; 05000316/2015004-05	SL IV	Deletion of Hot Shutdown Panel Procedures (4OA2.5)
05000315/2015-001-00	LER	Completed Shutdown Required by Technical Specification (4OA3.2)
05000315/2014-002-00	LER	Non-Compliance with LCO 3.8.1 During Surveillance Preparations (4OA3.3)
2515/190	TI	Inspection of the Proposed Interim Actions Associated with Near-Term Task Force Recommendation 2.1 Flooding Hazard Evaluations (4OA5.1)

Discussed

None

LIST OF DOCUMENTS REVIEWED

The following is a partial list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspector 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 on 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.

1R01 Adverse Weather Protection

- 12-IHP-5040-EMP-004; Plant Winterization and de-Winterization, Completed October 30, 2015
- AR-2015-14276; Loose Debris Inside the Protected Area During Foul Weather, November 3, 2015
- AR-2015-15096; Heat Trace, Freeze Protection, November 20, 2015
- AR-2015-15730; Insulation Missing From 12-FP-701, December 7, 2015
- AR-2015-4654; 2-CTS-142 RWST Freeze Protection Heaters Outlet Valve, April 1, 2015

1R04 Equipment Alignment

- 1-OHP-4021-009-001; Placing the Containment Spray System in Standby Readiness, Revision 25
- 1-OHP-4021-032-008AB; DG1AB Subsystems, Revision 25
- 1-OHP-4030-156-017T; Turbine Driven Auxiliary Feedwater System Test, Revision 20
- 1-OHP-4030-156-017W; West Motor Driven AFW System Test, Revision 10
- 2-OHP-4021-032-008AB; Operating DG2AB Subsystems, Revision 29
- 2-OHP-4021-032-008CD; Operating DG2CD Subsystems, Revision 25
- AR-2013-1563; Minor Oil Leak On Before And After Pump, February 3, 2013
- AR-2014-10240; 2-DL-126C; 2-QT-111-CD Discharge Check Valve, August 31, 2014
- AR-2014-10486; Charred Wires Above 2-20-2x-lqba-dgcd, September 6, 2014
- AR-2015-13926; Leak on 2-PP-120-AB, EDG Engine Driven Fuel Oil Pump, October 27, 2015
- AR-2015-14318; Document Response To NRC Question On EDG Exhaust, November 4, 2015
- AR-2015-9123; AB EDG Start Signals Sent While Tagged Out, July 14, 2015
- AR-2015-9326; DG1AB Frequency Oscillating, July 18, 2015
- OP-2-5151D-66; Flow Diagram Emergency Diesel Generator "CD" Unit 2
- OP-2-5151A-56; Flow Diagram Emergency Diesel Generator "AB" Unit 2
- OP-2-5151B-68; Flow Diagram Emergency Diesel Generator "AB" Unit 2
- OP-2-5151C-50; Flow Diagram Emergency Diesel Generator "CD" Unit 2

1R05 Fire Protection

- AR-2013-7845-9; Eliminate or Manage Corrosion Product Generation In FP Piping, July 25, 2013
- AR-2015-14003; Fire Pump House Plugged Sprinkler System, November 2, 2015
- AR-2015-16412; Door 1-DR-AUX335 and 1-DR-AUX337 Need Labels, December 23, 2015
- AR-2015-16413; 1-27294-1, Cable From Speaker Amp SA-1008-1B To Speakers Disconnected, December 23, 2015
- AR-2015-16414; Red Plate Near Fire Detector, December 23, 2015
- AR-2015-16417; E-rating of Fire Hose Nozzles, December 23, 2015
- Fire Pre-Plans; Volume 2, Revision 18

- Pre-fire plans volume 1; Revision 22

1R06 Flood Protection

- 1-OHP-4024-118; Drop 74, Response for Condenser Pit Flooded Alarm, Revision 31
- AR-2015-9353; Watertight Door is Degraded, July 20, 2015
- Calculation MD-12-CW-005-N; Flooding Due to Circulating Water Expansion Joint Failure, Revision 2
- PMID 00122819; DLA-701 (Condenser Pit Extreme High Level Switch Preventative Maintenance Activity)
- PMP-4075-TCA-001; Time Critical Action Validation and Verification, Revision 13
- WO 55304540-01; 1-DLA-701; Clean/Inspect/Calibrate Level Alarm Switch

