



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
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November 3, 2015

Mr. Peter A. Gardner
Monticello Nuclear Generating Plant
Northern States Power Company, Minnesota
2807 West County Road 75
Monticello, MN 55362-9637

**SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT – NRC POWER UPRATE AND
INTEGRATED INSPECTION REPORT 05000263/2015003**

Dear Mr. Gardner:

On September 30, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Monticello Nuclear Generating Plant. The enclosed report documents the inspection findings, which were discussed on October 6, 2015, with you and other members of your staff.

Based on the results of this inspection, three NRC-identified findings of very low safety significance were identified. The findings involved violations of NRC requirements. The NRC identified one additional violation that was associated with a Severity Level IV violation of NRC requirements evaluated through the traditional enforcement process. Because of their very low safety significance, and because the issues were entered into your Corrective Action Program, the NRC is treating the issues as Non-Cited Violations (NCVs) in accordance with Section 2.3.2 of the NRC Enforcement Policy.

If you contest 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 the Regional Administrator, Region III; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at Monticello Nuclear Generating Plant. In addition, if you disagree with a 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 Monticello Nuclear Generating Plant.

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

P. Gardner

-2-

inspection in the NRC's Public Document Room or from the Publicly Available Records (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, Branch Chief
Branch 2
Division of Reactor Projects

Docket No. 50-263
License No. DPR-22

Enclosure:
Inspection Report 05000263/2015003;
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-263
License No: DPR-22

Report No: 05000263/2015003

Licensee: Northern States Power Company, Minnesota

Facility: Monticello Nuclear Generating Plant

Location: Monticello, MN

Dates: July 1, 2015, through September 30, 2015

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Enclosure

TABLE OF CONTENTS

SUMMARY OF FINDINGS.....	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).....	9
1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13).....	10
1R15 Operability Determinations and Functional Assessments (71111.15).....	11
1R18 Plant Modifications (71111.18).....	12
1R19 Post-Maintenance Testing (71111.19).....	14
1R22 Surveillance Testing (71111.22).....	15
1EP6 Drill Evaluation (71114.06).....	16
2. RADIATION SAFETY.....	17
2RS6 Radioactive Gaseous and Liquid Effluent Treatment (71124.06).....	17
2RS7 Radiological Environmental Monitoring Program (71124.07).....	19
4. OTHER ACTIVITIES.....	21
4OA1 Performance Indicator Verification (71151).....	21
4OA2 Identification and Resolution of Problems (71152).....	24
4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153).....	32
4OA5 Other Activities.....	39
4OA6 Management Meetings.....	39
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.....	11

SUMMARY OF FINDINGS

Inspection Report 05000263/2015003; 07/01/2015—09/30/2015; Monticello Nuclear Generating Plant; Plant Modifications; Identification and Resolution of Problems; Follow-Up of Events and Notices of Enforcement Discretion.

This report covers a 3-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. One Severity Level IV violation and three Green findings were identified by the inspectors. The findings were considered Non-Cited Violations (NCVs) of 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 Inspection Manual Chapter (IMC) 0609, "Significance Determination Process (SDP)," dated June 2, 2011. Cross-cutting aspects are determined using 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 February 4, 2015. 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 an NCV of Technical Specification (TS) 5.4.1.d when the licensee failed to implement procedures associated with Fire Protection Program Implementation, to ensure that required refueling outage surveillances were performed for fire extinguishers located in high radiation areas (HRAs). Specifically, between March 2007 and May 2015, the licensee failed to implement steps 9 and 10 of 1123, "Portable Fire Extinguishers," which required weighing and verifying adequate hydrostatic testing of the fire extinguishers in HRAs on a refueling outage frequency. Corrective actions included surveillance process changes and evaluation of the current status of the high radiation area fire extinguishers which resulted in the determination that outside of the surveillance process, a separate work activity had exchanged all the affected extinguishers with ones that were current on their surveillances in May 2015. This issue was entered into the licensee's Corrective Action Program (CAP) 1484257.

The inspectors determined that the failure to implement HRA fire extinguisher surveillances was a performance deficiency requiring evaluation. The inspectors determined the issue was more than minor in accordance with IMC 0612, Appendix B, because it was associated with the Mitigating Systems Cornerstone attribute of Protection Against External Factors—including fire, and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The inspectors assessed the significance of this finding using IMC 0609, Attachment 4, "Initial Characterization of Findings," and IMC 0609, Appendix F, Fire Protection SDP, and determined that it had very low safety significance. The inspectors determined that the contributing cause that provided the most insight into the performance deficiency was associated with the cross-cutting area of Human Performance, Work Management aspect because of the failure to implement a process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority and the failure to identify the need for coordination with different groups or job activities [H.5]. (Section 4OA2)

- Green. The inspectors identified a finding of very low safety significance and an NCV of TS 5.4.1.d when the licensee failed to maintain procedures associated with Fire Protection Program Implementation, consistent with the Updated Safety Analysis Report (USAR), to ensure that fire strategy procedures accurately indicated safe shutdown (SSD) equipment. Specifically, on June 25, 2015, the licensee failed to maintain A.3-12-C, “Condenser Room Fire Strategy,” to ensure SSD equipment was appropriately identified. In this case, fire strategy A.3-12-C failed to identify any SSD equipment in the room, despite the fact that SSD cabling ran through the room and was included in the USAR Fire Hazards Analysis. Corrective actions included performance of an extent of condition review which identified 40 other fire strategies where safe shutdown cabling was not identified, and initiation of procedure changes to include the appropriate SSD equipment. This issue was entered into the licensee’s CAP (CAP 1484142).

The inspectors determined that the failure to maintain fire strategy procedures to ensure that SSD equipment was identified was a performance deficiency requiring evaluation. The inspectors determined the issue was more than minor in accordance with IMC 0612, Appendix B, because it was associated with the Mitigating Systems Cornerstone attribute of Protection Against External Factors—including fire, and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The inspectors assessed the significance of this finding using IMC 0609, Attachment 4, “Initial Characterization of Findings,” and IMC 0609, Appendix F, Fire Protection SDP, and determined that it had very low safety significance. The inspectors determined that the contributing cause that provided the most insight into the performance deficiency was associated with the cross-cutting area of Problem Identification and Resolution, Self-Assessment aspect because of the licensee’s failure to conduct self-critical and objective assessments of its programs and practices [P.6]. (Section 4OA2)

- Severity Level IV. The inspectors identified a Severity Level IV NCV of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.9 due to the licensee’s failure to provide information to the NRC that was complete and accurate in all material respects in accordance with the NRC’s reporting requirements in 10 CFR 50.73(a)(1), “Licensee Event Report (LER) System.” Specifically, on June 29, 2015, the licensee failed to include an accurate assessment of the safety consequences and implications of a loss of shutdown cooling event when they issued LER 05000263/2015-002-00. This LER included an inaccurate assessment of safety implications, stating that engineering calculations show a potential worst case maximum temperature of 115 degrees Fahrenheit (F). The inspectors identified that engineering models actually showed potential worst case temperatures of 25-26 degrees F higher, which could have challenged or exceeded fuel pool cooling design specifications. Corrective actions included issuance of a revision to LER 2015-002-00 which contained the correct engineering modeling results and associated discussion of safety implications. The licensee entered this issue into its CAP (CAP 1484633).

This issue was of more than minor significance under the Traditional Enforcement Process because the NRC relies on licensees to identify and correctly report conditions or events meeting the criteria specified in the regulations in order to perform its regulatory function. Because this issue affected the NRC’s ability to perform its regulatory function, the inspectors evaluated it using the traditional enforcement process. The underlying technical issue (i.e., loss of shutdown cooling) was evaluated separately and determined to be a finding of very low safety significance as documented in the

2015 2nd Quarter Integrated Inspection Report (05000263/2015002-01). In accordance with Section 2.2.2.d, and consistent with the examples included in Section 6.9.d of the NRC Enforcement Policy, this violation was categorized as Severity Level IV because it was of more than minor concern with relatively inappreciable potential safety significance and is related to a finding that was determined to be a more than minor issue. Consistent with Example 6.9.d.1, this represented an example where the licensee submitted inaccurate information in a required report, which resulted in expansion of the scope of the next regularly scheduled inspection and required LER revision. Because there was no finding evaluated with this violation, the inspectors did not assign a cross-cutting aspect to this issue. (Section 4OA3)

Cornerstone: Barrier Integrity

- Green. The inspectors identified a finding of very low safety significance, and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to provide for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified calculational methods, or by the performance of a suitable testing program. Specifically, on September 3, 2008, licensee personnel failed to verify the adequacy of design when they failed to use correct section properties in their calculation of stresses on structural steel beams supporting the refueling floor for the increased spent fuel cask loading. Reevaluation of the beams using correct methodology resulted in the conclusion that the beams would not meet the design basis stress limits. Immediate corrective actions for this issue included initiation of a CAP, performance of a functionality assessment which concluded that the refueling floor remained functional but non-conforming, and creating compensatory measures which limited the refueling floor live load in the cask loading area (CAP 1492837).

The inspectors determined that the licensee's calculational methodology was contrary to the standard engineering principles applicable for determination of stresses in structural members, which resulted in a failure to meet Criterion III, "Design Control," and was a performance deficiency. The finding was determined to be more than minor in accordance with IMC 0612 because it was associated with the Design Control attribute of the Barrier Integrity Cornerstone and adversely affected the cornerstone objective of providing reasonable assurance that physical barriers (reactor building) protect the public from radionuclide releases caused by accidents or events. Additionally, More than Minor Example 3.j of IMC 0612, Appendix E, "Examples of Minor Issues," was used to inform the more than minor screening. The inspectors used IMC 0609, "SDP," Attachment 4, "Initial Characterization of Findings," and Appendix A of IMC 0609 to screen this finding. The inspectors answered "No" to questions C.1 and C.2 in Exhibit 3, "Barrier Integrity Screening Questions." As a result, the inspectors concluded that the finding was of very low safety significance (Green). The inspectors did not identify a cross-cutting aspect associated with this finding because the finding was not representative of current performance. (Section 1R18)

REPORT DETAILS

Summary of Plant Status

Monticello began the inspection period at 97.5 percent power and was in the process of performing Extended Power Uprate (EPU) testing. On July 15, 2015, Monticello raised power to their newly licensed EPU rate of 2004 MWth, reaching steady state 100 percent power for the first time. Monticello operated at approximately 100 percent power for the remainder of the inspection period with the exception of brief reductions in power to support planned surveillance activities, control rod adjustments, and turbine testing. One exception occurred on August 15, 2015, when power was lowered to approximately 88 percent to maintain the daily average discharge canal temperature within procedural limits. Additionally, on September 12th and 26th, the licensee reduced power to approximately 73 percent to respectively conduct turbine control valve testing and control rod adjustments. Power was returned to approximately 100 percent, after each of these respective work activities was completed.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Summer Seasonal Readiness Preparations

a. Inspection Scope

The inspectors performed a review of the licensee's preparations for summer weather for selected systems, including conditions that could lead to an extended drought.

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 Safety Analysis Report (USAR) and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant specific procedures. Documents reviewed are listed in the Attachment to this report. 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 corrective action program in accordance with station corrective action procedures. The inspectors' reviews focused specifically on the following plant systems:

- Condensate System and Condenser Vacuum.

This inspection constituted one seasonal adverse weather sample as defined in Inspection Procedure (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:

- 12 EDG Emergency Service Water;
- 11 EDG during 12 EDG Maintenance; and
- Upper / Lower 4 KV Rooms during Surveillance Testing.

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, Updated Safety Analysis Report (USAR), 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

During the week of September 3, 2015, the inspectors performed a complete system alignment inspection of Division II of the Emergency Filtration Train 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.

1R05 Fire Protection (71111.05)

.1 Routine Resident Inspector Tours (71111.05Q)

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:

- Fire Zone 20: Auxiliary Boiler Room;
- Fire Zone 23-A: Intake Structure Pump Room;
- Fire Zone 24: Diesel Fire Pump;
- Fire Zone 19B: Essential MCC 42/43 931’;
- Fire Zone 31B: EFT 1st Floor Division II;
- Fire Zone 32B: EFT 2nd Floor Division II;
- Fire Zone 16: Corridor, Turbine Building East & West (Elevations 911’ and 931’);
and
- Fire Zone 17: Turbine Building North Cable Corridor 941’.

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 eight quarterly fire protection inspection samples as defined in IP 71111.05–05.

b. Findings

No findings were identified.

