



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
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July 22, 2013

Mr. Raymond Lieb
Site Vice President
FirstEnergy Nuclear Operating Company
Davis-Besse Nuclear Power Station
5501 North State Route 2, Mail Stop A-DB-3080
Oak Harbor, OH 43449-9760

**SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION INTEGRATED INSPECTION
REPORT 05000346/2013003**

Dear Mr. Lieb:

On June 30, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Davis-Besse Nuclear Power Station. The enclosed report documents the results of this inspection, which were discussed on July 2, 2013, with you and other members of your staff.

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

Based on the results of this inspection, one self-revealed finding of very low safety significance was identified. The finding also involved a violation of NRC requirements. Additionally, one licensee-identified violation is listed in Section 4OA7 of this report. However, 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 the subject or severity of any finding or NCV in this report, 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 a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission - Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the Resident Inspectors' Office at the Davis-Besse Nuclear Power Station. In addition, if you disagree with the cross-cutting aspect assigned to any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region III, and the NRC Senior Resident Inspector at the Davis-Besse Nuclear Power Station.

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

Sincerely,

/RA/

Jamnes L. Cameron, Chief
Branch 6
Division of Reactor Projects

Docket No. 50-346
License No. NPF-3

Enclosure: Inspection Report 05000346/2013003
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-346
License No: NPF-3

Report No: 05000346/2013003

Licensee: FirstEnergy Nuclear Operating Company (FENOC)

Facility: Davis-Besse Nuclear Power Station

Location: Oak Harbor, OH

Dates: April 1, 2013, through June 30, 2013

Inspectors: D. Kimble, Senior Resident Inspector
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Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

Inspection Report (IR) 05000346/2013003; 4/1/13-6/30/13; Davis-Besse Nuclear Power Station; Post-Maintenance Testing.

This report covers a three-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. One Green finding was identified by the inspectors. The finding was considered a non-cited violation (NCV) of NRC regulations. The significance of inspection findings are indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using IMC 0609, "Significance Determination Process" dated June 2, 2011. Cross-cutting aspects are determined using IMC 0310, "Components Within the Cross Cutting Areas" dated October 28, 2011. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated January 28, 2013. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process" Revision 4, dated December 2006.

A. NRC-Identified and Self-Revealed Findings

Cornerstone: Initiating Events

- Green. A self-revealed finding of very low safety significance (Green) and associated NCV of TS 5.4.1(a) were identified when the licensee failed to properly implement plant procedures for placing Component Cooling Water (CCW) Pump 3 in spare status. Specifically, the licensee did not isolate service water (SW) to the standby CCW heat exchanger prior to racking out the CCW Pump 3 breaker. As a result, SW Train 1 header pressure significantly dropped, an automatic isolation of SW cooling and realignment to circulating water cooling from Turbine Plant Cooling Water (TPCW) occurred, and the licensee entered the Loss of SW Abnormal Operating procedure. The condition was corrected, and corrective action documents were generated to review the event.

The inspectors determined that the licensee's failure to implement procedures for placing CCW Pump 3 in spare status was a performance deficiency that was reasonably within the licensee's ability to foresee and correct and should have been prevented. This finding was associated with the Initiating Events Cornerstone of reactor safety and was of more than minor significance because it directly impacted the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors evaluated the finding using IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power." Using Exhibit 1, which contains the screening questions for the Initiating Events Cornerstone of reactor safety, the inspectors determined that the finding screened as very low safety significance (Green), because it did not adversely impact any accident, transient, support system loss, steam generator tube rupture, or external event initiators.

This finding was determined to have a cross-cutting aspect in the area of human performance, decision-making component, because the licensee failed to communicate decisions and the basis for decision to personnel who have a need to know the information in order to perform work safely, in a timely manner. (H.1(c)) (Section 1R19.1)

B. Licensee-Identified Violations

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

REPORT DETAILS

Summary of Plant Status

The unit began the inspection period operating at full power and, with the exception of small power maneuvers (e.g., reductions in power of about 10 percent or less) to facilitate planned testing evolutions, operated at or near full power for nearly the entire inspection period. At about 9:20 p.m. on June 29, 2013, the unit automatically tripped while operating at full power when Reactor Coolant Pump (RCP) 1-2 experienced an electrical fault (see Section 4OA3 for additional details). The unit remained in a shutdown condition and in a forced maintenance outage for repairs through the end of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness

1R04 Equipment Alignment (71111.04)

.1 Quarterly Partial System Alignment Verifications

a. Inspection Scope

The inspectors performed partial system alignment verification of the following risk-significant system:

- Containment Spray (CS) Train 1 when Train 2 was unavailable for testing and maintenance during the week ending April 20, 2013.

The inspectors selected this system based on its risk significance relative to the Reactor Safety Cornerstones at the time it was 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 (CRs), and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the system incapable of performing its intended functions. The inspectors also walked down accessible portions of the system 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 a single quarterly partial system alignment verification inspection sample as defined in Inspection Procedure (IP) 71111.04-05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Quarterly Fire Protection Zone Inspections

a. Inspection Scope

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

- Cable Spreading Room (Rooms 422A and 422B; Fire Areas DD and CC);
- Emergency Core Cooling System (ECCS) Room 1 (Room 105, Fire Area AB);
- ECCS Room 2 (Room 115, Fire Area A);
- Spent Fuel Pool Pump Room (Room 312; Fire Area U); and
- Electrical Penetration Room No. 2 (Room 427; Fire Area DF).

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 (IPEEE) 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. 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 five quarterly fire protection zone inspection tour samples as defined in IP 71111.05-05.

b. Findings

No findings were identified.

1R06 Flooding (71111.06)

.1 Internal Flooding

a. Inspection Scope

During the week ending June 22, 2013, the inspectors conducted an internal flooding review for the main turbine building, with specific emphasis on the follow-up of a

degraded condition involving the loss of function for all main condenser pit sump pumps. The inspectors reviewed flood analyses and design documents, including the USAR, engineering calculations, and abnormal operating procedures to identify licensee commitments. 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 CAP 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 east and west main condenser pit areas to assess the adequacy of the temporary flood mitigation equipment that the licensee had established following the loss of function of all the permanently installed sump pumps. Specific documents reviewed during this inspection are listed in the Attachment to this report.

The inspectors' review constituted a single internal flooding inspection 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 Simulator Training

a. Inspection Scope

On April 9, 2013, the inspectors observed a crew of licensed operators in the plant's simulator during a complex evaluated training scenario. 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. In addition, the inspectors verified that the licensee's personnel were observing NRC examination security protocols to ensure that the integrity of the graded scenario was being protected from being compromised. The inspectors evaluated the following areas:

- Licensed operator performance;
- The clarity and formality of communications;
- The ability of the crew to take timely and conservative actions;
- The crew's prioritization, interpretation, and verification of annunciator alarms;
- The correct use and implementation of abnormal and emergency procedures by the crew;
- Control board manipulations;
- The oversight and direction provided by licensed senior reactor operators (SROs); and
- The ability of the crew 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.

These observations and activities by the inspectors constituted a single quarterly licensed operator requalification program simulator training inspection sample as defined in IP 71111.11-05.

b. Findings

No findings were identified.

.2 Resident Inspector Quarterly Observation of Control Room Activities

a. Inspection Scope

During the course of the inspection period, the inspectors performed numerous observations of licensed operator performance in the plant's control room to verify that operator performance was adequate and that plant evolutions were being conducted in accordance with approved plant procedures. Specific activities observed that involved a heightened tempo of activities or periods of elevated risk included, but were not limited to:

- Reactor Trip Breaker 'D' testing and associated power maneuvers during the week ending April 13, 2013;
- Breaker manipulations and 345 KV electrical switchgear alignment operations to prepare for extensive switchyard modification work activities during the week ending May 18, 2013;
- Breaker manipulations, including 13.8 KV breaker racking operations in the field, and electrical switchgear alignment operations to remove Startup Transformer X01 from service in support of switchyard modification work activities during the week ending May 25, 2013; and
- Restoration of the 345 KV switchyard K-Bus and the site's Ohio Edison main transmission line following extensive field work during the week ending May 25, 2013.

The inspectors evaluated the following areas during the course of the control room observations:

- Licensed operator performance;
- The clarity and formality of communications;
- The ability of the crew to take timely and conservative actions;
- The crew's prioritization, interpretation, and verification of annunciator alarms;
- The correct use and implementation of normal operating, annunciator alarm response, and abnormal operating procedures by the crew;
- Control board manipulations;
- The oversight and direction provided by on-watch SROs and plant management personnel; and
- The ability of the crew to identify and implement appropriate TS 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.

These observation activities by the inspectors of operator performance in the station's control room constituted a single quarterly inspection 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:

- Main Station Switchyard; and
- Component Cooling Water System.

The inspectors reviewed events such as where ineffective equipment maintenance had resulted or could have 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 systems, structures 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.

The inspectors' reviews constituted two quarterly maintenance effectiveness inspection 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:

- Planned work during the week ending April 6, 2013, to perform visual inspection of the Spent Resin Storage Tank;
- Planned work during the week ending May 3, 2013, associated with removing Startup Transformer X01 from service for switchyard work;
- Emergent work during the week ending May 11, 2013, associated with both Station Air Compressor 1 and 2 out of service; and
- Planned work during the week ending May 18, 2013, associated with the 345kV switchyard.

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. Specific documents reviewed during this inspection are listed in the Attachment to this report.

The inspectors' reviews of these maintenance risk assessments and emergent work control activities constituted four inspection samples as defined in IP 71111.13-05.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15)

.1 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following issues:

- Operability of the Safety Features Actuation System Channel 1 Reactor Low Pressure Block Permissive after the block light remained illuminated following testing, as documented in CR 2013-04946 during the weeks ending April 6 and April 13, 2013;

- Operability of DH1517, the Decay Heat Pump 1 Suction from the Reactor Coolant System, after the motor thrust limit was exceeded as documented in CR 2013-00685 during the week ending April 20, 2013;
- Functionality of the Station Blackout Diesel Generator (SBODG) following identification of brass particles around the cylinder heads, as documented in CR 2013-06025 during the week ending April 20, 2013;
- Operability and functionality of the Spent Fuel Pool negative pressure boundary following identification of missing floor plug caulking, as documented in CR 2013-06876 during the weeks ending May 18 through June 22, 2013;
- Operability of Rosemount pressure transmitters in containment providing input to the plant's Safety Features Actuation System, as documented in CR 2013-08872 during the weeks ending June 15 and June 22, 2013; and
- Operability of the Decay Heat and High Pressure Injection Systems with changes to pressure relief valve orifice sizes in those systems, as documented in CR 2013-08372 during the week ending June 15, 2013.

