



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
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August 6, 2012

Mr. Jack M. Davis
Senior Vice President and
Chief Nuclear Officer
Detroit Edison Company
Fermi 2 - 210 NOC
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Newport, MI 48166

**SUBJECT: FERMPOWER PLANT UNIT 2 INTEGRATED INSPECTION
REPORT 05000341/2012003**

Dear Mr. Davis:

On June 30, 2012, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Fermi Power Plant, Unit 2. The enclosed inspection report documents the results of this inspection which were discussed on July 11, 2012, with Mr. T. Conner, Plant Manager, 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.

Two self-revealed findings of very low safety significance (Green) were identified during the inspection. The self-revealed findings involved violations of NRC requirements. The NRC is treating the issues as Non-Cited Violations (NCVs) in accordance with Section 2.3.2 of the NRC Enforcement Policy.

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

J. Davis

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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. 50-341
License No. NPF-43

Enclosure: Inspection Report 05000341/2012003
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-341
License No: NPF-43

Report No: 05000341/2012003

Licensee: Detroit Edison Company

Facility: Fermi Power Plant, Unit 2

Location: Newport, MI

Dates: April 1 through June 30, 2012

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Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

Inspection Report 05000341/2012003; 04/01/2012 – 06/30/2012; Fermi Power Plant, Unit 2; Follow-up of Events and Notices of Enforcement Discretion.

This report covers a 3-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. Two Green findings were self identified. The findings were considered Non-Cited Violations (NCVs) 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). Cross-cutting aspects were determined using IMC 0310, "Components Within the Cross Cutting Areas." 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 Green finding and associated NCV of Technical Specification (TS) 5.4.1.a was identified for the licensee's failure to establish and implement procedures recommended by Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Specifically, the licensee failed to control reactor pressure in the band specified in the reactor pressure vessel hydrostatic test procedure. A valid high pressure reactor scram actuation was received after operators failed to recognize that the reactor pressure vessel pressure instrument being monitored became inaccurate. Immediately after the scram, operators stabilized the plant at approximately 600 psig and reset the reactor scram. The licensee entered this issue into their corrective action program as CARD 12-23824.

The inspectors evaluated the finding using IMC 0609, Appendix G, Attachment 1, "Shutdown Operations Significance Determination Process - Phase 1 Operational Checklists for Both Power Water Reactors (PWRs) and Boiling Water Reactors (BWRs)." The inspectors consulted Checklist 8, "BWR Cold Shutdown or Refueling Operation; Time to Boil > 2 Hours: RCS Level < 23' Above Top of Flange." The inspectors determined the finding did not adversely impact any shutdown defense-in-depth or mitigation attributes on the checklist, nor did it meet any of the checklist specific requirements for a Phase 2 or Phase 3 SDP analysis. Consequently, the finding was determined to be of very low safety significance. This finding has a cross-cutting aspect in the area of human performance, work practices component, because the licensee failed to use human error prevention techniques commensurate with the risk of the assigned task, such that activities are performed safely. Specifically, the licensee failed to monitor the specified primary instrumentation for critical plant parameters. (H.4(a)) (Section 4OA3.2)

Cornerstone: Mitigating Systems

Green. A self-revealed Green finding and associated NCV of 10 CFR 50 Appendix B, Section V, "Instructions, Procedures, and Drawings," for failure to follow procedures

when the licensee energized a safety-related electrical bus with a ground truck installed in bus 65E breaker position E4. This resulted in the loss of the safety-related bus and a temporary loss of shutdown cooling. The licensee failed to comply with sequence step 61 of Safety Tagging Record 2012-001122, which had connected a ground truck in bus 65E position E4 and installed a red danger tag. The Operations Conduct Manual, Chapter 12 (MOP12), 3.6.2 specifies that red tagged equipment is not to be operated. The licensee entered this item into their corrective action program as CARD 12-23118.

The inspectors determined this finding was more than minor because it was associated with the configuration control attribute of the Mitigating Systems Cornerstone and impacted the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). This finding was determined to be of very low safety significance because, following IMC 0609, Appendix G, Attachment 1, "Shutdown Operations Significance Determination Process Phase 1 Operational Checklist for both PWRs and BWRs," concluded the finding did not require quantitative assessment. Therefore, the finding was determined to be of very low safety significance. This finding has a cross-cutting aspect in the area of Human Performance, Work Practices, supervisory and management oversight aspect because the licensee failed to appropriately oversee the proper clearance of Safety Tagging Record 2012-001122 (H.4(c)). (Section 4OA3.1)

B. Licensee-Identified Violations

No violations were identified.

REPORT DETAILS

Summary of Plant Status

Fermi Unit 2 started this inspection period shutdown, continuing refueling outage (RFO)-15, which commenced March 26, 2012. Reactor startup commenced May 2, and the outage concluded on May 5, 2012. Power reached 100 percent on May 9, 2012, and remained at that level until a power reduction to 24 percent power on June 24, 2012, to repair three oil pumps on the main unit transformer 2B. The plant remained at 24 percent power until June 25, 2012, when the plant was manually scrammed following the catastrophic failure of the south reactor feed pump turbine, commencing forced outage (FO) 12-02. The plant remained shut down for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Readiness of Offsite and Alternate Alternating Current Power Systems

a. Inspection Scope

The inspectors verified that plant features and procedures for operation and continued availability of offsite and alternate alternating current (AC) power systems during adverse weather were appropriate. The inspectors reviewed the licensee's procedures affecting these areas and the communications protocols between the transmission system operator (TSO) and the plant to verify the appropriate information was being exchanged when issues arose that could impact the offsite power system. Examples of aspects considered in the inspectors' review included:

- coordination between the TSO and the plant during off-normal or emergency events;
- explanations for the events;
- estimates of when the offsite power system would be returned to a normal state; and
- notifications from the TSO to the plant when the offsite power system was returned to normal.

The inspectors also verified plant procedures addressed measures to monitor and maintain availability and reliability of both the offsite AC power system and the onsite alternate AC power system prior to or during adverse weather conditions. Specifically, the inspectors verified the procedures addressed the following:

- actions to be taken when notified by the TSO that the post-trip voltage of the offsite power system at the plant would not be acceptable to assure the continued operation of the safety-related loads without transferring to the onsite power supply;

- compensatory actions identified to be performed if it would not be possible to predict the post-trip voltage at the plant for the current grid conditions;
- re-assessment of plant risk based on maintenance activities which could affect grid reliability, or the ability of the transmission system to provide offsite power; and
- communications between the plant and the TSO when changes at the plant could impact the transmission system, or when the capability of the transmission system to provide adequate offsite power was challenged.

Documents reviewed are listed in the Attachment to this report. The inspectors also reviewed corrective action program (CAP) items to verify the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their CAP in accordance with station corrective action procedures.

This inspection constituted one readiness of offsite and alternate AC power systems sample as defined in Inspection Procedure (IP) 71111.01-05.

b. Findings

No findings were identified.

.2 Summer Seasonal Readiness Preparations

a. Inspection Scope

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

During the inspection, the inspectors focused on plant-specific design features and the licensee's procedures used to mitigate or respond to adverse weather conditions. Additionally, the inspectors reviewed the Updated Final Safety Analysis Report (UFSAR) and performance requirements for systems selected for inspection and verified operator actions were appropriate as specified by plant specific procedures. Specific documents reviewed during this inspection are listed in the Attachment to this report. The inspectors also reviewed CAP items to verify the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their CAP in accordance with station corrective action procedures. The inspectors' reviews focused specifically on the following plant systems:

- supplemental closed cooling water system; and
- turbine building heating, ventilation, and air conditioning.

This inspection constituted one seasonal adverse weather sample as defined in IP 71111.01-05.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Quarterly Partial System Walkdowns

a. Inspection Scope

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

- residual heat removal during shutdown cooling including drywell line-up;
- reactor water cleanup including drywell line-up;
- spent fuel pool cooling;
- division 1 electrical line-up through 480 volt; and
- division 2 electrical line-up through 480 volt.

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

These activities constituted five partial system walkdown samples as defined in IP 71111.04-05.

b. Findings

No findings were identified.

.2 Semi-Annual Complete System Walkdown

a. Inspection Scope

On April 25, 26, 30, and May 1 and 3, 2012, the inspectors performed a complete system alignment inspection of the emergency equipment cooling water/emergency equipment service water system, including drywell line-up prior to reactor start-up, to verify the functional capability of the system. This system was selected because it was considered both safety significant and risk significant in the licensee's probabilistic risk assessment. The inspectors walked down the system to review mechanical and electrical equipment lineups; electrical power availability; system pressure and temperature indications, as appropriate; component labeling; component lubrication;

component and equipment cooling; hangers and supports; operability of support systems; and to ensure 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 system equipment alignment problems were being identified and appropriately resolved. Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Routine Resident Inspector Tours (71111.05Q)

a. Inspection Scope

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

- turbine building second floor, steam tunnel;
- turbine building second floor, 3/4/5S feedwater heater room;
- turbine building first floor, pipe chase;
- turbine building basement, off-gas (after start of outage);
- drywell first floor and second floor; and
- drywell basement.

The inspectors reviewed areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capability, maintained passive fire protection features in good material condition, and implemented adequate compensatory measures for out-of-service, degraded or inoperable fire protection equipment, systems, or features in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to impact equipment which could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. Using the documents listed in the Attachment to this report, the inspectors verified fire hoses and extinguishers were in their designated locations and available for immediate use; fire detectors and sprinklers were unobstructed; 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 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 six quarterly fire protection inspection samples as defined in IP 71111.05-05.

b. Findings

No findings were identified.

1R06 Flooding (71111.06)

.1 Internal Flooding

a. Inspection Scope

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

- reactor building corner rooms basement and subbasement;
- reactor building component cooling water heat exchanger and pump room;
- high pressure coolant injection (HPCI) room; and
- control air compressor room.

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

These activities constituted one internal flooding inspection sample as defined in IP 71111.06-05.

b. Findings

No findings were identified.

