UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
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LISLE, IL 60532-4352

May 11, 2015

Mr. Paul Fessler
Chief Nuclear Officer
DTE Energy Company
Fermi 2 - 210 NOC
6400 North Dixie Highway
Newport, MI 48166

SUBJECT: FERMI POWER PLANT, UNIT 2–NRC INTEGRATED INSPECTION REPORT 05000341/2015001

Dear Mr. Fessler:

On March 31, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Fermi Power Plant, Unit 2. On April 14, 2015, the NRC inspectors discussed the results of this inspection with you and members of your staff. The inspectors documented the results of this inspection in the enclosed inspection report.

The NRC inspectors documented three findings of very low safety significance (Green) in this report. One of these findings involved a violation of NRC requirements. The NRC is treating this violation as a Non-Cited Violation (NCV) consistent with Section 2.3.2.a of the NRC Enforcement Policy.

If you contest the violation or significance of the NCV, 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.

If you disagree with a cross-cutting aspect assignment or a finding not associated with a regulatory requirement 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.

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

Sincerely,

/RA/

Michael A. Kunowski, Chief
Branch 5
Division of Reactor Projects

Docket No. 50–341
License No. NPF–43

Enclosure:
IR 05000341/2015001
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:	05000341/2015001
Licensee:	DTE Electric Company
Facility:	Fermi Power Plant, Unit 2
Location:	Newport, MI
Dates:	January 1 through March 31, 2015
Inspectors:	B. Kemker, Senior Resident Inspector P. Smagacz, Resident Inspector J. Jandovitz, Project Engineer
Approved by:	M. Kunowski, Chief Branch 5 Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

Inspection Report 05000341/2015001; 01/01/2015–03/31/2015; Fermi Power Plant, Unit 2; Flooding, Operability Determinations and Functionality Assessments, and Follow-up of Events and Notices of Enforcement Discretion.

This report covers a 3-month period of inspection by resident inspectors. Three Green findings, one of which had an associated Non-Cited Violation (NCV) of the NRC regulations, were identified. The significance of inspection findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," dated June 2, 2011. Cross-cutting aspects are determined using IMC 0310, "Aspects Within the Cross-Cutting Areas," dated December 4, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy, dated February 4, 2015. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG–1649, "Reactor Oversight Process," dated February 2014.

Cornerstone: Mitigating Systems

Green. The inspectors identified a finding of very low safety significance for the licensee's failure to correct, as specified in a plant procedure, a nonconforming condition adversely affecting plant safety. On January 24, 2012, the licensee identified the Reactor Building Steam Tunnel floor drain was clogged and failed to correct the condition during the Cycle 15 refueling outage, which concluded on May 5, 2012. The nonconforming condition was not appropriately documented in the licensee's corrective maintenance and corrective action processes during the Cycle 15 refueling outage and evaluated. Subsequent boroscope inspection during the following Cycle 16 refueling outage in 2014 revealed a buildup of what appeared to be cement or compacted dust/dirt blocking the line. No violation of regulatory requirements was identified because the floor drain was not a safety-related component. The licensee entered this finding into its corrective action program (CAP) to complete an investigation and implement corrective actions.

The finding was of more than minor safety significance because, if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, the failure to promptly correct the nonconforming condition adversely affected a design basis function credited with mitigating the consequences of internal flooding affecting safety-related plant equipment; in this case, water removal from the Reactor Building Steam Tunnel during high and moderate energy line break accident conditions. The finding was a licensee performance deficiency of very low safety significance (Green) because although the floor drain was not functional, the licensee subsequently evaluated the nonconforming condition and concluded adequate water removal capability existed such that safety-related structures, system, or components (SSCs) in the area would remain operable or functional. This finding affected the cross-cutting area of human performance and the field presence aspect due to the licensee's failure to ensure supervisory and management oversight of work activities, including contractors and supplemental personnel, such that nuclear safety was supported (IMC 0310, H.2). (Section 1R06.1)

Green. The inspectors identified a finding of very low safety significance for the licensee's failure to follow its procedural guidance to assess the effects of degraded and

nonconforming conditions involving plant SSCs not specifically covered by the plant's Technical Specifications (TSs) and to correctly document a functionality assessment when the conditions affected functions described in the current licensing basis (CLB). No violation of regulatory requirements was identified because the examples of degraded and/or nonconforming conditions involved non-safety-related plant SSCs. The licensee entered this finding into its CAP to identify a functionality assessment process did not exist within its procedures and to investigate recommended process and procedure improvements.

