UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

January 25, 2013

Mr. Raymond Lieb
Site Vice President
FirstEnergy Nuclear Generation, LLC
Davis-Besse Nuclear Power Station
5501 North State Route 2
Oak Harbor, OH 43449-9760

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION INTEGRATED INSPECTION REPORT 05000346/2012005 AND 07200014/2012001

Dear Mr. Lieb:

On December 31, 2012, 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 January 10, 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 was determined to involve a violation of NRC requirements. Further, two licensee-identified violations which were determined to be of low safety significance are listed in Section 4OA7 of this report. The NRC is treating these violations 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 these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with 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 Resident Inspector at the Davis-Besse Nuclear Power Station.

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

Sincerely,

/RA/

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

Docket No. 50-346 and 72-014
License No. NPF-3

Enclosure: Inspection Report 05000346/2012005 and 07200014/2012001
w/Attachment: Supplemental Information

cc w/encl: Distribution via ListServ

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-346 and 72-014
License No:	NPF-3
Report No:	05000346/2012005 and 07200014/2012001
Licensee:	FirstEnergy Nuclear Generation, LLC
Facility:	Davis-Besse Nuclear Power Station
Location:	Oak Harbor, OH
Dates:	October 1 through December 31, 2012
Inspectors:	D. Kimble, Senior Resident Inspector A. Wilson, Resident Inspector T. Briley, Reactor Engineer A. Dunlop, Senior Reactor Engineer L. Jones Jr., Reactor Engineer J. Laughlin, Emergency Preparedness Inspector M. Phalen, Senior Health Physicist D. Reeser, Operator Licensing Examiner P. Smagacz, Reactor Engineer R. Walton, Operator Licensing Examiner
Approved by:	Jamnes L. Cameron, Chief Branch 6 Division of Reactor Projects

Enclosure

TABLE OF CONTENTS

SUMMARY OF FINDINGS

Inspection Report (IR) 05000346/2012005; 07200014/2012001; 10/1/2012-12/31/2012; Davis-Besse Nuclear Power Station; Licensed Operator Requalification Program.

This report covers a 3-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 dispositioned as a non-cited violation (NCV) of NRC regulations. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. 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 and an associated NCV of Technical Specification (TS) 5.4.1(a) were identified following the control room crew's response to a small power rise that occurred while shifting the plant's Integrated Control System (ICS) to the "track" mode of operation on October 24, 2012. Specifically, the Unit Supervisor, a licensed senior reactor operator (SRO), directed an on-shift reactor operator (RO) to place the Steam Generator/Reactor Demand control station for the ICS in manual and lower power in response to the observed reactor power increase. However, because the plant's control rod drive (CRD) control station (known as the "Diamond panel") was already in manual as part of the planned ICS transfer to "track" mode, the signal from the Steam Generator/Reactor Demand control station only was passed through to the Feedwater (FW) System and not to the CRD System. As a result, average coolant temperature and pressurizer level both rose due to a mismatch between reactor power and steam generator power and caused an unplanned short-duration entry into TS Limiting Condition for Operation (LCO) 3.4.9, Condition A, for pressurizer level above the TS limit of 228 inches. The condition was corrected and corrective action program documents generated to review the event.

  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 reviewed this finding using the guidance contained in Appendix B, "Issue Screening," of IMC 0612, "Power Reactor Inspection Reports." The inspectors determined that the licensee's incorrect actions in attempting to respond to the power transient by taking the Steam Generator/Reactor Demand control station for the ICS to manual and attempting to reduce power using that station with the Diamond panel in manual was a performance deficiency that was reasonably within the licensee's ability to foresee and correct and should have been prevented. 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.

The finding had a cross-cutting aspect in the area of problem identification and resolution, corrective action program (CAP) component, because the licensee failed to take corrective action for the ICS/Unit Load Demand (ULD) power error anomaly in a timely manner, commensurate with the issue's safety significance and complexity. (P.1(d)) (Section 1R11.2)

B. Licensee-Identified Violations

Violations of very low safety significance that were identified by the licensee have been reviewed by inspectors. Corrective actions planned or taken by the licensee have been entered into the licensee's CAP. These violations and corrective action 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. Throughout the inspection period plant operators performed several small power maneuvers (i.e., power reductions of 10 percent power or less) to facilitate planned testing and maintenance of certain equipment and components. On November 9, 2012, plant power was reduced to approximately 50 percent. Operators removed one circulating water pump from service and isolated circulating water flow to the inner loop of the low-pressure main condenser to facilitate condenser tube leak repairs. The unit returned to full power operation on November 12, 2012, and continued operating at or near full power for the remainder of the inspection period.

1. REACTOR SAFETY

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

1R01 Adverse Weather Protection (71111.01)

.1 Winter Seasonal Readiness Preparations

a. Inspection Scope

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

- Service water (SW) system; and
- Borated Water Storage Tank and associated piping.

The inspectors' reviews constituted a single winter seasonal readiness preparations inspection sample as defined in Inspection Procedure (IP) 71111.01-05.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Quarterly Partial System Alignment Verifications

a. Inspection Scope

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

- Decay Heat (DH) and Low Pressure Injection (LPI) Train 1 when Train 2 was unavailable for planned testing during the week ending October 13, 2012; and
- High Pressure Injection (HPI) Train 2 when Train 1 was unavailable for planned maintenance and testing during the week ending October 27, 2012.

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

These partial system alignment verification activities constituted two inspection samples as defined in IP 71111.04-05.

b. Findings

No findings were identified.

.2 Semi-Annual Complete System Alignment Verification

a. Inspection Scope

During the period from November 26 through December 7, 2012, the inspectors performed a complete system alignment inspection of the station's Auxiliary Feedwater (AFW) system to verify the functional capability of the system. The AFW system was selected because it was considered both safety significant and risk significant in the licensee's probabilistic risk assessment. The inspectors walked down the system to review mechanical and electrical equipment lineups; electrical power availability; system pressure and temperature indications, as appropriate; component labeling; component lubrication; component and equipment cooling; hangers and supports; operability of support systems; and to ensure that ancillary equipment or debris did not interfere with

equipment operation. A review of a sample of past and outstanding WOs was performed to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the CAP database to ensure that system equipment alignment problems were being identified and appropriately resolved. Documents reviewed are listed in the Attachment to this report.

These activities constituted a single complete system alignment verification inspection sample as defined in IP 71111.04-05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Quarterly Resident Inspector Fire Zone Inspections

a. Inspection Scope

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

- Turbine Building Heater Bay and Turbine Pedestal Area (Rooms 326 and 334, Fire Area II);
- Emergency Core Cooling System (ECCS) Pump Room 1-1 (Room 105, Fire Area AB);
- DH Cooler Room and Hatch Area (Rooms 113 and 113A, Fire Area AB); and
- Low Voltage Switchgear Room F Bus and Battery Room B (Rooms 428 and 428A, Fire Area X).

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. Using the documents listed in the Attachment to this report, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's CAP. Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings were identified.

.2 Annual Fire Protection Drill Observation

a. Inspection Scope

On November 20, 2012, the inspectors observed the licensee's fire brigade respond to a simulated electrical fire in the Station Blackout Diesel Generator's (SBODG) switchgear. Based on their observations, the inspectors evaluated the readiness of the plant fire brigade to fight fires. The inspectors verified that the licensee staff identified deficiencies; openly discussed them in a self-critical manner during the drill debrief, and took appropriate corrective actions. Specific attributes evaluated were:

- The proper wearing of turnout gear and self-contained breathing apparatus;
- The proper use and layout of fire hoses;
- The employment of appropriate fire fighting techniques;
- That sufficient firefighting equipment was brought to the scene;
- The effectiveness of fire brigade leader communications, command, and control;
- The search for victims and propagation of the fire into other plant areas;
- Smoke removal operations;
- The utilization of pre-planned strategies;
- The adherence to the pre-planned drill scenario; and
- The satisfactory completion of the drill objectives.

Documents reviewed are listed in the Attachment to this report.

These activities constituted a single annual fire protection drill inspection sample as defined in IP 71111.05-05.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11)

.1 Resident Inspector Quarterly Review of Licensed Operator Simulator Training

a. Inspection Scope

On October 31, 2012, the inspectors observed a crew of licensed operators in the plant's simulator during their graded NRC periodic requalification simulator exam. 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 periodic requalification examination 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.

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

b. Findings

No findings were identified.

.2 Resident Inspector Quarterly Observation 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:

- Transient response activities involving manipulations of the plant's integrated control system (ICS) on October 24, 2012;
- A plant power reduction to approximately 50 percent and removal of one main condenser waterbox from service for maintenance activities on November 9, 2012; and
- Restoration of full power operation following completion of main condenser maintenance on November 12, 2012.

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.

This inspection constituted a single quarterly observation sample of operator performance in the plant's control room as defined in IP 71111.11-05.

b. Findings

Operator Error in Response to a Small Power Transient Momentarily Renders Technical Specification Equipment Inoperable

Introduction

A self-revealed finding of very low safety significance (Green) and associated NCV of TS 5.4.1(a) were identified following the control room crew's response to a small power rise that occurred while shifting the plant's ICS to the "track" mode of operation on October 24, 2012. Specifically, the Unit Supervisor, a licensed SRO, directed an on-shift Reactor Operator (RO) to place the Steam Generator/Reactor Demand control station for the ICS in manual and lower power in response to the observed reactor power increase. However, because the plant's control rod drive (CRD) station (known as the "Diamond panel") was already in manual as part of the planned ICS transfer to "track" mode, the signal from the Steam Generator/Reactor Demand control station only was passed through to the Feedwater System and not to the CRD System. As a result, average coolant temperature and pressurizer level both rose due to a mismatch between reactor power and steam generator power and caused an unplanned entry into TS Limiting Condition for Operation (LCO) 3.4.9, Condition A, for pressurizer level above the TS limit of 228 inches.

Description

During a recent plant outage in fall of 2011 to replace the reactor vessel closure head, the licensee enacted a modification to the ICS and replaced one of its four main subsystem modules, the Unit Load Demand (ULD), with a new digital ULD to improve overall ICS reliability. An unintended result of this modification was the introduction of a small power error into the ICS, which manifested itself as a small increase in plant power on the order of about 0.5 percent whenever the ICS was shifted into "track" mode of operation. This error was known to plant operators and was being investigated through the licensee's CAP by the engineering staff, but was essentially considered to be nothing more than a minor operational nuisance.

On the afternoon of October 24, 2012, the on-watch control room crew was preparing to place the plant into proper conditions to support planned periodic testing of the "D" reactor trip breaker. Historically, these preparations included slightly lowering plant power by about one to two percent and then prohibiting any automatic control rod

movement by placing the Diamond panel in manual and the ICS into “track” mode of operation. Just prior to placing the Diamond panel into manual, the ICS demanded an automatic control rod withdrawal to facilitate a normal adjustment to reactor coolant system (RCS) temperature. This automatic control rod withdrawal was extremely brief and went unnoticed by the on-watch crew in the control room. Just after placing the Diamond panel into manual and the ICS into “track” mode of operation, the on-watch control room crew noted that reactor power was rising as expected. However, because of the automatic control rod withdrawal that went unnoticed by the crew, the magnitude of the power increase was larger than what the crew expected, and they concluded that manual action was required to halt the power increase.

The Unit Supervisor, believing that some unknown problem with the ULD was responsible for the power increase, directed the on-watch RO to place the Steam Generator/Reactor Demand control station for the ICS in manual and lower power using that station. This would have been an acceptable action had the ICS been in full automatic. However, with the Diamond panel already in manual and the ICS in the “track” mode, this was an incorrect decision.

The on-watch RO recommended twice that he should use the Diamond panel to manually insert control rods to reduce reactor power, but the Unit Supervisor overrode this recommendation and continued to direct that the Steam Generator/Reactor Demand control station for the ICS be placed in manual and that power be reduced using that station. The on-watch RO, assuming that the Unit Supervisor was seeing another indication that he did not see, took the Steam Generator/Reactor Demand control station for the ICS to manual and attempted to lower power using that station in two small increments. With the Diamond panel in manual, this resulted in sending a signal to the FW side of the steam generators to reduce power while the corresponding signal to the reactor to reduce power was blocked. As a result, average reactor coolant temperature and pressurizer level both increased unexpectedly due to a mismatch between reactor power and steam generator secondary side power.

The increase in pressurizer level resulted in the “High Level” annunciator alarming. The on-watch Shift Manager was alerted in his adjacent office by this alarm and proceeded to the main area of the control room to assess the situation. He directed the Unit Supervisor to enter DB-OP-02526, “Primary to Secondary Heat Transfer Upset,” and the crew was directed to take actions to stabilize the plant in accordance with this procedure. The NRC Senior Resident Inspector, alerted by the plant announcement that a primary to secondary heat balance upset was occurring, responded to the control room and monitored the crew’s actions to stabilize the plant and recover from the transient.