1R06 Flooding (71111.06)

.1 Internal Flooding

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 USAR, 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 CAP to verify the adequacy of the corrective actions. The inspectors performed a walkdown of the following plant area(s) 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:

- High Pressure Coolant Injection.

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 Regualification Program (71111.11)

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

a. Inspection Scope

On August 10, 2015, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator regualification training. The inspectors verified that operator performance was adequate, evaluators were identifying and documenting crew performance problems, and that 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 July 15, 2015, the inspectors observed operators increase power from 1953 MWth to 2004 MWth (100 percent) following NRC approval of extended power uprate (EPU) test data. This was an activity that required heightened awareness or was related to increased risk. 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)

.1 Routine Quarterly Evaluations

a. Inspection Scope

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

- Core Spray System; and
- Control Room Emergency Filtration 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

No findings were identified.

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

.1 Maintenance Risk Assessments and Emergent Work Control

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:

- 12 EDG Maintenance - Yellow CDF/LERF;
- Division 1 RHR/Core Spray unplanned Tech Spec entry due to room fan low flow;
- Turbine Generator Torsional Test natural frequency vulnerability;
- MS-13-2 Main Steam to Air Ejectors; and
- Downpower and Turbine Valve Testing.

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 10 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 five samples as defined in IP 71111.13–05.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functional Assessments (71111.15)

.1 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following issues:

- 11 EDG Overspeed Engine Restart Switch Sticking;
- Alternate Nitrogen train B tank fitting leakage;
- LPCI Swing Bus Transfer Relay Past Operability;
- TSC ventilation functionality assessment; and
- Review of Monticello Operator Workarounds (annual).

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 USAR 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. The inspectors also performed an annual sample of the operator workarounds (OWAs) at the site to verify that no OWAs were adversely affecting the functional capability of SSCs that may not be capable of performing design functions without operator intervention. The inspectors reviewed operator logs and corrective actions to verify the licensee was identifying and tracking OWAs at an appropriate threshold and that there was not an excessive number of OWAs, or OWAs that required complex operator actions, that could increase risk by reducing operator effectiveness in responding to transient conditions and increasing error opportunities. Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

.1 Plant Modifications

a. Inspection Scope

The inspectors reviewed the following modification:

- Refuel Floor Loading Calculations/Revision for RFO 27.

The inspectors reviewed the configuration changes and associated 10 CFR 50.59 safety evaluation screening against the design basis, the USAR, and the TS, as applicable, to verify that the modification did not affect the operability or availability of the affected systems. The inspectors, as applicable, observed ongoing and completed work activities to ensure that the modifications were installed as directed and consistent with the design control documents; the modifications operated as expected; post-modification testing adequately demonstrated continued system operability, availability, and reliability; and that operation of the modifications did not impact the operability of any interfacing systems. As applicable, the inspectors verified that relevant procedure, design, and licensing documents were properly updated. Lastly, the inspectors discussed the plant modification with operations, engineering, and training personnel to ensure that the individuals were aware of how the operation with the plant modification in place could impact overall plant performance. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one plant modification sample as defined in IP 71111.18-05.

b. Findings

(1) Inadequate Evaluation of Refueling Floor Structural Steel Beams

Introduction: The inspectors identified a finding of very low safety significance (Green), and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to provide for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified calculational methods, or by the performance of a suitable testing program. Specifically, on September 3, 2008, licensee personnel failed to verify the adequacy of design when they failed to use correct section properties in their calculation of stresses on structural steel beams supporting the refueling floor for the increased spent fuel cask loading. Reevaluation of the beams using correct methodology resulted in the conclusion that the beams would not meet the design basis stress limits.

Description: The licensee performed calculation 05-099 to evaluate the refueling floor laydown area affected by the increased loading due to the use of new and heavier spent fuel cask. The calculation identified that in order to adequately support the new loads, two steel beams needed reinforcement. In their calculation of the stresses in the reinforced beams, the licensee considered properties of the reinforced section to be effective for all loads including the dead, live, and seismic. The inspectors noted that the

method used for determination of stresses was incorrect and contrary to the standard engineering principles because it failed to account for the fact that a portion of the total load, such as dead load, would have been existing at the time of installation of the reinforcement modifications. The revised section properties were applicable only for the loads applied after the installation of modifications. The licensee's evaluation was based on the methodology provided in the American Institute of Steel Construction (AISC) Specification (6th and 9th Editions) in accordance with the USAR. The USAR and the AISC specification together define the allowable stress limits depending on the types of members and the loads. The actual stresses are required to be calculated using standard engineering principles and then compared to the USAR or AISC stress limits. Correct application of standard engineering principles would have resulted in higher calculated stresses and shown that the applicable stress limits were exceeded. Upon identification by the inspectors, the licensee performed a reevaluation of the beams using correct methodology and determined that the beams would not meet the design basis stress limits. The original calculation was based on a 200 pounds per square foot (psf) floor live load limit. The licensee's preliminary evaluation indicated that design basis stress limits can be met by limiting the floor live load to 50 psf. Licensee initiated actions to finalize the calculation using correct methodology and to revise applicable procedures to reflect the reduced live load limits. In addition, the licensee performed a functionality assessment concluding that under 200 psf live load, the beams were non-conforming but functional. The licensee entered this issue in their CAP (CAP 1492837).

Analysis: The inspectors determined that the licensee's methodology involving use of modified section properties for all loads was contrary to the standard engineering principles applicable for determination of stresses in structural members, and was a performance deficiency. In particular, the failure to use lower section properties based on unmodified beams for the pre-modification loads resulted in incorrect and non-conservative calculated stresses and incorrect conclusion. Consideration of the actual conditions and use of standard engineering principles would have avoided the error. Reevaluation of the beams using correct methodology resulted in the conclusion that the beams would not meet the design basis stress limits.

The finding was determined to be more than minor because it was associated with the Design Control attribute of the Barrier Integrity Cornerstone and adversely affected the cornerstone objective of providing reasonable assurance that physical barriers (reactor building) protect the public from radionuclide releases caused by accidents or events. Additionally, More than Minor Example 3.j of IMC 0612, Appendix E, "Examples of Minor Issues," was used to inform the answer to this more than minor screening question. Specifically, the licensee used incorrect and non-conservative values for section properties of steel beams in their calculations that, at the time of discovery, resulted in reasonable doubt of the operability of the refueling floor under spent fuel cask load. The inspectors used IMC 0609, "SDP" Attachment 4, "Initial Characterization of Findings," Table 2, checking box "c" for Reactor Building Barrier Degraded and then, based on "No" answers to all questions on Table 3, entered Appendix A of IMC 0609. The inspectors then answered "No" to questions C.1 and C.2 in Exhibit 3, "Barrier Integrity Screening Questions," as the finding did not represent a degradation of the radiological barrier function provided for the control room, or auxiliary building, or spent fuel pool, or SBT system; and also did not represent a degradation of the control room barrier function against smoke or a toxic atmosphere. Based on the above screening the inspectors concluded that the finding was of very low safety significance (Green).

The inspectors did not identify a cross-cutting aspect associated with this finding because the finding was not representative of the current performance.

Enforcement: 10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires, in part, that the licensee provide for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified calculational methods, or by the performance of a suitable testing program.

Contrary to the above, on September 3, 2008, the licensee failed to verify the adequacy of design. Specifically, in calculation 05-099, Revision 1A, performed to evaluate the refueling floor spent fuel cask laydown area in the safety related reactor building, the licensee failed to verify adequacy of beam section properties used in the design of modifications required to support the increased loads due to use of a new cask.

Corrective actions for this issue included a functionality assessment by the licensee concluding that the refueling floor remained functional but non-conforming until completion of additional corrective actions identified. The additional corrective actions identified but not completed included revision of design calculations and other design documents to demonstrate that the design basis is met for a reduced live load and also revising procedures to limit the floor live load in the affected area. Because this violation was of very low significance and it was entered into the licensee's corrective action program (CAP 1492837), this violation is being treated as an NCV, consistent with Section 2.3.2 of the enforcement policy. **(NCV 05000263/2015003-01: Inadequate Evaluation of Refueling Floor Structural Steel Beams)**

1R19 Post-Maintenance Testing (71111.19)

.1 Post-Maintenance Testing

a. Inspection Scope

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

- V-AC-5 RHR Room Cooler low flow;
- RCIC Maintenance Window;
- Scram Accumulator Nitrogen Charging;
- PM 4900 for MO-1749, 11 Core Spray Test Return Valve;
- MO-1741; 11 Core Spray Suction Valve PM;
- Core Spray ADS instrumentation PM;
- HPCI Steam Supply Drain Hi-Level Bypass Replacement and MO-2034, HPCI Steam Supply-Inboard Cycling; and
- HPCI Pump Flow Controller Replacement.

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 USAR, 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 PM 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 eight PM testing samples as defined in IP 71111.19–05.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

.1 Surveillance Testing

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:

- NSP-DOL-0604: EDG Diesel Oil Pump Quarterly/Comprehensive Test [IST];
- 0301 Safeguard Bus Voltage Protection Relay Unit Functional Test [Routine];
- Core Spray Header Differential Pressure Test [Routine]; and
- 0002 Reactor High Pressure Scram Instrument Test and Calibration [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 three routine surveillance testing samples, and one in-service test 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 August 18, 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 offsite facility 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 CAP. 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

2RS6 Radioactive Gaseous and Liquid Effluent Treatment (71124.06)

This inspection constituted one complete sample as defined in IP 71124.06-05.

.1 Inspection Planning and Program Reviews (02.01)

(1) Event Report and Effluent Report Reviews

a. Inspection Scope

The inspectors reviewed the Radiological Effluent Release Reports issued since the last inspection to determine if the reports were submitted as required by the Offsite Dose Calculation Manual (ODCM)/TSs. The inspectors reviewed anomalous results, unexpected trends, or abnormal releases identified by the licensee for further inspection to determine if they were evaluated, were entered in the CAP, and were adequately resolved.

The inspectors selected radioactive effluent monitor operability issues reported by the licensee as provided in the Effluent Release Reports, to review these issues during the onsite inspection, as warranted, given their relative significance and determine if the issues were entered into the CAP and adequately resolved.

b. Findings

No findings were identified.

(2) Offsite Dose Calculation Manual and Final Safety Analysis Report Review

a. Inspection Scope

The inspectors reviewed USAR descriptions of the radioactive effluent monitoring systems, treatment systems, and effluent flow paths so they could be evaluated during inspection walkdowns.

The inspectors reviewed changes to the ODCM made by the licensee since the last inspection against the guidance in NUREG-1301, 1302 and 0133, and Regulatory Guides (RG) 1.109, 1.21 and 4.1. When differences were identified, the inspectors reviewed the technical basis or evaluations of the change during the onsite inspection to determine whether they were technically justified and maintain effluent releases a-low-as-reasonably-achievable.

The inspectors reviewed licensee documentation to determine if the licensee has identified any non-radioactive systems that have become contaminated as disclosed either through an Event Report or the ODCM since the last inspection. This review provided an intelligent sample list for the onsite inspection of any 10 CFR, Part 50.59 evaluations and allowed a determination if any newly contaminated systems have an unmonitored effluent discharge path to the environment, whether any required ODCM

revisions were made to incorporate these new pathways and whether the associated effluents were reported in accordance with RG 1.21.

b. Findings

No findings were identified.

(3) Groundwater Protection Initiative Program

a. Inspection Scope

The inspectors reviewed reported groundwater monitoring results and changes to the licensee's written program for identifying and controlling contaminated spills/leaks to groundwater.

b. Findings

No findings were identified.

(4) Procedures, Special Reports, and Other Documents

a. Inspection Scope

The inspectors reviewed Licensee Event Reports, event reports and/or special reports related to the Effluent Program issued since the previous inspection to identify any additional focus areas for the inspection based on the scope/breadth of problems described in these reports.

The inspectors reviewed the Effluent Program implementing procedures, particularly those associated with effluent sampling, effluent monitor set-point determinations, and dose calculations.

The inspectors reviewed copies of licensee and third party (independent) evaluation reports of the Effluent Monitoring Program since the last inspection to gather insights into the licensee's program, and aid in selecting areas for inspection review (smart sampling).

b. Findings

No findings were identified.

.2 Sampling and Analyses (02.03)

a. Inspection Scope

The inspectors selected effluent discharges made with inoperable (declared out-of-service) effluent radiation monitors to assess whether controls were in place to ensure compensatory sampling was performed consistent with the radiological effluent TSs/ODCM, and that those controls were adequate to prevent the release of unmonitored liquid and gaseous effluents.

b. Findings

No findings were identified.