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. Documents reviewed are listed in the Attachment to this report.

The inspectors' reviews of these operability evaluations constituted six inspection samples as defined in IP 71111.15-05.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

.1 Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed the following permanent modifications to the facility:

- Engineering Change Package (ECP) No. 12-0049: Installation of New Missile Barrier and Steel Framed Curb for Control Room Emergency Ventilation System, Trains 1 and 2;
- ECP No. 12-0584: Replace Turbine Plant Cooling Water Heat Exchanger; and

- ECP No. 08-0125: Addition of Two New Circuit Breakers in the Davis-Besse Switchyard.

The inspectors reviewed the configuration changes and associated 10 CFR Part 50.59 safety evaluation documents against the design basis, the USAR, and the TS, as applicable, to verify that the modifications did not affect the operability or availability of any safety-related systems, or systems important to safety. The inspectors 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 modifications with operations, engineering, and training personnel to ensure that the individuals were aware of how the operation with the plant modifications in place could impact overall plant performance. Documents reviewed in the course of this inspection are listed in the Attachment to this report.

The inspectors' reviews of these permanent plant modifications constituted three inspection samples as defined in IP 71111.18-05.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

.1 Quarterly Resident Inspector Observation and Review of Post-Maintenance Testing Activities

a. Inspection Scope

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

- SBODG testing following maintenance during the weeks ending April 20 and April 27, 2013;
- Control Room Emergency Ventilation Train 1 and 2 testing following missile shield modifications during the week ending May 10, 2013;
- Control Rod Drive System Group 7 module testing following module replacement due to intermittent Control Rod Group 7 out-limit indication during the week ending May 25, 2013;
- Component Cooling Water Pump 1 testing following bearing replacement during the weeks ending May 18 and May 25, 2013;
- 345 KV K-Bus testing following major modifications to the station's main switchyard during the week ending May 18, 2013; and
- 345 KV J-Bus testing following major modifications to the station's main switchyard during the weeks ending May 25 and June 1, 2013.

These activities were selected based upon the system, structure 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 the PMTs 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.

The inspectors' reviews of these activities constituted six PMT inspection samples as defined in IP 71111.19-05.

b. Findings

Introduction

A self-revealed finding of very low safety significance (Green) and associated NCV of TS 5.4.1(a) were identified when the licensee failed to properly implement plant procedures for placing CCW Pump 3 in spare status. Specifically, the licensee did not isolate service water (SW) to the standby CCW heat exchanger prior to racking out the CCW Pump 3 breaker. As a result, SW Train 1 header pressure significantly dropped, an automatic isolation of SW cooling and realignment to circulating water cooling from Turbine Plant Cooling Water (TPCW) occurred, and the licensee entered the Loss of SW Abnormal Operating procedure.

Description

On May 16, 2013, the licensee was making preparations to perform the quarterly test of CCW Pump 1 to restore operability following a bearing replacement. This evolution required numerous manipulations of both SW and CCW to align CCW Pumps 1 and 3 for the test. The decision was made to start the evolution late on day shift and turnover completion of the activity to the night shift crew. The day shift crew had completed starting CCW Pump 1 and stopping CCW Pump 3, but several actions remained including placing CCW Pump 3 in spare status.

Following plant turnover, the oncoming field supervisor was directed to place CCW Pump 3 in spare status. The field supervisor misinterpreted placing the CCW Pump 3 in spare status as simply racking out the CCW Pump 3 breaker without any valve manipulations. The field supervisor briefed the field operator to rack out breaker AC108, CCW Pump 3 as Breaker 1, using the Operation of Station Breakers Procedure (DB-OP-01000). The field supervisor did not reference the CCW System Procedure (DB-OP-06262) for placing CCW Pump 3 in a spare condition, which required closing the CCW Heat Exchanger 3 Outlet Isolation Valve (SW 37) prior to racking out breaker AC108.

At approximately 6:45 p.m., the field operator racked out breaker AC108 with SW 37 open. Racking out AC108 caused a loss of control power to CCW Heat Exchanger 3 Outlet Temperature Control Valve (SW1429) which failed open per design. Since AC108 was racked out before SW37 was closed, flow was diverted, and SW Loop 1 header pressure dropped from approximately 100 psig to 48 psig. At 6:50 p.m., the control room received an alarm for SW Pump Strainer Discharge Pressure Low. The control room operators subsequently entered the abnormal operating procedure for Loss of SW (DB-OP-02511). The Control Room directed the field operator to close SW37 several minutes later. The plant was stabilized, and the abnormal operating procedure was exited at 7:47 p.m.

The field supervisor had the incorrect mindset that placing CCW Pump 3 in spare status only required racking out breaker AC108 for CCW Pump 3 and did not verify SW37 was closed. There was also a sense of urgency in placing CCW pump 3 in spare status because the work was on the protected train, there were numerous Technical Specification Limiting Condition for Operation (LCO) entries, work was continuing through turnover, and there was a rising temperature trend on the CCW loop due to the abnormal alignment. The field supervisor had the mindset that the control room was responsible for controlling the CCW system procedure. The control room had the mindset that the field supervisor was responsible for placing the CCW Pump 3 in spare status and were unaware that the direction had been given to proceed with placing CCW Pump 3 in spare status during turnover. As a result, neither the field supervisor, nor the control room, nor the equipment operator questioned the status of SW 37 prior to racking out AC108.

Analysis

The inspectors reviewed this finding using the guidance contained in Appendix B, "Issue Screening," of Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports." The inspectors determined that the licensee's failure to implement procedures for placing CCW Pump 3 in spare status was a performance deficiency that was reasonably within the licensee's ability to foresee and correct and should have been prevented. This finding was associated with the Initiating Events Cornerstone of reactor safety and was of more than minor significance because it directly impacted the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations.

The inspectors evaluated the finding using IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power." Using Exhibit 1, which contains the screening questions for the Initiating Events Cornerstone of reactor safety, the inspectors determined that the finding screened as very low safety significance (Green) because it did not adversely impact any of the following parameters:

- Loss-of-Coolant Accident Initiators;
- Transient Initiators;
- Support System Loss Initiators;
- Steam Generator Tube Rupture Initiators; or
- External Event Initiators.

This finding has a cross-cutting aspect in the area of human performance, decision-making component, because the licensee failed to communicate decisions and the basis for decisions to personnel who have a need to know the information in order to perform work safely, in a timely manner. (H.1(c))

Enforcement

Technical Specification 5.4.1(a) requires the licensee to establish, implement, and maintain applicable written procedures for the safety-related systems and activities recommended in RG 1.33, Revision 2, Appendix A. Section 3(e) and 3(m) of RG 1.33, Revision 2, Appendix A, requires procedures for the proper operation of the plant at power, which would include any and all operations involving the CCW and SW systems. Contrary to this requirement, the licensee failed to properly implement written procedures for the operation of the CCW and SW systems resulting in a SW transient. Specifically, the licensee failed to perform section 3.15 of DB-OP-06262 to place CCW Pump 3 in a spare status as directed by step 3.1.24.a of DB-OP-06262.

Because this finding was of very low safety significance, had been entered into the licensee's CAP, and the licensee had taken or planned corrective actions under CR 2013-07722, the associated violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy (NCV 05000346/2013003-01). Corrective actions taken by the licensee included an operations stand down, reinforcement of expectations, and additional operations training.

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:

- DB-PF-03030; "Service Water Pump 3 Testing," during the week ending April 20, 2013 (routine);
- DB-MI-03207; "Channel Functional Test/Calibration and Response Time of Reactor Coolant Pump (RCP) Monitor (RC3602) to Steam/Feed Rupture Control System Logic Channel 2 and Reactor Protection System Channel 2," during the week ending June 15, 2013 (routine);
- DB-SC-04271; "SBODG Monthly Test," during the week ending June 15, 2013 (routine);
- DB-FP-04043; "Bus Tie Transformer AC Deluge Test," during the week ending June 29, 2013 (routine); and
- DB-SP-03338; "Containment Spray Train 2 Quarterly Pump and Valve Test," during the week ending April 20, 2013 (Inservice Testing [IST]).

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 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 IST activities, testing was performed in accordance with the applicable version of Section XI, American Society of Mechanical Engineers (ASME) 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, 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.

The inspectors' reviews of these activities constituted four routine surveillance testing inspection samples, and one inservice testing inspection sample as defined in IP 71111.22, Sections -02 and -05.

b. Findings

No findings were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

.1 NRC Headquarters Staff Reviews

a. Inspection Scope

The NRC headquarters staff performed an in-office review of the latest revisions of various Emergency Plan Implementing Procedures (EPIPs) and the Emergency Plan located under NRC's Agencywide Documents Access and Management

System (ADAMS) Accession Numbers ML13077A438, ML13107B368, ML13107B350, ML13123A335, and ML13126A102, as listed in the Attachment to this report.

The licensee determined that in accordance with 10 CFR 50.54(q), the changes made in the revisions resulted in no reduction in the effectiveness of the plan, and that the revised plan continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The NRC review was not documented in a safety evaluation report and did not constitute approval of licensee-generated changes; therefore, this revision is subject to future inspection. The specific documents reviewed during this inspection are listed in the Attachment to this report.

The inspectors' review of these emergency action level and emergency plan changes constituted a single inspection sample as defined in IP 71114.04-05.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstones: Occupational Radiation Safety and Public Radiation Safety

2RS5 Radiation Monitoring Instrumentation (71124.05)

The following four subsections constituted one complete inspection sample as defined in IP 71124.05-05.

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed the plant USAR to identify radiation instruments associated with monitoring area radiological conditions including airborne radioactivity, process streams, effluents, materials/articles, and workers. Additionally, the inspectors reviewed the instrumentation and the associated TS requirements for post-accident monitoring instrumentation including instruments used for remote emergency assessment.