1R11 Licensed Operator Regualification

- Training Drill Summary; December 2, 2015

1R12 Maintenance Effectiveness

- AR-2012-10087; Acc #4 NR Level Instrument is Fluctuating, August 17, 2014
- AR-2013-16175; Missing Vent Plug on 2-IMO-51 Actuator, October 23, 2013
- AR-2013-6194; Transformer 101CD Reserve Feed Tripped Due To A Fault, April 24, 2013
- AR-2014-10819; Step Change in Acc #4 Level, September 15, 2014
- AR-2014-14099; 2-ILA-141 Erratic Indication, November 10, 2014
- AR-2014-7660; Disassemble, Inspect, and Repair 2-SI-161-L4, June 27, 2014
- AR-2015-10359; U1 #13 Accumulator Level and Pressure Rising, August 8, 2015
- AR-2015-13758; U1 #13 Accumulator Boron Concentration Low, October 23, 2015
- AR-2015-15352; Momentary Loss of Site 12Kv, November 27, 2015
- Emergency Core Cooling and Residual Heat Removal Maintenance Rule Scoping Document, Revision 5
- GT-2015-15353; Security Diesel Did Not Start During Loss Of Power, November 11, 2015
- GT-2015-14418; Unit 1 ECCS System Health Report Decreased to Yellow, November 5, 2015
- Maintenance Rule Database; Offsite Power; December 14, 2015
- MHI-5097; Medium Voltage Cable Testing, Revision 6
- Offsite Power System Report; December 14, 2015
- PRA-FIRE-17961-001; Maintenance Rule Calculation, Revision 0
- Unit 1 Emergency Core Cooling System Health Report; Fourth Quarter 2015
- Unit 2 Emergency Core Cooling System Health Report; Fourth Quarter 2015

1R13 Maintenance Risk Assessments and Emergent Work Control

- 12-OHP-4030-033-001; Supplemental Diesel Generator Testing, Revision 23
- 2-OHP-4021-082-008; Operation of CRID Power Supplies, Revision 27
- AR-2015-14014; On-line Risk, Risk Management Items Not Properly Performed, October 28, 2015
- AR-2015-14760; Procedure PMP-2291-OLR-001; Online Risk Management, Error, November 12, 2015
- Clearance N-VSWGR-SDAL-1151 for 2-VTS-805
- Plan of the Day Meeting Notes; November 9, 2015
- PMP-2291-OLR-001; On-Line Risk Management, Revision 35
- PMP-2291-WMP-001; Work Management Process Flowchart, Revision 40

- PMP-4030-001-001; Impact of Safety Related Ventilation on the Operability of Technical Specification Equipment, Revision 20
- U1 CD EDG Critical Maintenance Project Overview; Week of November 2, 2015
- VTD-BROW-0571; ASEA Brown Boveri Brush Gear with Slipping Brushes- Section 240 VG246
- Work Week Schedule and Plan of the Day Meeting Notes; Week of November 2, 2015
- Work Week Schedule and Plan of the Day Meeting Notes; Week of October 19, 2015