1R08 Inservice Inspection Activities (71111.08G)

From April 2 through April 5, 2012, the inspectors conducted a review of the implementation of the licensee's inservice inspection (ISI) program for monitoring degradation of the reactor coolant system, risk-significant piping and components, and containment systems.

These activities constituted one inservice inspection sample as defined in IP 71111.08-05.

.1 Piping Systems In-Service Inspection

a. Inspection Scope

The inspectors observed the following non-destructive examinations mandated by the American Society of Mechanical Engineers (ASME) Code, Section XI, to evaluate compliance with the American Society of Mechanical Engineers Code Sections XI and V requirements and if any indications and defects were detected, to determine if these were dispositioned in accordance with the ASME Code or an NRC-approved alternative requirement.

- Ultrasonic Examination of the Feedwater Loop B Circumferential Weld SW-N21-2336-1WU, Report No. UT-S12-011;
- Ultrasonic Examination of the Feedwater Loop B Circumferential Weld SW-N21-2336-1WL, Report No. UT-S12-012;
- Ultrasonic Examination of the Feedwater Loop B Circumferential Weld SW-N21-2336-1WD, Report No. UT-S12-014;
- Visual Examination of Feedwater Loop B Circumferential Weld SW-N21-2336-1WU, Report No. VT-S12-013; and
- Magnetic Particle Examination of the Main Steam Circumferential Weld SW-N30-3258-7WK, Report No. MT-S12-008.

During the prior outage non-destructive surface and volumetric examinations, the licensee did not identify any relevant/recordable indications. Therefore, no NRC review was completed for this inspection procedure attribute.

The licensee had not performed pressure boundary welding since the beginning of the preceding outage for Fermi Unit 2. Therefore, no NRC review was completed for this inspection procedure attribute.

b. Findings

No findings were identified.

.2 Identification and Resolution of Problems

a. Inspection Scope

The inspectors performed a review of ISI-related problems entered into the licensee's CAP and conducted interviews with licensee staff to determine if the licensee had:

- established an appropriate threshold for identifying ISI-related problems;
- performed a root cause (if applicable) and taken appropriate corrective actions; and
- evaluated operating experience and industry generic issues related to ISI and pressure boundary integrity.

The inspectors performed these reviews to evaluate compliance with 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requirements. The corrective action documents reviewed by the inspectors are listed in the Attachment to this report.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11)

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

a. Inspection Scope

On May 15, 2012, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator requalification training to verify operator performance was adequate, evaluators were identifying and documenting crew performance problems, and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

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

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

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

b. Findings

No findings were identified.

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

a. Inspection Scope

On May 2-3, 2012, the inspectors observed activities in the control room during removal of the Residual Heat Removal (RHR) system from shutdown cooling mode and placement into standby, entry into Mode 2, reactor startup, and power ascension following RFO-15. This was an activity that required heightened awareness or was related to increased risk. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms (if applicable);

- correct use and implementation of procedures;
- control board (or equipment) manipulations;
- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications (if applicable).

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

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

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:

- B3100, reactor recirculation system;
- T2300, primary containment; and
- R3000, emergency diesel generators (EDGs).

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

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

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

This inspection constituted three 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 the appropriate risk assessments were performed prior to removing equipment for work:

- risk during the shutdown cooling system outage;
- risk during infrequently performed test or evolution (IPTE) 12-02 reassemble reactor pressure vessel (RPV), IPTE 12-03 RPV pressure test; Division 2 loss-of-power/loss-of-coolant accident test (LOP/LOCA);
- risk during plant startup;
- risk during N-1 contingency if loss of Custer transformer 103; bus 72CF auto throw-over test, standby feedwater test valve repair by Fix it Now (FIN) team; and
- risk during CTG-11-1 ratchet failure (emergent); N-1 contingency if loss of Custer transformer 103; abnormal operating procedure entry for tornado warning; critical load days; and division 1 core spray (CS) pump and valve operability.

These activities were selected based on their potential risk significance relative to the Reactor Safety Cornerstones. As applicable for each activity, the inspectors verified 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 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.

These maintenance risk assessments and emergent work control activities constituted five samples as defined in IP 71111.13-05.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functional Assessments (71111.15)

.1 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following issues:

- condition assessment and resolution document (CARD) 12-22143, Loss of Division 2 Temperature Control Valve;
- CARD 12-24565, Motor Generator Set Stops Incorrectly Set during Performance of 54.000.20;
- CARD 12-24680, Non-Conservative EDG Starting Air Operability Criterion;
- CARD 12-25245; Leak in Turbine Building 2 Steam Tunnel from N3000F827B; and
- Operational Decision Making Issue: Drywell Fan Configuration (9-007D).

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

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

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

.1 Plant Modifications

a. Inspection Scope

The inspectors reviewed the following modifications:

- Temporary Modification 11-0003, Provide temporary support during general service water planned outage scheduled for RFO-15; and
- Temporary Modification 12-0009; Installation of recording equipment to monitor N RFP Speed Signal.

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

This inspection constituted two temporary modification samples as defined in IP 71111.18-05.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

.1 Post-Maintenance Testing

a. Inspection Scope

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

- rod pull testing for rod 10-35;
- spent fuel pool bridge hoist testing after cable replacement;
- reactor pressure vessel pressure test at the conclusion of the refueling outage;
- emergency diesel generator 12 testing following cable replacement modification;
- testing after repair of the reactor recirculation distributed control system power supply under WO 34510515;
- startup of supplemental closed cooling water system;
- HPCI pump and valve operability test following motor-operated valve maintenance; and
- testing after replacing reactor protection system channel 'A' reactor vessel low water level 3 agastat relay under WO 32278001.

These activities were selected based upon the structure, system, or component's ability to impact risk. The inspectors evaluated these activities for the following (as applicable): the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing (temporary modifications or jumpers required for test performance were properly removed after test completion); and test

documentation was properly evaluated. The inspectors evaluated the activities against TSs, the UFSAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure the test results adequately ensured the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with post-maintenance tests to determine whether the licensee was identifying problems and entering them in the CAP and the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings were identified.

1R20 Outage Activities (71111.20)

.1 Refueling Outage Activities

a. Inspection Scope

The inspectors reviewed the outage safety plan and contingency plans for the Unit 2 refueling outage, conducted March 26 – May 5, 2012, to confirm the licensee had appropriately considered risk, industry experience, and previous site-specific problems in developing and implementing a plan that assured maintenance of defense-in-depth. During the refueling outage, the inspectors observed portions of the shutdown and cooldown processes and monitored licensee controls over the outage activities listed below:

- licensee configuration management, including maintenance of defense-in-depth commensurate with the outage safety plan for key safety functions and compliance with the applicable TS when taking equipment out of service;
- implementation of clearance activities and confirmation that tags were properly hung and equipment appropriately configured to safely support the work or testing;
- installation and configuration of reactor coolant pressure, level, and temperature instruments to provide accurate indication, accounting for instrument error;
- controls over the status and configuration of electrical systems to ensure TS and outage safety plan requirements were met, and controls over switchyard activities;
- monitoring of decay heat removal processes, systems, and components;
- controls to ensure outage work was not impacting the ability of the operators to operate the spent fuel pool cooling system;
- reactor water inventory controls including flow paths, configurations, and alternative means for inventory addition, and controls to prevent inventory loss;
- controls over activities that could affect reactivity;
- maintenance of secondary containment as required by TSs;
- licensee fatigue management, as required by 10 CFR 26, Subpart I;
- refueling activities, including fuel handling and sipping to detect fuel assembly leakage;

- startup and ascension to full power operation, tracking of startup prerequisites, walkdown of the drywell (primary containment) to verify debris had not been left which could block emergency core cooling system suction strainers, and reactor physics testing;
- licensee identification and resolution of problems related to refueling outage activities.

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

This inspection was counted as a refueling outage sample in Inspection Report (IR) 05000341/2012002 and, therefore, does not constitute a separate sample for this inspection period.

b. Findings

No findings were identified.

.2 Other Outage Activities

a. Inspection Scope

The inspectors evaluated outage activities for an unscheduled outage that began on June 25, 2012, when the plant was manually scrammed following the catastrophic failure of the south reactor feed pump turbine, commencing FO 12-02. The plant remained shut down for the remainder of this inspection period. The inspectors reviewed activities to ensure the licensee considered risk in developing, planning, and implementing the outage schedule.

The inspectors observed or reviewed the reactor shutdown and cooldown, outage equipment configuration and risk management, electrical lineups, selected clearances, control and monitoring of decay heat removal, and identification and resolution of problems associated with the outage.

This inspection constituted one other outage sample as defined in IP 71111.20-05.

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:

- Procedure 24.402.06, Drywell-to-Torus Bypass Leak Test, (CIV);
- scram time testing, (routine);

- Procedure 23.425.01, Attachment 4, Suppression Chamber Closeout, (routine);
- Procedure 23.425.01, Attachment 2, Drywell Closeout, (routine);
- reactor core isolation cooling (RCIC) run during startup, (IST);
- leakage after startup, (RCS leakage); and
- Procedure 54.000.20, Reactor Recirculation System Motor Generator Set Scoop Tube Positioner Operability Test, (routine).

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

- preconditioning did 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 UFSAR, procedures, and applicable commitments;
- measuring and test equipment calibration was current;
- test equipment was used within the required range and accuracy; applicable prerequisites described in the test procedures were satisfied;
- test frequencies met TS requirements to demonstrate operability and reliability; tests were performed in accordance with the test procedures and other applicable procedures; jumpers and lifted leads were controlled and restored where used;
- test data and results were accurate, complete, within limits, and valid;
- test equipment was removed after testing;
- where applicable for inservice testing activities, testing was performed in accordance with the applicable version of Section XI, ASMEs code, and reference values were consistent with the system design basis;
- where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared inoperable;
- where applicable for safety-related instrument control surveillance tests, reference setting data were accurately incorporated in the test procedure;
- where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished;
- prior procedure changes had not provided an opportunity to identify problems encountered during the performance of the surveillance or calibration test;
- equipment was returned to a position or status required to support the performance of its safety functions; and
- all problems identified during the testing were appropriately documented and dispositioned in the CAP.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted four routine surveillance testing samples, one inservice testing sample, one reactor coolant system leak detection inspection sample, and one containment isolation valve sample as defined in IP 71111.22, Sections -02 and -05.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine licensee emergency drill on June 12, 2012, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the simulator and the 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.