Per the shift log, pressurizer level exceeded its TS limit of 228 inches and rendered the pressurizer inoperable at 12:02 p.m. Pressurizer level came back down within specifications at 12:04 p.m., with the highest level recorded having been 228.6 inches. Similarly, per the shift log and plant recorders, the highest plant power observed during the event was 99.95 percent on the highest reading nuclear instrument channel.

The licensee’s investigation identified multiple apparent and contributing causes for the event. Chiefly amongst these was that the Operations Department had developed a tolerance for the power error introduced by the modification that installed the new digital ULD. This, in turn, had led to a situation where plant procedures for the operation of the ICS with the new ULD contained insufficient guidance on how to deal with the error, as

well as a situation in which training had not been utilized to ensure that all Operations Department personnel had an adequate level of knowledge concerning how the ICS operated with the power error in place.

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 incorrect actions in attempting to respond to the power transient by taking the Steam Generator/Reactor Demand control station for the ICS to manual and attempting to reduce power using that station with the Diamond panel in manual 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 had a cross-cutting aspect in the area of Problem Identification and Resolution (PI&R),CAP component, because the licensee failed to take corrective action for the ICS/ULD power error anomaly in a timely manner, commensurate with the issue's safety significance and complexity. (P.1(d))

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 2(g) 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 ICS. Contrary to this requirement, the licensee failed to properly prepare and implement technically adequate written procedures for the operation of the ICS with the power error introduced from the modification to install the licensee's new digital ULD, such that the on-watch control room crew lacked sufficient procedural guidance regarding the transfer of the ICS to "track" mode on October 24, 2012, and a resulting plant transient rendered the pressurizer TS inoperable for a brief period.

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

CRs 2012-16833, 2012-17419, and 2012-17995, the associated violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy. Corrective actions taken by the licensee included applicable procedure revisions to provide detailed instructions to crews for transferring the ICS to "track" mode, as well as training for all operators on this issue. Additionally, the licensee has planned physical modifications to the ICS and the ULD in the next refuel outage to correct the power error issue. (NCV 05000346/2012005-01)

.3 Biennial Written and Annual Operating Test Results

a. Inspection Scope

The inspectors reviewed the overall pass/fail results of the Biennial Written Examination, and the Annual Operating Test as administered by the licensee from October 1 through December 7, 2012, and required by 10 CFR 55.59(a). The results were compared to the thresholds established in IMC 0609, Appendix I, "Licensed Operator Requalification SDP," to assess the overall adequacy of the licensee's Licensed Operator Requalification Training (LORT) program to meet the requirements of 10 CFR 55.59.

The inspectors' reviews constituted a single annual licensed operator requalification inspection sample as defined in IP 71111.11A.

b. Findings

No findings were identified.

.4 Biennial Review

a. Inspection Scope

The following inspection activities were conducted during the week of November 26, 2012, to assess: 1) the effectiveness and adequacy of the facility licensee's implementation and maintenance of its systems approach to training (SAT) based LORT program, put into effect to satisfy the requirements of 10 CFR 55.59; 2) conformance with the requirements of 10 CFR 55.46 for use of a plant referenced simulator to conduct operator licensing examinations and for satisfying experience requirements; and 3) conformance with the operator license conditions specified in 10 CFR 55.53. The documents reviewed are listed in the Attachment to this report.

- PI&R (10 CFR 55.59(c); SAT Element 5 as Defined in 10 CFR 55.4): The inspectors evaluated the licensee's ability to assess the effectiveness of its LORT program and their ability to implement appropriate corrective actions to maintain its LORT Program up to date. The inspectors reviewed documents related to the plant's operating history and associated responses (e.g., plant issue matrix and performance review reports; recent examination and inspection reports; licensee event reports (LERs)). The inspectors reviewed the licensee's quality assurance (QA) oversight activities, including licensee training department self-assessment reports. The PI&R portion of this inspection has not been completed, pending further review of operator performance issues including corrective actions and root cause evaluation associated with CR 2012-16833, "After Placing Rod Control Panel Into Manual an Unexpected Power Rise Was Observed by the ATC RO."

- Licensee Requalification Examinations (10 CFR 55.59(c); SAT Element 4 as Defined in 10 CFR 55.4): The inspectors reviewed the licensee's program for development and administration of the LORT biennial written examination and annual operating tests to assess the licensee's ability to develop and administer examinations that are acceptable for meeting the requirements of 10 CFR 55.59(a).

  - The inspectors reviewed the methodology used to construct the examination including content, level of difficulty, and general quality of the examination/test materials. The inspectors also assessed the level of examination material duplication from week-to-week for both, the operating tests and examinations administered in 2012. The inspectors reviewed a sample of the written examinations and associated answer keys to check for consistency and accuracy.

  - The inspectors observed the administration of the annual operating test to assess the licensee's effectiveness in conducting the examinations, including the conduct of pre-examination briefings, evaluations of individual operator and crew performance, and post-examination analysis. The inspectors evaluated the performance of one crew in parallel with the facility evaluators during four dynamic simulator scenarios, and evaluated various licensed crew members concurrently with facility evaluators during the administration of several job performance measures.

  - The inspectors assessed the adequacy and effectiveness of the remedial training conducted since the last requalification examinations and the training planned for the current examination cycle to ensure that they addressed weaknesses in licensed operator or crew performance identified during training and plant operations. The inspectors reviewed remedial training procedures and individual remedial training plans.

- Conformance with Examination Security Requirements (10 CFR 55.49): The inspectors conducted an assessment of the licensee's processes related to examination physical security and integrity (e.g., predictability and bias) to verify compliance with 10 CFR 55.49, "Integrity of Examinations and Tests." The inspectors reviewed the facility licensee's examination security procedure, and observed the implementation of physical security controls (e.g., access restrictions and simulator input/output controls) and integrity measures (e.g., security agreements, sampling criteria, bank use, and test item repetition) throughout the inspection period.

- Conformance with Simulator Requirements Specified in 10 CFR 55.46: The inspectors assessed the adequacy of the licensee's simulation facility (simulator) for use in operator licensing examinations and for satisfying experience requirements. The inspectors reviewed a sample of simulator performance test records (e.g., transient tests, malfunction tests, scenario based tests, post-event tests, steady state tests, and core performance tests), simulator discrepancies, and the process for ensuring continued assurance of simulator fidelity in accordance with 10 CFR 55.46. The inspectors reviewed and evaluated the discrepancy corrective action process to ensure that simulator fidelity was being maintained. Open simulator discrepancies were reviewed for importance relative

to the impact on 10 CFR 55.45 and 55.59 operator actions as well as on nuclear and thermal hydraulic operating characteristics.

- Conformance with Operator License Conditions (10 CFR 55.53): The inspectors reviewed the facility licensee's program for maintaining active operator licenses and to assess compliance with 10 CFR 55.53(e) and (f). The inspectors reviewed the procedural guidance and the process for tracking on-shift hours for licensed operators, and which control room positions were granted watch-standing credit for maintaining active operator licenses. Additionally, medical records for seven licensed operators were reviewed for compliance with 10 CFR 55.53(l).

Because the PI&R portion of the inspection has not yet been completed, the inspectors' reviews did not constitute an inspection sample but only represented a partial sample. Completion of the remaining activities to constitute the full inspection sample is anticipated during the first calendar quarter of 2013.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Quarterly Evaluations (71111.12Q)

a. Inspection Scope

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

- Review of the licensee's Periodic Evaluation of the Maintenance Rule Program and associated goals and preventive maintenance activities as required by 10 CFR 50.65(a)(3); and
- Review of issues associated with the Train 2 DC system and battery.

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

- Implementing appropriate work practices;
- Identifying and addressing common cause failures;
- Scoping of systems in accordance with 10 CFR 50.65(b) of the maintenance rule;
- Characterizing system reliability issues for performance;
- Charging unavailability for performance;
- Trending key parameters for condition monitoring;
- Ensuring 10 CFR 50.65(a)(1) or (a)(2) classification or re-classification; and
- Verifying appropriate performance criteria for structures, systems, and components (SSCs)/functions classified as (a)(2), or appropriate and adequate goals and corrective actions for systems classified as (a)(1).

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

The inspectors' reviews constituted two quarterly maintenance effectiveness samples as defined in IP 71111.12-05.

b. Findings

No findings were identified.

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

.1 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

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

- Emergent activities during the week ending November 10, 2012, associated with a downpower to address a condenser tube leak. The plant reduced power to approximately 50 percent power, removed one FW pump from service and removed the inner condenser loop from service to complete condenser tube leak repairs; and
- Planned activities during the week ending December 1, 2012, to replace main turbine throttle control valve modules within ICS that had been damaged by a lightning strike some weeks earlier.

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 two inspection samples as defined in IP 71111.13-05.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functional Assessments (71111.15)

.1 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following issues:

- Operability of the qualified circuits between the offsite transmission network and the onsite Class 1E AC Electrical Power Distribution System when the Ohio Edison offsite power source was removed from service for emergent maintenance during the week ending October, 20, 2012;
- Operability of Emergency Diesel Generator (EDG) 1 with twelve out of approximately 1400 heat exchanger tubes on the jacket water side of the lube oil cooler blocked by foreign material, as documented in CR 2012-18031; and
- Operability of Control Room Envelope with one set of dampers inoperable, as documented in CR 2012-02644.

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 three inspection samples as defined in IP 71111.15-05.

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 (PMT) activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- Observation of selected portions of the performance testing and review of the test results for safety-related Battery Charger 2P following replacement of the battery charger with a new and improved model during the week ending October 20, 2012;
- Observation of the EDG 1 test run and review of the test results following a maintenance work window during the week ending November 17, 2012; and
- Observation of selected portions of the performance testing and review of the test results for safety-related Battery Charger 2N following replacement of the battery charger with a new and improved model during the week ending December 1, 2012.

These activities were selected based upon the structure, system, or component's ability to impact risk. The inspectors evaluated these activities for the following (as applicable): the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing (temporary modifications or jumpers required for test performance were properly removed after test completion); and test documentation was properly evaluated. The inspectors evaluated the activities against TSs, the USAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with 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 three PMT inspection samples as defined in IP 71111.19-05.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

.1 Surveillance Testing

a. Inspection Scope

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

- DB-PF-03023; "Service Water Pump 2 Testing," during the week ending October 6, 2012 (IST);
- DB-SP-03160; "Auxiliary Feedwater Pump 2 Quarterly Test," during the week ending October 13, 2012 (IST);

- DB-SC-03071; “Emergency Diesel Generator 2 Monthly Test,” during the week ending November 10, 2012 (routine);
- DB-FP-04041; “Startup Transformer 01 Deluge Test,” during the week ending November 24, 2012 (routine); and
- DB-SS-04150; “Main Turbine Stop Valve Test,” during the week ending December 15, 2012 (routine).

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

- Did preconditioning occur;
- The effects of the testing were adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- Acceptance criteria were clearly stated, demonstrated operational readiness, and consistent with the system design basis;
- Plant equipment calibration was correct, accurate, and properly documented;
- As-left setpoints were within required ranges; and the calibration frequency was in accordance with TSs, the USAR, procedures, and applicable commitments;
- Measuring and test equipment calibration was current;
- Test equipment was used within the required range and accuracy; applicable prerequisites described in the test procedures were satisfied;
- Test frequencies met TS requirements to demonstrate operability and reliability; tests were performed in accordance with the test procedures and other applicable procedures; jumpers and lifted leads were controlled and restored where used;
- Test data and results were accurate, complete, within limits, and valid;
- Test equipment was removed after testing;
- Where applicable for inservice testing (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 three routine surveillance testing samples and two inservice testing samples 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)

a. Inspection Scope

The NSIR headquarters' staff performed an in-office review of the latest revisions of the Emergency Plan and various Emergency Plan Implementing Procedures (EPIPs) located under ADAMS Accession Numbers ML12094A370, ML12144A414, ML12237A323, ML12313A077, and ML12313A058 as listed in the Attachment.

The licensee transmitted the EPIP revisions to the NRC pursuant to the requirements of 10 CFR Part 50, Appendix E, Section V, "Implementing Procedures." 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.

The inspectors' reviews 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.

1EP6 Drill Evaluation (71114.06)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine licensee emergency drill on November 1, 2012, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the control room simulator and technical support center to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the licensee drill critique to compare any inspector-observed weakness with those identified by the licensee staff in order to evaluate the critique and to verify whether the licensee staff was properly identifying weaknesses and entering them into the CAP. As part of the inspection, the inspectors reviewed the drill package and other documents listed in the Attachment to this report.