2RS7 Radiological Environmental Monitoring Program (71124.07)

This inspection constituted one complete sample as defined in IP 71124.07-05.

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed the Annual Radiological Environmental Operating Reports and the results of any licensee assessments since the last inspection to assess whether the Radiological Environmental Monitoring Program (REMP) was implemented in accordance with the TSs and ODCM. This review included reported changes to the ODCM with respect to environmental monitoring, commitments in terms of sampling locations, monitoring and measurement frequencies, land use census, Inter-Laboratory Comparison Program, and analysis of data.

The inspectors reviewed the ODCM to identify locations of environmental monitoring stations.

The inspectors reviewed the USAR for information regarding the Environmental Monitoring Program and meteorological monitoring instrumentation.

The inspectors reviewed quality assurance audit results of the program to assist in choosing inspection "smart samples." The inspectors also reviewed audits and technical evaluations performed on the vendor laboratory if used.

The inspectors reviewed the Annual Effluent Release Report and the 10 CFR Part 61, "Licensing Requirements for Land Disposal of Radioactive Waste," report, to determine if the licensee was sampling, as appropriate, for the predominant and dose-causing radionuclides likely to be released in effluents.

b. Findings

No findings were identified.

.2 Site Inspection (02.02)

a. Inspection Scope

The inspectors walked down select air sampling stations and dosimeter monitoring stations to determine whether they were located as described in the ODCM, and to determine the equipment material condition. Consistent with smart sampling, the air sampling stations were selected based on the locations with the highest X/Q, D/Q wind sectors, and dosimeters were selected based on the most risk-significant locations (e.g., those that have the highest potential for public dose impact).

For the air samplers and dosimeters selected, the inspectors reviewed the calibration and maintenance records to evaluate whether they demonstrated adequate operability of

these components. Additionally, the review included the calibration and maintenance records of select composite water samplers.

The inspectors assessed whether the licensee had initiated sampling of other appropriate media upon loss of a required sampling station.

The inspectors observed the collection and preparation of environmental samples from different environmental media (e.g., ground and surface water, milk, vegetation, sediment, and soil) as available to determine if environmental sampling was representative of the release pathways as specified in the ODCM, and if sampling techniques were in accordance with procedures.

Based on direct observation and review of records, the inspectors assessed whether the meteorological instruments were operable, calibrated, and maintained in accordance with guidance contained in the USAR, U.S. Nuclear Regulatory Commission (NRC) RG 1.23, "Meteorological Monitoring Programs for Nuclear Power Plants," and licensee procedures. The inspectors assessed whether the meteorological data readout and recording instruments in the control room and, if applicable, at the tower were operable.

The inspectors evaluated whether missed and/or anomalous environmental samples were identified and reported in the Annual Environmental Monitoring Report. The inspectors selected events that involved a missed sample, inoperable sampler, lost dosimeter, or anomalous measurement to determine if the licensee had identified the cause and had implemented corrective actions. The inspectors reviewed the licensee's assessment of any positive sample results (i.e., licensed radioactive material detected above the lower limits of detection), and reviewed the associated radioactive effluent release data that was the source of the released material.

The inspectors selected structures, systems, or components that involve or could reasonably involve licensed material for which there is a credible mechanism for licensed material to reach ground water, and assessed whether the licensee had implemented a sampling and monitoring program sufficient to detect leakage of these structures, systems, or components to ground water.

The inspectors evaluated whether records, as required by 10 CFR 50.75(g), of leaks, spills, and remediation since the previous inspection were retained in a retrievable manner.

The inspectors reviewed any significant changes made by the licensee to the ODCM as the result of changes to the land census, long-term meteorological conditions (3-year average), or modifications to the sampler stations since the last inspection. They reviewed technical justifications for any changed sampling locations to evaluate whether the licensee performed the reviews required to ensure that the changes did not affect its ability to monitor the impacts of radioactive effluent releases on the environment.

The inspectors assessed whether the appropriate detection sensitivities with respect to TSs/ODCM were used for counting samples (i.e., the samples meet the TSs/ODCM required lower limits of detection). The licensee uses a vendor laboratory to analyze the REMP samples so the inspectors reviewed the results of the vendor's Quality Control Program, including the inter-laboratory comparison, to assess the adequacy of the vendor's program.

The inspectors reviewed the results of the licensee's Inter-Laboratory Comparison Program to evaluate the adequacy of environmental sample analyses performed by the licensee. The inspectors assessed whether the inter-laboratory comparison test included the media/nuclide mix appropriate for the facility. If applicable, the inspectors reviewed the licensee's determination of any bias to the data and the overall effect on the REMP.

b. Findings

No findings were identified.

.3 Identification and Resolution of Problems (02.03)

a. Inspection Scope

The inspectors assessed whether problems associated with the REMP were being identified by the licensee at an appropriate threshold and were properly addressed for resolution in the licensee's CAP. Additionally, they assessed the appropriateness of the corrective actions for a selected sample of problems documented by the licensee that involved the REMP.

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

40A1 Performance Indicator Verification (71151)

.1 Mitigating Systems Performance Index—Emergency AC Power System

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index (MSPI) - Emergency AC Power System performance indicator (PI) for the period from the third quarter 2014 through the second quarter 2015. To determine the accuracy of the 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, MSPI derivation reports, issue reports, event reports and NRC Integrated Inspection Reports for the period of July 2014 through June 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 one MSPI emergency AC power system sample as defined in IP 71151–05.

b. Findings

No findings were identified.

.2 Mitigating Systems Performance Index—High Pressure Injection Systems

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index - High Pressure Injection Systems PI for the period from the third quarter 2014 through the second quarter 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 PI 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 July 2014 through June 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 one MSPI high pressure injection system sample as defined in IP 71151–05.

b. Findings

No findings were identified.

.3 Mitigating Systems Performance Index—Heat Removal System

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index - Heat Removal System PI for the period from the third quarter 2014 through the second quarter 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 PI 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 July 2014 through June 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 one MSPI heat removal system sample as defined in IP 71151–05.

b. Findings

No findings were identified.

Cornerstones: Occupational and Public Radiation Safety

.4 Reactor Coolant System Specific Activity

a. Inspection Scope

The inspectors sampled licensee submittals for the reactor coolant system (RCS) specific activity PI for the period from the third quarter 2014 through the second quarter 2015. The inspectors used PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment PI 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, TS requirements, issue reports, event reports and NRC Integrated Inspection Reports 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 one RCS specific activity sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.5 Occupational Exposure Control Effectiveness

a. Inspection Scope

The inspectors sampled licensee submittals for the Occupational Exposure Control Effectiveness PI for the period from the third quarter 2014 through the second quarter 2015. The inspectors used PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment PI 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.

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

a. Inspection Scope

The inspectors sampled licensee submittals for the radiological effluent TS/ODCM radiological effluent occurrences PI for the period from the third quarter 2014 through the second quarter 2015. The inspectors used PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment PI 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 Radiological Effluent TS/ODCM radiological effluent occurrences sample as defined in IP 71151-05.

b. Findings

No findings were identified.

40A2 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 4OA2.2 above, licensee trending efforts, and licensee human performance results. Specifically, the inspectors focused their review on the licensee's actions to address a trend in issues associated with the NRC cross-cutting aspect H.14, "Conservative Bias." During the 2014 Monticello Mid-Cycle Performance Assessment, the NRC assigned a substantive cross-cutting issue (SCCI) in H.14, to focus the site's attention and corrective actions toward arresting the degrading trend.

The inspectors reviewed the impacts of several issues with this cross-cutting aspect on plant performance and examples where these issues caused plant events. The inspectors' review nominally considered the 6-month period of January 2015 through June 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: Fire Protection Programmatic Issues

a. Inspection Scope

During a review of items entered in the licensee's CAP in July, the inspectors recognized a corrective action item associated with several issues the inspectors had identified during a May 1, 2015, walkdown of the condenser room. This walkdown was focused on fire protection measures and was performed in a room that is normally posted as a high radiation area (HRA). A missing fire extinguisher identified during the walkdown prompted issuance of an NCV of very low safety significance which was documented in the 2015 2nd Quarter Integrated Inspection Report (05000263/2015002-01). The inspectors performed a review of corrective actions associated with the issues they identified during that walkdown. This review yielded identification of two separate and distinct issues. Both issues appeared to be programmatic issues, and they are documented as NCVs of very low safety significance in the discussion below.

This review constituted one in-depth problem identification and resolution sample as defined in IP 71152-05.

b. Findings

(1) Failure to Perform High Radiation Area Portable Fire Extinguisher Surveillances

Introduction

The inspectors identified a finding of very low safety significance and an NCV of Technical Specification (TS) 5.4.1.d when the licensee failed to implement procedures associated with Fire Protection Program Implementation, to ensure that required refueling outage surveillances were performed for fire extinguishers located in HRAs. Specifically, between March 2007 and May 2015, the licensee failed to implement steps 9 and 10 of 1123, "Portable Fire Extinguishers," which required weighing and verifying adequate hydrostatic testing of the fire extinguishers in HRAs on a refueling outage frequency.

Description

On May 1, 2015, the inspectors performed a fire protection walkdown of the condenser room fire zone. This was normally a posted high radiation area, but it had been down-

posted due to the fact that the plant entered a refueling outage on April 12, 2015. The inspectors walked down the condenser basement area as well as the second floor (the mezzanine level). Several issues were identified during the walkdown, and these items were documented in an NCV in the 2015 2nd Quarter Integrated Inspection Report (05000263/2015002-01). During a review of corrective actions, the inspectors requested additional information on fire extinguisher testing records. Specifically, the inspectors were concerned with finding several extinguishers depleted during the previous walk down, and requested surveillance test records from the previous two refueling outages.

Upon retrieval of this information, the licensee recognized and informed inspectors that the records showed that the steps normally performed at an annual frequency for extinguishers outside HRAs, had not been performed during the previous two refueling outages, as required for HRA extinguishers. This included steps 9 and 10 of the procedure, which required weighing and verifying adequate hydrostatic testing of the fire extinguishers in HRAs on a refueling outage frequency. The inspectors reviewed the work orders associated with the last several years of performing the 1123 testing procedure, going back to the 2007 timeframe. The inspectors noted that in each work order, all of the portable fire extinguishers associated with high radiation area were listed as N/A (not applicable) for steps 9 and 10. The inspectors concluded that the last time steps 9 and 10 were recorded as completed for the HRA extinguishers was in March, 2007.

The inspectors reviewed Fire Protection Program Procedures for portable fire extinguisher testing. In the "Reason for Performing Procedure," Section, Step 3 of 1123 "Portable Fire Extinguishers," states, "Outage Surveillance for Extinguishers in normally high radiation areas: Perform all steps for extinguishers normally in high radiation areas. Perform steps 1-4 and 7-10. This satisfies requirement 1123-01." Step 9 states, "Verify all extinguishers are properly charged by weighing them per the extinguisher specific directions in Table 3, AND record the weight on the attached extinguisher listing." Step 10 states, "Record the date of the last extinguisher hydrostatic test on the attached extinguisher listing." The Bases Section for this step explains that the Fire Protection System Engineer will use the recorded date to determine the need for hydrostatic tests. The inspectors concluded that these tests had not properly been performed for the HRA extinguishers since March, 2007.

The licensee initiated a CAP to investigate this issue. The licensee's investigation found that the work activities to perform the weighing and hydrostatic testing were performed by an outside vendor. The investigation revealed that the licensee had not properly scheduled and coordinated the vendor's activities to ensure that the vendor was either present during refueling outages to perform HRA tests, or that properly tested portable extinguishers could be swapped with the ones located in HRAs during refueling outages to ensure that testing requirements were met. In this case, while these infrequent tests had not been performed, the inspectors verified that other inspections that are normally performed on a monthly basis for extinguishers outside the HRAs, had successfully been completed for the HRA extinguishers in question. The licensee also evaluated the current status of the high radiation area fire extinguishers. This evaluation resulted in the determination that outside of the surveillance process, a separate work activity had exchanged all the affected extinguishers with ones that were current on their surveillances in May 2015.

Analysis

The inspectors determined that the failure to implement high rad area fire extinguisher surveillances was a performance deficiency because it represented a failure to meet TS 5.4.1.d, the cause was reasonably within the licensee's ability to foresee/correct, and it should have been prevented. The inspectors evaluated the finding in accordance with IMC 0612 Appendix B and determined the issue was more than minor because it was associated with the Mitigating Systems Cornerstone attribute of Protection Against External Factors—including fire, and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the failure to perform required testing of high radiation area fire extinguishers could result in those extinguishers degrading over time to the point of being undercharged and unreliable when needed to fight a fire.