The inspectors reviewed a listing of in-service survey instrumentation including air samplers and small article monitors, along with instruments used to detect and analyze workers' external contamination. Additionally, the inspectors reviewed personnel contamination monitors and portal monitors, including whole-body counters, to detect workers' internal contamination. The inspectors reviewed this list to assess whether an adequate number and type of instruments were available to support operations.

The inspectors reviewed licensee and third-party evaluation reports of the radiation monitoring program since the last inspection. These reports were reviewed for insights into the licensee's program and to aid in selecting areas for review ("smart sampling").

The inspectors reviewed procedures that govern instrument source checks and calibrations, focusing on instruments used for monitoring transient high radiological conditions, including instruments used for underwater surveys. The inspectors reviewed the calibration and source check procedures for adequacy and as an aid to smart sampling.

The inspectors reviewed the area radiation monitor alarm setpoint values and setpoint bases as provided in the TS and the USAR.

The inspectors reviewed effluent monitor alarm setpoint bases and the calculational methods provided in the offsite dose calculation manual.

b. Findings

No findings were identified.

.2 Walkdowns and Observations (02.02)

a. Inspection Scope

The inspectors walked down effluent radiation monitoring systems, including at least one liquid and one airborne system. Focus was placed on flow measurement devices and all accessible point-of-discharge liquid and gaseous effluent monitors of the selected systems. The inspectors assessed whether the effluent/process monitor configurations aligned with Offsite Dose Calculation Manual descriptions and observed monitors for degradation and out-of-service tags.

The inspectors selected portable survey instruments that were in use or available for issuance and assessed calibration and source check stickers for currency as well as instrument material condition and operability.

The inspectors observed licensee staff performance as the staff demonstrated source checks for various types of portable survey instruments. The inspectors assessed whether high-range instruments were source checked on all appropriate scales.

The inspectors walked down area radiation monitors and continuous air monitors to determine whether they were appropriately positioned relative to the radiation sources or areas they were intended to monitor. Selectively, the inspectors compared monitor response (via local or remote control room indications) with actual area conditions for consistency.

The inspectors selected personnel contamination monitors, portal monitors, and small article monitors and evaluated whether the periodic source checks were performed in accordance with the manufacturer's recommendations and licensee procedures.

b. Findings

No findings were identified.

.3 Calibration and Testing Program (02.03)

Process and Effluent Monitors

a. Inspection Scope

The inspectors selected effluent monitor instruments (such as gaseous and liquid) and evaluated whether channel calibration and functional tests were performed consistent with radiological effluent TS/Offsite Dose Calculation Manual. The inspectors assessed whether: (a) the licensee calibrated its monitors with National Institute of Standards and

Technology traceable sources; (b) the primary calibrations adequately represented the plant nuclide mix; (c) when secondary calibration sources were used, the sources were verified by the primary calibration; and (d) the licensee's channel calibrations encompassed the instrument's alarm set-points.

The inspectors assessed whether the effluent monitor alarm setpoints were established as provided in the Offsite Dose Calculation Manual and station procedures.

For changes to effluent monitor setpoints, the inspectors evaluated the basis for changes to ensure that an adequate justification existed.

b. Findings

No findings were identified.

Laboratory Instrumentation

a. Inspection Scope

The inspectors assessed laboratory analytical instruments used for radiological analyses to determine whether daily performance checks and calibration data indicated that the frequency of the calibrations was adequate and there were no indications of degraded instrument performance.

The inspectors assessed whether appropriate corrective actions were implemented in response to indications of degraded instrument performance.

b. Findings

No findings were identified.

Whole Body Counter

a. Inspection Scope

The inspectors reviewed the methods and sources used to perform whole body count functional checks before daily use of the instrument and assessed whether check sources were appropriate and aligned with the plant's isotopic mix.

The inspectors reviewed whole body count calibration records since the last inspection and evaluated whether calibration sources were representative of the plant source term and that appropriate calibration phantoms were used. The inspectors looked for anomalous results or other indications of instrument performance problems.

b. Findings

No findings were identified.

Post-Accident Monitoring Instrumentation

a. Inspection Scope

Inspectors selected containment high-range monitors and reviewed the calibration documentation since the last inspection.

The inspectors assessed whether an electronic calibration was completed for all range decades above 10 rem/hour and whether at least one decade at or below 10 rem/hour was calibrated using an appropriate radiation source.

The inspectors assessed whether calibration acceptance criteria were reasonable, accounted for the large measuring range and the intended purpose of the instruments.

The inspectors selected two effluent/process monitors that were relied on by the licensee in its emergency operating procedures as a basis for triggering emergency action levels and subsequent emergency classifications, or to make protective action recommendations during an accident. The inspectors evaluated the calibration and availability of these instruments.

The inspectors reviewed the licensee's capability to collect high-range, postaccident iodine effluent samples.

As available, the inspectors observed electronic and radiation calibration of these instruments to assess conformity with the licensee's calibration and test protocols.

b. Findings

No findings were identified. One unresolved item (URI) concerning permanently installed radiation monitoring instrumentation was identified by the inspectors.

The inspectors identified that radiation monitors RE-1878B (Liquid Radioactive Waste Effluent – Miscellaneous); RE-1822B (Waste Gas Decay System), and RE-1770 A and B (Liquid Radioactive Waste Effluent) had been out of service for extended times over the past several years. These radiation monitors impact both the Offsite Dose Calculation Manual and the Emergency Preparedness (EP) Program. Compensatory actions were in place when these radiation monitors were out of service.

Radiation monitor RE-4598 Channel 1 had its calculated flow rate changed 142,000cfm to the 110,000cfm (refer to licensee CR 2011-04083). This change in calculated flow rate impacted the radiation monitor's alert and alarm set-point values, and had the potential to impact the radiation monitor's EP emergency action level threshold values.

The inspectors have categorized this issue as unresolved, pending completion of an evaluation of the adequacy of the compensatory actions for the out of service radiation monitors specific to the Offsite Dose Calculation Manual and the EP emergency action levels threshold values. Additionally, the inspectors will review the impact of the change in calculated flow rate for radiation monitor RE-4598 Channel 1 specific to the EP emergency action level threshold values. (URI 05000346/2013003-02).

Portal Monitors, Personnel Contamination Monitors, and Small Article Monitors

a. Inspection Scope

For each type of these instruments used on site, the inspectors assessed whether the alarm setpoint values were reasonable under the circumstances to ensure that licensed material is not released from the site.

The inspectors reviewed the calibration documentation for each instrument selected and discussed the calibration methods with the licensee to determine consistency with the manufacturer's recommendations.

b. Findings

No findings were identified.

Portable Survey Instruments, Area Radiation Monitors, Electronic Dosimetry, and Air Samplers/Continuous Air Monitors

a. Inspection Scope

The inspectors reviewed calibration documentation for at least one of each type of instrument. For portable survey instruments and area radiation monitors, the inspectors reviewed detector measurement geometry and calibration methods and had the licensee demonstrate use of its instrument calibrator as applicable. The inspectors conducted comparison of instrument readings versus an NRC survey instrument if problems were suspected.

As available, the inspectors selected portable survey instruments that did not meet acceptance criteria during calibration or source checks to assess whether the licensee had taken appropriate corrective action for instruments found significantly out of calibration (greater than 50 percent). The inspectors evaluated whether the licensee had evaluated the possible consequences of instrument use since the last successful calibration or source check.

b. Findings

No findings were identified.

Instrument Calibrator

a. Inspection Scope

As applicable, the inspectors reviewed the current output values for the licensee's portable survey and area radiation monitor instrument calibrator units. The inspectors assessed whether the licensee periodically measures calibrator output over the range of the instruments used through measurements by ion chamber/electrometer.

The inspectors assessed whether the measuring devices had been calibrated by a facility using National Institute of Standards and Technology traceable sources and whether corrective factors for these measuring devices were properly applied by the licensee in its output verification.

b. Findings

No findings were identified.

Calibration and Check Sources

a. Inspection Scope

The inspectors reviewed the licensee's 10 CFR Part 61, "Licensing Requirements for Land Disposal of Radioactive Waste," source term to assess whether calibration sources used were representative of the types and energies of radiation encountered in the plant.

b. Findings

No findings were identified.

.4 Problem Identification and Resolution (02.04)

a. Inspection Scope

The inspectors evaluated whether problems associated with radiation monitoring instrumentation were being identified by the licensee at an appropriate threshold and were properly addressed for resolution in the licensee CAP. The inspectors assessed the appropriateness of the corrective actions for a selected sample of problems documented by the licensee that involve radiation monitoring instrumentation.

b. Findings

No findings were identified.

2RS6 Radioactive Gaseous and Liquid Effluent Treatment (71124.06)

The following seven subsections constituted a partial inspection sample as defined in IP 71124.06-05.

.1 Inspection Planning and Effluent Report Reviews (02.01)

Event Report and Effluent Report Reviews

a. Inspection Scope

The inspectors reviewed the Radiological Effluent Release Reports issued since the last inspection to determine whether the reports were submitted as required by the Offsite Dose Calculation Manual/TS. The inspectors reviewed anomalous results, unexpected trends, as well as abnormal releases identified by the licensee for further inspection to determine whether they had been evaluated and entered into the CAP and were adequately resolved.

The inspectors identified radioactive effluent monitor operability issues reported by the licensee as provided in effluent release reports, to review these issues during the onsite inspection, as warranted, given their relative significance and to determine whether the issues were entered into the CAP and adequately resolved.

b. Findings

No findings were identified.

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 Offsite Dose Calculation Manual made by the licensee since the last inspection against the guidance in NUREG-1301, 1302 and 0133, and Regulatory Guides 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 as-low-as-is-reasonably-achievable.

The inspectors reviewed licensee documentation to determine whether the licensee has identified any non-radioactive systems that have become contaminated as disclosed either through an event report or the Offsite Dose Calculation Manual since the last inspection. This review provided an intelligent sample list for the onsite inspection of any 10 CFR 50.59 evaluations and allowed a determination whether any newly contaminated systems have an unmonitored effluent discharge path to the environment, or whether any required Offsite Dose Calculation Manual revisions were made to incorporate these new pathways and whether the associated effluents were reported in accordance with Regulatory Guide 1.21.

b. Findings

No findings were identified.

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.