This emergency preparedness drill inspection constituted one sample as defined in IP 71114.06-05.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstones: Occupational Radiation Safety and Public Radiation Safety

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

These activities supplement those documented in Inspection Report 05000346/2012003 and constitute one complete inspection sample as defined in IP 71124.01-05.

.1 Contamination and Radioactive Material Control (02.04)

a. Inspection Scope

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

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

b. Findings

No findings were identified.

.2 Radiological Hazards Control and Work Coverage (02.05)

a. Inspection Scope

The inspectors examined the licensee's physical and programmatic controls for highly activated or contaminated materials (nonfuel) stored within spent fuel and other storage pools. The inspectors assessed whether appropriate controls (i.e., administrative and physical controls) were in place to preclude inadvertent removal of these materials from the pool.

b. Findings

No findings were identified.

.3 Radiation Worker Performance (02.07)

a. Inspection Scope

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

b. Findings

No findings were identified.

.4 Radiation Protection Technician Proficiency (02.08)

a. Inspection Scope

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

b. Findings

No findings were identified.

.5 Problem Identification and Resolution (02.09)

a. Inspection Scope

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

b. Findings

No findings were identified.

2RS2 Occupational As-Low-As-Reasonably-Achievable Planning and Controls (71124.02)

These activities supplement those documented in Inspection Report 05000346/2012003 and constitute a partial inspection sample as defined in IP 71124.02-05.

.1 Radiological Work Planning (02.02)

a. Inspection Scope

The inspectors compared the results achieved (dose rate reductions, person-rem used) with the intended dose established in the licensee's as-low-as-reasonably-achievable (ALARA) planning for selected work activities. The inspectors compared the person-hour estimates provided by maintenance planning and other groups to the RP group with the actual work activity time requirements, and evaluated the accuracy of these time estimates. The inspectors assessed the reasons (e.g., failure to adequately plan the activity, failure to provide sufficient work controls) for any inconsistencies between intended and actual work activity doses.

The inspectors determined whether post-job reviews were conducted and if identified problems were entered into the licensee's CAP.

b. Findings

No findings were identified.

.2 Verification of Dose Estimates and Exposure Tracking Systems (02.03)

a. Inspection Scope

The inspectors evaluated the licensee's method of adjusting exposure estimates, or re-planning work, when unexpected changes in scope or emergent work were encountered. The inspectors assessed whether adjustments to exposure estimates (intended dose) were based on sound RP and ALARA principles or if they were just adjusted to account for failures to control the work. The inspectors evaluated whether the frequency of these adjustments called into question the adequacy of the original ALARA planning process.

b. Findings

No findings were identified.

.3 Problem Identification and Resolution (02.06)

a. Inspection Scope

The inspectors evaluated whether problems associated with ALARA planning and controls are being identified by the licensee at an appropriate threshold and were properly addressed for resolution in the licensee's CAP.

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 Reactor Coolant System Specific Activity

a. Inspection Scope

The inspectors sampled licensee submittals for the RCS specific activity Performance Indicator (PI) for Davis-Besse Nuclear Power Station for the period from the fourth quarter 2011 through the third quarter 2012. The inspectors used PI definitions and guidance contained in the Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, to determine the accuracy of the PI data reported during those periods. The inspectors reviewed the licensee's RCS chemistry samples, TS requirements, issue reports, event reports, and NRC Integrated Inspection Reports to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to

determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. In addition to record reviews, the inspectors observed a chemistry technician obtain and analyze a RCS sample. Documents reviewed are listed in the Attachment to this report.

This inspection constituted a single reactor coolant system specific activity sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.2 Occupational Exposure Control Effectiveness

a. Inspection Scope

The inspectors sampled licensee submittals for the occupational radiological occurrences PI for the period from the fourth quarter 2011 through the third quarter 2012. The inspectors used PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, to determine the accuracy of the PI data reported during those periods. The inspectors reviewed the licensee's assessment of the PI for occupational radiation safety to determine if indicator-related data was adequately assessed and reported. To assess the adequacy of the licensee's PI data collection and analyses, the inspectors discussed with RP staff, the scope and breadth of its data review and the results of those reviews. The inspectors independently reviewed electronic personal dosimetry dose rate and accumulated dose alarms and dose reports and the dose assignments for any intakes that occurred during the time period reviewed to determine if there were potentially unrecognized occurrences. The inspectors also conducted walkdowns of numerous locked high and very high radiation area entrances to determine the adequacy of the controls in place for these areas. Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings were identified.

.3 Reactor Coolant Leakage

a. Inspection Scope

The inspectors sampled licensee submittals for the RCS Leakage performance indicator for the period from the fourth quarter 2011 through the third quarter 2012. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, were used. The inspectors reviewed the licensee's operator logs, RCS leakage tracking data, issue reports, event reports and NRC Integrated Inspection Reports for the period from October 2011 through September 2012 to validate the accuracy of the submittals. The inspectors also reviewed the

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

This inspection constituted one reactor coolant system leakage 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: Control Rod Drive and Integrated Control Systems

a. Inspection Scope

The inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screening discussed in Section 4OA2.2 above, licensee trending efforts, and licensee human performance results. The inspectors' review nominally considered the 6 month period of July 1 through December 31, 2012, 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 conjunction with the review of the power transient event documented in Section 1R11.2 of this report, the inspectors noted that two of the licensee's key plant control systems, CRD and ICS, exhibited adverse trends primarily related to component aging issues. These systems, while not safety-related, are used and relied upon by plant operators on a continuous basis to both maneuver reactor power and to maintain the plant stable at a steady-state power. Specific issues are discussed below:

(1) Control Rod Drive System

The system has been classified as "yellow" (needs improvement) since the Fourth Quarter of 2010. Multiple outstanding WOs are listed as part of the licensee's improvement plan for the system, almost all of which require plant outage conditions to facilitate accomplishment. The final element of the licensee's improvement plan calls for the complete replacement of the CRD system with a newer, up-to-date model system tentatively set for the plant's 19th refueling outage (RFO) in 2016.

(2) Integrated Control System

With the exception of the Fourth Quarter of 2011 and the First Quarter of 2012, when system performance was classified as "white" (acceptable), the ICS performance has been classified as either "yellow" (needs improvement) or "red" (unacceptable) since mid-2004. Presently, the system is classified as "yellow" (needs improvement). Like the

CRD system, multiple WOs, many of which require plant outage conditions to facilitate accomplishment, are outstanding on the ICS. Again, like the CRD system, the final element of the licensee's improvement plan calls for the complete replacement of the ICS with a newer, up-to-date digital system tentatively set for the plant's 20th RFO in 2018.

c. Findings

No findings were identified.

.4 Annual Follow-Up Sample for In-Depth Review: Status of Licensee Corrective Actions for Shield Building Concrete Cracking

a. Inspection Scope

During a mid-cycle outage to replace the reactor vessel closure head in late 2011, the licensee identified laminar cracking in the safety-related shield building of the containment system while performing hydrodemolition operations to create a shield building maintenance access opening. Based on an evaluation of the licensee's extent-of-condition and technical analysis of the shield building laminar cracking, the NRC staff concluded that the licensee had provided reasonable assurance that the shield building was capable of performing its safety functions. In order to provide continued long-term confidence, the licensee agreed to several follow-on actions. Chief amongst these follow-on actions was the licensee's commitment to perform an investigation into the root cause of the cracking.

The licensee submitted a root cause report (ADAMS Accession No. ML120600056) to the NRC on February 27, 2012. The licensee identified the direct cause as the integrated effect of moisture content, wind speed, temperature, and duration from a severe winter blizzard that occurred in 1978, and the root cause as the design specification for construction of the shield building not specifying application of an exterior sealant from moisture. The licensee also identified three contributing causes involving specific design features of the building. The root cause report also identified planned corrective actions as well as associated due dates, and acknowledged that the shield building, although operable, did not conform to the licensing basis in its current condition.

The NRC completed an inspection of the licensee's root cause efforts and planned corrective actions on May 9, 2012 (NRC IR 05000346/2012009; ADAMS Accession No. ML12173A023). The NRC inspection team concluded that the licensee had a sufficient basis for the causes of the shield building laminar cracking related to the environmental factors associated with the 1978 blizzard, the lack of an exterior moisture barrier, and the structural design elements of the shield building. The team did, however, identify minor weaknesses in the licensee's root cause report associated with the level of detail in the documentation provided. These weaknesses did not constitute performance deficiencies or findings because they did not adversely affect the outcome of the root cause process. The licensee submitted a revised root cause report (ADAMS Accession No. ML12142A053) on May 16, 2012, with changes to address the minor weaknesses identified during the NRC inspection.

During the course of this in-depth review, the inspectors verified the completion status of the licensee's root cause report corrective actions. In addition, the inspectors reviewed

those follow-on corrective actions that the licensee had established subsequent to completion of their root cause report to verify their adequacy, and to verify that the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue.

The documents listed in the Attachment were reviewed to accomplish the objectives of the IP. This review constituted one annual follow-up inspection sample for in-depth review as defined in IP 71152-05.

b. Observations

The table below summarizes the corrective actions stemming from the licensee's root cause report:

Corrective Action Number	Description	Status	Date Completed or Scheduled Completion
CA-2011-03346-1	Additional Examination of Shield Building Exterior Wall	Completed	8/22/2012
CA-2011-03346-2	Engineering Change Package for Additional Shield Building Core Bores	Completed	3/30/2012
CA-2011-03346-3	Testing Program to Investigate Steel Reinforcement Capacity Adjacent to Structural Discontinuities	Completed	7/31/2012
CA-2011-03346-4	Engineering Plan to Re-Establish Shield Building Design and Licensing Basis	Completed	11/30/2012
CA-2011-03346-5	Site Specific Procedure for the Long-Term Monitoring of the Shield Building Laminar Cracking	Completed	4/22/2012
CA-2011-03346-6	Issue Engineering Change Package for a Shield Building Exterior Sealant System	Completed	5/12/2012
CA-2011-03346-7	Implement Engineering Change Package for a Shield Building Exterior Sealant System	Completed	10/15/2012
CA-2011-03346-8	Update Inspection Procedure to Include Shield Building Exterior Sealant System	Completed	4/22/2012
CA-2011-03346-9	Root Cause Report Submittal to the NRC	Completed	2/28/2012
CA-2011-03346-10	Examination of Four Un-Cracked Core Bores Following Plant Restart	Completed	2/27/2012
CA-2011-03346-11	Main Steam Line Room new Core Bore and Examination following Restart	Completed	2/28/2012
CA-2011-03346-12	Examine Six Un-Cracked Core Bores During the 17th Refuel Outage	Completed	5/23/2012
CA-2011-03346-13	Examine Three Crack Interface Core Bores During the 17th Refuel Outage	Completed	5/23/2012

Corrective Action Number	Description	Status	Date Completed or Scheduled Completion
CA-2011-03346-14	Confirmatory Examination of a Safety-Related Structure with an Existing Waterproof Coating	Completed	8/31/2012
CA-2011-03346-15	*Complete Owner's Acceptance on Design Basis Calculation and the associated 10 CFR 50.59 documentation for the Shield Building. The calculation is to include the effects of laminar cracking and university research testing results that investigated the effects of laminar cracking.*	*Scheduled*	*7/19/2013*
CA-2011-03346-16	*Complete Owner's Acceptance, approval and processing of USAR Change Notice for a new appendix to the USAR that reflects the current Shield Building configuration inclusive of laminar cracking, university research test results, and design basis methodology.*	*Scheduled*	*8/16/2013*

Corrective actions CA-2011-03346-1 through CA-2011-03346-14 were completed as originally planned and written without any revision. The inspectors concluded that the two newest corrective actions, CA-2011-03346-15 and CA-2011-03346-16, appear to be reasonable as written. Both will, however, be subject to further review in detail by the NRC upon their completion.

c. Findings

No findings were identified.

.5 Annual Follow-Up Sample for In-Depth Review: Status of Licensee Corrective Actions for Operations Human Performance Issues

a. Inspection Scope

The licensee's Nuclear Oversight organization has rated the Operations Department as "marginally effective" for the past four rating periods, dating back to early 2011. Plant status control events and issues, most involving minor or no consequences, were the driving force behind these ratings. These issues involved, among other things, inadequate awareness of plant conditions to issues with procedure quality and/or procedure adherence; not only were noted by the licensee's Nuclear Oversight organization, but also by the licensee's Company Nuclear Review Board (CNRB) during their periodic plant reviews and by the NRC during the most recent normal quarterly inspection exit meetings with the licensee's management team.