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

b. Findings

No findings were identified.

2. RADIATION SAFETY

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

This inspection constituted a partial sample as defined in IP 71124.01-05.

.1 Radiological Hazard Assessment (02.02)

a. Inspection Scope

The inspectors reviewed the last two radiological surveys from selected plant areas and evaluated whether the thoroughness and frequency of the surveys were appropriate for the given radiological hazard.

The inspectors conducted walkdowns of the facility, including radioactive waste processing, storage, and handling areas to evaluate material conditions and performed independent radiation measurements to verify conditions.

The inspectors selected the following radiologically risk-significant work activities that involved exposure to radiation.

- local power range monitor removal;
- in-vessel verification inspection from the 360 platform; and

- control rod drive removal preparations.

For these work activities, the inspectors assessed whether the pre-work surveys performed were appropriate to identify and quantify the radiological hazard and to establish adequate protective measures. The inspectors evaluated the radiological survey program to determine if hazards were properly identified, including the following:

- identification of hot particles;
- the presence of alpha emitters;
- the potential for airborne radioactive materials, including the potential presence of transuranics and/or other hard-to-detect radioactive materials;
- the hazards associated with work activities that could suddenly and severely increase radiological conditions and that the licensee has established a means to inform workers of changes that could significantly impact their occupational dose; and
- severe radiation field dose gradients that can result in non-uniform exposures of the body.

The inspectors observed work in potential airborne areas and evaluated whether the air samples were representative of the breathing air zone. The inspectors evaluated whether continuous air monitors were located in areas with low background to minimize false alarms and were representative of actual work areas. The inspectors evaluated the licensee's program for monitoring levels of loose surface contamination in areas of the plant with the potential for the contamination to become airborne.

b. Findings

No findings were identified.

.2 Instructions to Workers (02.03)

a. Inspection Scope

The inspectors selected various containers holding non-exempt licensed radioactive materials that may cause unplanned or inadvertent exposure of workers, and assessed whether the containers were labeled and controlled in accordance with 10 CFR 20.1904, "Labeling Containers," or met the requirements of 10 CFR 20.1905(g), "Exemptions To Labeling Requirements."

The inspectors reviewed the following radiation work permits used to access high radiation areas and evaluated the specified work control instructions or control barriers.

- RWP 12-5001, Refuel Activities;
- RWP 12-4025, Reactor Water Cleanup Valve Replacement; and
- RWP 12-3015, Control Rod Drive Exchange/Replacement.

For these radiation work permits, the inspectors assessed whether allowable stay times or permissible dose (including from the intake of radioactive material) for radiologically significant work under each radiation work permit were clearly identified. The inspectors evaluated whether electronic personal dosimeter alarm set-points were in conformance with survey indications and plant policy.

For work activities that could suddenly and severely increase radiological conditions, the inspectors assessed the licensee's means to inform workers of changes that could significantly impact their occupational dose.

b. Findings

No findings were identified.

.3 Contamination and Radioactive Material Control (02.04)

a. Inspection Scope

The inspectors observed locations where the licensee monitors potentially contaminated material leaving the radiological control area and inspected the methods used for control, survey, and release from these areas. The inspectors observed the performance of personnel surveying and releasing material for unrestricted use and evaluated whether the work was performed in accordance with plant procedures and whether the procedures were sufficient to control the spread of contamination and prevent unintended release of radioactive materials from the site. The inspectors assessed whether the radiation monitoring instrumentation had appropriate sensitivity for the type(s) of radiation present.

b. Findings

No findings were identified.

.4 Radiological Hazards Control and Work Coverage (02.05)

a. Inspection Scope

The inspectors evaluated ambient radiological conditions (e.g., radiation levels or potential radiation levels) during tours of the facility. The inspectors assessed whether the conditions were consistent with applicable posted surveys, radiation work permits, and worker briefings.

The inspectors evaluated the adequacy of radiological controls, such as required surveys, radiation protection job coverage (including audio and visual surveillance for remote job coverage), and contamination controls. The inspectors evaluated the licensee's use of electronic personal dosimeters in high noise areas as high radiation area monitoring devices.

The inspectors reviewed the following radiation work permits for work within airborne radioactivity areas with the potential for individual worker internal exposures.

- RWP 12-5001, Refuel Activities;
- RWP 12-4025, Reactor Water Cleanup Valve Replacement; and
- RWP 12-3015, Control Rod Drive Exchange/Replacement.

For these radiation work permits, the inspectors evaluated airborne radioactive controls and monitoring, including potential for significant airborne levels (e.g., grinding, grit blasting, system breaches, entry into tanks, cubicles, and reactor cavities). The

inspectors assessed barrier (e.g., tent or glove box) integrity and temporary high-efficiency particulate air ventilation system operation.

The inspectors examined the posting and physical controls for selected high radiation areas and very high radiation areas to verify conformance with the occupational performance indicator.

b. Findings

No findings were identified.

.5 Radiation Worker Performance (02.07)

a. Inspection Scope

The inspectors observed radiation worker performance with respect to stated radiation protection work requirements. The inspectors assessed whether workers were aware of the radiological conditions in their workplace and the radiation work permit controls/limits in place, and whether their performance reflected the level of radiological hazards present.

b. Findings

No findings were identified.

.6 Radiation Protection Technician Proficiency (02.08)

a. Inspection Scope

The inspectors observed the performance of the radiation protection technicians with respect to all radiation protection work requirements. The inspectors evaluated whether technicians were aware of the radiological conditions in their workplace and the radiation work permit controls/limits, and whether their performance was consistent with their training and qualifications with respect to the radiological hazards and work activities.

b. Findings

No findings were identified.

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

This inspection constituted a partial sample as defined in IP 71124.02-05.

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

a. Inspection Scope

The inspectors reviewed the assumptions and basis (including dose rate and man-hour estimates) for the current annual collective exposure estimate for reasonable accuracy for select as-low-as-is-reasonably-achievable (ALARA) work packages. The inspectors reviewed applicable procedures to determine the methodology for estimating exposures from specific work activities and the intended dose outcome.

The inspectors evaluated whether the licensee had established measures to track, trend, and, if necessary, reduce occupational doses for ongoing work activities. The inspectors assessed whether trigger points or criteria were established to prompt additional reviews and/or additional ALARA planning and controls.

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 radiation protection 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.

.2 Radiation Worker Performance (02.05)

a. Inspection Scope

The inspectors observed radiation worker and radiation protection technician performance during work activities being performed in radiation areas, airborne radioactivity areas, or high radiation areas. The inspectors evaluated whether workers demonstrated the ALARA philosophy in practice (e.g., workers were familiar with the work activity scope and tools to be used, workers used ALARA low-dose waiting areas) and whether there were any procedure compliance issues (e.g., workers were not complying with work activity controls). The inspectors observed radiation worker performance to assess whether the training and skill level was sufficient with respect to the radiological hazards and the work involved.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

Cornerstones: Mitigating Systems and Barrier Integrity

4OA1 Performance Indicator Verification (71151)

.1 Reactor Coolant System Leakage (BI02)

a. Inspection Scope

The inspectors sampled licensee submittals for the reactor coolant system leakage performance indicator for the period from the second quarter 2011 through the first quarter 2012. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in the Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, was used. The inspectors reviewed the licensee's operator logs, reactor coolant system leakage tracking data,

issue reports, event reports and NRC integrated inspection reports (IRs) for the period of April 2011 through March 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 performance indicator 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.

.2 Safety System Functional Failures (MS05)

a. Inspection Scope

The inspectors sampled licensee submittals for the safety system functional failures performance indicator for the period from the second quarter 2011 through the first quarter 2012. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in the Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, and NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73" definitions and guidance, were used. The inspectors reviewed the licensee's operator narrative logs, operability assessments, maintenance rule records, maintenance work orders, issue reports, event reports and NRC integrated IRs for the period of April 2011 through March 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 performance indicator 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 safety system functional failures sample as defined in IP 71151-05.

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems (71152)

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

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

a. Inspection Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities

and plant status reviews to verify they were being entered into the licensee's CAP at an appropriate threshold, adequate attention was being given to timely corrective actions, and 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 the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue. Minor issues entered into the licensee's CAP as a result of the inspectors' observations are included in the Attachment to this report.

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

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

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

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

b. Findings

No findings were identified.

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screening discussed in Section 40A2.2 above, licensee trending efforts, and licensee human performance results. The inspectors' review nominally considered the 6-month period of January 2012 through June 2012, although some examples extended beyond those dates where the scope of the trend warranted.

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

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

b. Findings

No findings were identified.

.4 Control Rod 10-35 Failure to Scram

a. Inspection Scope

Control rod 10-35 had failed to fully insert following an automatic reactor scram on October 24, 2010 (CARD 10-29509). The apparent cause evaluation attributed this failure to a hydraulic lock caused by blockage in the flow path between the control rod drive mechanism and the scram discharge volume. Subsequently, on November 18, 2011, control rod 10-35 again failed to fully insert during scram time testing. The inspectors reviewed the evaluation performed by the licensee in response to the previous and most recent issues with control rod 10-35.

This review is a continuation of an in-depth problem identification and resolution sample that was initiated in the previous quarter and documented in that quarter's integrated IR 05000341/2012003).

b. Findings

Introduction: The inspectors identified an unresolved item (URI) for the failure of control rod 10-35 to fully scram during scram time testing conducted on November 18, 2011. CARD 11-30357 was issued and the investigation identified foreign organic material in the inlet of scram outlet valve C11-F127. Previously, control rod 10-35 had failed to fully insert following an automatic reactor scram on October 24, 2010 (CARD 10-29509). The apparent cause evaluation attributed this failure to a hydraulic lock caused by blockage in the flow path between the control rod drive mechanism and the scram discharge volume. The root cause evaluation team is still evaluating this event.