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 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 Walkdowns and Observations 02.02)

a. Inspection Scope

The inspectors walked down selected components of the gaseous and liquid discharge systems to evaluate whether equipment configuration and flow paths align with the documents reviewed in Section 2RS6.1 above and to assess equipment material condition. Special attention was made to identify potential unmonitored release points (such as temporary structures butted against turbine, auxiliary or containment buildings), building alterations which could impact airborne, or liquid effluent controls, and ventilation system leakage that communicated directly with the environment.

For equipment or areas associated with the systems selected for review that were not readily accessible due to radiological conditions, the inspectors reviewed the licensee's material condition surveillance records, as applicable.

The inspectors walked down filtered ventilation systems to assess for conditions such as degraded high-efficiency particulate air/charcoal banks, improper alignment, or system installation issues that would impact the performance or the effluent monitoring capability of the effluent system.

As available, the inspectors observed selected portions of the routine processing and discharge of radioactive gaseous effluent (including sample collection and analysis) to evaluate whether appropriate treatment equipment was used and the processing activities align with discharge permits.

The inspectors determined if the licensee has made significant changes to their effluent release points, e.g., changes subject to a 10 CFR 50.59 review or require NRC approval of alternate discharge points.

As available, the inspectors observed selected portions of the routine processing and discharge liquid waste (including sample collection and analysis) to determine whether appropriate effluent treatment equipment is being used and that radioactive liquid waste is being processed and discharged in accordance with procedure requirements and aligns with discharge permits.

b. Findings

No findings were identified.

.3 Sampling and Analyses (02.03)

a. Inspection Scope

The inspectors selected effluent sampling activities, consistent with smart sampling, and assessed whether adequate controls have been implemented to ensure representative samples were obtained (e.g., provisions for sample line flushing, vessel recirculation, composite samplers, etc.)

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 TS/Offsite Dose Calculation Manual and that those controls were adequate to prevent the release of unmonitored liquid and gaseous effluents.

The inspectors determined whether the facility was routinely relying on the use of compensatory sampling in lieu of adequate system maintenance, based on the frequency of compensatory sampling since the last inspection.

The inspectors reviewed the results of the inter-laboratory comparison program to evaluate the quality of the radioactive effluent sample analyses and assessed whether the inter-laboratory comparison program includes hard-to-detect isotopes as appropriate.

b. Findings

No findings were identified.

.4 Instrumentation and Equipment (02.04)

Effluent Flow Measuring Instruments

a. Inspection Scope

The inspectors reviewed the methodology the licensee uses to determine the effluent stack and vent flow rates to determine whether the flow rates were consistent with Radiological Effluent TS/Offsite Dose Calculation Manual or USAR values, and that differences between assumed and actual stack and vent flow rates did not affect the results of the projected public doses.

b. Findings

No findings were identified.

Air Cleaning Systems

a. Inspection Scope

The inspectors assessed whether surveillance test results since the previous inspection for TS required ventilation effluent discharge systems (high-efficiency particulate air and charcoal filtration), such as the Containment/Auxiliary Building Ventilation System, met TS acceptance criteria.

b. Findings

No findings were identified.

.5 Dose Calculations (02.05)

a. Inspection Scope

The inspectors reviewed all significant changes in reported dose values compared to the previous radiological effluent release report (e.g., a factor of 5, or increases that approach Appendix I Criteria) to evaluate the factors which may have resulted in the change.

The inspectors reviewed radioactive liquid and gaseous waste discharge permits to assess whether the projected doses to members of the public were accurate and based on representative samples of the discharge path.

Inspectors evaluated the methods used to determine the isotopes that are included in the source term to ensure all applicable radionuclides are included within detectability standards. The review included the current 10 CFR Part 61 analyses to ensure hard-to-detect radionuclides are included in the source term.

The inspectors reviewed changes in the licensee's offsite dose calculations since the last inspection to evaluate whether changes were consistent with the Offsite Dose Calculation Manual and Regulatory Guide 1.109. Inspectors reviewed meteorological dispersion and deposition factors used in the Offsite Dose Calculation Manual and effluent dose calculations to evaluate whether appropriate factors were being used for public dose calculations.

The inspectors reviewed the latest land use census to assess whether changes (e.g., significant increases or decreases to population in the plant environs, changes in critical exposure pathways, the location of nearest member of the public or critical receptor, etc.) have been factored into the dose calculations.

The inspectors reviewed, as available, records of any abnormal gaseous or liquid tank discharges (e.g., discharges resulting from misaligned valves, valve leak-by, etc.) to ensure the abnormal discharge was monitored by the discharge point effluent monitor. Discharges made with inoperable effluent radiation monitors, or unmonitored leakages were reviewed to ensure that an evaluation was made of the discharge to satisfy 10 CFR 20.1501 so as to account for the source term and projected doses to the public.

b. Findings

No findings were identified.

.6 Groundwater Protection Initiative Implementation (02.06)

a. Inspection Scope

The inspectors reviewed monitoring results of the Groundwater Protection Initiative to determine whether the licensee had implemented its program as intended and to identify any anomalous results. For anomalous results or missed samples, the inspectors

assessed whether the licensee had identified and addressed deficiencies through its CAP.

The inspectors reviewed identified leakage or spill events and entries made into 10 CFR 50.75(g) records. The inspectors reviewed evaluations of leaks or spills and reviewed any remediation actions taken for effectiveness. The inspectors reviewed onsite contamination events involving contamination of groundwater and assessed whether the source of the leak or spill was identified and mitigated.

For unmonitored spills, leaks, or unexpected liquid or gaseous discharges, the inspectors assessed whether an evaluation was performed to determine the type and amount of radioactive material that was discharged by:

- Assessing whether sufficient radiological surveys were performed to evaluate the extent of the contamination and the radiological source term and assessing whether a survey/evaluation had been performed to include consideration of hard-to-detect radionuclides; and
- Determining whether the licensee completed offsite notifications, as provided in its Groundwater Protection Initiative implementing procedures.

The inspectors reviewed the evaluation of discharges from onsite surface water bodies that contain or potentially contain radioactivity, and the potential for groundwater leakage from these onsite surface water bodies. The inspectors assessed whether the licensee was properly accounting for discharges from these surface water bodies as part of their effluent release reports.

The inspectors assessed whether on-site groundwater sample results and a description of any significant on-site leaks/spills into groundwater for each calendar year was documented in the Annual Radiological Environmental Operating Report for the Radiological Environmental Monitoring Program or the Annual Radiological Effluent Release Report for the Radiological Effluent TS.

For significant, new effluent discharge points (such as significant or continuing leakage to groundwater that continues to impact the environment if not remediated), the inspectors evaluated whether the offsite dose calculation manual was updated to include the new release point.

b. Findings

No findings were identified.

.7 Problem Identification and Resolution (02.07)

a. Inspection Scope

Inspectors assessed whether problems associated with the Effluent Monitoring and Control Program were being identified by the licensee at an appropriate threshold and were properly addressed for resolution in the licensee CAP. In addition, they evaluated the appropriateness of the corrective actions for a selected sample of problems documented by the licensee involving radiation monitoring and exposure controls.

b. Findings

No findings were identified.

4. **OTHER ACTIVITIES**

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

4OA1 Performance Indicator Verification (71151)

.1 Safety System Functional Failures

a. Inspection Scope

The inspectors sampled licensee submittals for the Safety System Functional Failures performance indicator (PI) for the period from the second quarter 2012 through the first quarter 2013. 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 6, dated October 2009, and NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73" definitions and guidance, were used. The inspectors reviewed the licensee's operator narrative logs, operability assessments, maintenance rule records, maintenance work orders, issue reports, event reports and NRC Integrated Inspection Reports for the period of April 2012 through March 2013 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator, and none were identified. Documents reviewed are listed in the Attachment to this report.

The inspectors' reviews of this PI data constituted a single Safety System Functional Failure inspection sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.2 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 for the period from the second quarter 2012 through the first quarter 2013. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, 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 April 2012 through March 2013 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.

The inspectors' reviews of this PI data constituted a single MSPI – Emergency AC Power System inspection sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.3 Mitigating Systems Performance Index - High Pressure Injection Systems

a. Inspection Scope

The inspectors sampled licensee submittals for the MSPI - High Pressure Injection Systems performance for the period from the second quarter 2012 through the first quarter 2013. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, 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 April 2012 to March 2013 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.

The inspectors' reviews of this PI data constituted a single MSPI – High Pressure Injection System inspection sample as defined in IP 71151-05.

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems (71152)

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

a. Inspection Scope

As part of the various baseline IPs discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that they were being entered into the licensee's 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: Human Performance Errors

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 the assessment of licensee human performance issues. The inspectors' review nominally considered the 6-month period of January 1 through June 30, 2013, although 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, QA 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 a single semi-annual trend inspection sample as defined in IP 71152-05.

b. Observations

In Section 4OA2.5 of NRC Inspection Report 05000346/2012005 (ADAMS Accession No. ML13025A126), the inspectors discussed an adverse trend in human performance within the site's Operations Department and the status of the licensee's ongoing corrective action efforts to resolve that trend. While the inspectors continue to note that the licensee's improvement efforts are having a positive impact on Operations Department performance, the continuing need for licensee focus in this area is still evident at this time:

- In Section 1R13.1 of the First Quarter 2013 NRC Integrated Inspection Report (IR 05000346/2013002; ADAMS Accession No. ML13112A219), the inspectors documented a human performance related finding and an associated NCV for an issue that occurred when a non-licensed operator inadvertently repositioned the incorrect motor-operated valve (MOV) and caused an unplanned entry into TS LCO 3.6.3, Condition A, for an inoperable CCW containment isolation valve;
- In Section 1R19.1 of this report, the inspectors again documented an Operations Department human performance related finding and an associated NCV. In this case, operator human performance errors and confusion as to what procedure steps needed to be performed to properly conduct alignment changes within the CCW system resulted in an inadvertent sudden drop in SW header pressure and entry into an abnormal operating procedure to stabilize secondary plant parameters; and
- On June 22, 2013, plant operators conducting a quarterly test of the No. 2 Auxiliary Feedwater (AFW) Pump failed to note that the pump discharge pressure, recorded consistently during the test as approximately 87 psig, was well below what the pump should have been producing. As discussed below, an error in the installation of temporary test instruments on the pump suction and discharge had resulted in the 0 – 60 psig suction instrument being installed at the pump discharge in place of the intended 0 – 1500 psig instrument. The test was run to completion without the operators noting the discrepancy, which was later identified by an operations supervisor conducting a post-test paperwork review.