In June of 2012, the licensee commissioned a root cause team to investigate this matter, determine its causes, and specify actions to correct the issue and prevent its recurrence. On September 21, 2012, the licensee's root cause team finished their investigation and issued their report. The licensee's team determined that an organizational weakness involving management control and misalignment within the Operations Department was

the underlying cause for the issue, as well as the cause for the organization's difficulties in responding to the issue since its identification in 2011. Specifically, the licensee's team identified that the Operations Department lacked alignment, awareness, and ownership concerning the issue at hand, and what actions to take in order to resolve it.

During the course of this in-depth review, the inspectors examined the status of the licensee's root cause report corrective actions to verify their adequacy, and to verify that the classification, prioritization, focus, and timeliness of the corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue.

The documents listed in the Attachment were reviewed to accomplish the objectives of the IP. This review constituted one annual follow-up inspection sample for in-depth review as defined in IP 71152-05.

b. Observations

In response to the issue, the licensee has taken a number of formal corrective actions. Although not a formal corrective action stemming from the licensee's root cause report, a new Operations Manager was assigned and began in that position on June 18, 2012. Following interviews with all Operations personnel, the new Operations Manager made approximately twenty position changes within the Operations Department in an effort to improve overall crew performance. A revised performance improvement plan was implemented with three primary focus areas:

- Crew performance and teamwork actions;
- Plant status control actions; and
- Procedure improvement and backlog reduction actions.

While performance indicators tracked and maintained by the licensee generally indicate that the improvement plan is having a positive impact on Operations Department performance, the inspectors noted that these improvement gains are still in their early stages and will require additional time to demonstrate lasting effectiveness. Operational events with root, apparent, or contributing causes in the human performance arena, such as the finding discussed in Section 1R11.2 of this report and the finding discussed in Section 1R13 of the Third Quarter 2012 NRC Integrated Inspection Report (IR 05000346/2012004; ADAMS Accession No. ML12298A167), continue to indicate the need for licensee emphasis in this area.

c. Findings

No findings were identified.

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

.1 Decay Heat Pump Cyclone Separators Incorrectly Installed

On December 3, 2012, while servicing the No. 2 DH pump mechanical seal, the licensee identified that the cyclone separator had been installed upside down during a past maintenance activity dating back to May 12, 2012. Additionally, on December 6, 2012, while correcting the orientation of the cyclone separator, licensee mechanical maintenance personnel discovered that spacers were also missing from the inlet and dirty drain lines of the cyclone separator. The spacers are intended to fill unused space

between the body of the separator and the tube fittings that connect the tubing. Empty spaces in these areas could collect debris under accident conditions and prevent cooling flow to the mechanical seal. An extent of condition inspection was performed on the No. 1 DH pump on December 14, 2012, which identified the spacers were also missing from the cyclone separators. The most recent maintenance activity on the No. 1 DH pump cyclone separators occurred during the last quarter of 2011, during a mid-cycle outage to replace the reactor vessel closure head.

On December 14, 2012, the licensee made a voluntary report to the NRC via telephone regarding the potential impact to the past operability of both DH pumps. A subsequent investigation by the licensee determined the condition did not render the DH pumps inoperable. However, a considerable amount of engineering analysis/judgment was used to predict the consequences of running the DH pumps without seal cooling from the cyclone separators and achieve this conclusion. Based on the expected pump operating conditions during an accident, the licensee's analyses concluded that breakage of the seal faces would not occur. As such, leakage out from the pump seals would remain below the allowable leakage rate determined by the licensee's design basis calculations. An update was made to the voluntary report to the NRC reflecting this position.

The cyclone separator condition was immediately corrected for each pump upon discovery. The licensee has entered the conditions into the CAP and assigned a root cause analysis to CR 2012-18831. Because the licensee's root cause analysis was still in progress at the end of this inspection period, the issue is being treated as an unresolved item (URI) pending the inspectors' review of the licensee's root cause report and completion of the inspectors' review of the licensee's evaluation into the past operability of the DH pumps. (URI 05000346/2012005-02)

Documents reviewed in this inspection are listed in the Attachment to this report. This event follow-up review by the inspectors constituted a single inspection sample as defined in IP 71153-05.

4OA5 Other Activities

.1 (Closed) NRC Temporary Instruction 2515/187: Inspection of Near-Term Task Force Recommendation 2.3 Flooding Walkdowns

a. Inspection Scope

Inspectors verified that licensee's walkdown packages (External Flooding Walkdown Record Forms 101F/EXT, 101N/EXT, 114F/EXT, 052E/EXT, 052F/EXT, Door 216, Door 217 and Flood Protection Dike) contained the elements as specified in the walkdown guidance document, NEI 12-07.

The inspectors accompanied the licensee on their walkdown of the wave protection dike and verified that the licensee confirmed the following flood protection features:

- Visual inspection of the flood protection feature was performed if the flood protection feature was relevant. External visual inspection for indications of degradation that would prevent its credited function from being performed was performed;
- Critical SSC dimensions were measured;

- Available physical margin, where applicable, was determined; and
- Flood protection feature functionality was determined using either visual observation or by review of other documents.

The inspectors independently performed their walkdown of the service water intake structure and verified that the following flood protection features were in place:

- Visual inspection of the flood protection feature was performed if the flood protection feature was relevant. External visual inspection for indications of degradation that would prevent its credited function from being performed was performed;
- Critical SSC dimensions were measured;
- Available physical margin, where applicable, was determined; and
- Flood protection feature functionality was determined using either visual observation or by review of other documents.

The inspectors verified that noncompliances with current licensing requirements, and issues identified in accordance with the 10 CFR 50.54(f) letter, Item 2.g of Enclosure 4, were entered into the licensee's CAP. In addition, issues identified in response to Item 2.g that could challenge risk significant equipment and the licensee's ability to mitigate the consequences will be subject to additional NRC evaluation.

b. Findings

No findings were identified.

.2 (Closed) NRC Temporary Instruction 2515/188: Inspection of Near-Term Task Force Recommendation 2.3 Seismic Walkdowns

a. Inspection Scope

The inspectors accompanied the licensee on their Area Walk-Bys and Seismic Walkdown Equipment List (SWEL) component inspections in the Auxiliary Building during the week of July 14, 2012, and verified that the licensee confirmed that the following seismic features associated with the Component Cooling Water surge tank, 480 Vac motor control center F11A, and the Containment Spray (CS) Train 1 discharge valve, CS 1530, were free of the following potential adverse seismic conditions:

- Anchorage was free of bent, broken, missing or loose hardware;
- Anchorage was free of corrosion that is more than mild surface oxidation;
- Anchorage was free of visible cracks in the concrete near the anchors;
- Anchorage configuration was consistent with plant documentation;
- SSCs will not be damaged from impact by nearby equipment or structures;
- Overhead equipment, distribution systems, ceiling tiles and lighting, and masonry block walls are secure and not likely to collapse onto the equipment;
- Attached lines have adequate flexibility to avoid damage;
- The area appears to be free of potentially adverse seismic interactions that could cause flooding or spray in the area;
- The area appears to be free of potentially adverse seismic interactions that could cause a fire in the area; and

- The area appears to be free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding).

The inspectors independently performed their walkdown in various rooms of the Auxiliary Building during the week ending August 25, 2012, focused on the following components:

- Safety-related Station Battery 2N;
- Reactor Trip Breaker 'A'; and
- Auxiliary Feedwater Pump No. 1.

The inspectors verified that the components were free of the potential adverse seismic conditions listed above.

Additionally, the inspectors observed that the SWEL did not contain items that could allow the spent fuel pool to drain down rapidly because all piping penetrations into the spent fuel pool, cask pit, and transfer pit penetrate at least 9 feet above the top of the fuel assemblies to avoid any possibility of completely draining the pool in case of a pipe rupture.

b. Observations

During the inspectors' walkdown accompanying the licensee, the inspectors observed that for equipment requiring anchorage configuration verification that the licensee did not have the design documentation in hand during the walkdown. Instead, the licensee took photographs in the field for later comparison to documentation in the office. The inspectors determined this approach to anchorage configuration verification was not described in the Electric Power Research Institute (EPRI) document 1025286 titled, "Seismic Walkdown Guidance," (ADAMS Accession No. ML12188A031), and was not consistent with the intent of the guidance. However, the inspectors did not find any inconsistencies between the anchorage shown in photographs and plant documentation during the review of selected equipment.

During walkdowns of electrical equipment such as cabinets, panels, motor control centers, and breakers, the inspectors observed that the licensee's seismic walkdown engineers only inspected the area where the electrical component was anchored to the seismic structure (i.e., the floor, etc.). The panel or cabinet door was not opened to verify the absence of adverse seismic conditions located inside the cabinet. This walkdown approach is contrary to the guidance provided in EPRI Report 1025286, which covers the evaluation of the connections that secure components within the electrical cabinet. The licensee has generated a WO to re-perform a walkdown for components that require the opening of a panel or cabinet door that can be unlatched. These components will be completed no later than the next RFO, scheduled in the spring of 2014. The licensee has committed to submit a supplemental report documenting the walkdowns within 120 days following completion of the spring 2014 RFO.

c. Findings

No findings were identified.

.3 (Closed) NRC Temporary Instruction 2515/177: Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems (NRC Generic Letter 2008-01)

a. Inspection Scope

The inspectors verified the onsite documentation, system hardware, and licensee actions were consistent with the information provided in the licensee's response to NRC Generic Letter (GL) 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems." Specifically, the inspectors verified the licensee implemented or was in the process of implementing the commitments, modifications, and programmatically controlled actions described in the licensee's response to GL 2008-01. The inspection was conducted in accordance with Temporary Instruction (TI) 2515/177, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems (NRC GL 2008-01)," and considered the site-specific supplemental information provided by the Office of Nuclear Reactor Regulations (NRR) to the inspectors.

b. Observations

The selected TI areas of inspection were licensing basis, design, testing, and corrective actions. The documentation of the inspection effort and any resulting observations are below.

Licensing Basis: The inspectors reviewed selected portions of licensing basis documents to verify that they were consistent with the NRR assessment report and that they were processed by the licensee. The licensing basis verification included the verification of selected portions of TS, TS basis, USAR, and Technical Requirements Manual (TRM). The licensee's 9-month response to GL 2008-01 stated sections of the USAR discussed the presence of some non-condensable gases in the ECCS systems was explicitly recognized, but the ECCS and the RCS were designed to preclude adverse effects from air/gas intrusion or accumulation, due to a combination of effective filling and venting and maintenance of system pressure with the borated water storage tank and the installed RCS venting capabilities. Although the licensee concluded the USAR discussions were adequate, the licensee indicated additional information would be added to clarify some of the USAR discussions and include additional discussion of the periodic monitoring performed in response to the GL. This action to update the USAR was being tracked by the licensee per Notification 600660962 and will be processed after establishment of a final licensing basis for the gas management issue.

The inspectors also verified applicable documents that described the plant and plant operation, such as calculations, piping and instrumentation diagrams (P&IDs), procedures, and CAP documents, addressed the areas of concern and were changed if needed following plant changes. The inspectors noted that the licensee had not developed a program document for gas intrusion to state how certain aspects of the NEI guidance were being implemented at the site. The licensee had not established a program document based on the NEI guidance not being finalized. Based on a recent self-assessment, the licensee concluded a program document should be established. This issue was being tracked in the licensee's CAP as CR 2012-14865.

Surveillance Requirement 3.5.2.3, which ensured the ECCS was maintained full of water was required to be performed on a 24-month frequency or after portions of the ECCS

were drained. The inspectors reviewed the periodic monitoring program of susceptible gas locations via ultrasonic testing (UT) as part of the licensee's resolution to GL 2008-01. The licensee's basis for the UT frequency was a graded approach that utilized qualitative assessments, which included consideration of the underlying gas intrusion mechanisms, relative differential pressure across the barrier, and the potential impact of gas accumulation in various piping segments. This resulted in a UT frequency of either monthly or quarterly. Based on the results of the examinations performed up to the timeframe of this inspection, the inspectors did not have a concern with the established monitoring frequency.

Finally, the inspectors also confirmed the licensee's commitment to support the industry Technical Specification Task Force Traveler (TSTF) and NEI Gas Accumulation Management Team activities regarding resolution of generic TS issues, evaluate the resolution of the TSTF, and submit a license amendment request, if deemed necessary based on this evaluation, within 180 days following NRC approval of the TSTF. This commitment was tracked per the licensee's commitment program as Commitment A21973.