The inspectors assessed the significance of this finding using IMC 0609, Attachment 4, "Initial Characterization of Findings," and determined that the findings should be evaluated using IMC 0609, Appendix F, Fire Protection SDP since the finding related to fire protection requirements, and determined that the issue had very low safety significance because the finding would not have prevented the plant from reaching and maintaining safe shutdown (Green). The inspectors determined that the contributing cause that provided the most insight into the performance deficiency was associated with the cross-cutting area of Human Performance, Work Management aspect because of the failure to implement a process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority and the failure to identify the need for coordination with different groups or job activities [H.5]. Specifically, the vendor performing all the annual checks for the extinguishers located outside high radiation areas was not appropriately scheduled and coordinated to ensure performance of the refueling outage tests.

Enforcement

Technical Specification 5.4.1 states, in part, "Written procedures shall be established, implemented, and maintained covering the following activities: (d) Fire Protection Program Implementation." Step 3 of 1123 "Portable Fire Extinguishers" states, "Outage Surveillance for Extinguishers in normally high radiation areas. Perform all steps for extinguishers normally in high radiation areas. Perform steps 1-4 and 7-10. This satisfies requirement 1123-01." Step 9 states, "Verify all extinguishers are properly charged by weighing them per the extinguisher specific directions in Table 3, AND record the weight on the attached extinguisher listing." Step 10 states, "Record the date of the last extinguisher hydrostatic test on the attached extinguisher listing." The Bases Section for this step explains that the Fire Protection System Engineer will use the recorded date to determine the need for hydrostatic tests.

Contrary to the above, between March 2007 and May 2015, the licensee failed to implement procedures associated with Fire Protection Program Implementation, to ensure that required refueling outage surveillances were performed for fire extinguishers located in high radiation areas. Specifically, the licensee failed to implement steps 9 and 10 of 1123, "Portable Fire Extinguishers," which required weighing and verifying adequate hydrostatic testing of the fire extinguishers in high radiation areas on a refueling outage frequency. Because this violation was of very low safety significance

and it was entered into the CAP as CAP 1484257, this issue is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy (**NCV 05000263/2015003-02: Failure to Perform High Radiation Area Portable Fire Extinguisher Surveillances**).

Corrective actions included fire extinguisher surveillance process changes and evaluation of the current status of the high radiation area fire extinguishers which resulted in determination that outside of the surveillance process, a separate work activity had exchanged all the affected extinguishers with ones that were current on their surveillances in May 2015.

(2) Failure to Identify Safe Shutdown Equipment Impacts in Fire Strategy Procedures

Introduction

The inspectors identified a finding of very low safety significance and an NCV of TS 5.4.1.d when the licensee failed to maintain procedures associated with Fire Protection Program Implementation, consistent with the USAR, to ensure fire strategy procedures accurately indicated safe shutdown (SSD) equipment. Specifically, on June 25, 2015, the licensee failed to maintain A.3-12-C to ensure SSD equipment was appropriately identified. In this case, fire strategy A.3-12-C failed to identify any SSD equipment in the room, despite the fact that SSD cabling ran through the room and was included in the USAR Fire Hazards Analysis.

Description

On May 1, 2015, the inspectors performed a fire protection walkdown of the condenser room fire zone. This was normally a posted high radiation area, but it had been down-posted due to the fact that the plant entered a refueling outage on April 12, 2015. The inspectors walked down the condenser basement area as well as the second floor (the mezzanine level). Several issues were identified during the walkdown, and these items were documented in an NCV in the 2015 2nd Quarter Integrated Inspection Report (05000263/2015002-01). The inspectors reviewed Fire Strategy A.3-12-C, which was the fire strategy procedure for the condenser room fire zone. This procedure informs the Fire Brigade on the location of available local equipment for fire mitigation if a fire were to occur in the condenser room. In addition, the procedure informs the licensee of safe shutdown equipment and fire hazards located in the room. This information ensures that the fire brigade is aware of equipment needing protection and operations is aware of potential impacts to the safe shutdown of the plant as a result of a fire in that fire zone.

Upon review of Fire Strategy A.3-12-C, the inspectors identified that there was an apparent discrepancy between the USAR Appendix J Fire Hazards Analysis and the A.3-12-C Fire strategy. Specifically, the inspectors noted that the USAR Appendix J Fire Hazards Analysis stated that there were safe shutdown systems that would be affected by a fire in Fire Zone 12-C. Specifically, the USAR listed several Division II Suppression Pool Temperature (SPOTMOS) cables that ran through the zone. On the contrary, the inspectors noted that Fire Strategy A.3-12-C stated that for fire zone 12-C, there was no safe shutdown equipment in the area. The inspectors engaged the licensee on the discrepancy, and questioned the licensee on whether other fire strategies were missing pertinent safe shutdown information.

In response, the licensee generated a CAP, and initiated action to perform an extent of condition to identify whether there were discrepancies between the USAR and other fire strategies with respect to safe shutdown cabling located in fire zones. The extent of condition review identified that there were other cases where safe shutdown cabling identified in the USAR Appendix J was not listed in other fire strategies, and the licensee determined that generally safe shutdown cabling was not always being identified in the fire strategies. This extent of condition review identified a total of 41 Fire Strategy procedures that had gaps in identification of safe shutdown equipment. As a result, the licensee to action to generate procedure change requests to include the appropriate information.

The inspectors reviewed additional Fire Protection Program procedures and noted several applicable procedure requirements. Step 4.10.5.B of 4 AWI-08.01.01 "Fire Prevention Practices," states, "The strategies for each area SHALL cover the following – identification of safe shutdown equipment in the area and alternate equipment available for performing that function." The inspectors also noted that during a fire in a plant area, the licensee would enter C.4-B.08.05.A, "Plant Fire." Step 8 of this procedures directs the operating crew to enter the applicable A.3 Fire Fighting Procedure concurrently with C.4-B.08.05.A. Subsequently, a procedural Note advises that "if a fire occurs in a division 1 area, division 2 safe shut down equipment is protected and should be used to shut down...for a fire in a division 2 area, division 1 safe shut down equipment is protected and should be used to shut down." The inspectors noted that if the fire protection strategies (A.3 procedures) incorrectly inform operations that there is no safe shut down equipment in a given fire zone, as was the case in the condenser room, operations may not recognize the need to protect and use the alternate division during a fire.

Analysis

The inspectors determined that the failure to maintain fire strategy procedures to ensure that SSD equipment was identified was a performance deficiency because it represented a failure to meet TS 5.4.1.d, the cause was reasonably within the licensee's ability to foresee/correct, and it should have been prevented. The inspectors evaluated the finding in accordance with IMC 0612 Appendix B and determined the issue was more than minor because it was associated with the Mitigating Systems Cornerstone attribute of Protection Against External Factors—including fire, and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the failure to include SSD equipment in the fire strategy procedures could negatively affect fire response and licensee recognition of safe shutdown impacts of fires. In the case of the condenser room, the safe shutdown equipment included cabling associated with the Division II Suppression Pool Temperature monitoring instrumentation. For the 40 additional procedures with safe shutdown equipment missing, there could have been several other areas impacted throughout the plant.

The inspectors assessed the significance of this finding using IMC 0609, Attachment 4, "Initial Characterization of Findings," and determined that the findings should be evaluated using IMC 0609, Appendix F, Fire Protection SDP since the finding related to fire protection requirements, and determined that the issue had very low safety significance because the finding was associated with pre-fire plans and did not prevent the plant from reaching and maintaining safe shutdown (Green). The inspectors

determined that the contributing cause that provided the most insight into the performance deficiency was associated with the cross-cutting area of Problem Identification and Resolution, Self-Assessment aspect because of the licensee's failure to conduct self-critical and objective assessments of its programs and practices [P.6]. Specifically the licensee's 2013 Focused Self-Assessment (FSA) for Fire Protection contained specific instructions directing personnel to review Fire Strategies selected for sample to determine whether they were in accordance with licensing basis and assess the content and completeness of those fire strategies. Several of the deficient strategies identified in 2015 were included in the FSA, but were not identified as deficient. This represented several missed opportunities for a more self-critical FSA to identify and correct the fire strategy deficiencies.

Enforcement

Technical Specification 5.4.1 states, in part, "Written procedures shall be established, implemented, and maintained covering the following activities: (d) Fire Protection Program Implementation." Step 4.10.5.B of 4 AWI-08.01.01 "Fire Prevention Practices" states, "The strategies for each area SHALL cover the following – identification of safe shutdown equipment in the area and alternate equipment available for performing that function." USAR Appendix J, Fire Hazards Analysis listed several SSD Division II SPOTMOS cables that ran through the Condenser Room fire zone and would be impacted by a design basis fire.

Contrary to the above, on June 25, 2015, the licensee failed to maintain procedures associated with Fire Protection Program Implementation, consistent with the USAR, to ensure that fire strategy procedures accurately indicated SSD equipment. Specifically, the licensee failed to maintain A.3-12-C to ensure SSD equipment was appropriately identified. Fire strategy A.3-12-C failed to identify any SSD equipment in the room, despite the fact that SSD cabling ran through the room and was included in the USAR Fire Hazards Analysis. Because this violation was of very low safety significance and it was entered into the CAP as CAP 1484142, this issue is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy (**NCV 05000263/2015003-03: Failure to Identify Safe Shutdown Equipment Impacts in Fire Strategy Procedures**). Immediate corrective actions included recharging the partially depleted extinguishers, procuring a portable extinguisher to replace the missing one, and initiating procedure changes to include the SSD equipment. Corrective actions included performance of an extent of condition review which identified 40 other fire strategies where safe shutdown cabling was not identified and initiating procedure changes to include the appropriate SSD equipment. This issue was entered into the CAP.

.5 Selected Issue Follow-Up Inspection: Drywell to Torus Vacuum Breaker Past Operability

a. Inspection Scope

The inspectors performed a review of the licensee's CAP 1479198 and 1478212 in regard to a past operability evaluation associated with a refueling outage inspection of the drywell to torus vacuum breakers. Inspectors reviewed the past operability which had been completed by the licensee on June 26, 2015. The inspectors initiated and subsequently developed a number of questions and engaged discussion with the licensee throughout the inspection quarter. Upon conclusion of the inspection quarter, the licensee continued to develop a response to one of the inspector questions. Upon

the close of this inspection period, licensee input for that question had not been finalized and made available to the inspectors for review. As a result, it was necessary for the inspectors to document and track this issue under an Unresolved Item (URI).

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

b. Findings

Introduction: The inspectors identified an URI related to the licensee's past operability review of drywell to torus vacuum breakers resulting from inspections conducted during RFO 27.

Description: During the cycle preceding the 2015 refueling outage, two evaluations associated with torus to drywell vacuum breaker operation were developed due to issues identified in the first quarter 2014. These included: CAP 1417977, "Failure of drywell-torus vacuum breaker to close," which identified an occasion of dual indication during Procedure 0143 procedure. A second occurrence was observed several days later and was documented in CAP 1418471, "AO-2382A Torus-to-DW vacuum breaker closed indication anomaly." CAP 1420318, "DW-Torus vacuum breaker work performed with inadequate PMT," identified the PMT following shaft sealing component (O-ring) replacement during the 2013 outage was not performed as planned. The licensee evaluations for these CAP conditions concluded the Drywell to Torus vacuum breakers were operable. However, neither evaluation specifically considered the effect of an interference between the vacuum breaker test lever and vacuum breaker test actuator stem. Since this specific mechanism was not addressed in these two evaluations, past operability of the torus to drywell vacuum breakers was questioned. As a result, the licensee established a past operability evaluation to be conducted via CAPs 1479198 and 1478212. The licensee completed its past operability evaluation on June 26, 2015. After review, the inspector's conveyed a number of questions to the licensee's engineering staff in regard to the past operability evaluation. Although the licensee provided responses for the majority of these questions during the remainder inspection quarter, the licensee had requested external input in regard to one of the inspector's questions. Specifically, inspectors questioned whether it was possible for the bottom of the lever arm to be at an elevation above the top of the actuator stem at valve disc full open and if so, could the valve test lever arm have come to rest on top of the actuator stem, potentially impacting the ability of the vacuum breaker valve to close. Upon the close of this inspection period, that input had not yet been finalized and made available to the inspectors. As a result, this issue was considered to be an unresolved item pending a review of the licensee's response and past operability for CAPs 1479198 and 1478212, including and the licensee response to open inspector questions.
(URI 05000263/2015003-04: Drywell to Torus Vacuum Breaker Past Operability)

40A3 Follow-Up of Events and Notices of Enforcement Discretion (71153)

.1 (Closed) Licensee Event Report (LER) 05000263/2015-003-00: Use of the Reactor Water Cleanup System to Lower Level Without Declaring an Operation with a Potential to Drain the Reactor Vessel (OPDRV) with Secondary Containment Inoperable

This event, which occurred on May 13, April 13, and April 14, 2015, was the result of the licensee's activities associated with draining the reactor cavity during a refueling outage. Specifically, the licensee drained the reactor cavity using the reactor water cleanup

system (RWCU), which took suction from below the reactor core. In each case, the licensee did not classify the activities as OPDRVs, due to the fact that the TS automatic isolation function for RWCU was maintained operable, and would initiate to mitigate the loss of inventory, if required. Because of the failure to classify these activities as OPDRVs, the licensee performed the draining while secondary containment and standby gas treatment systems were inoperable, but available, contrary to technical specifications. These activities were not eligible for enforcement discretion in accordance with the criteria specified in NRC Enforcement Guidance Memorandum (EGM) 11-003 Revision 2.