In addition to the ongoing human performance error prevention focus area for the Operations Department, the inspectors have also noted adverse trends in human performance within the Maintenance and Security Departments as well. Within the Maintenance Department, of particular note have been several recent issues associated with Instrumentation and Controls (I & C) maintenance tasks:

- On April 29, 2013, while performing DB-MI-04050, "Channel Calibration of Temperature and Delta Temperature for Meteorological Tower (Primary and Backup)," an I & C technician manipulated the temperature processor mode switch for the in-service Backup Meteorological Tower instead of the Primary Meteorological Tower as planned. This resulted in plant computer point M012 being rendered non-functional for approximately 45 minutes and an unanticipated

entry into Technical Requirements Manual (TRM) 8.3.4, Nonconformance 'A' for Function No. 3, "Air Temperature Delta T";

- As discussed in Section 4OA7 of this report, on May 20, 2013, two replacement power supplies associated with reactor coolant saturation pressure/saturation temperature inputs to Channel 2 of the Post Accident Monitoring System were incorrectly installed when an I & C technician inadvertently switched the positions of a 5 Vdc power supply and a 15 Vdc power supply. As a result of the improperly installed power supplies, some 5 Vdc components within Channel 2 of the Post Accident Monitoring System were damaged when 15 Vdc power was improperly applied to them and the Channel 2 reactor coolant saturation pressure/saturation temperature inputs were rendered nonfunctional. These instruments remained unavailable to plant operators until repair parts could be obtained and functionality restored on June 3, 2013; and
- On June 22, 2013, an I & C technician installing precision pressure instruments on the suction and discharge of No. 2 AFW Pump to support quarterly pump testing inadvertently swapped the instruments. The suction pressure instrument, with a range of 0 – 60 psig, was installed on the pump discharge and was destroyed when it was subjected to fluid pressures well beyond its design. The subsequent delays introduced by the need to obtain and install new, correct instrumentation prior to repeating the quarterly test caused the No. 2 AFW Train to remain inoperable for several additional hours beyond what had been originally planned. (Note that because the No. 2 AFW Train was always available for use and the TS allowed outage time not exceeded due to the error, the inspectors considered the performance deficiency to be of minor safety significance and not documentable as a finding or violation of NRC requirements.)

During the week ending on June 15, 2013, NRC security inspectors conducted a baseline security inspection at the plant. Several low-level human performance errors involving security personnel were noted, and have been documented in NRC IR 05000346/2013404. Due to the nature of the information as security related – official use only, the details of the IR are not publically available and will not be discussed herein. As is the case with all NRC security inspections, the security issues noted were corrected or compensated for before the NRC security inspectors departed from the site.

Individually, the human performance issues observed by the inspectors and/or noted in this section were of very low or minor safety significance. Taken in aggregate, however, they may be representative of a more significant issue, especially when considering that the Operations, Maintenance, and Security Departments are the three largest workgroups at the site.

c. Findings

No findings were identified.

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

.1 Automatic Reactor Trip Due to Reactor Coolant Pump (RCP) Trip: Event Notification 49159

The inspectors reviewed the licensee's response to a Reactor Protection System (RPS) automatic reactor trip on June 29, 2013. At approximately 9:20 p.m., RCP 1-2 tripped

due to an electrical fault. The ensuing rapid reduction in reactor coolant flow with the plant operating at full power resulted in a condition whereby reactor power was higher than the allowable value for the reactor coolant flow condition. This condition was sensed immediately by the RPS, and an automatic reactor trip on flux/delta flux/flow was generated.

NRC inspectors responded to the site immediately following the reactor trip and verified that the trip was uncomplicated by any significant equipment or human performance issues. Several minor equipment issues were reviewed by the inspectors to verify that plant operators were appropriately compensating for the issues in accordance with plant procedures. In addition, the inspectors also observed the licensee's review of their emergency action level matrix for applicability and ensured that applicable notifications to the State of Ohio, affected units of local government, and the NRC Headquarters Operations Center were made in a timely manner.

At the end of the inspection period the plant remained shut down in a hot standby condition, with the licensee's investigation and maintenance to correct the cause of the event still ongoing. And while the NRC's inspection of this event is also ongoing, to date no violations of NRC requirements have been identified by the inspectors during their review. Documents reviewed in this inspection are listed in the Attachment.

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

4OA6 Management Meetings

.1 Exit Meeting Summary

On July 2, 2013, the inspectors presented the inspection results to the Site Vice President, Mr. R. Lieb, 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 area of Radioactive Gaseous And Liquid Effluent Treatment with the Site Vice President, Mr. R. Lieb, on April 5, 2013;
- The inspection results for the area of Radiation Monitoring Instrumentation with the Site Vice President, Mr. R. Lieb, on May 3, 2013; and
- A telephone exit update was conducted for the area of Radiation Monitoring Instrumentation with Mr. J. Sturdavant, Regulatory Affairs Specialist, on May 23, 2013.

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.

40A7 Licensee-Identified Violations

The following violation of very low significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section 2.3.2 of the NRC Enforcement Policy for being dispositioned as an NCV.

.1 Post Accident Monitoring System Reliability Adversely Impacted by Inadequate Maintenance Instructions

Technical Specification 5.4.1(a) requires the licensee to establish, implement, and maintain applicable written procedures for the systems and activities recommended in Regulatory Guide (RG) 1.33, Revision 2, Appendix A. Section 9(a), "Procedures for Performing Maintenance," of RG 1.33, Revision 2, Appendix A, further states that these maintenance activities should be properly preplanned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances.

Contrary to this requirement, on May 20, 2013, the licensee's instructions for replacing power supplies in TDY4950, the Reactor Coolant System saturation pressure/saturation temperature instrument input to Channel 2 of the Post Accident Monitoring System, were less than adequate for the work being performed. Specifically, the work instruction details only provided stock code numbers for the power supplies, with no reference to voltage output differences. This omission in the written work instructions contributed to the incorrect installation of physically similar 5 Vdc and 15 Vdc power supplies into the wrong locations within the instrumentation cabinet. Subsequently, the application of the incorrect 15 Vdc power to instrumentation components that were only rated for 5 Vdc caused several of the subcomponents to be damaged, and rendered TDY4950 nonfunctional until replacement parts could be obtained and repairs made on June 3, 2013.

The objective of the Mitigating Systems Cornerstone of Reactor Safety is to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). A key attribute of this objective is human performance, and specifically, procedure quality. In accordance with NRC IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," the inspectors determined that the violation was of more than minor significance in that it had a direct impact on this cornerstone objective. The licensee's failure to provide adequate detail within the written work instructions for the replacement of the TDY4950 instrumentation power supplies resulted in the loss of the Reactor Coolant System saturation pressure/saturation temperature instrument input to Channel 2 of the Post Accident Monitoring System, and reduced the overall reliability of the Post Accident Monitoring System for a period of approximately 14 days. The licensee had entered this issue into their CAP as CR 2013-07901. Corrective actions planned or completed by the licensee include revisions to the detail included within the applicable maintenance plans and instructions for TDY4950, and the corresponding Channel 1 instrument (TDY4951), to address the specific location requirements within the instrumentation cabinet for the 5 Vdc and 15 Vdc power supplies.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

R. Lieb, Site Vice President
B. Boles, Director, Site Operations
K. Byrd, Director, Site Engineering
V. Capozziello, Chemistry Supervisor
G. Cramer, Manager, Site Protection
J. Cuff, Manager, Training
A. Dawson, Manager, Chemistry
J. Dominy, Director, Site Maintenance
J. Hook, Manager, Design Engineering
D. Imlay, Director, Site Performance Improvement
G. Kendrick, Manager, Site Outage Management
B. Kremer, Manager, Plant Engineering
P. McCloskey, Manager, Site Regulatory Compliance
D. Noble, Manager, Radiation Protection
W. O'Malley, Manager, Nuclear Oversight
R. Oesterle, Superintendent, Nuclear Operations
R. Patrick, Manager, Site Work Management
D. Petro, Manager, Steam Generator Replacement Project
T. Summers, Manager, Site Operations
M. Roelant, Manager, Site Projects
L. Rushing, Director, Special Projects
C. Sacha, Radiation Protection Supervisor
D. Saltz, Manager, Site Maintenance
C. Steenbergen, Superintendent, Operations Training
J. Sturdavant, Regulatory Compliance
L. Thomas, Manager, Nuclear Supply Chain
M. Travis, Superintendent, Radiation Protection
J. Vetter, Manager, Emergency Response
A. Wise, Manager, Technical Services
G. Wolf, Supervisor, Regulatory Compliance
K. Zellers, Supervisor, Reactor Engineering

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

| | | |
|---------------------|-----|---|
| 05000346/2013003-01 | NCV | Operations Communications and Work Coordination Error Results in Service Water System Transient (Section 1R19.1) |
| 05000346/2013003-02 | URI | Evaluation of Out of Service Status and Change in Flow Rates in Flow Rates on Permanently Installed Radiation Monitors (Section 2RS5.3) |

Closed

| | | |
|---------------------|-----|--|
| 05000346/2013003-01 | NCV | Operations Communications and Work Coordination Error Results in Service Water System Transient (Section 1R19.1) |
|---------------------|-----|--|

Discussed

None

LIST OF DOCUMENTS REVIEWED

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

1R04 Equipment Alignment

Condition Reports:

- 2013-04604; BACC: CS20 Inactive Valve Packing Leak

Procedures:

- DB-OP-06013; Containment Spray System; Revision 23

Drawings:

- M-034, Emergency Core Cooling System Containment Spray and Core Flooding Systems, Revision 67
- OS-005, Operational Schematic Containment Spray System; Revision 12

1R05 Fire Protection

Condition Reports:

- 2013-00052; Latent Typo in FHAR, Fire Area AB

Pre-Fire Plans:

- PFP-AB-105; ECCS Pump Room 1-1, Room 105, Fire Area AB; Revision 8
- PFP-AB-115; ECCS Pump Room 1-2, Room 115, Fire Area A; Revision 5
- PFP-AB-312; Spent Fuel Pool Pump Room, Room 312, Fire Area U; Revision 5
- PFP-AB-427; No. 2 Electrical Penetration Room, Room 427, Fire Area DF; Revision 4
- PFP-AB-422A; Cable Spreading Room, Room 422A, Fire Area DD; Revision 4
- PFP-AB-422B; Cable Spreading Room Ladder Space, Room 422B, Fire Area CC; Revision 4

Drawings:

- A-0221F; Fire Protection General Floor Plan El. 545'-0" and 555'-0"; Revision 6
- A-0223F; Fire Protection General Floor Plan El. 585'-0"; Revisions 8 - 14
- A-0224F; Fire Protection General Floor Plan El. 603'-0"; Revisions 13 - 23
- A-2329; Barrier Penetration Drawing Barrier 505-F Auxiliary Building El. 623'-0; Revision 1
- A-2289; Barrier Penetration Drawing Barrier 422A-C Details Auxiliary Building; Revisions 0 - 1

Procedures:

- DB-FP-04036; Appendix R Fire Door 18 Month Inspection; Revision 8

Other:

- Fire Hazard Analysis Report

1R06 Flood Protection Measures

Condition Reports:

- 2013-08896; East and West Condenser Pit Sump Pumps Have No Functioning Sump Pumps

- 2013-09513; East Condenser Pit Temporary Sump Pumps Started, Tritium Containing Water Pumped to WT Building Sump
- 2013-09544; P145A and B Inadequate Capacity to Complete DFP Monthly Test

Procedures:

- RA-EP-02830; Flooding; Revision 2
- RA-EP-02880; Internal Flooding; Revision 3

Calculation:

- C-NSA-042.01.001; Condenser Pit Level Sensor Location; Revision 0

1R11 Licensed Operator Requalification Program and Licensed Operator Performance

Condition Reports:

- 2013-07722; Entered DB-OP-02511, Loss of Service Water Pumps/Systems Due to Failure to Perform Section 3.15 of DB-OP-06262
- 2013-07837; NOBP-TR-1122, Operating Crew Performance Critique, Service Water Transient
- 2013-08090; NRC Inspector Access to Davis-Besse Switchyard
- 2013-08434; ODMI – Station and Instrument Air Summer Operations

Procedures:

- NT-OT-7001; Training and Qualification of Operations Personnel; Revision 13
- NOP-TR-1008; FENOC Simulator Configuration Management; Revision 0
- NOP-TR-1010; Licensed Operator Requalification Exam Development; Revision 2
- NOP-OP-1013, Control of Time Critical Operator Actions, Revision 1
- DB-OP-06401; Integrated Control System Operating Procedure; Revision 20
- DB-OP-06902; Power Operations; Revision 41
- DB-MI-03013; Channel Functional Test of Reactor Trip Breaker D, RPS Channel 3 Reactor Trip Module Logic, and ARTS Channel 3 Output Logic; Revision 30
- DB-OP-01000; Operation of Station Breakers; Revision 28
- DB-OP-01300; Switchyard Management; Revision 8
- DB-OP-06311; 345 KV Switchyard No. 1 (Main) Transformer, No. 11 (Auxiliary) Transformer, and Startup Transformers (01 and 02); Revisions 29 and 30
- DB-ME-09104; 13.8 KV and 4.16 KV Westinghouse DHP Breakers; Revision 12

Business Practices:

- DBBP-TRAN-0014; License Requirements for Licensed Operators; Revision 9
- DBBP-TRAN-0021; Simulator Configuration Control; Revision 3
- DBBP-TRAN-0502; Development of Continuing Training Simulator Evaluation; Revision 9
- NOBP-TR-1112; FENOC Conduct of Simulator Training and Evaluation; Revision 2
- DBBP-OPS-1013; Control of Time Critical Actions; Revision 2

1R12 Maintenance Effectiveness

Condition Reports:

- 2013-07593; ABS34622 Failed to Open Via SCADA
- 2013-07647; No Local Light Indication at HX02B
- 2013-07712; PA-DB-13-02: Critical Steps Were Performed Without Required Oversight
- 2013-09710; Results of EPRI Condition Assessment of Switchyard H-Frame
- 2013-07534; Unexpected DC Voltage Level Observed at Control Room Switchyard Annunciator Panel C5725 and Relay House Panels 5LA and K-Bus

- 2013-07872; Could Not Transfer B Bus to X11 Transformer
- 2013-07067; High Bearing Temperature Alarm on CCW Pump #1
- 2013-07722; Entered DB-OP-02511, Loss of Service Water Pumps/Systems due to failure to perform section 3.15 of DB-OP-06262
- 2013-07724; CT2955 Automatically Closed

Procedures:

- DB-OP-01000; Operation of Station Breakers; Revision 28
- DB-OP-01300; Switchyard Management; Revision 8
- DB-OP-06311; 345 KV Switchyard No. 1 (Main) Transformer, No. 11 (Auxiliary) Transformer, and Startup Transformers (01 and 02); Revisions 29 and 30
- DB-ME-09104; 13.8 KV and 4.16 KV Westinghouse DHP Breakers; Revision 12
- NOP-WM-4006; Conduct of Maintenance; Revision 5
- DB-OP-02511; Service Water Abnormal Operating Procedure; Revision 14
- DB-OP-06262; Component Cooling Water System Procedure; Revision 29

Orders:

- 200563758; CCW Pump 1 Quarterly Test

Other:

- Davis-Besse System Health Report 4th Quarter 2012; System 01-01 Switchyard Transformers
- Davis-Besse System Health Report 4th Quarter 2012; System 16-01 Component Cooling Water

1R13 Maintenance Risk Assessments and Emergent Work Control

Condition Reports:

- 2013-07593; ABS34622 Failed to Open Via SCADA
- 2013-07647; No Local Light Indication at HX02B
- 2013-07712; PA-DB-13-02: Critical Steps Were Performed Without Required Oversight
- 2013-08434; ODMI – Station and Instrument Air Summer Operations
- 2013-07265; Station Air Compressor 1 Exhibiting Loud Clunking Noise
- 2013-07411; As-found Condition of SAC 2 Impellers is Dirtier than Expected
- 2013-07315; An Airline if Broke on SAC #1
- 2013-06873; Spurious Trip of RPS Ch 2

Procedures:

- DB-OP-01000; Operation of Station Breakers; Revision 28
- DB-OP-01300; Switchyard Management; Revision 8
- DB-OP-06311; 345 KV Switchyard No. 1 (Main) Transformer, No. 11 (Auxiliary) Transformer, and Startup Transformers (01 and 02); Revisions 29 and 30
- DB-ME-09104; 13.8 KV and 4.16 KV Westinghouse DHP Breakers; Revision 12
- DBBP-OPS-0003; On-line Risk Management Process; Revision 11
- NOLP-OP-1007; Risk Management; Revision 16
- NOP-ER-3004; FENOC Maintenance Rule Program; Revision 2
- NOP-WM-4006; Conduct of Maintenance; Revision 5

1R15 Operability Determinations and Functionality Assessments

Condition Reports:

- 2012-03670; Rosemount Part 21 for Resistance Change Affecting Accuracy Specification for 1154 Series H Transmitters Under Accident Conditions
- 2012-04747; Engineering Calculations Need Updating
- 2013-08372; Larger Orifice Size in Andersen Greenwood Replacement for Relief Valves DH1550, DH1529, HP1510, and HP1511 not properly evaluated in ECR 03-0066
- 2013-08872; SFAS RCS Pressure Transmitter Accuracy During Small Break LOCAs
- 2013-09710; Results of EPRI Condition Assessment of Switchyard H-Frame
- 2013-04946; Lo Trip Blocked Indicating Light Illuminated in Control Room for SFAS Ch. 1
- 2012-10792; SFAS Lo Pressure Trip Block
- 2012-12123; Lo Trip Block Permit Light on HIS7529 Delayed Resetting during SFAS Ch 2 Functional Test DB-SC-03111
- 2012-19202; Annunciator 5-2-C SFAS Reactor Coolant Pressure Lo Block Permissive did not come into Alarm as Expected
- 2012-08557; SFAS Channel 1 Energized with Bistables Blocked
- 2013-05857; Check Valve Nut on Missing Internals
- 2013-05860; SBODG: 5/8 inch Locknut Found on Top of Engine
- 2013-06028; Blackout Diesel Connecting Rod to Crankshaft Bearing Surface Indications
- 2013-06025; Brass Colored Particles Found on Cylinder Head of Blackout Diesel
- 2013-06113; Discrepancy of Material Used for Instrument Air Lines on the EDG Air Start Systems
- 2013-00654; Maintenance Rule Unavailability Performance Criteria will be Exceeded for DH Train 1
- 2013-00668; Pump Performance Curves Not Available for DB-PF-06704 Update – Closeout Restraint on ECP 11-0233-001/2
- 2013-00685; DH1517 As-left Corrected Motor Opening Force of 43435.4 lbs was Found to be Greater than the Motor Thrust Limit of 41809 lbs.
- 2013-06876; Floor Plugs Not Sealed With Caulk Per Design

Procedures:

- DB-PF-09302; Testing Motor Operated Valves; Revision 9
- NOP-LP-2001; Corrective Action Program; Revisions 31 and 32
- NOP-OP-1009; Operability Determination and Functionality Assessments; Revision 3

Drawings:

- DS-C99716; Pressure Relief Valve; Revision C
- A2616; DB-30/S4 and DB-50/S4 Series Safety Relief Valve for Nuclear Service; Revision G
- C-211; Auxiliary Building Floor Plan at El. 585'-0"; Revision 43
- C-1595; Computer Print Out Penetration Schedule; Revision 10
- M-033A; High Pressure Injection; Revision 44
- M-033B; Decay Heat Train 1; Revision 55
- M-473C; Grout or Ceramic Fiver and Caulk Penetration Seal Typical Details; Revision 2
- 6N82; Bistable #2

Calculations:

- 33.14; Sources of Flow to the Reactor Coolant Drain Tank, Revision 2
- C-ME-049.02-118; MOV Thrust / Torque Calculation for DH1517; Revisions 9-10

Other:

- ECR 03-0066-00; Equivalent Replacement of Pressure Relief Valves DH1529, DH1550; HP1510 and HP151; Revision 3