The finding was of more than minor safety significance because, if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, the failure to recognize conditions that could adversely affect functions described in the CLB and to perform functionality assessments could reasonably result in an unrecognized condition of a SSC failing to fulfill a safety-related or design basis function; for example, water removal from areas in the Reactor Building during high and moderate energy line break accident conditions. The finding was a licensee performance deficiency of very low safety significance (Green) because, although individual floor drains were not functional, the licensee subsequently evaluated the nonconforming conditions and concluded adequate water removal capability existed such that safety-related SSCs in the areas would remain operable or functional. The inspectors determined this finding affected the cross-cutting area of human performance and the resources aspect due to the licensee's failure to ensure procedures and other resources were available and adequate to support nuclear safety (IMC 0310, H.1). Specifically, the licensee's processes and procedures lacked appropriate guidance to enable licensed senior reactor operators to perform functionality assessments for degraded and/or nonconforming conditions affecting functions described in the CLB. (Section 1R15)

Green. A finding of very low safety significance with an associated NCV of the Fermi 2 Facility Operating License (NPF–43), Condition 2.C (1), "Maximum Power Level," was self-revealed on March 10, 2015. Licensed reactor operators in the Control Room failed to appropriately monitor and control reactor power during a Xenon transient following manual reactivity manipulations and allowed reactor power to exceed the licensed thermal power limit for 16 minutes. Upon receiving an annunciator that alerted reactor operators of the over-power condition, they promptly reduced reactor power to below 100 percent. The licensee entered this violation into its CAP to investigate the cause and identify appropriate corrective actions.

The finding was of more than minor safety significance because, if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, operation above the licensed power limit reduced the analyzed margins to fuel cladding failure and could result in unanalyzed consequences during an initiating event. The finding was a licensee performance deficiency of very low safety significance (Green) because the inappropriate monitoring and control of reactor power during the Xenon transient did not result in exceeding the two percent reactor thermal power allowance contained in the safety analysis. Therefore, assumptions contained in the safety analysis remained bounded for this event. The inspectors determined this finding affected the cross-cutting area of human performance and the procedure adherence aspect due to the licensee's failure to ensure individuals follow processes, procedures, and work instructions (IMC 0310, H.8). Specifically, the licensee did not effectively communicate expectations of procedural compliance in that licensed reactor operators

did not appropriately monitor and control reactor power during a Xenon transient following manual reactivity manipulations. (Section 4OA3.1)

REPORT DETAILS

Summary of Plant Status

Fermi Power Plant, Unit 2, was operated at or near 100 percent power during the inspection period with the following exceptions:

- On February 21, the licensee reduced power to about 91 percent to make repairs to a high pressure turbine stop valve control circuit. The unit was returned to 100 percent power later that day.

- On March 9, during a scheduled surveillance test of the automatic transfer of 480-volt bus 72CF, the automatic transfer feature failed. This resulted in inoperability of both Low Pressure Coolant Injection (LPCI) subsystems. As required by TS 3.5.1, Condition K the licensee entered TS 3.0.3, requiring entry into Mode 2 within 7 hours. Accordingly, the licensee commenced a reactor shutdown at 4:15 p.m. and initiated maintenance to correct the problem. Reactor operators stabilized reactor power at about 81.5 percent when it appeared a resolution of the problem would allow exiting TS 3.5.1, Condition K and TS 3.0.3. After completing corrective maintenance and returning both LPCI subsystems to an operable status to satisfy the TS requirements, the licensee returned the reactor to 100 percent power at 11:59 p.m.