These activities constituted a violation of NRC requirements, and operations prohibited by technical specifications, which was discussed in this LER. The licensee was still in the process of determining the cause of the violation at the time the LER was issued. The inspectors will review the LER supplement which the licensee plans to issue once the causal evaluation is complete. This issue was documented as Non-Cited Violation (NCV) 05000263/2015002-03: "Failure to Maintain Secondary Containment and Standby Gas Treatment System Operable During OPDRV Activities," in the Second Quarter Integrated Inspection Report (IR) 05000263/2015002. The inspectors reviewed the licensee's causal evaluation and corrective actions and did not identify any additional findings or violations of NRC requirements. 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.

.2 (Closed) Licensee Event Report (LER) 05000263/ 2015-002-00 and 05000263/2015-002-01: Loss of Shutdown Cooling Due to Improperly Landed Jumper Wire (Revisions 0 and 1)

a. Inspection Scope

This event, which occurred on May 2, 2015, involved the licensee's loss of shutdown cooling during a refueling outage while the plant was in mode 5. Specifically, the plant experienced a Loss of Division 1 electrical Bus 15 (4160V ECCS Bus) and Division 1 electrical load center (LC) 103 (480 VAC Essential Load Center). This subsequently resulted in a trip of the running Shutdown Cooling Pump when position indication was de-energized for the Residual Heat Removal (RHR) Shutdown Cooling (SDC) inboard suction isolation valve. Initial investigation confirmed that the Loss of Bus 15 was caused by technicians installing a procedurally controlled jumper across incorrect terminals in a 4KV breaker cubicle during the performance of a relay calibration. This event was determined by the licensee to be a Significant Condition Adverse to Quality (SCAQ) that, if uncorrected, could have a serious effect on safety or operability.

The inspectors responded to the event, and a NCV of very low safety significance associated with the loss of shutdown cooling was documented in the 2015 2nd Quarter Integrated Inspection Report (05000263/2015002-06). The inspectors reviewed the licensee's root cause evaluation performed for this event. The direct cause was determined to be associated with technicians placing a jumper across incorrect terminals in a 4KV breaker cubicle during performance of a relay calibration, contrary to the procedure. The root cause was determined to be due to Operations failure to implement effective barriers for preventing loss of 15 Bus and subsequent loss of shut down cooling—a result of failing to apply robust protection strategies using available information during the decay heat removal hardening assessment. The inspectors

reviewed the licensee's event report, causal analysis, and corrective actions for this event and identified one Severity Level IV NCV, which is discussed below. 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

Failure to Provide Complete and Accurate Information in LER 05000263/2015-002-00

Introduction

The inspectors identified a Severity Level IV NCV of 10 CFR 50.9 due to the licensee's failure to provide information to the NRC that was complete and accurate in all material respects in accordance with the NRC's reporting requirements in 10 CFR 50.73(a)(1), "Licensee Event Report (LER) System." Specifically, on June 29, 2015, the licensee failed to include an accurate assessment of the safety consequences and implications of a loss of shutdown cooling event when they issued LER 05000263/2015-002-00. This LER included an inaccurate assessment of safety implications, stating that engineering calculations show a potential worst case maximum temperature of 115 degrees Fahrenheit. The inspectors identified that engineering models actually showed potential worst case temperatures of 25-26 degrees F higher, which could have challenged or exceeded fuel pool cooling design specifications.

Description

On May 2, 2015, the plant experienced a Loss of Division 1 electrical Bus 15 (4160V ECCS Bus) and Division 1 electrical load center (LC) 103 (480 VAC Essential Load Center). This subsequently resulted in a trip of the running Shutdown Cooling Pump when position indication was de-energized for the RHR Shutdown Cooling (SDC) inboard suction isolation valve. Initial investigation confirmed that the Loss of Bus 15 was caused by technicians installing a procedurally controlled jumper across incorrect terminals in a 4KV breaker cubicle during the performance of a relay calibration. This event was determined by the licensee to be an SCAQ that, if uncorrected, could have a serious effect on safety or operability.

The resident inspectors responded to the control room for the event on May 2. They noted that the fuel pool and reactor cavity were connected for refueling and that a fuel pool cooling subsystem remained in service removing some of the residual heat generated by the used fuel. Among their questions, the inspectors asked whether the single fuel pool cooling train that remained in service could successfully remove the entire decay heat load that was present in the reactor cavity and spent fuel pool at the time of the event. During the event, the licensee initially informed inspectors that it could not handle the entire decay heat load. The licensee subsequently performed engineering modeling activities to determine whether or not that was the case. As a result, the licensee initially documented in station logs that the fuel pool cooling subsystem would be able to remove decay heat, and maintain the reactor cavity and fuel pool coolant at less than 115 degrees Fahrenheit (F).

On Monday, May 4, inspectors questioned the licensee's modeling conclusions, and learned that the initial modeling had been incorrect, and that the modeling actually showed that the reactor water would be maintained at less than 141 degrees F. The

inspectors questioned the accuracy of the log entry, and questioned whether a condition report was necessary. The licensee generated a corrective action report documenting the error, and took corrective action to add a log entry that corrected the initial 115 degree conclusion.

Following issuance of LER 05000263/2015-002-00 on June 29, 2015, the inspectors reviewed the licensee's assessment of potential safety consequences and implications contained in the LER. The inspectors identified that this assessment in the LER appeared to be inaccurate, stating that engineering calculations show a potential worst case maximum temperature of 115 degrees F. Specifically, the LER stated, "Residual heat removal was supported by a single fuel pool cooling and cleanup (FPCC) pump and reactor coolant temperature was maintained less than the 125 degrees F required for maintaining safe shutdown of the plant. Heat up calculations were performed and determined RPV maximum coolant temperatures would remain less than 115 degrees F after 55 hours while the single FPCC Pump provided decay heat removal." The inspectors questioned the accuracy of the information, and again learned that modeling actually showed potential worst case temperatures of up to 140 or 141 Degrees F (25-26) degrees F higher). The inspectors observed that these temperatures could have challenged or exceeded fuel pool cooling and shutdown design specifications. This information resulted in a required LER revision and resulted in the inspectors needing to expand the scope of their next scheduled inspection for this issue to assess the potential safety implications and impacts on design limitations.

Analysis

The inspectors determined that the licensee's failure to provide information to the NRC that was complete and accurate in all material respects in accordance with 50.73 reporting requirements was a licensee performance deficiency warranting a significance evaluation. Consistent with the guidance in IMC 0612, "Power Reactor Inspection Reports, Appendix B, "Issue Screening," because this violation of the NRC's reporting requirements affected the NRC's ability to perform its regulatory function, the inspectors evaluated the issue using the traditional enforcement process in accordance with the NRC Enforcement Policy and assessed the significance of the underlying issue using the SDP. This issue was of more than minor significance under the Traditional Enforcement Process because the NRC relies on licensees to identify and report conditions or events meeting the criteria specified in the Technical Specifications and the regulations in order to perform its regulatory function.

The underlying technical issue (i.e., loss of shutdown cooling) was evaluated separately and determined to be a finding of very low safety significance as documented in the 2015 2nd Quarter Integrated Inspection Report (05000263/2015002-06). In accordance with Section 2.2.2.d, and consistent with the examples included in Section 6.9.d of the NRC Enforcement Policy, this violation was categorized as Severity Level IV because it was of more than minor concern with relatively inappreciable potential safety significance and is related to a finding that was determined to be a more than minor issue. Consistent with Example 6.9.d.1, this represented an example where the licensee submitted inaccurate information in a required report, which resulted in expansion of the scope of the next regularly scheduled inspection and required LER revision. Because there was no finding evaluated with this violation, the inspectors did not assign a cross-cutting aspect to this issue.

Enforcement

Title 10 CFR 50.9(a) states, "Information provided to the Commission by an applicant for a license or by a licensee or information required by statute or by the Commission's regulations, orders or license conditions to be maintained by the applicant or the licensee shall be complete and accurate in all material respects."

Title 10 CFR 50.73(a)(1) requires, in part, that the licensee submit an LER for any event of the type described in this paragraph within 60 days after the discovery of the event. Title 10 CFR 50.73(b)(3)(ii) states, "The Licensee Event Report shall contain an assessment of the safety consequences and implications of the event. This assessment must include: for events that occurred when the reactor was shutdown, the availability of systems or components that are needed to shutdown the reactor and maintain safe shutdown conditions, remove residual heat, control the release of radioactive material, or mitigate the consequences of an accident."

Contrary to 10 CFR 50.9, on June 29, 2015, the licensee failed to provide information to the NRC that was complete and accurate in all material respects in accordance with the NRC's reporting requirements contained in 10 CFR 50.73(a)(1), "Licensee Event Report (LER) System." Specifically, the licensee failed to include an accurate assessment of the safety consequences and implications of a loss of shutdown cooling event when they submitted LER 05000263/2015-002-00 to the Commission. This LER included an inaccurate assessment of safety implications, stating that engineering calculations show a potential worst case maximum temperature of 115 degrees Fahrenheit. Specifically, the LER stated, "Residual heat removal was supported by a single FPCC pump and reactor coolant temperature was maintained less than the 125 degrees F required for maintaining safe shutdown of the plant. Heat up calculations were performed and determined RPV maximum coolant temperatures would remain less than 115 degrees F after 55 hours while the single FPCC Pump provided decay heat removal." The inspectors identified that this information was inaccurate, and that engineering models actually showed potential worst case temperatures of up to 140 or 141 Degrees F (25- 26 degrees F higher), which could have challenged or exceeded fuel pool cooling design specifications. This information resulted in the inspectors needing to expand the scope of their next scheduled inspection for this issue to assess the potential safety implications and impacts on design limitations.

Because this issue affected the NRC's ability to perform its regulatory function, the inspectors evaluated it using the traditional enforcement process. The underlying technical issue (i.e., loss of shutdown cooling) was evaluated separately and determined to be a finding of very low safety significance as documented in the 2015 2nd Quarter Integrated Inspection Report (05000263/2015002-06). In accordance with Section 2.2.2.d, and consistent with the examples included in Section 6.9.d of the NRC Enforcement Policy, this violation was categorized as Severity Level IV because it was of more than minor concern with relatively inappreciable potential safety significance and is related to a finding that was determined to be a more than minor issue. Consistent with Example 6.9.d.1, this represented an example where the licensee submitted inaccurate information in a required report, which resulted in expansion of the scope of the next regularly scheduled inspection and required LER revision. Because this violation is a Severity Level IV, was not repetitive or willful, and was entered into the licensee's CAP (CAP 1484633) this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC

Enforcement Policy (**NCV 05000263/2015003-05: Failure to Provide Complete and Accurate Information in LER 05000263/2015-002-00**). Corrective actions included issuance of a revision to LER 2015-002-00 which contained the correct engineering modeling results and associated discussion of safety implications.

.3 (Closed) Licensee Event Report 05000263/2014-008-00: "Opening Identified in Fire Barrier"

a. Inspection Scope

This event occurred on May 15, 2014. Specifically, an unsealed conduit penetration was identified between two fire zones, Division I and Division II of safe shutdown equipment in the emergency filtration (EFT) building, which did not meet the two hour fire barrier rating of the wall required per USAR J.05, Fire Hazards Analysis. The licensee established an hourly fire watch in accordance with Operations Manual B.08.05-05, Fire Protection System Operation, until functional status of fire barrier could be restored. On July 14, 2014, the licensee reported this event in accordance with 10 CFR 50.73(a)(2)(ii)(B) as an "Unanalyzed Condition That Significantly Degrades Plant Safety."