1R15 Operability Determinations and Functional Assessments

- 2-IMO-202; QDR Report For Containment Spray Additive Tank TK-36 Outlet Train A Shutoff Valve; November 10, 2015
- 2-OHP-4030-203-052L; Controlled Leakage Verification Test, Revision 13
- AR-2015-10570; Critical Parameter Component as-found out of Tolerance, August 12, 2015
- AR-2015-12775; Loose #1 Battery Post on 1-BATT-N, September 30, 2015
- AR-2015-13041; 1-BATT-N Cell #31 Degradation Due to Age, October 6, 2015
- AR-2015-14802; CDBI 2015, EDG Air Receiver Surveillance Criteria, November 13, 2015
- AR-2015-16171; Crediting 1-FMO-203 Isolation for Operability of AFW, December 16, 2015
- AR-2015-4085; 2-IMO-204 Will Not Open From The Control Room, March 26, 2015
- AR-2015-9520; #3 Steam Generator Feedwater Inlet Check Valve Gross Leak by, July 22, 2015
- AR-2015-9807; 2-NCR-106 Slow to Close, July 29, 2015
- ASME OM Code 2001; ISTC-5220, Check Valves
- ASME OM Code, 2001; Mandatory Appendix II, Check Valve Condition Monitoring Program
- C&D Technologies Letter to Model DCU Batteries for 1E Application Users Regarding Possible Issues; Dated May 28, 2010
- Check Valve Condition Monitoring Report, D.C. Cook Nuclear Plant IST Program, CMP-FW-03; Revision 2
- DB-12-AFWS; Auxiliary Feedwater System, Revision 6
- DB-12-FW; Main Feedwater System Design Basis Document, Revision 4
- Drawing OP-1-5105D-10; Steam Generating System
- Drawing OP-2-5141-43; Nuclear Sampling
- EPRI TR-100248; Stationary Battery Guide: Design, Application, and Maintenance, Revision 2
- MD-12-CTS-021-N; Minimum Level to Prevent Vortexing in the Spray Additive Tank, Revision 1
- OP-1-5104C-7; Composite Flow Diagram Engineered Safety Systems, Revision 7
- OP-2-5144-60; Containment Spray Unit No. 2, Revision 60
- PMP-4010-OWA-001; Oversight and Control of Operator Burden, Revision 11
- PS-1-95236-13; Containment Spray Water Valves Wiring Diagram, Revision 13
- Regulatory Guide 1.26; Quality Group Classifications and Standards for Water-, Steam-, and Radioactive Waste-Containing Components of Nuclear Power Plants, Revision 4
- Unit 1 and 2 Contingency/Compensatory Action Database; December 16, 2015
- Unit 1 and 2 Operator Burden Report; December 15, 2015
- Unit 1 and Unit 2 Contingency Plan/Compensatory Actions for December 17, 2015

1R19 Post-Maintenance Testing

- 12-EHP-5030-CAR-001; Characterization Testing Program, Revision 7
- 12-IHP-5030-EMP-001; Limitorque Valve Operator Preventative Maintenance, Revision 28
- 12-IHP-6030-RLY-001; GE Single Type IAC Relays Without Instantaneous Overcurrent Device Calibration and Maintenance, Revision 11

- 2-OHP-4030-219-022W; West Essential Service Water System Test, Revision 30
- 55456688; Calibrate CD Emergency Diesel Fuel Oil Transfer Pump To Fuel Oil Day Tank QT-107-CD Flow Indicator, December 4, 2015
- AR-2015-15665; Calibration of 1-LFI-125, December 4, 2015
- DB-12-ESW; Essential Service Water System Design Basis Document, Revision 12
- DB-12-RHRS; Residual Heat Removal System Design Basis Document, Revision 3
- Drawing OP-2-5113-87; Essential Service Water
- Drawing OP-2-98089-15; 120VAC Instrument Distribution CAB CRID-IV Elementary Diagram
- Joint Owners Group Air Operated Valve Program; NX-1018 (Revision 1); March 2001
- MO 55261046-01; Calibrate Protective Relays for Breaker 1-T11D6
- Solidstate Controls Letter to D.C. Cook Regarding "03" vs. "07" Internal Part Number Nomenclature; Dated November 9, 2015
- WO 55448715-02; Post Maintenance Testing of 1-IFI-330 Flow Loop
- WO 55474318-03; MTI, 2-CRID-4-INV, PMT

1R22 Surveillance Testing

- 12-OHP-4030-018-130N; North Spent Fuel Pit Surveillance Test, November 12, 2015
- 2-IHP-4030-282-013; Reactor Coolant Pump (4kV) Bus 2C Channel 2 Undervoltage Relay Channel Calibration, Revision 10
- 2-OHP-4030-212-015; Full Length Control Rod Operability Test, Revision 12
- DB-12-RPS; Reactor Protection and Engineered Safety Features Actuation Systems Design Basis Document, Revision 5
- WO 55446506-01; Perform Procedure 12-IHP-6030-IMP-317 (Emergency Diesel Generator Electronic Overspeed Indication and Trip Calibration)