- On March 19, the unit automatically scrammed due to actuation of the Reactor Protection System function of Oscillation Power Range Monitor (OPRM) Upscale. The unit had just transitioned to single loop operation after operators secured a reactor recirculation pump due to the loss of its normal and emergency cooling water supply. The unit remained shut down at the end of the inspection period for the licensee to complete maintenance. The unit was restarted on April 3 and returned to 100 percent power on April 6.

1. REACTOR SAFETY

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

1R01 Adverse Weather Protection (71111.01)

.1 Readiness for Impending Adverse Weather Condition–Extreme Cold Conditions

a. Inspection Scope

Since extreme cold conditions were forecast in the vicinity of the plant for January and February, the inspectors evaluated the licensee's overall preparations/protection for the expected weather conditions focusing on the Residual Heat Removal Service Water (RHRSW), Diesel Generator Service Water, Emergency Equipment Service Water (EESW), Circulating Water, General Service Water, and Auxiliary Boiler Systems. The inspectors reviewed plant specific design features and implementation of procedures for responding to or mitigating the effects of extreme cold weather conditions on the operation of the plant. The inspectors observed insulation, heat trace circuits, space heater operation, and weatherized enclosures to ensure operability/functionality of affected systems. The inspectors also discussed potential compensatory measures with plant operators.

In addition, the inspectors verified adverse weather related problems were entered into the licensee's corrective action program with the appropriate characterization and significance. Selected condition assessment resolution documents (CARDs) were reviewed to verify corrective actions were appropriate and implemented as scheduled. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one readiness for impending adverse weather conditions inspection sample as defined in Inspection Procedure (IP) 71111.01.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Quarterly Partial System Walkdowns (71111.04Q)

a. Inspection Scope

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

- Division 2 Residual Heat Removal (RHR) and RHRSW Subsystems during Division 1 RHR and RHRSW Subsystems maintenance;
- Emergency Diesel Generators (EDGs) 11 and 12 during EDG 13 maintenance; and
- Division 1 Non-Interruptible Air System Subsystem following maintenance.

The inspectors selected these systems based on their risk significance relative to the Reactor Safety Cornerstones. The inspectors reviewed operating procedures, system diagrams, TS requirements, 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 were available. The inspectors observed operating parameters and examined the material condition of the equipment to verify there were no obvious deficiencies.

In addition, the inspectors verified equipment alignment problems were entered into the licensee's corrective action program with the appropriate characterization and significance. Selected CARDs were reviewed to verify corrective actions were appropriate and implemented as scheduled. Documents reviewed are listed in the Attachment to this report.

This inspection constituted three partial system walkdown inspection samples as defined in IP 71111.04.

b. Findings

No findings were identified.

.2 Semi-Annual Complete System Walkdown (71111.04S)

a. Inspection Scope

From January 5 through February 7, the inspectors performed a complete system alignment inspection of the Core Spray (CS) system to verify the functional capability of the system. This system was selected because it was considered both safety significant and risk significant in the licensee's probabilistic risk assessment. The inspectors walked down the system to review mechanical and electrical equipment lineups; electrical power availability; system pressure and temperature indications, as appropriate; component labeling; component lubrication; component and equipment cooling; hangers and supports; operability of support systems; and to ensure ancillary equipment or debris did not interfere with equipment operation. A review of a sample of past and outstanding work orders (WOs) was performed to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the corrective action program database to ensure system equipment alignment problems were being identified and appropriately resolved. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one complete system walkdown inspection sample as defined in IP 71111.04.

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:

- Reactor Building Third Floor, Fuel Pool Cooling and Clean-Up Heat Exchanger and Pump Room;
- Turbine Building Basement, Sump Area;
- RHR Complex, EDG 13 and Switchgear Room;
- Turbine Building Second Floor, Main Turbine Lube Oil Area;
- Turbine Building First Floor, Station Air Compressor Area; and
- Reactor Containment Drywell.

The inspectors reviewed these fire 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 Protection 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 Report with later additional insights, their potential to impact equipment that could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. 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.

In addition, the inspectors verified fire protection related problems were entered into the licensee's CAP with the appropriate characterization and significance. Selected CARDs were reviewed to verify corrective actions were appropriate and implemented as scheduled. Documents reviewed are listed in the Attachment to this report.