Design: The inspectors reviewed selected design documents, performed system walkdowns, and interviewed plant personnel to verify that the design and operating characteristics were addressed by the licensee. Specifically:

- The inspectors assessed the licensee's efforts for identifying the gas intrusion mechanisms that apply to the licensee's plant and noted one example where the licensee did not initially recognize a potential gas intrusion mechanism. Specifically, the shutdown cooling (SDC) system design and operation may not preclude the formation of steam voids during Mode 3 if a loss-of-coolant (LOCA) event occurred. Since the SDC system discharges into the LPI discharge piping it could potentially cause a water hammer in the piping if the hot water flashed to steam during the switchover from SDC to LPI. The licensee identified this concern during a recent self-assessment based on a review of industry operating experience and was tracking the evaluation in the CAP per CR 2012-14934;
- The inspectors verified that the licensee's void acceptance criteria were consistent with NRR's void acceptance criteria;
- The inspectors selectively reviewed applicable documents, including calculations, engineering evaluations, and vendor technical manuals, with respect to gas accumulation in the subject systems. Specifically, the inspectors verified these documents addressed venting requirements, aspects where pipes are normally void such as some spray piping inside containment, void control during system realignments. The inspectors noted the procedures used for monthly stroke test of the HPI injection valve would, due to RCS back-leakage, potentially flash the volume of water of the injection line. The inspectors noted the licensee had procedures to UT downstream of the HPI injection valve, however, there was no coordination of the UT procedure activity to ensure the system had not been unintentionally voided;
- The inspectors conducted a walkdown of selected regions of ECCS in sufficient detail to assess the licensee's walkdowns. The inspectors also verified that the information obtained during the licensee's walkdown was consistent with the items identified during the inspectors' independent walkdown. The inspectors also assessed if the P&IDs accurately described the subject systems and were up-to-date with respect to recent hardware changes;

- The inspectors also conducted a similar walkdown of the HPI system inside containment in an earlier inspection period. This additional activity counted towards the completion of this TI and was documented in Inspection Report 05000346/2010002; and
- The inspectors verified the licensee's walkdowns have been completed. In addition, the inspectors selectively verified that information obtained during the licensee's walkdowns were addressed in procedures, the CAP, and training documents.

Testing: The inspectors reviewed selected surveillance, post-modification test, and post-maintenance test procedures and results to assess if the licensee approved and was using procedures that were adequate to address the issue of gas accumulation and/or intrusion in the subject systems. Specifically:

- The inspectors reviewed procedures used for conducting void periodic monitoring and determination of void volumes to ensure the void criteria was satisfied and will be reasonably ensured to be satisfied until the next scheduled void surveillance;
- The licensee performed periodic UT inspections for locations that were considered susceptible to voiding. These UTs, as previously discussed, were performed on a monthly or quarterly basis. The licensee had two procedures for UT inspections, and the inspectors identified several issues. These included: (1) not establishing a clear link as to how the procedures worked together or with the referenced surveillances or preventive maintenance tasks; (2) DB-PF-05065, "Ultrasonic Detection of Gas Voids in Liquid Systems," stated it was for information only; and (3) NOP-CC-5712 , "Ultrasonic Detection of Gas Voids in Liquid Systems Using the EPOCH LTC," stated it was not to be used to determine void size even though it was determining void size. Although there were the noted procedural issues, the inspectors did not identify concerns with the UT measurements taken during the periodic monitoring activities. The licensee initiated CR 2012-17235, CR 2012-16425, and Notifications 600795368, and 600795369 to address these issues;
- The inspectors reviewed selected procedures used for void control, such as filling and venting, following conditions which may have introduced voids into the subject systems to verify the procedures addressed testing for such voids and provided processes for their reduction or elimination;
- The licensee performed periodic valve stroke test per procedure DB-PF-03205, "ECCS Train 1 Valve Test," which gave direction for monthly stroking of the HPI injection valve. Note 4.3.12 identified that computer Alarm P465 may be received during this test due to trapped pressure in the HPI discharge line between the injection check valve and isolation valve, but did not detail this alarm as an anomaly and that this was an indicator of potential RCS leakage into the HPI injection line. This was a concern because the injection line volume could potentially be flashed to steam. The licensee also had quarterly Preventative Maintenance (PM) 8225, "ECCS Train 1 Quarterly UT verifications," requirements to perform a UT at a location downstream of the HPI injection valve. The inspectors noted there was no discussion of sequencing this PM for use before and after DB-PF-03205 to ensure that water solid conditions still existed. A review of the results of PM 8225 verified no voiding concern had existed. The licensee initiated CR 2012-17222 and 2012-17227 to address these issues; and

- The licensee acceptance criterion for UT monitoring was no voids such that all voids identified were to be assessed by the CAP. The voids that were identified were in most cases small, appropriately evaluated in the CAP, and removed from the system by flushing or venting. The identified voids were mostly in auxiliary portions of the ECCS system (core flood tank fill lines from the HPI or the auxiliary pressurizer spray line from the HPI system) and not in the injection lines such that the voids would not have affected the ability of the systems to perform their ECCS function. The licensee has taken some action on the core flood tank fill lines by installing new isolation valves to prevent potential back-leakage of nitrogen into the HPI system and added an additional vent valve and pressure indication between the nitrogen addition and HPI system.

Corrective Actions: The inspectors reviewed selected licensee's assessment reports and CAP documents to assess the effectiveness of the licensee's CAP when addressing the issues associated with GL 2008-01. In addition, the inspectors verified that selected corrective actions identified in the licensee's 9-month and supplemental reports were documented. The inspectors also verified that commitments were included in the CAP.

The inspectors noted an example where the licensee identified a design deficiency associated with the normally voided CS header. The inspectors noted the method employed appeared to fail to consider the dynamic loads on the upstream riser piping of the CS system. The licensee performed an informal calculation to determine the additional loading on the CS piping system. The additional loading was determined to be within the design of the system. The details of this licensee-identified finding are discussed in Section 4OA7 of this report.

The documents reviewed are listed in the Attachment to this report.

Based on this review, the inspectors concluded that there is reasonable assurance that the licensee will complete all outstanding items and incorporate this information into the design basis and operational practices. Therefore, this TI is considered closed.

c. Findings

No findings were identified.

.4 Operation of an Independent Spent Fuel Storage Installation (60855.1)

a. Inspection Scope

The inspectors conducted document reviews, held discussions with licensee staff, and performed a walkdown of the Independent Spent Fuel Storage Installation (ISFSI) to assess compliance with the applicable Certificate of Compliance, TS, and the Site Certified Safety Analysis Report. During the walkdown, the condition of the Horizontal Storage Modules was evaluated and the inspectors observed the licensee perform routine surveillance activities, including inspections of the vent screens and taking thermocouple readings.

Plant procedures were reviewed to determine whether the licensee had adequate controls in place to monitor the radiation dose resulting from the operation of the ISFSI. The inspectors reviewed several routine radiation surveys performed by the licensee around the pad, and conducted independent surveys to verify dose rates. Additionally,

the inspectors reviewed the licensee's procedures for control of special nuclear material, and the most recent annual inventory as it related to the ISFSI, to verify that the fuel in the Dry Storage Canisters was accounted for and controlled. The inspectors reviewed the control of transient combustible material procedure, emergency procedures, and the Emergency Plan for their adequacy in regard to the ISFSI.

Condition reports, and the associated follow up actions, were reviewed to assess the adequacy and timeliness of the licensee's corrective actions. 10 CFR 72.48 screenings were reviewed, focusing on those associated with the temporary storage of Sea-Land containers on the ISFSI pad, for compliance with the transient combustible procedure, the Part 72.212 report, and the Site Certified Safety Analysis Report.

The inspectors reviewed relevant industry operating experience and its applicability to Davis-Besse. In particular, a letter from TransNuclear submitted to the NRC dated March 1, 2012, (ADAMS Accession No. ML12065A184) identified Davis-Besse's Horizontal Storage Modules as potentially susceptible to concrete degradation due to water entering through hole penetrations in the roof which subsequently could undergo freeze/thaw cycles. The licensee determined that Davis-Besse is not susceptible to this condition, mainly due to the fact that the roof holes on the Horizontal Storage Modules are grouted through, which was independently verified by the inspectors.

b. Findings

No findings were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On January 10, 2013, the inspectors presented the inspection results to Mr. Raymond Lieb, the Site Vice President, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

.2 Interim Exit Meetings

Interim exits were conducted for:

- The TI 2515/177, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems (NRC GL 2008-01) inspection" with Mr. R. Lieb, the Site Vice President, and other members of the licensee staff on November 2, 2012;
- The inspection results for the areas of radiological hazard assessment and exposure controls; occupational ALARA planning and controls; and RCS specific activity and occupational exposure control effectiveness performance indicator verification with Mr. R. Lieb, the Site Vice President, and other members of the licensee staff on November 30, 2012;
- The annual and biennial portions of the IP 71111.11, "Licensed Operator Requalification Program," inspection with Mr. R. Lieb, the Site Vice President, and other members of the licensee staff on November 30, 2012; and
- The overall pass/fail results of the administered biennial written examination and the annual operating test portions of the IP 71111.11, "Licensed Operator

Requalification Program," inspection with Mr. C. Steenbergen, Superintendent of Operations Training, via telephone on December 17, 2012.

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

4OA7 Licensee-Identified Violations

The following violations of very low safety significance (Green) were identified by the licensee and are violations of NRC requirements that meet the criteria of Section 2.3.2 of the NRC Enforcement Policy for being dispositioned as Non-Cited Violations:

.1 Failure to Evaluate the Effects of Dynamic Loads on the Containment Spray Piping

Appendix B of 10 CFR Part 50, Criterion III, "Design Control," requires, in part, that measures shall be established to assure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions. Contrary to this, on October 17, 2012, the licensee identified the requirements associated with dynamic loading contained in the original construction code of the CS ring header were not incorporated into the specifications of the system and initiated CR 2012-16439. Specifically, the licensee failed to determine the resultant dynamic loads introduced on CS ring header upon system actuation. The performance deficiency was determined to be more than minor because it was associated with the Containment Barrier cornerstone attribute of structures, systems, components, and barrier performance and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The finding screened as of very low safety significance because the dynamic loading was verified to be within the capability of the piping design.

.2 Additional EDG Inoperability Caused by Inadequate Maintenance Instructions

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 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, in part, that: "Maintenance that can affect the performance of safety-related equipment should be properly preplanned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances."

Contrary to this requirement, during the week ending November 17, 2012, the licensee's instructions for replacing the lube oil cooler left bank side jacket water inlet o-ring seal on EDG No. 1 via WO no. 200493894 improperly called for a metal-to-metal joint fit up. Specifically, the EDG vendor's instructions, which were translated into the licensee's work instructions to maintenance personnel, were imprecise and confusing. In one location, the vendor's instructions specified a metal-to-metal joint fit up, while in another location a 1/16th inch gap was specified. This lack of clarity in the work instructions caused the joint to leak three times before it was finally able to be properly sealed on the fourth iteration. The additional iterations for the performance of this work added significant time to the periods of inoperability and unavailability for EDG No. 1, and caused the licensee to make an unplanned entry into an elevated (i.e., Orange) plant risk awareness state.

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 technically adequate written procedures and instructions for the replacement of the lube oil cooler left bank side jacket water inlet o-ring seal on EDG No. 1 resulted in the need to perform that work multiple times and added significant time to the periods of inoperability and unavailability for EDG No. 1. The licensee had entered this issue into their CAP as CR 2012-18584. Corrective actions planned or completed by the licensee include revisions to the EDG and SBODG vendor manuals to incorporate the lessons learned during this maintenance activity.