The licensee performed a root cause evaluation for the event and determined the cause of the unsealed penetration was considered a legacy issue because the conduit was routed prior to 1991. The licensee also failed to identify this issue during the 24 month surveillance of Procedure 0275-02, Fire Barrier Wall, Damper and Floor Inspection because the penetration is obscured from normal vision and can only be inspected with a camera or borescope. The licensee's corrective actions included revising procedure 0275-02 to include the use of tools (i.e., camera or borescope, etc.) to perform inspection of portions of fire barrier that are not physically accessible to perform adequate visual inspection. The inspectors reviewed the licensee's causal evaluation and corrective actions and did not identify any findings or violations of NRC requirements. 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.

.4 (Closed) Licensee Event Report 05000263/2014-005-00: "Appendix R Fire Door Failed to Latch"

- a. This event occurred on March 20, 2014. Specifically, during a semi-annual fire door inspection, an Appendix R fire door that is maintained open via a fusible link did not close and latch as required to provide divisional separation in the event of a fire per USAR J.04, therefore declaring the fire door non-functional. A continuous fire watch was established in accordance with Operations Manual B.08.05-05, Fire Protection System Operation, until repairs could be made and functionality restored. On May 19, 2014, the licensee reported this event in accordance with 10 CFR 50.73(a)(2)(ii)(B) as an "Unanalyzed Condition That Significantly Degrades Plant Safety."

The licensee evaluated the cause of the failure of the door to close and latch, and determined it was caused by insufficient closure force. The licensee also reviewed the current code of record, NFPA 80-1968, Fire Doors and Window, which does not specify a frequency that maintenance is to occur, but does stress that a periodic inspection and maintenance program is very important. NFPA 80-2013, not the code of record, states inspection and testing of fire doors is to occur on an annual frequency at a minimum. The licensee's testing of the closing function was completed semiannually, however inspection of door and hardware was only conducted every refueling outage. The licensee's corrective actions included increased PM frequency and performance of door closer power adjustments on an annual basis for those type of Appendix R fire doors. Inspectors reviewed licensee causal evaluation and corrective actions and did not identify any findings or violations of NRC requirements. 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.

.5 (Closed) Licensee Event Report 05000263/2014-009-00: "Both Emergency Filtration Trains Inoperable"

This event occurred on August 14, 2014. Specifically, the 'A' emergency filtration train was out of service for charcoal filter replacement work. During that time the 'B' EFT was placed in service to supply filtered air to the control room. After the 'B' EFT had run for approximately 15 minutes, a low flow alarm occurred and the 'B' EFT fan tripped. This resulted in both trains of emergency filtration being inoperable. Technical Specification action 3.7.4 was not met and, as a result, limiting condition for operation (LCO) 3.0.3 was entered requiring the plant to orderly shutdown within 37 hours. The licensee took actions to complete post maintenance testing on the 'A' train of EFT and exited LCO 3.0.3. There was no addition of negative reactivity to the reactor during the time the plant was in LCO 3.0.3. On September 30, 2014, the licensee reported this event in accordance with 10 CFR 50.73(a)(2)(v)(D) as an "Event or Condition That Could Have Prevented Fulfillment of a Safety Function."

The licensee evaluated the cause of the 'B' EFT fan trip and determined the low flow alarm and subsequent automatic shutdown of the 'B' EFT fan was caused by the airflow damper actuator which was found to stick and be unresponsive to input signals from the flow controller. Since the actuator had been replaced two weeks prior, the licensee determined the cause of the failure related to the vendor rebuild and attributed to infant mortality. The licensee's corrective actions included replacement of the failed actuator and completion of post maintenance testing. Inspector review determined the licensee followed Electric Power Research Institute (EPRI) troubleshooting guidance. Inspectors reviewed licensee causal evaluation and corrective actions and did not identify any findings or violations of NRC requirements. 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.

4OA5 Other Activities

.1 Power Uprate Related Inspection Activities (71004)

a. Inspection Scope

During this inspection period, the inspectors observed activities related to the EPU license amendment which authorized the licensee to operate at 2004 MWth. Specific activities are documented below, and as referenced:

- Section 1R11—This section documents specific inspector observation of licensed operator's activities associated with the final steady-state power ascension from 1953 MWth to 2004 MWth, following NRC approval of extended power uprate EPU test data.

b. Findings

No findings were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On October 6, 2015, the inspectors presented the inspection results to Mr. P. Gardner, Site Vice President, 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 radioactive gaseous and liquid effluent treatment; radiological environmental monitoring; and RCS specific activity, occupational exposure control effectiveness, and radiological effluent TS/ODCM radiological effluent occurrences PI verification with Mr. H. Hanson, Plant Manager, on August 14, 2015.
- A re-exit occurred on October 15, 2015 with Mr. M. Lingenfelter, which added an additional finding and NCV to the quarterly inspection results. This finding was associated with refuel floor loading calculations (05000263/2015003-01). The re-exit also finalized the cross-cutting aspect assigned to a Fire Protection Finding (05000263/2015003-03).

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.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

P. Gardner, Site Vice President
K. Scott, Site Operations Director
H. Hanson, Jr., Plant Manager
T. Witschen, Operations Manager
M. Lingenfelter, Director of Engineering
K. Jepson, HU and Org. Effectiveness Manager
B. Olson, Maintenance Manager
S. Quiggle, Chemistry Manager
C. England, Radiation Protection Manager
T. Hedges, RP General Supervisor
A. Ward, Regulatory Affairs Manager

U.S. Nuclear Regulatory Commission

K. Riemer, Chief, Reactor Projects Branch 2

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000263/2015003-01	NCV	Inadequate Evaluation of Refueling Floor Structural Steel Beams (Section 1R18)
05000263/2015003-02	NCV	Failure to Perform High Radiation Area Portable Fire Extinguisher Surveillances (Section 4OA2)
05000263/2015003-03	NCV	Failure to Identify Safe Shutdown Equipment Impacts in Fire Strategy Procedures (Section 4OA2)
05000263/2015003-04	URI	Drywell to Torus Vacuum Breaker Past Operability (Section 4OA2)
05000263/2015003-05	NCV	Failure to Provide Complete and Accurate Information in LER 05000263/2015-002-00 (Section 4OA3)

Closed

05000263/2015003-01	NCV	Inadequate Evaluation of Refueling Floor Structural Steel Beams (Section 1R18)
05000263/2015003-02	NCV	Failure to Perform High Radiation Area Portable Fire Extinguisher Surveillances (Section 4OA2)
05000263/2015003-03	NCV	Failure to Identify Safe Shutdown Equipment Impacts in Fire Strategy Procedures (Section 4OA2)
05000263/2015003-05	NCV	Failure to Provide Complete and Accurate Information in LER 05000263/2015-002-00 (Section 4OA3)
05000263/2015-003-00	LER	Use of the Reactor Water Cleanup System to Lower Level without Declaring an Operation With a Potential To Drain the Reactor Vessel (OPDRV) With Secondary Containment Inoperable (Section 4OA3.1)
05000263/2014-005-00	LER	Appendix R Fire Door Failed to Latch (Section 4OA3.4)
05000263/2014-008-00	LER	Opening Identified in Fire Barrier (Section 4OA3.3)
05000263/2014-009-00	LER	Both Emergency Filtration Trains Inoperable (Section 4OA3.5)
05000263/2015-002-00	LER	Loss of Shutdown Cooling Due to Improperly Landed Jumper Wire (Section 4OA3.2)
05000263/2015-002-01	LER	Loss of Shutdown Cooling Due to Improperly Landed Jumper Wire (Section 4OA3.2)

Discussed

05000263/2015003-01	NCV	Failure to Maintain Portable Fire Extinguishers in Accordance with Fire Strategy (Sections 'Summary', 4OA2.4(b)(1), and 4OA2.4(b)(2))
05000263/2015003-03	NCV	Failure to Maintain Secondary Containment and Standby Gas Treatment System Operable During OPDRV Activities (Section 4OA3.1)
05000263/2015003-06	NCV	Loss of Electrical Buses and Shutdown Cooling (SDC) Due to Inadequate Procedure (Adherence) (Section 4OA3(2)(a) and 4OA3(2)(b))

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.

Section 1R01 Adverse Weather Protection (71111.01)

- 1150; Summer Checklist; Revision 66
- A.6; Acts of Nature; Revision 52
- C.6-005-B-46; Condenser Low Vacuum; Revision 6
- C.6-007-B-16; Vac 24 IN Trip #1; Revision 2
- C.6-007-B-17; Vac 24 IN Trip #2; Revision 2
- CAP 1294471; Condensate Demineralizer Temperatures
- CAP 1294773; SJAЕ Inlet Temperature
- CAP 1295049; Economic Issue for Condenser Used to Address Vacuum
- CAP 1295053; CWT Temperature of Discharge Canal
- CAP 1411769; E-12A Feedwater Heater Drain Valve
- CAP 1484540; EPU PAT: Potential Condenser Vacuum Alarm at 2004 MWt
- CAP 1484619; Operational Procedures Require Updating Based on EPU Testing
- CAP 1487908; Implement Actions to Optimize Operation at EPU
- Plant Computer System—Condenser Vacuum Parameter Display; August 14 through August 21, 2015
- Plant Computer System—Discharge Canal Temperature Parameter Display; August 14 through August 21, 2015
- Recommended Actions for Long Term Operation at EPU; No Revision

Section 1R04 Equipment Alignment (71111.04)

- 0253-01a; Standby Gas Treatment A Train Monthly Test; Revision 47
- 156223; PM 4847 (MCC-133A Maintenance 8 Cycle); September 3, 2015
- 2112; Plant Prestart Checklist Standby Gas Treatment System; Revision 13
- 2124; Plant Prestart Checklist Diesel Generators and Fuel Oil System; Revision 10
- 2124-28; Diesel Generator Air Start System Prestart Valve Checklist; Revision 11
- 2154; EDG Emergency Service Water System Prestart Valve Checklist; Revision 25
- 2154-06; Standby Gas Treatment Prestart Valve Checklist; Revision 12
- B.04.02-05; Secondary Containment/Standby Gas Treatment; Revision 34
- B.08.01.02-05; EDG Emergency Service Water; Revision 19
- B.09.08-05; Emergency Diesel Generators; Revision 47
- CAP 1247550; SCMT INST LCO Applicability Questions with B3348/4348 Open
- CAP 1486092; Door-13 Identified Open during NRC walkdown in EDG Building
- NH-36051; P&ID Emergency Diesel Generators; Revision 84
- NH-36665; P&ID Service Water System & Make-Up Intake Structure; Revision 97
- NH-36881; Standby Gas Treatment Flow Diagram; Revision 78

Section 1R05 Fire Protection (71111.05)

- CAP 1486369; NRC Question on Fire Penetration on Heating Boiler Room
- CAP 1486380; Door 26 Turb BLDG Steam Chase Will Not Shut Properly

- CAP 1486408; Uncovered/Missing Insulation Along Perimeter of HB Ceiling
- CAP 1486424; Fire Loading Question in Heating Boiler
- NF-97018; Appendix R Modifications Fire Area 12A-14A; Revision A
- NX-16991-10; Fire Hazard Analysis, Plan View Turbine Building Elev. 931'-0"; Revision 78
- Strategy A.3-16; Fire Zone 16: Corridor, Turbine Building East & West (Elevations 911' and 931'); Revision 15
- Strategy A.3-17; Fire Zone 17: Turbine Building North Cable Corridor 941'; Revision 17
- Strategy A.3-20; Fire Zone 20: Auxiliary Boiler Room; Revision 14
- Strategy A.3-23-A; Fire Zone 23-A: Intake Structure Pump Room; Revision 12
- Strategy A.3-24; Fire Zone 24: Diesel Fire Pump Room; Revision 10
- USAR Appendix J; Fire Hazards Analysis; Revision 32P

Section 1R11 Licensed Operator Requalification Program (71111.11)

- 2300; Reactivity Adjustment; Revision 15
- 8215; EPU Power Ascension Testing; Revision 0
- Attachment to the 2300 Procedure for Reactivity Maneuvering Steps; Revision 0
- C.4-B.06.03.A; Abnormal Procedure—Decreasing Condenser Vacuum; Revision 13
- C.6-005-B-46; Annunciator Response Procedure—Condenser Low Vacuum; Revision 5
- C.6-005-B-46; Annunciator Response Procedure—Condenser Low Vacuum; Revision 5A
- C.6-005-B-46; Annunciator Response Procedure—Condenser Low Vacuum; Revision 5B
- CAP 1486214; Failure to Fully Implement F-G-DOC-04, Procedure Processing
- Operations Memo 15-33; ARP Temp Revs Associated with EPU Power Ascension; June 30, 2015
- RQ-SS-11E; Simulator Exercise Guide (SEG) – Loss of LC-103 with Subsequent Loss of Condenser Vacuum with ATWS; July 23, 2015