Description: On October 24, 2010, control rod 10-35 failed to insert upon actuation of an automatic reactor scram caused by loss of condenser vacuum (CARD10-29509). An emergent issue team was formed to investigate this event. The apparent cause was determined to be a hydraulic lock caused by blockage in the flow path between the control rod drive mechanism and the scram discharge volume. The investigation never found any foreign material, but postulated that the likely foreign material was discharged into the scram discharge volume, ultimately ending up in the torus room sump. As a corrective action, for cycle 15 the licensee increased the frequency of performing TS surveillance SR 3.1.4.2 scram time testing to every 100 days, adjusted the

representative sample size to assure all rods would be tested during cycle 15, and included control rod 10-35 in each quarterly scram time testing sample.

On November 18, 2011, the control rod failed to fully insert during scram time testing. The rod was fully inserted and remained there for the rest of the cycle. The inspectors are waiting for the licensee's evaluation of this event, specifically their conclusions regarding the foreign material found, and their evaluation of how the foreign material could have been present, causing the first event, but migrated to allow successful scram time testing on November 11, 2010, and the first three quarters of 2011 before finally causing the failure identified on November 18, 2011. Because the licensee had not completed their evaluation, this issue is being treated as an unresolved (URI) item. (URI 0500034/2012003-01, Control Rod 10-35 Failure to Scram)

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

.1 Energizing Bus 65E with Ground Truck Installed and Subsequent Loss of Shutdown Cooling

a. Inspection Scope

The inspectors reviewed the plant's response to an event occurring on April 11, 2012, resulting in the loss of a safety-related bus and a temporary loss of shutdown cooling. The 'A' RHR pump tripped while operating in the shutdown cooling mode. The pump trip was due to an isolation of the E1150F009, Division 1 RHR shutdown cooling inboard isolation valve. This resulted in an interruption of primary decay heat removal for approximately 11 minutes. Documents reviewed in this inspection are listed in the Attachment to this report.

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

b. Findings

Introduction: A self-revealed Green finding and associated NCV of 10 CFR 50 Appendix B, Section V, "Instructions, Procedures, and Drawings," was identified for failure to follow procedures when the licensee energized a safety-related electrical bus with a ground truck installed in bus 65E breaker position E4. This resulted in the loss of the safety-related bus and a temporary loss of shutdown cooling. The licensee failed to comply with sequence step 61 of Safety Tagging Record 2012-001122, which had connected a ground truck in bus 65E position E4 and installed a red danger tag. The Operations Conduct Manual, Chapter 12 (MOP12), 3.6.2 specifies that red tagged equipment is not to be operated.

Description: On April 11, 2012, Operations was clearing tags in preparation for bus 65E restoration. Step 61 of STR 2012-001122 had connected a ground truck in bus 65E position E4 and installed a red danger tag. The ground truck was installed to perform work on bus 65E and load shedding string. Procedure 23.300, "Breaker Operations," provided detailed instructions for ground truck installation. However, no placard reading "ground truck installed," was placed on the front of the breaker compartment as required by the procedure, and the red tag and ground truck that had been installed in step 61 of the safety tagging record were not removed prior to energizing the bus.

Operations Conduct Manual, Chapter 12 (MOP12), 3.6.2 specifies red tagged equipment is not to be operated. Contrary to the above, on April 11, 2012, at 1807 bus 65E was energized from the maintenance cross-tie bus 65T. The breaker installed in bus 65E position E9 immediately tripped due to a fault, and as a result of the electrical transient the 'A' RHR pump tripped while operating in shutdown cooling mode with the plant in Mode 5 for RFO-15. The pump trip was caused by an isolation of the Division 1 RHR shutdown cooling inboard isolation valve E1150F009.

Further, MOP-12 specifies, "the specific details of the safety tagging record lifecycle...are contained in Operations Department Expectation (ODE) 19, 'Safety and Configuration Tagging.'" The licensee's root cause evaluation concluded the evolution task coordinator and the electrical field support supervisor failed to comply with ODE 19 during the clearance of the safety tagging record and authorization to energize bus 65E. Specifically, the evolution task coordinator had not communicated the red tag at position E4, and the field support supervisor did not perform a full independent review when reviewing the restoration sequence. Further, the field support supervisor did not review the current status of items on the safety tagging record to be cleared before authorizing the clearance.

Title 10 CFR Part 50, Appendix B, Section V, "Instructions, Procedures, and Drawings," requires, in part, "activities affecting quality shall be prescribed by documented instructions, procedures, or drawing of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings." Contrary to the above, the Operations Conduct Manual, Chapter 12 (MOP12), 3.6.2 was not complied with, specifically when red tagged equipment was operated by energizing bus 65E with ground truck installed in position E4 and red tagged. Further, the licensee's root cause evaluation team identified that ODE 19 had not been complied with by the evolution task coordinator and field support supervisor during the clearance of STR 2012-001122 and authorization to energize bus 65E. Additionally, SOP 23.300, breaker operations, Section 6.5.2, detailed procedure (for installation of HK style ground truck) was not complied with by failing to place "ground truck installed" placards on the front compartment door of bus 65E following installation of a ground truck.

Analysis: The inspectors determined that energizing a safety-related electrical bus, which still had a ground truck installed in bus 65E breaker position E4, and the subsequent tripping of the 'A' RHR pump while operating in shutdown cooling mode with the plant in Mode 5 was a performance deficiency that required evaluation using the SDP. The inspectors determined this finding was more than minor because it was associated with the configuration control attribute of the Mitigating Systems Cornerstone and impacted the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). This finding was determined to be of very low safety significance because, following IMC 0609, Appendix G, Attachment 1, "Shutdown Operations Significance Determination Process Phase 1 Operational Checklist for Both PWRs and BWRs," concluded the finding did not require quantitative assessment. Therefore, the finding was determined to be of very low safety significance (Green).

This finding has a cross-cutting aspect in the area of Human Performance, Work Practices, supervisory and management oversight aspect because the licensee failed to appropriately oversee the proper clearance of STR 2012-001122 (H.4 (c)).

Enforcement: Title 10 CFR Part 50, Appendix B, Section V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawing of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions procedures, or drawings. Contrary to the above, the Operations Conduct Manual, Chapter 12 (MOP12), 3.6.2 was not complied with when red tagged equipment was operated by energizing bus 65E with a ground truck installed in position E4 and red tagged. Further, the licensee's root cause evaluation team identified ODE 19 had not been complied with by the evolution task coordinator and field support supervisor during the clearance of STR 2012-001122, and authorization to energize bus 65E. Additionally, SOP 23.300, breaker operations, Section 6.5.2, detailed procedure (for installation of HK style ground truck) was not complied with by failing to place "ground truck installed" placards on the front compartment door of bus 65E following installation of a ground truck. Because the violation was of very low safety significance and it was entered into your CAP as CARD 12-23118, this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy (NCV 05000341/2012003-02; Energizing Bus 65E with Ground Truck Installed and Subsequent Loss of Shutdown Cooling).

.2 RPS Actuation on High Pressure

a. Inspection Scope

The inspectors reviewed the plant's response to an event occurring on April 26, 2012, resulting in an automatic reactor scram occurring during the performance of a Reactor Pressure Vessel System Leakage Test. Control rod scram time testing and excess flow check valve (EFCV) testing were also in progress, as allowed by the precautions and limitations of the RPV system leakage test procedure. Documents reviewed in this inspection are listed in the Attachment to this report.

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

b. Findings

Introduction: A self-revealed Green finding and associated NCV of TS 5.4.1.a was identified for the licensee's failure to establish and implement procedures recommended by Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Specifically, the licensee failed to control reactor pressure in the band specified in the reactor pressure vessel (RPV) hydrostatic test procedure. A valid high pressure reactor scram actuation was received after operators failed to recognize that the RPV pressure instrument being monitored became inaccurate.

Description: On April 26, 2012, surveillance procedure 24.137.21, "Reactor Pressure Vessel System Leakage Test," was in progress with the plant operating in Mode 4 (cold shutdown). All control rods were inserted. The surveillance was classified as an infrequently performed test or evolution (IPTE) because of the safety significance of the testing and since the test is only performed once per cycle. Control rod scram time testing and excess flow check valve (EFCV) testing were also in progress, as allowed by the precautions and limitations of the RPV system leakage test procedure.

A dedicated pressure control operator was assigned to maintain RPV pressure in the band of 1030 to 1055 psig as specified by the RPV system leakage test procedure. Pressure was controlled by using a combination of reactor water cleanup blowdown and

control rod drive system flow adjustments. The scram time testing team in the main control room consisted of a reactor operator to move control rods, a second reactor operator to verify rod movement, and a senior reactor operator for oversight. The three operators were physically located between the dedicated pressure control operator and the primary instrument being used to monitor reactor pressure as specified in the RPV hydro surveillance procedure. To compensate for this, the dedicated pressure control operator selected a process computer point to display on a highly visible screen near the pressure control station. The selected point, B21CP6601, was displaying a reactor pressure average using two inputs. Due to ongoing EFCV testing, one input to the average reactor pressure computer point became invalid as its instruments were removed from service as prescribed by the EFCV test. As a result, RPV pressure as seen by the process computer point, B21CP6601, lowered as isolated instruments slowly bled down (i.e., relieved pressure). Based on this false indication, the dedicated pressure control operator informed the control room supervisor that RPV pressure was lowering. At this time, actual reactor pressure was slowly rising. No adjustments were made based on these indications, and after approximately 3 minutes RPV pressure reached the high pressure scram setpoint (1093 psig) causing a reactor scram.

In Procedure 24.137.21, Section 5.3, "Pressurization of Reactor Pressure Vessel," a "Caution" box is used to highlight the importance of accurately monitoring RPV pressure. The caution states, "During performance of excess flow check valve testing, reactor vessel pressure must be monitored on instruments not affected by excess flow check valve test." The caution also informs the operator of specific primary and alternate instrumentation sources to monitor. Each of the primary and secondary instruments was available during the test. However, the dedicated pressure control operator was focused on a separate computer point, B21CP6601 (RPV pressure average). The control room staff did not recognize the effect the EFCV testing would cause to the process computer point. Operators failed to validate the unexpected change in reactor pressure and failed to utilize any of the primary or alternate reactor pressure instrumentation sources once the monitored computer point became invalid.