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
J. Cuff, Manager, Training
G. Cramer, Manager, Site Protection
A. Dawson, Manager, Chemistry
J. Dominy, Director, Site Maintenance
T. Henline, Supervisor – Nuclear Engineering Programs
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
M. Parker, Manager, Site Protection
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
D. Saltz, Manager, Site Maintenance
M. Sidoti, Radiation Protection ALARA Supervisor
C. Steenbergen, Superintendent, Operations Training
J. Stelmaszak, Supervisor – Nuclear Supply Engineering
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

05000346/2012005-01	NCV	Operator Error in Response to a Small Power Transient Momentarily Renders TS Equipment Inoperable (Section 1R11.2)
05000346/2012005-02	URI	Decay Heat Pump Cyclone Separators Incorrectly Installed (Section 4OA3.1)

Closed

05000346/2012005-01	NCV	Operator Error in Response to a Small Power Transient Momentarily Renders TS Equipment Inoperable (Section 1R11.2)
2515/177	TI	Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems (NRC GL 2008-01) (Section 4OA5.3)
2515/187	TI	Inspection of Near-Term Task Force Recommendation 2.3 Flooding Walkdowns (Section 4OA5.1)
2515/188	TI	Inspection of Near-Term Task Force Recommendation 2.3 Seismic Walkdowns (Section 4OA5.2)

Discussed

None

LIST OF DOCUMENTS REVIEWED

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

1R01 Adverse Weather Protection

Condition Reports:
- 2012-12160; DB-TIC-20317P (Heat Trace Circuit 118) controller not reading correctly
- 2012-12115; Freeze protection circuits needing repair
- 2012-15475; Breaker was installed in freeze protection panel CFPP09 at settling basin without proper documentation

Procedures:
- DB-OP-06913; Seasonal Plant Preparation Checklist; Revision 24
- DB-OP-06331; Freeze Protection & Electrical Heat Trace; Revision 22

Other:
- Standing Order No. 09-001; Cooling Tower Cold Weather Operations; Revision 1

1R04 Equipment Alignment

Condition Reports:
- 2012-15693; Procedure Deficiencies for Restoration of SW123 Discovered During Preparations for MDFP Outage
- 2012-09149; Misposition Event – Motor Driven Feed Water Pump Cooling Lineup – FW122 Found Out of Position, MDFP Shutdown
- 2012-05848; Combustible Loading in AFW Pump Rooms May Exceed NRC Approved Exemption Request
- 2011-95614; Procedure Deficiency DP-OP-06225 Section 3.8 ‘Returning MDFP to Service
- 2010-74272, AF93 Found Open

Procedures:
- DB-OP-06012; Decay Heat and Low Pressure Injection System Operating Procedure; Revision 54
- DB-OP-06011; High Pressure Injection System Operating Procedure; Revision 28
- DB-OP-06233; Auxiliary Feedwater System; Revision 33
- DB-OP-06225; MDFP Operating Procedure; Revision 19
- DB-SP-03153; Auxiliary Feedwater Train 1 Monthly Valve Verification; Revision 09
- DB-SP-03162; Auxiliary Feedwater Train 2 Monthly Valve Verification; Revision 10

Drawings:
- OS-004, Sheet 1; Operational Schematic Decay Heat and Low Pressure Injection System; Revision 50
- OS-003; Operational Schematic High Pressure Injection System; Revision 35
- OS-0017A; Auxiliary Feedwater System, Sheet 1; Revision 26
- M-0006D; Piping & Instrument Diagram, Auxiliary Feedwater System; Revision 55

- M-0206F; Piping Isometric, Auxiliary Feedwater System, Aux Feed Pump Discharge to Steam Generators; Revision 27

1R05 Fire Protection

Procedures:
- PFP-TB-326; Heater Bay Area, Room 326, Fire Area II; Revision 6
- PFP-TB-334; Turbine Pedestal Area, Room 334, Fire Area II; Revision 7
- PFP-S6-0000; Service Building 6, Laydown Area, Station Blackout Diesel; Revision 4
- PFP-AB-113; Decay Heat Cooler Room and Hatch Area, Rooms 113 and 113A, Fire Area AB; Revision 08
- PFP-AB-105; ECCS Pump Room 1-1, Room 105, Fire Area AB; Revision 08
- PFP-AB-428; Low Voltage Switchgear Room F Bus, Room 428, Fire Area X; Revision 4
- PFP-AB-428A; Battery Room B, Room 428A, Fire Area X; Revision 4
- DB-FP-00005; Fire Brigade; Revision 16
- DB-OP-02529; Abnormal Procedure, Fire Procedure; Revision 6

Drawings and Charts:
- A-221F; Fire Protection General Floor Plan, El. 545'-0" & El. 555'-0"; Revision 06
- A-223F; Fire Protection General Floor Plan, El. 585'-0"; Revision 22
- A-224F; Fire Protection General Floor Plan, El. 603'-0"; Revision 23
- DBRM-EMER-1500B; Hot EAL Wall Board; Revision 1

Fire Brigade Drill Records:
- DB-FP-00005, Attachment 1; Isolate Electrical Power and Extinguish Fire at DF8; 11/20/2012

Other:
- Fire Hazard Analysis Report; Revision 24

1R11 Licensed Operator Requalification Program and Licensed Operator Performance

Condition Reports:
- 2010-73345, AFW #2 Riser Found to be under Pressure During Removal of AFW Cover
- 2010-74173; DC Battery Chargers 1N & 1P Inadvertently Switched to Equalize Mode
- 2010-78637; SFRCS Actuation Channel 2 Trip During Test Setup for DB-PF-03163
- 2011-04688; Unexpected Water Flow into Main Condenser while Restoring Clearance
- 2011-07160; Circulating Water Sodium Hypochlorite Pump No. 2 Switch found in wrong position
- 2011-91861; Improvement Opportunity, Serious Station Fire
- 2011-91864; Time Critical Operator Actions Not Met
- 2011-94767; Continued Clearance/Tagging Issues
- 2011-97635; YF103 Appeared to be Tripped Free but was still Closed
- 2012-00526; Control Room EVS Start Time per DBBP-OPS-1013 not satisfied
- 2012-00613; Mispositioning CD162 Out of Position
- 2012-07279; RCP 1-2 Manually Tripped Due to High Motor Lower Bearing Temperature
- 2012-16833; After Placing Rod Control Panel Into Manual an Unexpected Power Rise Was Observed by the ATC RO
- 2012-16852; Crew Annual Simulator Evaluation Failure
- 2012-17419; Operating Crew Performance Critique for ICS Transient on October 24, 2012
- 2012-17995; Taking ICS to Track Results In a 5 MW Rise In Power

Procedures:
- NT-OT-7001; Training and Qualification of Operations Personnel; Revision 12
- NOP-TR-1008; FENOC Simulator Configuration Management; Revision 0
- NOP-TR-1010; Licensed Operator Requalification Exam Development; Revisions 0 and 1
- NOP-OP-1013, Control of Time Critical Operator Actions, Revision 1
- DB-OP-02526; Primary to Secondary Heat Transfer Upset; Revision 3
- DB-OP-06401; Integrated Control System Operating Procedure; Revision 17
- DB-OP-06902; Power Operations; Revision 38
- DB-OP-06232; Circulating Water System and Cooling Tower Operation; Revision 29

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 7
- NOBP-TR-1112; FENOC Conduct of Simulator Training and Evaluation; Revision 2
- DBBP-OPS-0022; Lost Time Documentation; Revision 0
- DBBP-OPS-0021; DB Operations Section: Overtime, Vacation & Shift Coverage; Revision 2
- DBBP-OPS-1013; Control of Time Critical Operator Actions; Revision 2

Evolution Specific Reactivity Plan:
- Cycle 18 Power Changes to Repair Condenser Tube Leak; November 2012; Revision 0

Simulator Guides:
- ORQ-EPE-S111; Simulator Guide; Revision 14
- ORQ-EPE-S112; Simulator Guide; Revision 11
- ORQ-EPE-S123; Simulator Guide; Revision 12
- ORQ-EPE-S128; Simulator Guide; Revision 10
- ORQ-EPE-S129; Simulator Guide; Revision 10
- ORQ-EPE-S132; Simulator Guide; Revision 7
- ORQ-EPE-S134; Simulator Guide; Revision 10

Simulator Procedures:
- 2012 N6; Sixty Minute Drift Test; Revision 5
- 2012 TAB01; Manual Reactor Trip; Revision 7
- 2012 TAB04; Simultaneous Trip of All Reactor Coolant Pumps; Revision 9
- 2012 TAB07; Maximum Rate Power Ramp 100% to 75% and Back to 100%; Revision 7
- 2012 TAB11; Maximum Power Load Rejection with No Reactor Trip; Revision 2
- 2012 T1F; SG Tube Rupture; Revision 4
- 2012 T3D; Loss of 120 VAC Panel Y1/Y1A; Revision 6
- 2012 T5A; Loss of Circulating Water Pumps; Revision 5
- 2012 T18C; Loss of RCS Makeup Pump; Revision 5

Other:
- Day Shift Unit Log; Wednesday; 10/24/2012
- Grading Package for Crew 2; 11/14/2012
- Written Sample Plan for 2012
- Various Remedial/Makeup Recommendation Packages; 2010
- Team Evaluation Form – Crew 5; 11/29/2012
- Calculation C-NSA-028-01-005; Control Room Radiation Doses Following Maximum Hypothetical Accident
- Ops Quality Field Observations; Various 2011, 2012

- 2012 LOR Program Self-Assessment
- 2012 Annual-Biennial Licensed Operator Requalification Examination Sample Plan
- 2012 Scenario and JPM Exposure; 11/26/2012
- 2012 Operator Training License Continuing Biennial Written Examination 4 (November 11, 2012)
- 2012 Operator Training License Continuing JPMs – Week 2; Various Revisions
- 2012 Operator Training License Continuing JPMs – Week 5; Various Revisions
- 2012 Operator Training License Continuing JPMs – Week 8; Various Revisions

1R12 Maintenance Effectiveness

Condition Reports:
- 2011-92340; Critical Preventive Maintenance Action Plan
- 2011-91454; PM Deferral Snapshot Self-Assessment
- 2012-02460; 2012 CDBI Self Assessment: Expected Life of Essential Batteries
- 2012-18517; Unevaluated Orange Risk to Generation for Performance of DB-SC-10027, DBC2N Post-Maintenance Test
- 2012-18524; Procedure Error – DB-SC-10027 Post-Modification Test for Battery Charger DBC2N

Procedures:
- DB-SC-10026; Post-Modification Test for Battery Charger DBC2P (ECP 02-0707); Revision 1
- DB-SC-10027; Post-Modification Test for Battery Charger DBC2N (ECP 02-0707); Revision 1
- DB-OP-06321; 250/125 Vdc Station DC Switching Procedure; Revision 19

Work Orders:
- 200389993; Replace Battery Charger DBC2N

Other:
- Cycle 17 Periodic Maintenance Effectiveness Assessment Report; dated August 22, 2012
- Maintenance Rule Program Manual; Revision 30
- Plant Health Report; Second Quarter 2012

1R13 Maintenance Risk Assessments and Emergent Work Control

Condition Reports:
- 2012-17812; HIC ICS36A Main Feed Pump 2 Speed Control Hand Indicating Control Demand Dropped During Transfer to Manual

Procedures:
- DB-OP-06902; Power Operations; Revision 38
- DB-OP-06224; Main Feed Pump and Turbine; Revision 30
- DB-OP-06232; Circulating Water System and Cooling Tower Operation; Revision 29

Work Orders:
- 200518986; ICS Throttle Valve Control Module Replacements

Evolution Specific Reactivity Plan:
- Cycle 18 Power Changes to Repair Condenser Tube Leak; November 2012; Revision 0

1R15 Operability Determinations and Functionality Assessments

Condition Reports:
- 2004-06441; Debris Found in Top of Jacket Water Side of EDG 2 Lube Oil Cooler
- 2007-15235; Debris Found in Top of Jacket Water Side of EDG 2 Lube Oil Cooler
- 2012-16355; Switchyard Disconnect Switches DCS34562E and DCS34562F Opened Unexpectedly
- 2012-18000; Oil Leaking From the O-ring Seal on 1-1 EDG Lube Oil Cooler
- 2012-18031; Foreign Material Found In Jacket Water Side of No. 1 Emergency Diesel Generator Lube Oil Cooler
- 2012-18062; No. 1 EDG Small Leak Developed in a Pipe Weld on Return Oil Line From Lube Oil Cooler
- 2012-02644; CRE Operability with one set of dampers inoperable
- 2012-02587; Possible incomplete Technical Specification compliance when Station Vent Rad Monitors are inoperable

Procedures:
- DB-OP-06311; 345KV Switchyard No. 1 (Main) Transformer, No. 11 (Auxiliary) Transformer, and Startup Transformers (01 and 02); Revision 26
- DB-SC-03023; Off-Site AC Sources Lined Up and Available; Revision 26
- DB-SC-03076; Emergency Diesel Generator 1 184 Day Test; Revision 30
- DB-DP-00025; Requirements for Breaching The Control Room Pressure Boundary; Revision 8
- NOP-ER-3202; Control Room Envelope Habitability (CREHAB) Program; Revision 0

Work Orders:
- 200493894; Repair EDG 1 Lube Oil Cooler Leak

Other:
- Standing Order 12-016; Degraded Emergency Diesel Generator #1 Lube Oil Cooler; Revision 0
- WC-12-21235-SC; Switching Order, Davis-Besse 345 KV Line Mod SW 34625; dated October 15, 2012