1EP6 Drill Evaluation

- October 14, 2015 Integrated EP Drill Scenario
- PMP-2080-EPP-101; Emergency Classification, Revision 18

2RS1 Radiological Hazard Assessment and Exposure Controls

- 12-THP-6010-RPP-011; Radioactive Source Control and Radioactive Source Leak Test Record, April 2, 2015
- 12-THP-6010-RPP-011; Radioactive Source Control and Radioactive Source Inventory, April 2, 2015
- AR-2015-10313; Wrong RWP Assigned to Minor Maintenance Activities Recognized by an RP Technician PMP-6010-RPP-003; High, Locked High, and Very-High Radiation Area Access, Revision 26
- AR-2015-2115; Un-Posted High Radiation Area Found at Unit-2 South Deborating Demineralizer in the 609
- AR-2015-2480; LHRA Padlock Key Not Correct in the Key Inventory
- AR-2015-4768; Review of Air Sample Identified Incorrect Count Time, April 5, 2015
- AR-2015-4805; Several Air Samples Were Not Collected for Minimum Time, April 6, 2015
- AR-2015-4973; U2C22 Outage MOV Work Dose Delta Being Underestimated by RP ALARA, April 8, 2015
- AR-2015-4991; Level 1 Personnel Contamination at Upper Containment
- AR-2015-5505; Radioactive Material Uptake by Worker in the Lower Cavity
- AR-2015-8560; Posted LHRA Locked With Non-Unique Lock
- NSTS Commitment Information No. 8479; Commitment Completion/Initial Implementation, January 5, 2015

- PMP-6010-RPP-001; General Radiation Worker Instructions, Revision 22
- USNRC National Source Tracking System (NSTS); Annual Inventory Tracking System, Annual Inventory Reconciliation Report, January 6, 2015

40A1 Performance Indicator Verification

- 12-EHP-9010-PRA-001; PRA Model Update, Revision 4
- 1-THP-6020-CHM121; Unit-1 Reactor Coolant System Sampling (DEI), October 28, 2015
- AR-2014-3184; PRA Test & Maintenance Modeling Error, March 6, 2014
- AR-2015-13810; Quality Resolution of PRA NFPA 805 License Condition, October 23, 2015
- D.C. Cook MSPI Scoping Document
- MSPI Margin Reports; Cooling Water System, Fourth Quarter 2014 Through Third Quarter 2015
- MSPI Margin Reports; Emergency AC Power System, Fourth Quarter 2014 Through Third Quarter 2015
- NEI 99-02; Regulatory Assessment Performance Indicator Guideline, Revision 7
- Operator Logs Leakage Entries; 1 October 2014 through 30 September 2015
- PMP-7110-PIP-001; Reactor Oversight Program Performance Indicator and Monthly Operating Report Data: Data Sheet 16, RETS/ODCM Radiological Effluent Occurrences for Unit 1 and 2, First Quarter 2014 Through First Quarter 2015
- PMP-7110-PIP-001; Reactor Oversight Program Performance Indicator and Monthly Operating Report Data: Data Sheet 10, Reactor Coolant System Specific Activity for Unit 1 and 2, First Quarter 2014 Through First Quarter 2015
- PMP-7110-PIP-001; Reactor Oversight Program Performance Indicator and Monthly Operating Report Data: Data Sheet 15, Occupational Exposure Control Effectiveness for Unit 1 and 2d First Quarter 2014 Through First Quarter 2015
- Renewed License DPR-58; Amendment 322