Immediately after the scram, operators stabilized the plant at approximately 600 psig and reset the reactor scram. CARD 12-23824 was submitted. The following immediate actions were taken prior to resuming the RPV system leakage test:

- all instruments affected by EFCV testing were flagged on the control room panels;
- a dedicated operator monitored reactor pressure on the primary instrument, recorder C32R609 wide range, and communicated changes with the dedicated pressure control operator; and
- computer screens were updated to display redundant RPV pressure instruments that were not affected by EFCV testing.

Analysis: The inspectors reviewed this finding using the guidance contained in Appendix B, Issue Screening, of IMC 0612, Power Reactor IRs. The inspectors determined the licensee's failure to control reactor pressure in the band specified in the RPV hydrostatic test procedure was a performance deficiency that was reasonably within the licensee's ability to foresee and correct and should have been prevented. The inspectors determined the finding was more than minor because it was associated with the Initiating Events Cornerstone attribute of Human Performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and

challenge critical safety functions during shutdown as well as power operations. Specifically, the failure to adequately monitor and control RPV pressure challenged the reactor protection system high pressure scram settings.

The inspectors evaluated the finding using IMC 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings." Because the finding involved reactor shutdown operations and conditions, the inspectors transitioned to IMC 0609, Appendix G, Attachment 1, "Shutdown Operations Significance Determination Process - Phase 1 Operational Checklists for Both PWRs and BWRs." The inspectors consulted checklist 8, "BWR Cold Shutdown or Refueling Operation; Time to Boil > 2 Hours: RCS Level < 23' Above Top of Flange." The inspectors determined the finding did not adversely impact any shutdown defense-in-depth or mitigation attributes on the checklist, nor did it meet any of the checklist specific requirements for a Phase 2 or Phase 3 SDP analysis. Consequently, the finding was determined to be of very low safety significance (Green).

This finding has a cross-cutting aspect in the area of human performance, work practices component, because the licensee failed to use human error prevention techniques commensurate with the risk of the assigned task, such that activities are performed safely. Specifically, the licensee failed to monitor the specified primary instrumentation for critical plant parameters. (H.4(a))

Enforcement: Technical Specification 5.4.1.a requires written procedures be established, implemented, and maintained for the activities specified in Regulatory Guide 1.33, Revision 2, Appendix A. Regulatory Guide 1.33, Revision 2, Appendix A, step 8.b(2)(s), requires procedures for nuclear steam supply system pressurization and leak detection. Contrary to the above, plant operators failed to control reactor pressure in the band specified in surveillance procedure 24.137.21, "Reactor Pressure Vessel System Leakage Test", resulting in a valid high pressure reactor scram. The plant was immediately stabilized at approximately 600 psig and the reactor scram signal was reset. The condition was determined to be an 8-hour non-emergency report (Event Number 47868) per 10 CFR 50.72(b)(3)(iv)(A). The licensee included this issue in their CAP as CARD 12-23824. Because this violation was of very low safety significance and it was entered into the licensee's CAP, this violation is being treated as an NCV, consistent with the Enforcement Policy. (NCV 05000341/2012003-03, Failure to Monitor Reactor Pressure during Reactor Pressure Valve Hydrostatic Test)

.3 Main Unit Transformer 2B - Loss of Third Oil Pump and Scram during Recovery on Loss of South Reactor Feed Pump Turbine

a. Inspection Scope

The inspectors reviewed the plant's response to an event occurring June 23, 2012. At 1234 on June 23, 2012, alarm 4D134, "Main Transformer 2B Trouble," was received in the main control room. Main transformer 2B has four oil pumps. Two oil pumps had previously failed and the investigation following the alarm revealed the breaker for oil pump No. 4 tripped and would not reset. With only one oil pump remaining in operation, the licensee planned a power reduction to take the main generator off-line and repair the three (3) failed oil pumps. While restoring the main turbine generator to service after repairs to the three (3) main unit transformer 2B failed oil pumps, a scram was initiated

by the control room in response to a catastrophic failure of the south reactor feed pump. This shutdown initiated FO 12-02, which is discussed in Section 1R20.2.

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

b. Findings

No findings were identified.

4OA5 Other Activities

.1 Institute of Nuclear Power Operations Plant Assessment Report Review

a. Inspection Scope

The inspectors reviewed the final report for the Institute of Nuclear Power Operations (INPO) plant assessment conducted in May 2011. The inspectors reviewed the report to ensure issues identified were consistent with the NRC perspectives of licensee performance and to verify if any significant safety issues were identified that required further NRC follow-up.

b. Findings

No findings were identified.

.2 (Open) 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 had 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 Generic Letter 2008-01)," and considered the site-specific supplemental information provided by the Office of Nuclear Reactor Regulations (NRR) to the inspectors.

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

b. Inspection Documentation

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, UFSAR, and Technical Requirements Manual (TRM). The inspectors also verified applicable documents that described the plant and plant operations, such as calculations, piping and instrumentation diagrams (P&IDs), procedures, and CARDS, addressed the areas of concern and were changed if necessary following plant changes. The inspectors also confirmed the frequency of selected surveillance procedures were at least as frequent as required by TSs. Finally, the inspectors verified the commitment to evaluate and implement the applicable changes that will be contained in the TS task force traveler, was consistent with the commitment described in NRR's assessment report and that it addressed any comments provided by NRR. This commitment was documented in CARD 08-26380 (RACTS 20269).

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

- The inspectors verified the licensee identified the applicable gas intrusion mechanisms for each of the subject systems. The inspectors reviewed the licensee's evaluation that calculated the maximum potential void size at each susceptible location. Additionally, inspectors verified pipe, pipe supports, and relief valves remained within the allowable loads and lift set-points during system start-up and actuation.
- The inspectors verified the licensee's void acceptance criterion was consistent with NRR's void acceptance criteria. The inspectors also confirmed: (1) the licensee addressed the effect of pressure changes during system startup and operation since such changes could significantly affect the void fraction from the initial value; and (2) the range of flow conditions evaluated by the licensee was consistent with the full range of design basis and expected flow rates for various break sizes and locations.
- 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, keep-full systems, aspects where pipes are normally void such as some spray piping inside containment, and void control during system realignments.
- The inspectors conducted a walkdown of selected regions of core spray, HPCI, and RHR systems in sufficient detail to assess the licensee's walkdowns. The inspectors also verified the information obtained during the licensee's walkdown was consistent with the items identified during the inspectors' independent walkdown. The inspectors also conducted a similar walkdown of selected portions of the HPCI and RHR systems in an earlier inspection period. This additional activity counted towards the completion of this TI and was documented in IR 05000341/2010005.
- In addition, the inspectors verified the P&IDs and isometric drawings described the core spray, HPCI, and RHR system configurations and the licensee had confirmed the accuracy of the drawings resolution. The inspectors' review of the selected portions of isometric drawings considered the following:

- a. high point vents were identified;
 - b. high points that do not have vents were recognizable;
 - c. other areas where gas can accumulate and potentially impact subject system operability, such as at orifices in horizontal pipes, isolated branch lines, heat exchangers, improperly sloped piping, and under closed valves were described in the drawings or in referenced documentation;
 - d. horizontal pipe centerline elevation deviations and pipe slopes in nominally horizontal lines that exceed specified criteria were identified;
 - e. all pipes and fittings were clearly shown; and
 - f. the drawings were up-to-date with respect to recent hardware changes and any discrepancies between as-built configurations and the drawings were documented and entered into the CAP for resolution.
- The inspector's verified licensee walkdowns have been completed. In addition, the inspectors selectively verified the information obtained during the licensee's walkdowns was 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 verify the licensee had approved and was using procedures that were adequate to address the issue of gas accumulation and/or intrusion in the subject systems. This review included the verification of procedures used for conducting surveillances 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. Also, the inspectors reviewed procedures used for 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 inspectors confirmed the licensee had procedures in place to use Ultrasonic Testing to ensure systems are full after maintenance that required any of the subject systems to be drained. The inspectors also reviewed selected portions of procedures used during the surveillance testing of the CS system in an earlier inspection period. This additional activity counted towards the completion of this TI and was documented in IR 05000341/2010005

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 selected corrective actions identified in the licensee's 9-month and supplemental reports were documented. The inspectors also verified commitments were included in the CAP. The inspectors also conducted a similar review of CAP documents in an earlier inspection period. This additional activity counted towards the completion of this TI and was documented in IR 05000341/2010005.

c. Findings

No findings of significance were identified. However, the following observations were made:

- The inspectors identified a potential weakness during the licensee's monthly TS fill verification surveillances. The inspectors noted the fill verification procedures lacked any requirement to quantify the as-found void volume at susceptible and periodically monitored locations. In addition, the licensee's current process requires operators continue to vent any air identified in the system prior to notifying management of the condition. Following the notification of management, engineering utilizes predetermined void sizes from TE-E11-08-061 to determine if the system remains capable of performing its safety function. The inspectors questioned the potential, for the method used, to under predict actual void size and mask a larger void as a result of failing to measure the quantitative as-found. No examples of this scenario were identified but the licensee entered the concern into their CAP as CARD 12-24693.
- The licensee generated CARD 08-20407 for Division 1 and CARD 09-21429 for Division 2 vent valves, located at points lower than the actual high points. The licensee generated Technical Evaluation, TE-E21-08-060 to evaluate the largest potential un-ventable void due to the misplaced vent on Division 1 because this vent location created the largest bounding void volume of the two systems with similar pipe configurations. The inspectors reviewed the load analysis performed using the Fauske and Associates methodology and noted the largest, worst-case void scenario exceeded the maximum allowable unbalanced load. The licensee subsequently utilized Impulse, a water hammer software created by Applied Flow Technologies, to more closely mimic actual system response since the unbalanced load would actually be reduced by downstream system check valves opening. The inspectors concluded the methodologies and software used to analyze the void to temporarily support operability was in fact reasonable, as long as the engineering judgment is supported by the analysis. The high point vents were relocated to address the nonconforming condition.
- The inspectors noted the licensee generated CARD 12-24503, "Potential Non-Conservative Application of SR 3.5.1.4", to develop and implement corrective actions to address the lack of an analysis to support the Note in TS 3.5.1, which allows manual realignment of low pressure coolant injection from shut down cooling in Mode 3. The licensee is participating in an ongoing effort with the Boiling Water Reactor Owners Group to address the potential Mode 3 issues with the RHR system. The licensee generated a CARD to assess the evaluation of the specific condition, by the Boiling Water Reactor Owners Group, to implement changes based the reports final conclusions. The licensee revised procedures in the interim to ensure conservative actions are taken while the condition is being evaluated.