1R19 Post Maintenance Testing

Condition Reports:
- 2012-17880; (K5-1) EDG No. 1 Lube Oil Separator Element Securing Spring Was Missing on Disassembly
- 2012-17999; K5-1: Minor Diesel Fuel Oil Leak From Engine-Driven Fuel Pump, P205-1
- 2012-18000; Oil Leaking From the O-Ring Seal on 1-1 EDG Lube Oil Cooler
- 2012-18031; Foreign Material Found In Jacket Water Side of No. 1 Emergency Diesel Generator Lube Oil Cooler
- 2012-18062; No. 1 EDG Small Leak Developed In a Pipe weld on Return Oil Line From Lube Oil Cooler
- 2012-18088; EDG 1 Hand Hole Cover For Cylinder 6 Is Leaking (Rework)
- 2012-18089; K5-1 Engine-Driven Fuel Pump P205-1 Small Leak After Rework
- 2012-18517; Unevaluated Orange Risk to Generation for Performance of DB-SC-10027, DBC2N Post-Maintenance Test
- 2012-18524; Procedure Error – DB-SC-10027 Post-Modification Test for Battery Charger DBC2N

Procedures:
- DB-MM-09320; Emergency and Station Blackout Diesel Engine Maintenance; Revision 28
- DB-MM-09343; Emergency and Station Blackout Diesel Engine 2-Year Maintenance of Lube Oil Filters, One Revolution and Other Inspections; Revision 1
- DB-SC-10026; Post-Modification Test for Battery Charger DBC2P (ECP 02-0707); Revision 1
- DB-SC-10027; Post-Modification Test for Battery Charger DBC2N (ECP 02-0707); Revision 1
- DB-OP-06321; 250/125 Vdc Station DC Switching Procedure; Revision 19

Work Orders:
- 200389993; Replace Battery Charger DBC2N
- 200442570; 24-Month Clean and Inspection Preventative Maintenance, EDG 1
- 200442571; EDG 1 6-Year Preventative Maintenance
- 200493894; Repair EDG 1 Lube Oil Cooler Leak

1R22 Surveillance Testing

Condition Reports:
- 2012-19174; Main Turbine Stop Valve #4 Malfunctions During Testing in DB-SS-04150

Procedures:
- DB-FP-04041; Startup Transformer 01 Deluge Test; Revision 10
- DB-PF-03023; Service Water Pump 2 Testing; Revision 22
- DB-PF-06704; Pump Performance Curves; Revision 30
- DB-SP-03160; AFP 2 Quarterly Test; Revision 25
- DB-SC-03071; Emergency Diesel Generator 2 Monthly Test; Revision 29
- DB-SS-04150; Main Turbine Stop Valve Test; Revision 11

Work Orders:
- 200417450; Performance of DB-FP-04041 on 11/23/2012

Other:
- ISTB2; Pump and Valve Basis Document, Volume II, Pump Basis; Revision 15
- ISTB3; Pump and Valve Basis Document, Volume III, Stroke Time Basis; Revision 46

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

Procedures:
- RM-EMER-1500A; Davis-Besse Emergency Action Level Basis Document; Revision 3
- RA-EP-02010; Emergency Management; Revision 13
- RA-EP-02110; Emergency Notification; Revision 11
- RA-EP-02220; Emergency Operations Facility Activation and Response; Revision 9
- RA-EP-02230; Dose Assessment Center Activation and Response; Revision 5
- RA-EP-02310; Technical Support Center Activation and Response; Revisions 9 and 10
- RA-EP-02410; Operations Support Center Activation and Response; Revision 17

Other:
- Emergency Plan; Revision 28

2RS1 Radiological Hazard Assessment and Exposure Controls

Condition Reports:
- 2012-08488; Radioactive Sources Not Properly Received
- 2012-10031; Proper Form Not Completed Prior to Ordering Radioactive Source

Procedures:
- DB-HP-01447; Small Article Monitor Calibration; Revision 03
- DB-HP-03000; Inventory and Leak Testing of Licensed Sources; Revision 05
- DB-CN-04060; A Priori Minimum Detectable Activity for HPGE Gamma Spectrometers; Revision 01

Other:
- National Source Tracking System NRC Data Sheets; 1/20/2012

2RS2 Occupational ALARA Planning and Controls

Condition Reports:
- 2012-08919; Unplanned Spent Resin Storage Tank Decant
- 2012-09105; Upper S/G Manway Installation Stopped

Procedures:
- IP-SA-2012-0147; Radiation Protection Monthly Integrated Performance Assessment and Trending; dated August 2012
- NOP-OP-4107; Radiation Work Permit (RWP); Revision 10

Radiation Work Permit:
- RWP 2012-5104; Reactor Head Disassembly and Reassembly; including ALARA planning work sheets, ALARA Work In Progress Reviews, and ALARA Post Job Reviews; 11/27/2012
- RWP 2012-5106; Remove / Install Reactor Vessel Internals; including ALARA planning work sheets, ALARA Work In Progress Reviews, and ALARA Post Job Reviews; 11/27/2012
- RWP 2012-5302; OTSG (Steam Generator) Platform Work; including ALARA planning work sheets, ALARA Work In Progress Reviews, and ALARA Post Job Reviews; 11/27/2012

Other:
- Davis-Besse 17 RFO Outage Report; 8/10/2012
- Electronic Dosimetry Alarm Logs November 2011 through October 2012
- Personal Contamination Event Logs November 2011 through October 2012

1EP6 Drill Evaluation

Condition Reports:
- 2012-17432; EP DRILL – Simulator Issue During ATWAS Failure

Reference Manuals:
- DBRM-EMER-1500A; Davis-Besse Emergency Action Level Basis Document; Revision 3

Drawings and Charts:
- DBRM-EMER-1500B; Hot EAL Wall Board, Revision 1

Other:
- Nuclear Energy Institute (NEI) 99-01; Methodology for Development of Emergency Action Levels; Revision 5
- Emergency Preparedness Integrated Drill Manual, November 1, 2012; Revision 0

4OA1 Performance Indicator Verification

Procedures:
- DB-SP-03357; RCS Water Inventory Balance; Revision 18
- NOBP-LP-4012; NRC Performance Indicators; Revision 3

Forms:
- NOBP-LP-4012-53; Reactor Coolant System Leakage; Completed Forms for October 2011 through September 2011

Other:
- NEI 99-02; Regulatory Assessment Performance Indicator Guideline; Revision 6
- Select Operator Logs covering the period of October 2011 through September 2012

4OA2 Problem Identification and Resolution

Condition Reports:
- 2011-01654; Group 4 Rods Transferred to the Aux Power Supply Unexpectedly
- 2011-01765; Unexpected Light Indications on the Rod Control Panel While Transferring Control Rods
- 2011-03346; Fractured Concrete Found at 17M Shield Building Construction Opening
- 2011-92821; Rod Control Panel Electronic Trip Lights C and D Illuminated
- 2012-03776; Rod Control Panel Phase Lights Off When Transferring Group 1 to Aux Power Supply
- 2012-07273; CRD Malfunction When Transferring Group 4 Control Rods
- 2012-09749; PA-DB-2012-01: Insufficient Progress to Improve Operations Performance-Second Level Escalation
- 2012-13801; Safety Groups Transferred to the Aux Power Supply When Jog Pushbutton Was Depressed
- 2012-16816; Complimentary Phase Lights Flickering in Control Rod Motor Power Signal Cabinets
- 2012-16833; After Placing Rod Control Panel Into Manual an Unexpected Power Rise Was Observed by the ATC RO
- 2012-17419; Operating Crew Performance Critique for ICS Transient on October 24, 2012
- 2012-17724; ULD Shift to Venturi on Loop B Feedwater Flow Resulting in a 1% RTP Change
- 2012-17995; Taking ICS to Track Results In a 5 MW Rise In Power
- 2012-18055; CRD Diamond Control Panel Abnormal Operation
- 2012-18353; ICS/ULD Historian Not Communicating to PI

Procedures:
- EN-DP-01511; Design Guidelines for Maintenance Rule Evaluation of Structures; Revision 1

Plant Health Reports:
- Third Quarter 2012
- Second Quarter 2012

4OA3 Followup of Events and Notices of Enforcement Discretion

Condition Reports:
- 2003-02439; Clearances in Cyclone Separator of Decay Heat/Low Pressure Injection Pumps
- 2012-18831; Cyclone Separator Installed Upside Down
- 2012-18912; S442A and S442B Cyclone Separator Spacers Were Not Installed As Designed
- 2012-18987; DH115B Installed In The Wrong Direction
- 2012-19003; Improvement Regarding DH Pump Cyclone Separators
- 2012-19429: No Spacers Found During Extent Of Condition Inspection For Cyclone Separator S441A
- 2012-19430; No Spacers Found During Extent Of Condition Inspection For Cyclone Separator S441B

Engineering Change Package:
- 03-0263; Decay Heat Removal Pumps (P42-1and P42-2) Mechanical Seal Water Supply Cyclone Separator Replacement; Revision 3

Drawings:
- P & ID M-033A; High Pressure Injection; Revision 44
- P & ID M-033B; Decay Heat Train 1; Revision 55
- P & ID M-033C; Decay Heat Train 2; Revision 27
- P & ID M-034; Emergency Core Cooling System – Containment Spray and Core Flooding Systems; Revision 67

Calculations:
- C-NSA-059.01-019; Water Level Inside Containment Post LOCA; Revision 5

Other:
- Reactor Plant Event Notification Worksheet, Voluntary Report; 12/14/2012
- Vendor Manual M-517-00024; Decay Heat Removal Pump Instruction Book; Revision 7

4OA5 Other Activities

Condition Reports:
- 2008-44773; Gas Void Detected Upstream of DH200
- 2008-46594; GL 2008-01 System Fill Procedure Rely on Static Venting
- 2008-63240; Install a Vent Valve to Allow Creating A Void Between DH2735 and DH2736
- 2010-73917; Overly restrictive exclusion zone for dry fuel storage horizontal storage module
- 2011-91412; MS-C-11-03-30: Dry Fuel Storage Pad Survey Deficiency
- 2011-91477; MS-C-11-03-30: 10CFR72.48 Screen Preparer Not Qualified
- 2011-91587; MS-C-11-03-30: Dry Fuel Storage Basis Manual Deficiencies
- 2011-91625; MS-C-11-03-30: DBNPS Report Requirements Tracking Sheet Manual Deficiency
- 2011-91667; MS-C-11-03-30: Records of 72.48 Screens Not Captured
- 2011-97166; Degradation of the Intake Canal North Wall in the Q/NQ Portion of the Canal
- 2012-09223; Small Void in the Piping Between DH202 and Vertical Section Going to DH2736
- 2012-10547; Void Near DH202 has Grown in Size from 7 Cubic inches to 51 Cubic Inches
- 2012-10920; Missing Nut on a Conduit Support
- 2012-10973; Cracks Observed in Masonry Wall No. 5177 Located Inside the Control Room at El. 623’ Auxiliary Building
- 2012-11982; Residual Void Downstream of DH202 Following Venting

- 2012-12005; Bowser Morner Intake Canal Slope Repair Study
- 2012-14865; Recommend Development of GL 2008-01 Program Document
- 2012-16083; NEI 12-07 Flooding Walkdown Issue: Minor Concrete Spalling on the East Face of the Intake Structure
- 2012-16279; NEI 12-07 Flooding Walkdown Item: Minor Crack in Aux Building 114 – Misc Waste Monitor Tank Room
- 2012-16320; NEI 12-07 Flooding Walkdown Item: Aux. Building Stairs are not in a PM
- 2012-16425; DB 2012 TI 2515/177 - Procedure Clarification Required for NOP-CC-5712
- 2012-16439; DB 2012 TI 2515/177 - Containment Spray Piping Stress Analysis does not address Dynamic Loading
- 2012-16687; DB 2012 TI 2515/177 - Gas Voiding BSWT USAR Statement
- 2012-16811; NRC Inspector questions concerning daily inspections of Dry Fuel Storage Horizontal Storage Modules
- 2012-16913; Minimum distance from Sealands to HSMs required by 72.48 Evaluation is different than stated in DB-HP-01702
- 2012-17235; DB 2012 TI 2515/177 - DB-SP-0312 and DB-SP-04212 does not reference all applicable UT Void Procedures
- 2012-17222; DB 2012 TI 2515/177 - DB-PF-03205 ECCS Train 1 Valve Test – Add requirement to initiate a CR if P465 is received following valve stroking
- 2012-17227; DB 2012 TI 2515/177 - Enhance the scheduling sequence between ECCS Train 1(2) Quarterly UT verification and DB-PF-03205 ECCS Train 1 Valve Test (DB-PF-03206 ECCS Train 2 Valve Test
- 2012-17334; DB 2012 TI 2515/177 - Containment Spray System Description Discrepancy
- 2012-78952; Documentation of Leakage During HPI Check Valve Testing (DB-PF-03969)