This inspection constituted six quarterly fire protection inspection samples as defined in IP 71111.05AQ.

b. Findings

No findings were identified.

1R06 Flooding (71111.06)

.1 Internal Flooding

a. Inspection Scope

The inspectors reviewed selected plant design features and licensee procedures intended to protect the plant and its safety-related equipment from internal flooding events. The inspectors reviewed flooding analyses and design documents, including the Updated Final Safety Analysis Report (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 Service Water Systems.

The inspectors performed a walkdown of accessible portions of the following plant areas to assess the adequacy of watertight doors and verify drains and sumps were clear of debris and were functional, and the licensee complied with its commitments:

- Reactor Building Sub-Basement, Northwest and Southwest Quadrants.

In addition, the inspectors verified internal flooding related problems were entered into the licensee's CAP with the appropriate characterization and significance. Selected CARDs were reviewed to verify corrective actions were appropriate and implemented as scheduled. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one internal flooding inspection sample as defined in IP 71111.06.

b. Findings

(1) Failure to Correct a Nonconforming Condition Adversely Affecting Plant Safety with a Clogged Floor Drain in the Reactor Building Steam Tunnel

Introduction: The inspectors identified a finding of very low safety significance (Green) for the licensee's failure to correct a nonconforming condition adversely affecting plant safety. On January 24, 2012, the licensee identified the Reactor Building Steam Tunnel floor drain was clogged but failed to correct the condition during the subsequent Cycle 15 refueling outage (RF–15), which concluded on May 5, 2012. The licensee also did not document or evaluate the failure in the corrective action program. Subsequent boroscope inspection during the following Cycle 16 refueling outage (RF–16) in 2014 revealed a buildup of what appeared to be cement or compacted dust/dirt blocking the line. No violation of regulatory requirements was identified because the floor drain was not a safety-related component.

Description: The inspectors reviewed CARD 12–20576, "Reactor Building Steam Tunnel Floor Drains Not Working Properly," dated January 24, 2012, to evaluate the licensee's actions to address the identified condition. About six weeks prior to the start of RF–15 in March 2012, steam leaks in the Reactor Building Steam Tunnel were identified due to water found in the Torus Room. The Torus Room is one level below the Reactor Building Steam Tunnel and the water was seeping through penetrations in the Torus Room ceiling. Licensee personnel made two entries into the Steam Tunnel, where standing water was found on the floor. The only floor drain in the Steam Tunnel (Drain 75–29) was found clogged. The inspectors noted the licensee did not perform a functionality assessment at the time of discovery for the nonconforming condition to support continued plant operation until the plant was shut down for the RF–15 refueling outage. The Operations Review of the CARD incorrectly concluded the condition did not affect functions described in the CLB and no functionality assessment was documented. The inspectors noted, however, that the floor drain was credited in the design bases (DC–5110, "Main Steam and Feedwater Line Break in the Steam Tunnel," Volume I, Revision A) for water removal during high and moderate energy line break (HELB/MELB) accident conditions in the Steam Tunnel. As discussed in Section 1R15, the inspectors identified a finding of very low safety significance for the licensee's failure to follow its procedural guidance to assess the effects of degraded and nonconforming conditions involving plant SSCs not specifically covered by the plant's TSs and to correctly document a functionality assessment when the conditions affected functions described in the CLB. This CARD was one of the examples discussed in the finding.

WO 34011554 was performed during RF–15 to clear the clogged floor drain in the Steam Tunnel. The work performed section of the WO read: "Ran boroscope through stand pipe observed no significant buildup. Ran snake device through–water flowed freely." The post-maintenance test was to verify no blockage by running water down the drain line to verify no blockage. It was signed off as satisfactory and "no obstructions" was written in the completed WO. The supervisor who completed the WO documentation on April 10, 2012, did not actually witness the work performed or verify the floor drain was cleared, but only recorded what was reported to him by the workers. The inspectors noted the condition investigation in CARD 12–20576 was completed on April 23, 2012, and stated, in part: "WO 34011554 was scope added into RF–15 to clean out the drain and get it functioning properly. Per discussion with the radwaste [radioactive waste] personnel who cleared the drain, a boroscope of the drain revealed

blockage in the pipe. Extracting the blockage revealed that it was caused by various items including tape, tie wraps, a rag, and a buildup of dust/plant dirt on the items. After these items were removed the drain functioned properly."