The inspectors concluded the TI will remain open to complete review of the licensee's corrective actions with respect to the potential Mode 3 issues.

4OA6 Management Meetings

.1 Exit Meeting Summary

On July 11, 2012, the inspectors presented the inspection results to Mr. T. Conner 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 inservice inspection with Mr. J. Plona, Site Vice-President, on April 5, 2012;
- The inspection results for the areas of radiological hazard assessment and exposure controls; occupational ALARA planning and controls; in-plant airborne radioactivity control and mitigation; and radiation monitoring instrumentation with Mr. T. Conner, Plant Manager, on April 6, 2012.
- The inspection results for TI 2515/177, with Mr. T. Conner, Plant Manager, on June 8, 2012.

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

.3 End-of-Cycle Meeting

An End-of-Cycle open house was conducted on June 20, 2012.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

J. Plona, Site Vice-President
T. Conner, Plant Manager
R. Johnson, Licensing
M. Caragher, Director, Engineering
R. LaBurn, Radiation Protection Manager
K. Scott, Director, Organizational Effectiveness

Nuclear Regulatory Commission

Jamnes L. Cameron, Chief, Reactor Projects Branch 6

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

05000341/2012003-01	URI	Control Rod 10-35 Failure to Scram.
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Opened and Closed

05000341/2012003-02	NCV	Energizing Bus 65E with Ground Truck Installed and Subsequent Loss of Shutdown Cooling
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05000341/2012003-03	NCV	Failure to Monitor Reactor Pressure during Reactor Pressure Vessel Hydrostatic Test
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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 IR.

1R01 – Adverse Weather Protection

- AQP-0002, ITC-Fermi Interface 120kV and 345kV Switchyards; Revision 3
- CARD 11-26228; Procedure Enhancements for Hot Weather Prep Procedure 27.000.06; 06/24/2011
- Generator Interconnection and Operations Agreement, ITC and The Detroit Edison Company; 02/20/2008
- Generator and Operations Interconnection Agreement, Exhibit C; Requirements for Offsite Power Supply Operability and Switchyard Interfaces
- Nuclear Plant Operating Agreement for the Fermi 2 Nuclear Power Plant (NUC-001: R2, R9.1.2); Revision 6
- ODE-12; LCOs; Revision 29
- Procedure 20.300.SBO; Loss of Offsite and Onsite Power; Revision 18
- System Health Fermi 2; 120 kV / 345 kV Switchyards / 345 kV Relay House; 4th Quarter, 2011

1R04 – Equipment Alignment

- Drawing 6M721-5706-2; Residual Heat Removal Division 1; Revision X
- Drawing 6M721-5711-1; Reactor Water Clean-up Reactor Building; Revision AK
- Drawing 6M721-5712-1; Fuel Pool Cooling and Clean Up System; Revision R
- Drawing 6M721-5712-2; Fuel Pool Filter Demin System; Revision I
- Drawing 6M721-5729-1; Emergency Equipment Cooling Water (Division 1); Revision BB
- Drawing 6M721-5729-2; Emergency Equipment Cooling Water (Division II); Revision AW
- Drawing 6SD721-2500-01; One Line Diagram Plant 4160V and 480V System Service; Revision AT
- Drawing 6SD721-2055-02; One Line Diagram 13.8KV; Revision AJ
- Drawing ITC-08-010; Install Third Breaker Row at Fermi 345 kV; Revision 6
- Procedure 20.300.SBO; Loss of Offsite and Onsite Power; Revision 18
- Procedure 23.127, Attachment 2A; Division 1 EECW Electrical Lineup
- Procedure 23.127, Attachment 2B; Division 2 EECW Electrical Lineup
- Procedure 23.205, Attachment 2A; Division 1 RHR Electrical Lineup
- Procedure 23.708; Fuel Pool Cooling and Cleanup System; Revision 75
- SOP Lineup Activity Report 23127, 1A; Division 1 EECW Valve Lineup; 08/18/2011
- SOP Lineup Activity Report 23127, 1B; Division 2 EECW Valve Lineup; 08/18/2011
- SOP Lineup Activity Report 27.000.01, Attachment 25; P44 EECW System Locked Valve Lineup; 08/12/2011
- SOP Lineup Archive Report 23205, 1A; Division 1 RHR Initial Valve Lineup; 02/27/07

1R05 – Fire Protection

- CARD 12-23099; NRC Concern – Peeling Paint on 345 South FWH Room Floor and Heater Sanctions; 04/11/2012

- Drawing 6I721-2878-26; Installation Fire Detection System South Half 2nd Floor, Elevation 613'6", Turbine Building Zone 20; Revision B

1R06 Flooding

- Design Calculation DC-5110; Main Steam and Feedwater Line Break in the Steam Tunnel; 03/08/1999
- Design Calculation DC-5426; High and Moderate Energy Line Break Evaluation

1R08 Inservice Inspection

- CARD 08-25144; Evaluate BWRVIP-180 Access Hole Cover Inspection and Flaw Evaluation Guidelines; 08/11/2008
- CARD 10-30726; Indications On 0 Degree Access Hole Cover; 11/16/2010
- CARD 11-22748; Audit Deficiency: ANII Reviews Not Completed On ASME Related CARDS 10-30047 and 10-30091; 03/16/2011
- CARD 11-29080; DECo NDE Examiners Are Not Documenting Verification of Adequate Illumination; 10/06/2011
- CARD 11-29089; Section XI Repair Replacement Plans Require Additional Details for Pressure Testing and NDE Requirements; 10/05/2011
- CARD 12-20798; Evaluate BWRVIP-94 and BWRVIP-03 Revisions for Program Impact; 01/31/2012
- Log No. 10-024; RF14 Access Hole Cover Flaw Trend Evaluation; Revision 0
- Pipe Welds in Accordance with PDI-UT-1; Revision 2
- Procedure 39.NDE.002; Magnetic Particle Examination by the AC/DC Yoke Method; Revision 25
- Procedure 43.000.004; Visual Examination of Component Supports; Revision 32
- WDI-STD-1035; Generic Procedure for the Ultrasonic Examination of Ferritic

1R11 – Licensed Operator Requalification Program

- Procedure 22.000.01; Plant Startup Master Checklist; Revision 67
- Procedure 22.000.02; Plant Startup to 25% Power; Revision 83
- Procedure 22.000.03; Power Operation 25% to 100% to 25%; Revision 86
- Licensed Operator Requalification SS-OP-202-1228; LOR Cycle 12-02, Team Building Scenarios; Revision 0

1R12 – Maintenance Effectiveness

- CARD 10-31619; B RRMG set controller run back to 32.78% speed; 12/07/2010
- CARD 11-20187; Document Applicability of NRC Information Notice 2010-17, Common Cause Failure of Boiling Water Reactor Recirculation Pumps with Variable Speed Drive, to Fermi; 01/07/2011
- CARD 11-20641; Increasing deviation of RRMG B Scoop tube position vs demand; 01/21/2011
- CARD 11-22732; Reactor Recirc Pump A Motor Upper Thrust Bearing Temperature within 2°F of Alarm Set Point; 03/15/2011
- CARD 11-26089; As-Found TS Time Delay (3.3.8.1-1 Function 2b) Not Met for 64B; 06/20/2011
- CARD 11-27310; EDG 14 Air Coolant Heat Exchanger Blocked Tubes Exceeds Criteria; 08/02/2011

- CARD 11-28034; B31R650 Recirc Pump Suction Temp Recorder Operating Erratically; 08/29/2011
- CARD 11-30659; EDG 13 Starting Air Compressor Air Leak; 12/02/2011
- CARD 12-20708; Recirc Loop Flow Recorder B31-R614 Indication Downscale; 01/27/2012
- CARD 12-22182; Abnormal Air Pressure Drop during EDG 12 Start; 03/22/2012
- CARD 12-22214; Minor Air Leak at EDG 13 Air Compressor Unloader; 03/23/2012
- CARD 12-23019; AFCC4, WR-31842687, B31NA09A OOAPT Low; 04/09/2012
- CARD 12-23094; Snubber Functional Test Failure during RF15; 04/11/2012
- CARD 12-23622; AFCC2 for PM Even B619 Replace Feedback Potentiometer in N RRMG Set Scoop Tube Positioner; 04/22/2012
- CARD 12-24433; Reactor Recirc B MG Set Speed Oscillations Noted by Panel Operators, Reactor Power Remains Steady; 05/13/2012
- Maintenance Rule Functional Failure Evaluation, Emergency Diesel Generators; 06/10-12/2012
- Procedure 23.138.01; Reactor Recirculation System; Revision 106
- Program Health Report Fermi 2; GL 89-13 Safety-Related Service Water Program; 1st, 2nd, 3rd, and 4th Quarters 2011
- Reactor Recirculation System; B3100 System Health Report; 2011
- Reactor Recirculation System; B3100 System Monitoring; 11/11/2011
- System Health Fermi 2; Emergency Diesel Generators, PIS # R30; 1st, 2nd, 3rd, and 4th Quarters 2011
- System Health Fermi 2; Safety-Related Service Water, E1151, P4500, R3000(SW); 3rd, and 4th Quarter 2011