1R18 Plant Modifications

Condition Reports:

- 2013-07593; ABS34622 Failed to Open Via SCADA
- 2013-07595; Functional Testing Identifies Miss Landed Wires in Capacitive Coupling Potential Device Delays Switchyard Commissioning Project
- 2013-07641; Post Maintenance Testing for K-Bus Differential Relays Issues
- 2013-07647; No Local Light Indication at HX02B
- 2013-07670; Procedure DB-TP-10004 Revision 01 Could Not Be Performed As Written
- 2013-07683; PA-DB-13-02: Communication Devices Are Being Used In The Relay House Despite Posting Prohibiting Use
- 2013-07712; PA-DB-13-02: Critical Steps Were Performed Without Required Oversight
- 2013-09710; Results of EPRI Condition Assessment of Switchyard H-Frame
- 2013-05811; CREVS Train 2 Maintenance Rule availability function in order 200500441 re-evaluated

Procedures:

- DB-OP-01000; Operation of Station Breakers; Revision 28
- DB-OP-01300; Switchyard Management; Revision 8
- DB-OP-06311; 345 KV Switchyard No. 1 (Main) Transformer, No. 11 (Auxiliary) Transformer, and Startup Transformers (01 and 02); Revisions 29 and 30
- DB-ME-09104; 13.8 KV and 4.16 KV Westinghouse DHP Breakers; Revision 12
- NOP-WM-4006; Conduct of Maintenance; Revision 5
- DB-TP-10004; Post Modification for Addition of Two New 345 KV Circuit Breakers K-Bus Outage (ECP 08-0125); Revisions 0, 1, and 2
- DB-TP-10005; Post Modification for Addition of Two New 345 KV Circuit Breakers J-Bus Outage (ECP 08-0125); Revisions 0 and 1
- DB-TP-10008; K-Bus Differential Relay CT Data Collection (ECP 08-0125); Revision 0
- DB-TP-10009; K-Bus Differential Relays And Beaver Line Relays CT Data Collection (ECP 08-0125); Revision 0
- DB-TP-10010; J-Bus, Beaver Line, And Breaker 81-B-66 Protective Relaying Checks (ECP 08-0125); Revision 0
- DB-SS-03041; Control Room Emergency Ventilation System Train 1 Monthly Test; Revision 18
- DB-SS-03042; Control Room Emergency Ventilation System Train 2 Monthly Test; Revision 15

Engineering Change Packages:

- 08-0125; Addition of Two New Circuit Breakers in the Davis-Besse Switchyard; Multiple Supplements and Revisions
- 12-0049-002; Removes Existing Grating and Concrete Curb and Installs the new Missile Barrier and Steel Framed Curb for V6 and Restores CREVS Train 2 Ventilation Systems; Revision 2
- 12-0049-003; Removes Existing Grating and Concrete Curb and Installs the new Missile Barrier and Steel Framed Curb for V5 and Restores CREVS Train 1 Ventilation Systems; Revision 2

- 12-0584; Replace TPCW Heat Exchanger Tube Bundle E8-1 and Increase Associated Vent and Drain Valves to 2"; Revisions 0-1

1R19 Post Maintenance Testing

Condition Reports:

- 2013-07595; Functional Testing Identifies Miss Landed Wires in Capacitive Coupling Potential Device Delays Switchyard Commissioning Project
- 2013-07641; Post Maintenance Testing for K-Bus Differential Relays Issues
- 2013-07647; No Local Light Indication at HX02B
- 2013-07670; Procedure DB-TP-10004 Revision 01 Could Not Be Performed As Written
- 2013-07683; PA-DB-13-02: Communication Devices Are Being Used In The Relay House Despite Posting Prohibiting Use
- 2013-07712; PA-DB-13-02: Critical Steps Were Performed Without Required Oversight
- 2013-07722; Entered DB-OP-02511, Loss of Service Water Pumps/Systems Due to Failure to Perform Section 3.15 of DB-OP-06262
- 2013-07837; NOBP-TR-1122, Operating Crew Performance Critique, Service Water Transient
- 2013-09710; Results of EPRI Condition Assessment of Switchyard H-Frame
- 2013-06337; Control Rod Group 7 Out Limit Light Flickering
- 2013-06339; Inadequate Change Management for DB-OP-06334 Station Blackout Diesel Generator Operating Procedure
- 2013-06200; Minor Fuel Leak Found During PMT on SBODG
- 2013-05976; Broken Support on Heat Shield for Exhaust Manifold
- 2013-05857; Check Valve Nut on Missing Internals
- 2013-05860; SBODG: 5/8 inch Locknut Found on Top of Engine
- 2013-06028; Blackout Diesel Connecting Rod to Crankshaft Bearing Surface Indications
- 2013-06025; Brass Colored Particles Found on Cylinder Head of Blackout Diesel
- 2013-06113; Discrepancy of Material Used for Instrument Air Lines on the EDG Air Start Systems
- 2013-05811; CREVS Train 2 Maintenance Rule availability function in order 200500441 re-evaluated
- 2013-07067; High Bearing Temperature Alarm on CCW Pump #1
- 2013-07722; Entered DB-OP-02511, Loss of Service Water Pumps/Systems due to failure to perform section 3.15 of DB-OP-06262
- 2013-07724; CT2955 Automatically Closed

Procedures:

- DB-OP-01000; Operation of Station Breakers; Revision 28
- DB-OP-01300; Switchyard Management; Revision 8
- DB-OP-06311; 345 KV Switchyard No. 1 (Main) Transformer, No. 11 (Auxiliary) Transformer, and Startup Transformers (01 and 02); Revisions 29 and 30
- DB-ME-09104; 13.8 KV and 4.16 KV Westinghouse DHP Breakers; Revision 12
- NOP-WM-4006; Conduct of Maintenance; Revision 5
- DB-TP-10004; Post Modification for Addition of Two New 345 KV Circuit Breakers K-Bus Outage (ECP 08-0125); Revisions 0, 1, and 2
- DB-TP-10005; Post Modification for Addition of Two New 345 KV Circuit Breakers J-Bus Outage (ECP 08-0125); Revisions 0 and 1
- DB-TP-10008; K-Bus Differential Relay CT Data Collection (ECP 08-0125); Revision 0
- DB-TP-10009; K-Bus Differential Relays And Beaver Line Relays CT Data Collection (ECP 08-0125); Revision 0

- DB-TP-10010; J-Bus, Beaver Line, And Breaker 81-B-66 Protective Relaying Checks (ECP 08-0125); Revision 0
- DB-OP-06402; CRD Operating Procedure; Revision 23
- DB-SC-04721; SBODG Monthly Test; Revision 22
- DB-SS-03041; Control Room Emergency Ventilation System Train 1 Monthly Test; Revision 18
- DB-SS-03042; Control Room Emergency Ventilation System Train 2 Monthly Test; Revision 15
- DB-OP-02511; Service Water Abnormal Operating Procedure; Revision 14
- DB-OP-06262; Component Cooling Water System Procedure; Revision 29

Engineering Change Packages:

- 08-0125; Addition of Two New Circuit Breakers in the Davis-Besse Switchyard; Multiple Supplements and Revisions
- 12-0049-002; Removes Existing Grating and Concrete Curb and Installs the new Missile Barrier and Steel Framed Curb for V6 and Restores CREVS Train 2 Ventilation Systems; Revision 2
- 12-0049-003; Removes Existing Grating and Concrete Curb and Installs the new Missile Barrier and Steel Framed Curb for V5 and Restores CREVS Train 1 Ventilation Systems; Revision 2

Work Orders:

- 200455463; SC4271-001 SBODG Monthly Test
- 200563758; PF3072-001 CCW Pump 1 Quarterly Test

Other:

- M-180AN-00054; Station Blackout Volume 7 – Instruction Manual One 2865 KW EMD Diesel Engine; Revision 9
- M-515-00158-06; Instruction Manual for Control Rod Drive System Modular Tester
- M-515-00061-06; Control Rod Drive Control System Volume I Instruction
- SD-049; Control Rod Drive System; Revision 5
- SD-003B; Emergency Diesel Generators and Station Blackout Diesel Generators; Revision 6
- Standing Order No. 13-005; Operation with Intermittent Control Rod Group 7 Out-Limit; Revision 00

1R22 Surveillance Testing

Condition Reports:

- 2013-08143; Loose Test Cock Fitting on Cylinder 11 of the Station Blackout Diesel Generator Discovered During Barring
- 2013-08142; SBODG Cylinder No. 6 Had 1 Drop of Oil Observed During Barring Before Monthly Run
- 2013-06028; Blackout Diesel Connecting Rod to Crankshaft Bearing Surface Indications
- 2011-05996; Differential Pressure Rise Noted Across CS9, Containment Spray Pump 2 Discharge Check, During Testing
- 2011-91685; CS9 Seat Leakage, Per DB-SP-03338
- 2012-12014; Excessive Service Water Flow Caused Service Water Pump 3 Strainer to Continuously Cycle
- 2013-04454; Service Water Pump 3 Post-Maintenance Testing Not Completed in Order
- 2013-05777; Flange Leak on Inspection Covers for DB-F15-3 Service Water Pump Strainer

Procedures:

- DB-SC-04271; SBODG Monthly Test; Revision 22
- DB-MI-03207; Channel Functional Test/ Calibration and Response Time of RCP Monitor (RC3602) to SFRCS LCH 2 and RPS CH2; Revision 19
- DB-FP-04043; Bus Tie Transformer AC Deluge Test; Revision 9
- DB-SP-03338; Containment Spray Train 2 Quarterly Pump and Valve Test; Revision 24
- DB-PF-03030; Service Water Pump 3 Testing; Revision 20

Other:

- Davis-Besse System Health Report 2012-4

1EP4 Emergency Action Level and Emergency Plan Changes

Procedures:

- RA-EP-02010; "Emergency Management"; Revision 15
- RA-EP-02220; "Emergency Operations Facility Activation and Response"; Revision 10
- RA-EP-02230; "Dose Assessment Center Activation and Response"; Revision 7

Other:

- DBRM-EMER-1500A; "Davis-Besse Emergency Action Level Basis Document"; Revision 4

2RS5 Radiation Monitoring Instrumentation

Condition Reports:

- 2013-06729; Possible Degradation of DB-RE600 Main Steam Line 2 Radiation Monitor

Procedures:

- DB-HP-01322; FASTSCAN Efficiency Whole Body Verification; December 2012
- DB-HP-01324; Accuscan Efficiency Calibration Verification; GI Geometry; January 2013
- DB-HP-01324; Accuscan Efficiency Calibration Verification; Thyroid Geometry; January 2013
- DB-HP-01324; Accuscan Efficiency Calibration Verification; Whole Body Geometry; January 2013
- DB-HP-01447; Small Article Monitor Calibration; Revision 03
- DB-HP-03000; Inventory and Leak Testing of Licensed Sources; Revision 05
- DB-HP-03000-001; Licensed Sources Leak Test; November 2012
- DB-MI-3408-01-08.000-RE4596A; RMS Channel Calibration; October 2011
- DB-MI-3408-01-08.000-RE-4596B; RMS Channel Calibration; October 2011

Calibration Data Sheets:

- DB-0125-4; Calibration Data Sheet – Small Article Monitor; SAM-11; Various dates 2012 and 2013
- DB-0141-2; Frisker Calibration Data Sheets; Ludlum Model 12; Various dates 2012
- DB-0151-1; PCM Calibration Records; dated February 2012
- DB-0190-3; Portal Monitor Calibration Records; Various dates 2013
- DB-0199-3; Calibration Data Sheets; AMP 50/100/200; Various dates 2013
- DB-0556-3; Calibration Data Sheets; MG-Telepole; Various dates 2012 and 2013
- DB-0560-1; Calibration Data Sheets; Air Samplers; Various dates 2012 and 2013
- Calibration Data Sheets; DCA and Johnson Dosimeters; Various dates 2011 and 2012

Plant Health Reports:

- Davis Besse Plant Health Report; Fourth Quarter 2012
- Davis Besse Plant Health Report; Third Quarter 2012

- Davis Besse Plant Health Report; Second Quarter 2012
- Davis Besse Plant Health Report; First Quarter 2012
- Davis Besse Plant Health Report; Fourth Quarter 2011

Other:

- Calibration Report; High Range Radiation Monitor Calibrator RT-11; December 1981
- Gamma Spectrometer Calibration; LI2.12.19; MCA1; ADC3; November 2011

2RS6 Radioactive Gaseous and Liquid Effluent Treatment

Condition Reports:

- 2010-73020; BWST Activity Sum of the Fractions Exceeds 1.0
- 2011-04931; Temporary Discharge Line Condenser Leak
- 2013-03668; RRE10251 Repeat Failure

Procedures:

- MS-C-12-08-02; Fleet Oversight Audit Report; August through October, 2012
- NOP-OP-4705; Response to Contaminated Spills/Leaks; Revision 6
- NOP-WM-1003; Nuclear Maintenance Notification Initiation, Screening, and Minor Deficiency Monitoring Processes; Revision 6
- DB-CN-00014; Annual Radiological Environmental Operating Report Preparation and Submittal; Revision 1
- DB-CN-03008; Station Vent Releases, Weekly Radiological Monitoring, Sampling and Analysis of RE-4598AA; Revision 11
- DB-CN-03001; Liquid and Gaseous Radioactive Dose Commitment; Revision 2
- DB-CN-04066; Groundwater Sample Shipment and Evaluation of Sample Results; Revision 1

Other:

- Effluent Monitor Log Entries; 2010 through 2012
- Radiochemistry Cross Check Program Results; 2011 through 2012 Third Quarter
- Self-Assessment; Radioactive Gas and Liquid Effluent Treatment; February 2013
- Land Use Census; August 2012
- Chemistry Department Quality Control Charts; 2011-2012
- Radioactive Liquid Monthly Tritium Composites; 2012
- Annual Environmental Operating Report; 2010 and 2011
- Offsite Dose Calculation Manual; Revisions 25, 26, and 27
- Station Ventilation Flow Calibration; September 2012
- Gaseous and Liquid Batch Release Records; Various Records 2012
- Ventilation System Surveillance Testing; Various Records 2010-2012
- Plant Health Report; 4th Quarter 2012
- Contaminated Soil History; Various Records

4OA1 Performance Indicator Verification

Condition Reports:

- 2012-08422; DC MCC Busses 1P and 1N Not Supplied by Operable DC Sources
- 2012-18062; #1 EDG Small Leak Developed in a Pipe Weld on Return Oil Line from Lube Oil Cooler
- 2012-18584; EDG 1 - Multiple Repair Attempts Required to Eliminate Leaking on Lube Oil Cooler O-Ring Seal
- 2012-11537; WW1230 HPI Train 2 Outage

- 2012-11452; WW1230: Schedule Issues with HPI Train 2 outage during week of 7/16/12
- 2012-11365; WW1230: Spare Replacement Valve not Ready for HP1511

Forms:

- NOBP-LP-4012-45; Safety System Functional Failures; Revision 1; Completed Forms for April 2012 through March 2013
- NOBP-LP-4012-46; MSPI Emergency AC Power System; Revision 1; Completed Forms for April 2012 through March 2013
- NOBP-LP-4012-47; MSPI High Pressure Injection System; Revision 1; Completed Forms for April 2012 through March 2013

Procedures:

- NOBP-LP-4012; NRC Performance Indicators; Revision 4

Other:

- NEI 99-02; Regulatory Assessment Performance Indicator Guideline; Revision 6
- Select Operator Logs covering the period of April 2012 through March 2013
- Licensee Event Report 2011-003;
- Licensee Event Report 2012-001; Direct Current Source for Diesel Generator Transferred to Inoperable Source During Fuel Movement
- Licensee Event Report 2012-002; Leak from Reactor Coolant Pump Seal Piping Socket Weld due to High Cycle Fatigue

4OA2 Problem Identification and Resolution

Condition Reports:

- 2013-07712; PA-DB-13-02: Critical Steps Were Performed Without Required Oversight
- 2013-07722; Entered DB-OP-02511, Loss of Service Water Pumps/Systems Due to Failure to Perform Section 3.15 of DB-OP-06262
- 2013-07837; NOBP-TR-1122, Operating Crew Performance Critique, Service Water Transient
- 2013-07901; TDY4950-D Power Supplies Installed Incorrectly
- 2013-08090; NRC Inspector Access to Davis-Besse Switchyard
- 2013-08368; Degraded Components Found in TDY4950 – TSAT Meter Channel 2
- 2013-08434; ODMI – Station and Instrument Air Summer Operations
- 2013-09677; DB-SP-3160 Incorrect Test Gauges Installed

4OA3 Follow-Up of Events and Notices of Enforcement Discretion

Condition Reports:

- 2013-10038; RCP 1-2 Motor Trip
- 2013-10039; SP7B Did Not Respond Properly Following Reactor Trip
- 2013-10041; MS210 Excessive Noise Following Reactor Trip
- 2013-10043; MFPT No. 2 Control Signal Anomalies During Reactor Trip Recovery
- 2013-10044; Metal Strips Found Outside Following Reactor Trip
- 2013-10046; Reactor Trip From Automatic Reactor Protection System Actuation
- 2013-10048; Main Steam Line Safety Valve Anomalies Following Reactor Trip
- 2013-10060; Steam Leak on MS209 Actuator
- 2013-10062; Containment Initial Entry After Reactor Trip June 2013
- 2013-10120; Damaged Current Transformer Wires Discovered on RCP 1-2
- 2013-10315; Reactor Trip Transient Response Resulted in High Condenser Pressure

Procedures:

- DB-OP-02000; RPS, SFAS, SFRCS Trip or SG Tube Rupture; Revision 26
- DB-OP-06904; Shutdown Operations; Revision 40
- DB-OP-06910; Trip Recovery; Revision 20
- NOP-OP-1015; Event Notifications; Revision 0
- RA-EP-02110; Emergency Notification; Revision 12

4OA7 Licensee-Identified Violations

Condition Reports:

- 2013-07712; PA-DB-13-02: Critical Steps Were Performed Without Required Oversight
- 2013-07901; TDY4950-D Power Supplies Installed Incorrectly
- 2013-08368; Degraded Components Found in TDY4950 – TSAT Meter Channel 2

Work Orders:

- 200404942; Replace Power Supplies for TDY4950-A, TDY4950-D and TDI4950

LIST OF ACRONYMS USED

| | |
|-------|---|
| ADAMS | Agencywide Document Access Management System |
| AFW | Auxiliary Feedwater |
| ASME | American Society of Mechanical Engineers |
| CAP | Corrective Action Program |
| CCW | Component Cooling Water |
| CFR | Code of Federal Regulations |
| CR | Condition Report |
| CS | Containment Spray |
| DRP | Division of Reactor Projects |
| ECCS | Emergency Core Cooling System |
| ECP | Engineering Change Package |
| EP | Emergency Preparedness |
| EPIP | Emergency Plan Implementing Procedures |
| I&C | Instrumentation and Controls |
| IMC | Inspection Manual Chapter |
| IP | Inspection Procedure |
| IPEEE | Individual Plant Examination of External Events |
| IR | Inspection Report |
| IST | Inservice Testing |
| kV | Kilovolt |
| LCO | Limiting Condition for Operation |
| LER | Licensee Event Report |
| MOV | Motor-Operated Valve |
| MSPI | Mitigating Systems Performance Index |
| NCV | Non-Cited Violation |
| NEI | Nuclear Energy Institute |
| NRC | U.S. Nuclear Regulatory Commission |
| PARS | Publicly Available Records System |
| PI | Performance Indicator |
| PMT | Post-Maintenance Testing |
| psig | Pounds Per Square Inch Gauge |
| RCA | Radiologically Controlled Area |
| RCP | Reactor Coolant Pump |
| SBODG | Station Blackout Diesel Generator |
| SRO | Senior Reactor Operator |
| SSC | Systems, Structures and Components |
| SW | Service Water |
| TPCW | Turbine Plant Cooling Water |
| TS | Technical Specification |
| USAR | Updated Safety Analysis Report |
| URI | Unresolved Item |
| Vdc | Volts Direct Current |
| WO | Work Order |

R. Leib

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Sincerely,

/RA/

Jamnes L. Cameron, Chief
Branch 6
Division of Reactor Projects

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