Section 1R12 Maintenance Effectiveness (71111.12)

- CAP 1274055; Division II Keep-fill Pressure Less Than 40 Psig
- CAP 1429740; PCV-2459 Is Flowing More Water than Normal
- CAP 1436441; RHR/CSP (a)(1) Lacked Some Pertinent Information
- CAP 1474128; PCV-2458, A Core Spray Press Station, Isol Valves Leaking by
- CAP 1478187; Venting Time for "A" Core Spray Exceeded Trend Band
- CAP 1479730; PCV-2459 "B" Core Spray Line Press Control Valve
- CAP 1490282; Torus Level Rise Stabilizes When PCV-2459 is Bypassed
- CAP 1493218; 'A' CS Discharge Pressure Low
- CAP 1493421; CSP MRule Basis Doc Not in Records
- CAP 1493437; MRule (a)(1) Determination for New HELB Functions
- CAP 1493590; MRule (a)(1) Determination for New EFT Perf Criteria
- CAP 1495092; No Discussion of CSP in MRE 1274055
- EWI-05.02.01; Monticello Maintenance Rule Program Document; Revision 17
- FSK-871; Service Cond. To Torus Wtr SC30-2"-HB&GE; Revision B
- Human Performance Event Investigation Tool for CAP 1493218--'A' CS Discharge Pressure Low; September 23, 2015
- M-449; PCV NX-9253-18 Valve Diagram; Revision 1
- Maintenance Rule Database Unavailability and Reliability Entries—Core Spray System; September 1, 2013 through September 20, 2015
- Maintenance Rule Expert Panel Meeting Review Package; September 17, 2015
- Maintenance Rule System Basis Document—Core Spray System; Revision 2
- Maintenance Rule System Basis Document—Core Spray System; Revision 2

- MRE 1274055; Division II RHR Discharge Keepfill Pressure Low; July 07, 2014
- NH-36248; P&ID Core Spray System; Revision 85
- NX-9146; Drawing for 2" Horizontal Check Valve Forged Steel Bolted Bonnet—Class 800; Revision B

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

- 1441787; 10CFR Part 21 Engineering Evaluation; December 18, 2014
- 1441787; Maintenance Preventable/Performance Criteria Evaluation; August 05, 2014
- 1441787; Maintenance Rule Functional, MSPI, Equipment Failure; August 22, 2014
- 2300 Reactivity Maneuvering Steps; Revision 0
- 4051; Replace EFT Actuators; Revision 14
- 4051; Replacement of EFT Actuators; Revision 16
- 931381329; Calibration Card – ASCo VD-9111B/P EFT Filter V-FE-12 Discharge Damper Positioner; August 20, 2015
- B.3.7.4; Control Room Emergency Filtration (CREF) System; Revision 31
- CAP 1480944; Question on Bases of Step 33 of the 2167 Plant Start Up Procedure
- CAP 1481739; Turbine Generator Torsional Test Results Not Satisfactory
- CAP 1488224; V-AC-5 Operating at Reduced Flow
- CAP 1488416; NRC Ques: Is a Surv Needed for V-AC-4 & 5 (RHR Room Coolers)
- CAP 1488445; Response to V-AC-5 Issue Improvement Opportunities
- CAP 1493001; SPDS Screen to Monitor C.2-06 Figure 6 During Power Changes
- CAP 1493002; Automatic Pressure Control Questioned During Power Reduction
- CAP 1493010; Turbine Stop Valve 4 Opening Time Out of Band Per 0009
- CAP 1493012; AO-2-86C MSIV Testing Deviation
- CAP 1493059; Unexpected Alarms Received During 2300
- CAP 1493060; Potential Area for Improvement, 2300 Reactivity Adjustment
- CAP 693715; Unplanned LCO Entry Due to Failure of VD-9111B
- Emerson to Areva Letter; Areva PO#1014058977, RDR 14-390, RMA 60466; October 24, 2014
- FP-E-MR-03; Maintenance Rule Monitoring; Revision 2
- Hydramotor Actuator Application and Maintenance Guide; No Revision
- Monticello Gardel Periodic Report; September 009, 2015 11:01:22
- Monticello Gardel Power to Flow Map With Input Data and Results; September 10, 2015 13:25:22
- NX-17012; Vendor Manual Troubleshooting Guide; No Revision
- ODMI 01481739-02; Turbine Generator Torsional Natural Frequency; Revision 0
- WO 499897-01; 1430 Spare CRV-EFT Actuator Cycling; November 14, 2014
- WO 506855; VD-9111B/P, Bench Test Used Actuator; September 20, 2014
- WO 506945; Perform PM on VD-9111B/P; January 1, 2015
- WO 526957-01; Packing/Backseat Valve/TE-19-1 Repair Packing Leak; September 10, 2015
- WO 528577-01; V-AC-5 Operating at Reduced Flow: Mech – V-AC-5, Inspect for Source of Reduced Flow and Repair; August 03, 2015
- WO 529883-01; Packing/Backseat Valve/TE-19-1 Repair Packing Leak; September 10, 2015
- WO 529883-02; MS-13-2, Adjust Packing/Backseat; September 10, 2015

Section 1R15 Operability Determinations and Functional Assessments (71111.15)

- 3853; Equipment Important to Emergency Response (EITER); Revision 5
- 4851-30-PM; LPCI Swing Bus Relay Calibration; Revision 15
- B.08.04.03-01; Operations Manual—Alternate Nitrogen System—Function and General Description of System; Revision 4
- B.08.04.03-05; Operations Manual—Alternate Nitrogen System—System Operation; Revision 22
- CAP 0622734; Compensatory Measures for TSC Emergency Ventilation
- CAP 0695949; TSC-Outside Differential Pressure was Negative
- CAP 1366238-46; RHR-2-1-11 RHR Pump Discharge Check Valve
- CAP 1389076; Torus Level Rising. #11 RHR Discharge Check Valve Leaking
- CAP 1419995; HSM-8A Temperature Indicating Higher than Normal
- CAP 1462022-16; Temperature Indication for HSM-8A & HSM-7A Failed
- CAP 1475542; ISFSI Storage Module 8A Temperature Rising
- CAP 1475849; 12 EDG Attempted to Restart After Overspeed Trip Test
- CAP 1482643; Relay 27-33A LPCI Swing Bus Transfer Relay Failed to Actuate
- CAP 1486118; 11 EDG Overspeed Trip Issues
- CAP 1486788; Fan Failure Alarm in on V-EAC-18
- CAP 1487037; NRC Question on IOD for AR 1486788 (Fan Failure Alarm)
- CAP 1487245; Fleet- NRC Question at MNGP About ERF Functionality Assessment
- CAP 1488226; Unacceptable Leakage From “B” Alt. N2 Supply
- CAP 1492979; HSM-7A Temperature ROC Alarm Received
- EC 25733; Alternate Nitrogen Supply System Check Valves; May 25, 2015
- FP-OP-OB-01; Operator Burden Program; Revision 5
- FP-OP-OL-01; Operability/Functionality Determination; Revision 13
- FP-OP-OL-01; Operability/Functionality Determination; Revision 14
- FP-R-EP-04; Emergency Response Equipment Reportability; Revision 3 Draft Corrective Action
- Monticello Station Log—Entries for V-EAC-18, PEB Air Handling Unit; July 20, 2015
- NE-36402 SHT 6A; MNGP Elementary Diagram For LPCI Bus Transfer; Revision C
- NH-36049-10; P&ID Alternate Nitrogen Supply System; Revision 78
- NUREG-0696; Functional Criteria for Emergency Response Facilities; February 1981
- OPR 1482643-01; Past Operability Evaluation for CAP 1482643 LPCI Sing Bus Relay; July 27, 2015
- Past Operability Evaluation 1475849—12 EDG Attempted to Restart After Overspeed Trip Test; May 4, 2015
- QF0740; Emergency Response Facility Functionality Determination Process; Revision 3

Section 1R18 Plant Modifications (71111.18)

- 10-003; Weight Evaluation of Cattle Chute, Reactor Well Shield Blocks, Separator/Dryer, Pool Shield Blocks and Fuel Pool Canal Shield Blocks; Revision 0
- 1492837; Functionality Assessment – 1027’ Floor Beams; Revision 0
- 9209; Fuel Pool and Separator/Dryer Pool Shield Blocks (Removal); Revision 29
- Calculation 05-099; Evaluation of Reactor Building Elevation 1027’-8” Cask Laydown Area for 100 Ton Cask; Revision 1A
- Calculation 05-099; Evaluation of Reactor Building Elevation 1027’-8” Cask Laydown Area for 100 Ton Cask; Revision 1
- Calculation 15-007; Evaluation of Refueling Floor Beams 6B7 for Combined Cask & Refueling Loads; Revision 0

- Calculation 15-007; Evaluation of Refueling Floor Girder 6B7 for the Combined Cask and Refueling Loads; Revision 1
- Calculation 15-008; Evaluation of Refueling Floor Girder 6B3 for the Combined Cask and Refueling Loads; Revision 0
- Calculation 15-008; Evaluation of Refueling Floor Girder 6B3 for the Combined Cask and Refueling Loads; Revision 1
- Calculation 15-009; Evaluation of Refueling Floor Girder 6B1 for the Combined Cask and Refueling Loads; Revision 0
- MN14-995-237-S02; Evaluation of Refueling Floor Girder 6B3 for the Combined Cask & Refueling Loads; Revision 0

Section 1R19 Post-Maintenance Testing (71111.19)

- 0037; APRS-Low Pressure Core Cooling Pumps Discharge Pressure Interlock Instruments Test and Calibration; Revision 24-A
- 2188; Scram Accumulator Nitrogen Charging; Revision 22
- 4 AWI-04.05.06; Post-Maintenance Testing and Return to Service Testing; Revision 23
- 4208-PM; CRD 111 Valve; Revision 6
- 4900-01-PM; PM for Limitorque Motor Operated Valves; Revision 33
- 4900-01-PM; PM for Limitorque Motor Operated Valves; Revision 34
- B.03.01-05; Operations Manual: Core Spray Cooling System—System Operation; Revision 40
- B.03.02-01; HPCI Function and General Description of System, Revision 12
- B.03.02-05; HPCI System Operation, Revision 50
- CAP 1471028; HPCI Drain Pot High Level Will Not Reset
- CAP 1488224; V-AC-5 Operating at Reduced Flow
- CAP 1488416; NRC Ques: Is a Surv Needed for V-AC-4 & 5 (RHR Room Coolers)
- CAP 1488445; Response to V-AC-5 Issue Improvement Opportunities
- CAP 1489278; RCIC OOS Window Extended Due to Test Equipment Issues
- CAP 1494111; Difficulty Establishing Surveillance Test Conditions
- NH-36246; P&ID (Steam Side) High Pressure Coolant Injection System; Revision 85
- NH-36248; P&ID Core Spray System; Revision 85
- NH-36249; P&ID (Water Side) High Pressure Coolant Injection System; Revision 86
- NX-7833-21-4; Electrical Schematic for Core Spray System; Revision 77
- NX-7833-21-5; Core Spray System; Revision 78
- WO 455042-02; 11 CS Pump Disch Press AC Interlock; August 24, 2015
- WO 484645-01; OPS-RCI, 0156 RCIC Group V Isolation Functional Test; August 11, 2015
- WO 486977; PM 4900-1 for MO-1749; July 29, 2015
- WO 486-977-04; Post Maintenance Test for 11 CS Test Return to Torus; May 21, 2015
- WO 487449-04; 11 CS Pump Torus Suction PMT/RTS; May 23, 2015
- WO 490426-03; HPCI Pump Flow Controller; September 22, 2015
- WO 490426-04; HPCI Turbine Speed Control System Calibration; September 22, 2015
- WO 490444-02; MO-2034, HPCI Steam Supply-Inboard; September 22, 2015
- WO 491343-01; HPCI Turbine Speed Control System Calibration
- WO 491813-03; OPS-MO-2102, PMT/RTS; August 11, 2015
- WO 501764; CRD 111/30-23 PMT/RTS; Revision 0
- WO 505352-03; OPS-MO-2102, PMT/RTS; August 11, 2015
- WO 516768-01; 0255-06-IA-1 HPCI VLV Op Test Rx Rated Press (2); September 24, 2015
- WO 524700-07; HPCI Stm Supply DRN Hi Lvl Byp; September 24, 2015