1R13 – Maintenance Risk Assessments and Emergent Work Control

- CARD 12-25298; CTG11-1 Low Hydraulic Ratchet Forward Stroke Press Alarm Received; 06/15/2012
- Fermi 2 Plan of the Day; 06/08, 06/11-15, and 6/18-20/2012
- Fermi 2 Control Room Log; 06/14 and 6/18-20/2012
- Fermi Narrative Log, Unit 2; 06/09-10/2012
- RF-15 Daily Reports; 04/22-26/2012
- RF-15 Defense-in-Depth Areas to Stay Clear
- RF-15 Defense-in-Depth Summary; 04/30/2012
- Risk Management Plan; Shutdown Cooling Outage; 02/06/2012
- Scheduled Risk Profile Summary; Week of 06/03/2012
- Scheduler's Evaluation for Fermi 2; 06/11-15/2012 and 6/18-22/2012

1R15 – Operability Evaluations

- CARD 12-22143; P44K800B, Division 2 EECW HX Temp Controller Not Working; 03/21/2012
- CARD 12-24565; NRC Identified Issue: MG Set Stops Incorrectly Set during Performance of 54.000.20; 05/17/2012
- CARD 12-24680; Self-Assessment Finding: Non-Conservative EDG Stating Air Operability Criterion; 05/24/2012
- CARD 12-25245; Leak in TB2 Steam Tunnel from N3000F827B; 06/13/2012
- Design Basis Document R30-00; Emergency Diesel Generator; Revision G
- Design Calculation DC-6336; EDG Starting Air System Sizing Basis; Revisions 0 and A
- EFA-T41-12-002; Loss of Division 2 EESW TCW Temperature Control Function; Revision 0
- ODMI 09-007; Drywell Temperature Control; Revision D

- ODMI 11-014; MUT 2B Pump 1 Out of Service; Revision 0
- Procedure 24.307.34; DGSW, DFOT and Starting Air Operability Test - EDG 11; Revision 49
- TE-T47-09-051; Impact of Impairments to Drywell Coolers 11 and 14; Revision E

1R18 – Plant Modifications

- 50-59 Screen 12-0099; Installation of Recording Equipment to Monitor North Reactor Feed Pump Speed Signal; Revision 0
- CARD 10-31618; North Reactor Feedwater Pump Oscillations Result in Runback; 12/07/2010
- CARD 11-22760; Temporary Modification required for an air compressor; 03/16/2011
- CARD 11-22760-01; Generate a Temporary Modification; 09/26/2011
- CARD 11-22760-02; Scope of Temporary Modification; 08/02/2011
- System Function Review; General Service Water
- TM 11-0003; Temporary Air Compressors to Replace P5000 Station Air Compressors; Revision A
- TM 12-0001; Supply Temporary Power to Distribution Cabinet 72K-2D and Diesel Fire Pump Control Panel H21P458 to maintain functionality of the Diesel Fire Pump and provide GSW lighting; 02/03/2012
- TM 12-0009; Installation of Recording Equipment to Monitor N RFP Speed Signal; Revision 0

1R19 – Post-Maintenance Testing

- CARD 12-23845; NRC Concern – B3105-F031B Packing Leak Observed; 04/26/2012
- CARD 12-23849; Leakage Identified during RPV Pressure Test – CRD Leaks; 04/26/2012
- CARD 12-24379; SCCW System Chiller Trouble due to South Chiller High Oil Temperature; 05/10/2012
- CARD 12-24601; SCS-2 Pump D Fails to Start; 05/20/2012
- CARD 12-24623; Reactor Recirc DCS Power Supply Failure; 05/21/2012
- CARD 12-24654; Improper System Lineup; 05/22/2012
- EDP 35607; Replace EDP Feeder Cables to 416KB Buses, Index Items 4, 006; Revision B
- IPTE No. 12-03; Reactor Pressure Vessel Hydro 24.137.21; 02/06/2012
- Procedure 24.127.01; RBCCW Supplemental Cooling System; Revision 27
- Procedure 24.137.21; Reactor Pressure Vessel System Leakage Test; Revision 26
- Procedure 24.202.01; HPCI Pump and Valve Operability Test at 1025 PSI; Revision 99
- Procedure 24.307.03; Emergency Diesel Generator 13 – Loss of Offsite Power and ECCS Start with Loss of Offsite Power Test; Revision 42
- WO 31842313; Perform 27.106.03, CRD Insert Stall Flow Measurement; 04/18/2012
- WO 31843343; Perform 27.106.05, Section 5.1, CRD Timing Test and Adjustment; 04/19/2012
- WO 32084386; Perform 24.106/02, CRD Coupling Integrity; 04/19/2012
- WO 32166710; Perform RBCCW Supplemental Cooling Run; 05/25/2012
- WO 32186029; Perform 24.202.01 Sec-5.1 HPCI Pump/Flow Test & Valve Stroke at 1025 PSIG; 05/29/2012
- WR 32278001; Replace RPS Channel ‘A2” RX Vessel Low Water Level 3 Agastat Relay; Revision 1
- WO 34510515; Reactor Recirc DCS Power Supply Failure; 05/22/2012
- WO 34514462; 01-SCS-2 Pump D Fails to Start; 05/25/2012
- WO Tracking A502120100; 03/09/2012
- WO Tracking A510110100; 01/09/2011

- WO Tracking A513120100; 09/18/2012
- WO Tracking A520110100; 11/18/2011

1R20 – Outage

- CARD 12-23157; Trend Only: Worker lost control of brush while cleaning reactor cavity internals; 04/12/2012
- CARD 12-23172; FME legacy issue; 04/13/2012
- CARD 12-23778; Stud Elongation Readings Out of Specification; 04/25/2012
- CARD 12-23825; D Monicore Databank File Modification to Fuel Conditioning Data per TE-B11-12-014; 04/26/2012
- CARD 12-23852; Drywell Hatch Pin Stuck; 04/26/2012
- CARD 12-23909; Fuel Bundle not Properly Seated in the Cord during RF15; 04/27/2012
- Operations Schedules; 03/21/2012 – 04/12/2012
- Procedure 22.000.01; Plant Startup Master Checklist; Revision 67
- Procedure 22.000.02; Plant Startup to 25% Power; Revision 82
- Procedure 22.000.05; Pressure/Temperature Monitoring during Heatup and Cooldown; Revision 42
- Procedure 23.109; Turbine Operating Procedure; Revision 85
- Procedure 23.118; Main Generator and Generator Excitation; Revision 59
- Procedure 23.205; Residual Heat Removal System; Revision 120
- RF15 Drywell Initial Entry and Leak Walkdown with Reactor Pressurized
- RF15 HCU Overview; Revision 4
- SNM-RFL-16-01; RF15 Core Shuffle 1; 03/27/2012
- WR 31843983; Retention the RPV Head and Install the Drywell Head and Floor Plugs; Revision 1, 04/25/2012

1R22 – Surveillance Testing

- CARD 12-23860; Control Rod 14-35 Position Indication Problem with Tens Positions; 04/27/2012
- CARD 12-23863; Control Rod 26-55 Start Time; 04/27/2012
- CARD 12-23865; Potentially Degraded Insert Completion Times for Control Rods 06-27 and 54-23; 04/27/2012
- CARD 12-24034; EDG 14 Voltage Response during LOP/LOCA; 05/01/2012
- CARD 12-24215; DW FD Sump Leakage Integrator/Totalizer Malfunctioning; 05/05/2012
- CARD 12-24615; NRC Concern – Inaccurate Data Recorded on 24.000.02, DW Floor Drain Level Calculation; 05/21/2012
- Fermi 2 Active LCO Log; 05/11/2012
- Procedure 23.425.01; Primary Containment Procedures; Revision 68
- Procedure 23.425.01, Attachment 4; Suppression Chamber Closeout
- Procedure 24.000.02; Shiftly, Daily, and Weekly Required Surveillances; Revision 137
- Procedure 24.000.02, Attachment 1; Reactor Coolant System Operational Leakage; 05/02-31/2012
- Procedure 24.206.04; RCIC System Automatic Actuation and Flow Test; Revision 50
- WO 31841080; Perform 24.402.06, Drywell-to-Torus Bypass Leak Test; 03/26/2012
- WO 32480830; Perform 54.000.20 Reactor Recirc System MG Set Scoop Tube Positioner Operability; 05/16/2012

1EP6 Drill Evaluation

- Fermi 2 Dose Assessment; 06/12/2012
- Nuclear Plant Event Notification Form; Drill; 06/12/2012
- RERP Drill, Scenario 42; 06/12/2012

2RS1 Radiological Hazard Assessment and Exposure Controls

- CARD 12-22766; Inadequate RP Survey Documentation Identified during NRC Observation; 04/05/2012
- CARD 12-22808; Alpha Surveys Not Completed per 67.00.101; 4/5/2012
- CARD 12-22842; Use of N/A on Radiological Surveys; 4/6/2012
- NPRP-12-0020; The Impact of the Current Fermi 2 Radionuclide Mix on Radiation Surveys; DRAFT
- Procedure 67.000.101; Performing Surveys and Monitoring Work; Revision 39
- RWP 12-3015; CRD Exchange/Replace CRD Flange 'O' Rings – To Include All CRD Drywell and Bullpen Work, Excluding Pre-Outage CRD Rebuild Work; Revision 01
- RWP 12-4025; G3300/P7300 Systems: Rework, Repair, Perform Inspections and PMS on System Components; Revision 00
- RWP 12-4027; Turbine Building Systems Incl: C41, N11, N20, N21, N22, N30, N,62, P11, P70, P95, Main Turbine and Condenser: Rework, Repair, Inspections and Required PMS on System Components; Revision 00
- Radiation Work Permit 12-5001; Perform Refuel Activities on RB-5 Includes Vessel Assembly and Disassembly, Core Alterations, ISI Work, Bridge Repair, LPRM Replacement, RP and Radwaste Support; Revision 00

2RS2 Occupational ALARA Planning and Controls

- CARD 12-22821; NRC Identified Issues: Not All RWPs Allowing Access to RB5 Ensure Review of Evacuation Routes as ALARA Technique; 04/05/2012
- MRP02; Radiation Protection Conduct Manual; Revision 16
- Procedure 63.000.200; ALARA Reviews; Revision 32