Procedures:
- DB-MM-09236; Presray Watertight Door Maintenance; Revision 2
- RA-EP-02830; Flooding; Revision 2
- DB-PF-05065; Ultrasonic Detection of Gas Voids in Liquid Systems; Revision 0
- DB-SP-03137; Decay Heat Train 2 Pump and Valve Test; Revision 29
- DB-SP-03208; HPI Pump Comprehensive and Check Valve Forward Flow Test Train 2; Revision 24
- DB-SP-03212; Venting of ECCS Piping; Revision 18
- DB-SP-03219; HPI Train 2 Pump and Valve Test; Revision 24
- DB-SP-03338; Containment Spray Train 2 Quarterly Pump and Valve Test; Re Revision 21
- DB-SP-04212; Venting of ECCS Piping - SOER 97-1; Revision 10
- DB-OP-06011; High Pressure Injection System; Revision 28
- DB-OP-06012; Decay Heat and Low Pressure Injection System Operating Procedure; Revision 54
- DB-OP-06013; Containment Spray System; Revision 23
- DB-OP-06014; Core Flooding System Procedure; Revision 26
- NOP-CC-5712; Ultrasonic Detection of Gas Voids in Liquid Systems Using the EPOCH LTC; Revision 0
- DB-PF-03205; ECCS Train 1 Valve Test; Revision 18
- DB-PF-03206; ECCS Train 2 Valve Test; Revision 17
- DB-FP-00007; Control of Transient Combustibles; Revision 11
- DB-HP-01702; Transfer, Handling and Storage of Radioactive Material; Revision 19
- DB-NE-03400; Horizontal Storage Module (HSM) Monitoring; Revision 4
- DB-NE-04103; Physical Inventory of Special Nuclear Material; Revision 9
- DB-OP-02550; Dry Fuel Storage Abnormal Events; Revision 2

- NG-EN-00372; Dry Fuel Storage; Revision 4
- NOP-LP-2601; Procedure Use and Adherence; Revision 4
- NOP-LP-4013; Evaluation of Changes, Tests and Experiments for Independent Spent Fuel Storage Installations; Revision 0
- PFP-DFS-STRAT; Dry Fuel Storage Area Strategy; Revision 00

Business Practices:
- DBBP-OP-0039; Filling and Venting; Revision 0

Work Orders:
- 200418327; PM 2159, Inspect Water Tight Door 216 & 217
- 200429388; PM 8522 Train 1 Quarterly UT
- 200418352; PM 8522 Train 1 Quarterly UT
- 200498370; SP4213-001 05.1-4 Core Flood Tank Level Monitoring
- 200449494, PM 10826 ECCS Train 1 UT Verifications
- 200449513; PM 10826 ECCS Train 1 UT Verifications
- 200435182, PM 10753 UT Verification MU276
- 200435183; PM 10753 UT Verification MU276
- 200449495, PM 10827 ECCS Train 2 UT Verifications
- 200449512; PM 10827 ECCS Train 2 UT Verifications
- 200428366, PM 7714 Train 1 Monthly UT Void Monitor
- 200431381; PM 7714 Train 1 Monthly UT Void Monitor
- 200420061; PM 8523 Train 2 Quarterly UT
- 200429949; PM 8523 Train 2 Quarterly UT
- 200429948, PM 8521 DH Train 2 UT Void Monitoring
- 200426690; PM 8521 DH Train 2 UT Void Monitoring
- 200413837; DB-NE4103-001 Inventory of Special Nuclear Material Inventory

Drawings:
- A-2111; Barrier Penetration Drawing, Barrier Identification Plan Room 52, Intake Structure Elev. 576'-0"; Revision 0
- C-220, Sheet 3; Auxiliary Building Floor Plan at El. 603'-0"; Revision 57
- C-240; Auxiliary Building El. 545'-0" Blockouts, Equipment Pads, Anchor Bolts, and Drainage; Revision 35
- C-241; Auxiliary Building El. 565'-0" Blockouts, Equipment Pads, Anchor Bolts, and Drainage; Revision 28
- C-752; Miscellaneous Equipment Support Details, El. 603'-0" Battery Rack Anchor Location; Revision 11
- M-33A; High Pressure Injection; Revision 43
- M-33B; Decay Heat Train 1; Revision 54
- M-33C; Decay Heat Train 2; Revision 26
- M-34; Emergency Core Cooling System, Containment Spray & Core Flood Systems; Revision 67
- M-233A; Emergency Core Cooling System; Revision 18
- M-233B; Emergency Core Cooling System; Revision 23
- M-233C; Decay Heat Removal System; Revision 19
- M-233D; H.P. Injection System; Revision27
- M-233D, Sheet 1; H.P. System; Revision 1
- M-233E; H.P. Injection System; Revision 9
- M-233F; Low Pressure Injection System; Revision 22
- M-2015; Fill & Vent Guidance; Revision 0

Calculations:
- C-CSS-4606; SQUG Evaluation for C4606; Revision 0
- C-CSS-2N; SQUG Evaluation for 2N; Revision 0
- C-CSS-P14-1; SQUG Evaluation for P14-1; Revision 0
- C-ME-099.16-011; Gas Accumulation Transportability Based on Froude Number; 3/13/2009
- C-NSA-049.01-004; Analytical Limit for BWST Transfer Permissive; 6/4/1997
- C-NSA-052.01-011; HPI NPSH on CTMT Emergency Sump Recirculation; 11/19/2007
- C-NSA-049.02-052; NPSH During Transfer BWST to Emergency Sump; 3/17/2009

Forms:
- External Flooding Walkdown Record Form; Door 216
- External Flooding Walkdown Record Form; Door 217
- External Flooding Walkdown Record Form; Flood Protection Dike
- External Flooding Walkdown Record Form; Intake Structure Exterior
- External Flooding Walkdown Record Form; 052E/EXT, Service Water Pump Area
- External Flooding Walkdown Record Form; 052F/EXT, Service Water Pump Area
- External Flooding Walkdown Record Form; 101F/EXT, Pipe Tunnel
- External Flooding Walkdown Record Form; 101N/EXT, Pipe Tunnel
- External Flooding Walkdown Record Form; 114F/EXT, Misc. Waste Monitor Tank and Pump Room
- Seismic Walkdown Checklist; Equipment ID No. C4606, Reactor Trip Breaker A
- Seismic Walkdown Checklist; Equipment ID No. 2N, Battery 2N
- Seismic Walkdown Checklist; Equipment ID No. P14-1, Auxiliary Feedwater Pump/Turbine 1
- Radiological Survey Form; Survey Number 12-0657; 6/28/2012
- Radiological Survey Form; Survey Number 2012-01130; 10/17/2012

Notifications:
- 600660962; UFSAR Change for Gas Management
- 600792262; NOP-CC-5712 Procedure Clarification; dated October 17, 2012
- 600795356; NOP-OP-1014 Add reference in Section 4.5 to DBBP-OPS-0039
- 600795368; DB-SP-03212 to reference NOP-CC-5712
- 600795369; DB-SP-04212 to reference NOP-CC-5712

Modifications:
- ECP 07-0169; HPI to Core Flood Tanks Common Fill Vent/Pressure Indication
- ECP 09-0109; Install Vent Valves in the Decay Heat Suction Piping
- SCN M-200Q-07-002; Rerate Decay Heat Suction Piping

Licensee Correspondence:
- L-08-132; Three Month Response to NRC Generic Letter 2008-01; 4/11/2008
- L-08-314; Nine Month Response to NRC Generic Letter 2008-01; 10/14/2008
- L-09-263; Response to NRC Request for Additional Information Regarding Generic Letter 2008-01; 10/26/2009
- L-10-265; Post-Outage Supplemental Response to Generic Letter 2008-01; 9/23/2010

Other:
- Davis-Besse Nuclear Power Station Verification Walkdowns of Plant Flood Protection Features; October 2012
- Electric Power Research Institute (EPRI) document 1025286; Seismic Walkdown Guidance
- NEI 12-07; Guidelines for Performing Verification Walkdowns of Plant Flood Protection Features; May 2012

- Seismic Walkdown Equipment List
- USAR Section 2.4; Hydrology
- USAR Section 3.4; Water Level (Flood) Design Criteria
- SD-022A; System Description for Containment Spray System; 9/30/2005
- DCM Section I.D.1; Event Scenarios and Protection; 7/30/2004
- DCM Section III.B.11; Piping and Tubing Stress Analysis; 9/9/2008
- DCM Section III.B.4; Design Criteria for Pipe Supports; 7/22/1992
- FAI/08-78; Methodology for Evaluating Waterhammer in the Containment Spray Header and Hot Leg Switchover Piping; 8/8/2008
- GL-2008-01 Air Accumulation In ECCS, DHR and CS Systems - Gas Intrusion Review 2.4.2; 10/7/2008
- GL 2008-01 Design Engineering Review - Attachment D - Piping Void Containment Spray Analysis; 10/8/2008
- GL 2008-01 Design Engineering Review – Section V – Acceptable Void Sizes in Containment; 10/3/2008
- GL 2008-01 Design Engineering Review – Section I – Design Basis Review; 8/20/2008
- Design Engineering Review; GL-2008-01 Air Accumulation in ECCS, DHR, and CS Systems; 8/8/2008
- Certificate of Compliance, Certificate Number 1004, Revision 0
- 10CFR72.48 Screen No. 11-00490; Sealand Storage on DFSF Pad, Condition Report 10-86104 Corrective Action 2; Revision 0
- Change Notice No. 11-208; Recertification Requirements for Individuals Involved with Evaluating Changes to the Dry Fuel Storage Facility
- MS-C-11-03-30; Fleet Oversight Audit Report March 18, 2011 through April 14, 2011
- SN-SA-2012-0120; Independent Spent Fuel Storage Installation Snapshot Self-Assessment

4OA7 Licensee-Identified Violations

Condition Reports:
- 2012-18000; Oil Leaking From the O-ring Seal on 1-1 EDG Lube Oil Cooler
- 2012-18584; EDG 1 – Multiple Repair Attempts Required to Eliminate Leaking on Lube Oil Cooler O-Ring Seal

Procedures:
- DB-MM-09320; Emergency and Station Blackout Diesel Engine Maintenance; Revision 28
- DB-MM-09343; Emergency and Station Blackout Diesel Engine 2-Year Maintenance of Lube Oil Filters, One Revolution and Other Inspections; Revision 1

Work Orders:
- 200493894; Repair EDG 1 Lube Oil Cooler Leak

LIST OF ACRONYMS USED

ADAMS	Agencywide Document Access Management System
AFW	Auxiliary Feedwater
ALARA	As-Low-As-Is-Reasonably-Achievable
ASME	American Society of Mechanical Engineers
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CNRB	Company Nuclear Review Board
CR	Condition Report
CRD	Control Rod Drive
CS	Containment Spray
DH	Decay Heat
DRP	Division of Reactor Projects
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
EPIP	Emergency Plan Implementing Procedures
EPRI	Electric Power Research Institute
FW	Feedwater
GL	Generic Letter
HPI	High Pressure Injection
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IPEEE	Individual Plant Examination of External Events
IR	Inspection Report
ISFSI	Independent Spent Fuel Storage Installation
IST	Inservice Testing
LCO	Limiting Condition for Operation
LER	Licensee Event Report
LLC	Limited Liability Corporation
LOCA	Loss of Coolant Accident
LORT	Licensed Operator Requalification Training
LPI	Low Pressure Injection
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
NRR	Office of Nuclear Reactor Regulations
PARS	Publicly Available Records System
PI	Performance Indicator
P&ID	Piping and Instrumentation Diagram
PI&R	Problem Identification and Resolution
PM	Preventative Maintenance
PMT	Post-Maintenance Testing
QA	Quality Assurance
RCS	Reactor Coolant System
RFO	Refueling Outage
RO	Reactor Operator
RP	Radiation Protection
RWP	Radiation Work Permit
SAT	Systems Approach to Training

SBO	Station Blackout
SDC	Shutdown Cooling
SDP	Significance Determination Process
SRO	Senior Reactor Operator
SSC	Structures, Systems and Components
SW	Service Water
TAB	Temporary Assembly Building
TI	Temporary Instruction
TRM	Technical Requirements Manual
TS	Technical Specification
TSTF	Technical Specification Task Force Traveler
ULD	Unit Load Demand
USAR	Updated Safety Analysis Report
URI	Unresolved Item
UT	Ultrasonic Testing
WO	Work Order

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Sincerely,

/RA/

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

Docket No. 50-346 and 72-014
License No. NPF-3

Enclosure: Inspection Report 05000346/2012005 and 07200014/2012001
w/Attachment: Supplemental Information

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Letter to R. Lieb from J. Cameron dated January 25, 2013.

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION INTEGRATED INSPECTION REPORT 05000346/2012005 AND 07200014/2012001

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