- WO 528577-01; V-AC-5 Operating at Reduced Flow: Mech – V-AC-5, Inspect for Source of Reduced Flow and Repair; August 03, 2015
- WO 528577-02; V-AC-5 Operating at Reduced Flow: OPS – V-AC-5, PMT; August 03, 2015

Section 1R22 Surveillance Testing (71111.22)

- 0002; Reactor High Pressure Scram Instrument Test and Calibration Procedure; Revision 29
- 0098; Core Spray Header Differential Pressure Test and Calibration Procedure; Revision 26
- 0301; Safeguard Bus Voltage Protection Relay Unit Functional Test; Revision 40
- B.08.11-05; Division II EDG Diesel Oil Pump Swap P160B to P-160D; Revision 37
- NSP-DOL-0604; EDG Diesel Oil Pump Quarterly/Comprehensive Test; Revision 10
- QF0465; Pre-job Brief Checklist; Revision 3
- WO 513940-01; 4KV 0301 Safeguard Bus Voltage Protection Relay Unit Functional Test; July 29, 2015
- WO 516000; 0002 - Reactor High Pressure Scram Instrument Test and Calibration Procedure; 09/07/2015

1EP6 Drill Evaluation (71114.06)

- CAP 1490017; EP Exercise – Conflicting Signage at MTC West Door; August 18, 2015
- CAP 1490141; EP Exercise – Technical Information in the EOF; August 18, 2015
- CAP 1490144; EP Exercise – Offsite Communications Equipment Failures; August 18, 2015
- CAP 1490145; EP Exercise: Computer 7861 Not Functioning in EOF; August 18, 2015
- CAP 1490152; EP Exercise: EOF ENS Communicator Headset Does Not Work; August 18, 2015

2RS6 Radioactive Gaseous and Liquid Effluent Treatment (71124.06)

- Compensatory Sampling Analysis; Various Records
- Effluent Monitor Availability Logs; dated July 2014 through August 13, 2015

2RS7 Radiological Environmental Monitoring Program (71124.07)

- 0504; Annual Radiological Environmental Operating Report Preparation and Review; Revision 13
- 10 CFR 50.75(g) Records of Previous Leaks and Spills; Various Records
- 2012 Annual Groundwater Monitoring Report; August 30,
- 2013 Annual Radiological Environmental Operating Report; dated May 15, 2014
- 2013 Land Use Census and Critical Receptor Report; dated September 30, 2013
- 2014 Annual Radiological Environmental Operating Report; dated May 12, 2015
- 2014 Land Use Census and Critical Receptor Report; dated October 20, 2014
- 2015 REMP Snapshot Self-Assessment; Undated
- CAP 1397124; Missed REMP Upstream River Sample; dated September 17, 2013
- CAP 1397139; Missed REMP Air Sample at M-1; dated September 17, 2013
- CAP 1419817; 2014 REMP Samples Missed; dated February 20, 2014
- CAP 1427504; REMP Drinking Water Sample Unobtainable; dated April 18, 2014
- CAP 1448977; REMP No Guidance for Obtaining Representative Grab Sample; dated October 2, 2014
- CAP 1448985; Questionable Vegetation Growth Around MT REMP Air Samplers; dated October 2, 2014
- CAP 1462079; 2014 Met Data Availability for 100m Speed/Direction 90.5%; dated January 13, 2015

- CAP 1473264; Tree Growth Around Back-Up MET Tower; dated April, 7, 2015
- CAP 1488982; NEI 07-07: AFI Related to Communications Surrounding GPI; dated August 7, 2015
- CAP 1489004; NEI 07-07: AFI for Annual Reporting Related to Ground Water; dated August 7, 2015
- CAP 1489010; NEI 07-07: AFI for Groundwater Monitoring Program; dated August 7, 2015
- Chemistry Radioactive Effluent Dose Summaries; dated July 2014 through June 2015
- EC0000016409; Installation of Monitoring Well MW14; Revision 0
- Final Report – Review of Meteorological Data for Calendar Year 2013 Monticello Nuclear Generating Plant; dated December 2014
- FP-CY-ODC-01; Offsite Dose Calculation Manual Change Process; Revision 0
- Groundwater Monitoring For Tritium Monitoring Plan; dated January 29, 2007
- Hydrogeologic Investigation Work Plan; dated August 18, 2009
- I.05.33; Weekly Radiological Environmental Monitoring Procedures (REMP); Revision 7
- I.05.51; REMP Vegetation Sampling; Revision 2
- I.05.53; Rain/Snow Sampling; Revision 0
- Meteorological Tower Calibration Records; Various Records
- NOS Report 2014-03-001; Chemistry –Environmental Monitoring; dated September 22, 2014 to October 2, 2014
- ODCM-07.01; Radiological Environmental Monitoring Program; Revision 24
- REMP Air Sampler Calibration Records; Various Records

Section 4OA1 Performance Indicator Verification (71151)

- 0122; Reactor Coolant I-131 Dose Equivalent Activity; Revision 26
- 1.03.13; Reactor Water and Cleanup Systems Iodine; Revision 15
- CAP 1489678; 11 of 110 EDs Alarmed Below Dose Rate Alarm Setpoint; dated August 13, 2015
- Chemistry Radioactive Effluent Dose Summaries; dated July 2014 through June 2015
- Chemistry Reactor Coolant System Analysis; dated July 2014 through June 2015
- ED Dose and Dose Rate Alarm Logs; dated July 2014 to June 2015
- Electronic Dosimeter Alarm Records; Various Records
- Maintenance Rule Database (Emergency AC Power and High Pressure Injection Systems); July 2014 through June 2015
- Monticello Station Log Entries; July 2014 through June 2015
- MSPI Deviation Report; MSPI Emergency AC Power; July 2014 through June 2015
- MSPI Deviation Report; MSPI High Pressure Injection Systems; July 2014 through June 2015
- NEI 99-02; Regulatory Assessment PI Guideline; Revision 7
- PRA-CALC-05-003; MSPI Basis Document; Revision 5
- Reactor Coolant I-131 Dose Equivalent Iodine Analysis; dated August 5, 2015

Section 4OA2 Identification and Resolution of Problems (71152)

- 0143; Drywell-Torus Monthly Vacuum Breaker Check; Revision 42
- 0274; Fire Hose Hydrostatic Test – Interior Hose Stations; Revision 30
- 1123 Portable Fire Extinguishers; Revision 63
- AR 1383411; Focused Self-Assessment Report: 2014 NRC Fire Protection Triennial; January 09, 2014
- CA-04-204; NFPA 10 Installation of Portable Fire Extinguisher Code Evaluation; Revision 2
- CAP 1420318; Inadequate Return to Service Testing for 8 DW-Torus Vacuum Breakers
- CAP 1426031; NRC Green NCV Operability Det for 8 Drywell-Torus Vacuum Bkr

- CAP 1477246; NRC Questions Raised in Condenser Bay
- CAP 1477456; Two Fire Extinguishers in Hotside Found With Low Pressure
- CAP 1477916; Invalid AO-2382A Full Open Torque
- CAP 1478212; Interference Observed on AO-2382A Vacuum Breaker Actuator
- CAP 1479198; Evaluate 1420318 OPR for 2015 RFO Learnings
- CAP 1484142; A.3 Procedures are Inconsistent identifying SSD Equipment
- CAP 1484163; Fire Extinguishers in Fire Zone 12C/TB Condenser Area
- CAP 1484257; 1123-01 Fire Extinguisher PM Not Performed as Written
- CE 1484142-01; Condition Evaluation for Fire Strategy Procedure SSD Discrepancies; August 24, 2015
- Drywell-Torus Vacuum Breaker interference images—As found; May 8, 2015
- Drywell-Torus Vacuum Breaker interference images—As left; May 14, 2015
- EC-25684; Torus-DW Vacuum Breakers—Exercising Cylinder Rod Machined to Assure Clearance Between Piston Rod and Valve Exercising Lever Vertical Faces; Revision 0
- NX-8685-4; Full Bore Vacuum Breaker Valve w/ Side Air Cyl; Revision E
- OPR 1478212; Past Operability Evaluation—Drywell-Torus Vacuum Breaker Interference; June 25, 2015
- Past Operability 1478212; Interference Observed on AO-2382A Vacuum Breaker Actuator
- PCR 1490888; Fire Strategy Procedure Mark ups; Revision 0
- Strategy A.3-12-E; Fire Zone 12-C—Condenser Area; Revision 8
- WO 291767; 1123-01/PSU Port Fire Extinguisher Ck Hi Rad Areas; March 18, 2007
- WO 441044; Mech – Fir, 1238 Fire Hose Hydro Test High Rad Areas, PM; February 2, 2012
- WO 441327; 1123-01 Port Fire Extinguisher Ck Hi Rad Areas; April 1, 2013
- WO 465763; VNDR-FIR, 1135 Portable Fire Extinguishers Annual Test; December 3, 2013
- WO 468436; MECH-FIR 1123 Portable Fire Extinguishers Monthly Test; July 18, 2013
- WO 490725; 1238 Fire Hose Hydro Test High Rad Areas; April 26, 2015
- WO 491815; VNDR – FIR, 1135 Portable Fire Extinguishers Annual Test; December 3, 2014
- WO 520101; 1123 Portable Fire Extinguisher RS Monthly Test; May 7, 2015

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

- B.02.01-05; Fuel Pool Cooling—System Operation; Revision 50
- CAP 1423475; Failure of Appendix R Fire Door to Latch
- CAP 1430930; EFT Fire Barrier
- CAP 1477351; RFO27 Loss of Shutdown Cooling
- CAP 1479284; NRC RI OPDRV Comment
- CAP 1483417; Extent of Condition on OPDRV from AR 1479284
- CAP 1484633; LER 2015-002-00 Submitted with Incorrect Heatup Calc
- EE 25506; RFO27 Decay Heat Evaluation; Revision 1
- LER 2014-005; Appendix R Fire Door Failed to Latch; May 19, 2014
- LER 2018-008-00; Opening Identified in Fire Barrier; July 14, 2014
- OWI-03.03; Operations with Potential to Drain the Reactor; Revision 9, 10
- Plant Computer RPV Level Indication Trend Plot; April 11 through April 18, 2015
- Proto-HX Shell & Tube V5.00 by Zachry Nuclear Engineering; May 02, 2015
- Station Logs; May 2, 2015 through May 4, 2015; Retrieved on May 04, 2015, and July 01, 2015

LIST OF ACRONYMS USED

ADAMS	Agencywide Document Access and Management System
AISC	American Institute of Steel Construction
CAP	Corrective Action Program
CFR	<i>Code of Federal Regulations</i>
CRD	Control Rod Drive
DG	Diesel Generator
DRP	Division of Reactor Projects
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
EFT	Emergency Filtration
EGM	Enforcement Guidance Memorandum
EPRI	Electric Power Research Institute
EPU	Extended Power Uprate
ESW	Emergency Service Water
F	Fahrenheit
FPCC	Fuel Pool Cooling and Cleanup
FSA	Focused Self-Assessment
HELB	High Energy Line Break
HRA	High Radiation Area
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Inspection Report
IR	Issue Report
kV	Kilovolt
LC	Load Center
LCO	Limiting Condition for Operation
LER	Licensee Event Report
LPCI	Low Pressure Coolant Injection
MSIV	Main Steam Isolation Valve
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
OWA	Operator Workaround
PARS	Publicly Available Records System
PI	Performance Indicator
PM	Post-Maintenance
psf	Pounds Per Square Feet
RCIC	Reactor Core Isolation Cooling
RCS	Reactor Coolant System
REMP	Radiological Environmental Monitoring Program
RHR	Residual Heat Removal
RETS	Radiological Effluent Technical Specification
RFO	Refueling Outage
RG	Regulatory Guide
RWCU	Reactor Water Cleanup
SCAQ	Significant Condition Adverse to Quality

SCCI	Substantive Cross-Cutting Issue
SDC	Shutdown Cooling
SDP	Significance Determination Process
SPOTMOS	Suppression Pool Temperature
SSD	Safe Shutdown
TS	Technical Specification
USAR	Updated Safety Analysis Report
URI	Unresolved Item
WO	Work Order

P. Gardner

-2-

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Sincerely,

/RA/

Kenneth Riemer, Branch Chief
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