4OA1 – Performance Indicator Verification

- LER 2011-001; High Pressure Coolant Injection System Inoperable due to Inoperable Minimum Flow Valve; 11/01/2011
- PI Summary, PI B102; Reactor Coolant System Identified Leak Rate; 04/2011 – 03/2012
- PI Summary, PI MS05; Safety System Functional Failures; 05/21/2012
- RCS Operational Leakage; 09/01-30/2011 and 03/01-26/2012

4OA2 – Identification and Resolution of Problems

- 2011 Critical Component and 2011 Q4 Maintenance Rule Functional Failures; 05/08/2012
- CCHVAC Controller Update; 05/23/2012
- DTE Energy ER SSEM – Segment 1, Risk Management and Commitment Map; 05/24/2012
- Fermi 2 (a)(1) SSC and Get Well Plan Status Report; 05/29/2012
- LCM/PERC Items Needing Resolution; 05/21/2012
- Management Challenge Board Gap Summary – Equipment Reliability – Performance Improvement Model
- PHC Action Plans – PHC Focus Items, Open and Closed Action Items; Plan ID 41, EFA Underground Cables; 05/25/2012

- Plant Health Committee Action Items; 05/29/2012
- Plant Health Committee Quarterly Schedule
- Predictive Maintenance Watch List; 05/29/2012
- Turbine Building HVAC Exhaust Plenum Modification; EDP 36674 60% Stakeholder Meeting; 06/12/2012
- Y4100 Sump Pump Status – PHC; 05/29/2012

40A3 Follow-Up of Events and Notices of Enforcement Discretion

- CARD 12-23824; Reactor Scram during RPV Hydro; 04/26/2012
- IPTE Evaluation No. 12-03; Reactor Pressure Vessel Hydro 24.137.21; 02/06/2012
- NRR Reactor Operating Events Event Notification Report, Event Number 47868; Valid Actuation of the Reactor Protection System During Testing; 04/26/2012
- Procedure 24.137.21; Reactor Pressure Vessel System Leakage Test; Revision 26
- Procedure 44.220.111; Group 3 Instrument Line Excess Flow Check Valve Functional Test; Revision 3

40A3 Follow-Up of Events and Notices of Enforcement Discretion

- CARD 07-23630; CDBI UFSAR Anti Vortex Methodology Non-Conservative; 06/28/2007
- CARD 08-20407; NRC Generic Letter 2008-01 Response; 01/22/2008
- CARD 09-21429; Small Amount of Air Found in DIV 2 Core Spray Injection Line; 03/06/2009
- CARD 09-22734; Relocate High Point Vent on Div 2 Core Spray; 04/13/2009
- CARD 09-22762; NRC Generic Letter 2008-01: Request a WO to Perform a Confirmatory UT at E2150F005B (Closed); 04/14/2009
- CARD 09-23066; NRC Generic Letter 2008-01: Request multiple WOs to Perform Confirmatory UTs; 04/21/2009
- CARD 09-24271; Generic Letter 2008-01: Documentation of UT Examination Results Prior to and During RF13; 06/02/2009
- CARD 09-25230; NRC Generic Letter 2008-01 Ninety Day Supplemental Response; Performing Future Ultrasonic Testing Examinations of Susceptible Locations; 07/07/2009
- CARD 10-10108; Gas Void Detected Downstream of E1150F006C; 08/22/2011
- CARD 10-20552; Generic Letter 2008-01 UT Examination: PM Event X058 Detected Void in Division 1 Core Spray; 11/12/2010
- CARD 10-27419; INPO SER 2-05Rev 1. – Lessons Learned Item 5B, Use of Dynamic Venting; 08/25/2010
- CARD 10-30552; Generic Letter 2008-01 UT Examination: PM Event X058 Detected Void in Division 1 Core Spray; 11/12/2010
- CARD 11-10108; Gas Void Detection Downstream of E1150F006C (Closed); 08/22/2011
- CARD 11-30472; Document Applicability of NRC Information Notice 2011-17, Calculation Methodologies for Operability Determinations of Gas Voids in Nuclear Power Plant Piping; 11/23/2011
- CARD 12-24503; Potential Non-Conservative Application of TS 3.5.1.4; 05/16/2012
- CARD 12-24581; Benchmarking Identifies Good Practice in Gas Accumulation Management Program Documents; 05/18/2012
- CARD 12-24693; 2012 NRC Gas Accumulation Management Inspection Concern on As-Found Data for ECCS 31 Day Vent Surveillances; 05/24/2012
- Drawing 6M721- Piping Isometric Drywell Core Spray Piping North Division 1; Revision Y
- Drawing 6M721-2034; Core Spray System C.S.S Reactor Building; Revision A
- Drawing 6M721-2035; High Pressure Coolant Injection System (HPCI) Reactor Bldg; Revision BK

- Drawing 6M721-2083; Residual Heat Removal Diagram Division 2; Revision BO
- Drawing 6M721-2084; Residual Heat removal (R.H.R) Division 1; Revision BI
- Drawing 6M721-3144-1; Piping Isometric – North Core Spray Pump Discharge to RPV Penetration Reactor Building; Revision W
- Drawing 6M721-3148-1 Piping Isometric Core Spray Pump (North) Suction from Suppression Pool; Revision AE
- Drawing 6M721-3153-1; Piping Isometric South RHR Pumps Suction From Suppression Chamber Reactor Building; Revision T
- Drawing 6M721-3157-1; Piping Isometric RHR Pump Dish North Reactor Building; Revision Q
- Drawing 6M721-3158-1; Piping Isometric RHR Pump Discharge to Heat Exchangers; Revision R
- Drawing 6M721-5706-1; Residual Heat Removal Division II Functional Operating Sketch; Revision AC
- Drawing 6M721-5706-2; Residual Heat Removal Division I Functional Operating Sketch; Revision X
- Drawing 6M721-5707; Core Spray System Functional Operating Sketch; Revision AD
- Drawing 6M721-7508-1; High Pressure Coolant Injection System Functional Operating Sketch; Revision AN
- Isometric-Piping-HPCI Test Line From Pump Discharge To CNDS Storage System – Reactor Building Unit 2; Revision X
- DC 0885; ECCS Suction Line Air Ingestion; Revision E
- Design Basis Document E11-00; Residual Heat Removal System; Revision C
- Design Basis Document E21-00; Core Spray System; Revision D
- Design Basis Document E41-00; High Pressure Coolant Injection System; Revision E
- EDP 29446; Keep Fill for HPCI Pump Discharge Line and Fin Installation at F006; 05/24/2002
- EDP-35930; Relocate High Point Vent on Div I Core Spray Injection Line; Revision 0
- EDP-36156; Relocate High Point Vent on Div II Core Spray Injection Line; Revision A
- EFA –E11-003; EFA for Air Void in Residual Heat Removal Division 1 Pump Suction Piping; Revision 0
- EFA -E21-08-010; Mis-Located Vent in DIV 1 Core Spray Injection Pipe; Revision B
- EFA -E21-10-012; EFA for Air Void in Core Spray Division 2 Pump Discharge Piping; Revision A
- LCR 09-001-UFS; Correct Inconsistencies Contained in the Description of RHR and LPCI Keep Fill Systems; Revision 0
- LCR-9-007-UFS; Clarify the Statement that the RHR Containment Spray Lines are Maintained Full of Water; Revision 0
- MES 27; Verification of System Operability; Revision 15
- PEP 25; Ultrasonic Gas Void Detection; Revision 0
- Procedure 43.401.514; HPCI Pressure Isolation Valve Leakage Test; Revision 41
- Procedure 43.401.516; Pressure Isolation Valve Leakage Test – LPCI Injection Valves; Revision 34
- SOP 23.202; High Pressure Coolant Injection System; Revision 105
- SOP 23.203; Core Spray System; Revision 56
- SOP 23.205; Residual Heat Removal System; Revision 120
- SOP 24.204; RHR Valve Lineup and System Filled Verification; Revision 30
- TE-E11-09-047; Technical Evaluation to Support GL 2008-01 Supplemental Response; 06/12/2009
- TE-E21-08-060; Evaluate Mis-Located Vent in Division 1 Core Spray Injection Pipe; Revision A

- TE-E11-08-61; Technical Evaluation to Support Response to GL 2008-01 (Gas Intrusion); Revision A
- TMPE-09-0181; 2009 Utilities Service Alliance Generic Letter 2008-01 and SER 2-05 Revision 1, Self-Assessment Final Report; 10/26/2009
- WO 32210903; Perform UT Examination of Piping Upstream of E2150D002B; 02/23/2011

LIST OF ACRONYMS USED

AC	Alternating Current
ADAMS	Agencywide Document Access Management System
ALARA	As-Low-As-Is-Reasonably-Achievable
BWR	Boiling Water Reactor
CARD	Condition Assessment and Resolution Document
CFR	Code of Federal Regulations
CIV	Containment Isolation Valve
CS	Core Spray
DRP	Division of Reactor Projects
EDG	Emergency Diesel Generators
EFCV	Excess Flow Check Valve
HPCI	High Pressure Coolant Injection
IMC	Inspection Manual Chapter
INPO	Institute of Nuclear Power Operations
IP	Inspection Procedure
IPTe	Infrequently Performed Test or Evolution
IR	Inspection Report
ISI	Inservice Inspection
IST	Inservice Testing
LOCA	Loss of Coolant Accident
LOP	Loss of Power
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulations
ODE	Operations Department Expectation
PARS	Publicly Available Records System
PWR	Pressurized Water Reactor
RCS	Reactor Coolant System
RFO	Refueling Outage
RHR	Residual Heat Removal
RPV	Reactor Pressure Vessel
SDP	Significance Determination Process
STR	Safety Tagging Record
TE	Technical Evaluation
TS	Technical Specification
TSO	Transmission System Operator
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
WO	Work Order

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Sincerely,

/RA/

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

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REPORT 05000341/2012003

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