40A2 Identification and Resolution of Problems

- 2015 Trend Report; Third Quarter
- 50.59 Evaluation 2010-0163-01; Deletion of TRM 8.4.3
- 50.59 Screen 2014-0531-00; Delete TRM Section 8.4.3
- Applicability Determination 2014-0529-00; Update of TRM Section 8.4.3
- AR-2014-10519; Incorrect Translation of Tech Spec to TRM, September 8, 2014
- AR-2014-3789; Removal of TRM 8.4.3 Not Adequately Evaluated, March 20, 2014
- AR-2015-14256; SCW Leak From 1-OME-81-RTF-2, January 29, 2016
- AR-2015-10359; U1 #3 Accumulator Level and Pressure Are Rising, August 8, 2015
- AR-2015-10691; Failure To Ensure Parts Are Approved For Use, August 17, 2015
- AR-2015-10691; PAO Failure to Ensure Parts are Approved for Use, August 17, 2015
- AR-2015-12261; NRC Question on Deletion of TRM 8.4.3, September 18, 2015
- AR-2015-14850; Use/Abuse Of Special Procedures, November 16, 2015
- AR-2015-15720; Failures During Turbine Valve Testing, December 6, 2016
- AR-2015-9975; U-1 RCS Leak Rates At Tier 3 Criteria After Forced Outage, August 2, 2015
- ARM 15-03-01; Work Management, March 20, 2015
- D.C. Cook Custom Technical Specifications; Amendment 281
- NEI 96-07; Guidelines for 10 CFR 50.59 Implementation, November 2000
- PAO-15-07-02; Failure to Ensure Qualified Parts are Issues to Support Safety-Related Component Repairs, August 18, 2015
- Performance Assurance Quarterly Report for April-June 2015; July 28, 2015
- Performance Assurance Quarterly Report for July-September 2015; October 23, 2015

- Various revisions of Cook Plant Technical Requirements Manual

4OA5 Other Activities

- D.C. Cook Beyond Design Basis Flood Prevention Plan; Revision 1
- D.C. Cook Interim Flood Mitigation Plan; Revision 0
- MD-12-FLOOD-011-N; Flood Hazard Reevaluation Report for the Donald C. Cook Nuclear Plant, Revision 0
- UFSAR Section 14.4.2.7; Flooding, Revision 26

LIST OF ACRONYMS USED

AC	Alternating Current
ADAMS	Agencywide Document Access Management System
AFW	Auxiliary Feedwater
AR	Action Request
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CLB	Current Licensing Basis
CTS	Custom Technical Specifications
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
EP	Emergency Plan
HSD	Hot Shutdown
IMC	Inspection Manual Chapter
INPO	Institute of Nuclear Power Operations
IP	Inspection Procedure
IR	Inspection Report
ISI	Inservice Inspection
LAR	License Amendment Request
LAT	License Amendment Request
LER	Licensee Event Report
MSPI	Mitigating Systems Performance Index
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NFPA	National Fire Protection Association
NRC	U.S. Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
PARS	Publicly Available Records System
PI	Performance Indicator
PRA	Probabilistic Risk Assessment
RCS	Reactor Coolant System
RETS	Radiological Effluent Technical Specification
RHR	Residual Heat Removal
SDP	Significance Determination Process
SL	Severity Level
SSC	Structure, System and Component
TI	Temporary Instruction
TRM	Technical Requirements Manual
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
WO	Work Order

J. Gebbie

-2-

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records System (PARS) component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Kenneth Riemer, Chief
Branch 2
Division of Reactor Projects

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

Enclosure:
IR 05000315/2015004; 05000316/2015004

cc: Distribution via LISTSERV®

DISTRIBUTION w/encl:
Kimyata MorganButler
RidsNrrDorLpl3-1 Resource
RidsNrrPMDCCook Resource
RidsNrrDirslrib Resource
Cynthia Pederson
Darrell Roberts
Richard Skokowski

Allan Barker
Carole Ariano
Linda Linn
DRPIII
DRSIII
Jim Clay
Carmen Olteanu
ROPreports.Resource@nrc.gov

ADAMS Accession Number: ML16039A333

Publicly Available Non-Publicly Available Sensitive Non-Sensitive

To receive a copy of this document, indicate in the concurrence box "C" = Copy without attach/encl "E" = Copy with attach/encl "N" = No copy

OFFICE	RIII	N	RIII	E	RIII		RIII	
NAME	KRiemer for NShah:ch/bw		KRiemer					
DATE	02/05/16		02/05/16					

OFFICIAL RECORD COPY