The inspectors reviewed CARD 14–21439, "Reactor Building Steam Tunnel Clogged Drain Needs Cleared," to evaluate the licensee's actions to address the identified condition. This CARD was written after the floor drain in the Steam Tunnel was found clogged again during a scheduled preventive maintenance task (WO 34126895) to flush the floor drain and ensure it was clear at the start of RF–16 in February 2014. The Operations Review of the CARD incorrectly concluded the condition did not affect functions described in the CLB; however, since the drain was not cleared during RF–16, the licensee correctly performed an engineering evaluation of the nonconforming condition (TE–T45–14–043, "Evaluation of Blocked Drain #75–29 in the Reactor Building Steam Tunnel," Revision 0) to support continued operation for Cycle 17. The inspectors reviewed the engineering evaluation and agreed with its conclusion. The inspectors noted the condition investigation in CARD 14–21439 was completed on April 6, 2014, and stated, in part: "Discussion with the radwaste decontamination personnel revealed that the drain is blocked with what appears to be cement or compacted dust/dirt and has been since at least RF–15. Contrary to what the RF-15 WO [WO 34011554] states, drain 75–29 was not cleared in RF–15. After removing the junk from the drain, another flow test found the drain to still be clogged. Boroscope inspection revealed a build-up of what appears to be cement or compacted dust/dirt blocking the line. The radwaste decontamination personnel were unable to clear the blockage using the equipment on site. This information was not added to the RF–15 WO."

The inspectors also reviewed CARD 14–23341, "G1100 Radwaste Enters Near (a)(1) Status." This CARD was written to track engineering completion of an action plan to address two maintenance preventable functional failures, both attributed to the clogged Reactor Building Steam Tunnel floor drain, and its presentation of the action plan to the Maintenance Rule Expert Panel. The system engineer presented the action plan on June 23, 2014. The action plan was attached to CARD 14–23341 and stated, in part: "The hard cement or compacted dust/dirt was discovered in RF–15 after removal [of] the initial blockage but was not recorded in the RF–15 WO or conveyed to system engineering. Attempts were made with the hydrolyzing equipment onsite to clear the blockage but they were not successful and the drain remained clogged for Cycle 16."

The inspectors discussed with the licensee their concerns with the as-left condition of the floor drain following the RF–15 refueling outage and the results of the licensee's condition investigations of CARDs 12–20576 and 14–21439. First, the inspectors noted what was documented in WO 34011554 did not match the actual work performed or the as-left condition of the floor drain as it was later reported to the system engineer by radwaste workers who had attempted to clear it and documented by the engineer in the investigation of CARD 14–21439 and the Maintenance Rule action plan (CARD 14-23341).

Second, apart from the technical issue (i.e., operating during Cycle 16 with the clogged floor drain) there was another problem the licensee had not reconciled. The discrepancy in the work actually performed on the floor drain during RF–15 and what was documented in WO 34011554 was not identified as a problem and entered into the licensee's corrective action program by any of the licensee's plant staff and managers

who reviewed the condition investigation of CARD 14–21439 and the Maintenance Rule action plan.

In response to the inspectors' questions and concerns, the licensee initiated CARD 15–20848, "NRC Identified Concern with Floor Drain 75–29 History," and CARD 15–21403, "Evaluate Issues with Completion of WO 34011554 in RF–15," and completed an initial investigation. The licensee reviewed logs and other documents and interviewed plant staff with knowledge of the issue and attributed the problem to several performance gaps. The licensee noted that there was also an equipment drain in the Steam Tunnel located near the floor drain with a standpipe that extends several inches above the floor. Although there was no documented problem with the equipment drain, it was apparent based on what was recorded in the completed WO (e.g., "Ran boroscope through *stand pipe* [emphasis added] observed no significant buildup.") that work was also performed on the equipment drain. Floor drains are flush with the floor and do not have stand pipes like the equipment drains. It was surmised by the licensee that this led to confusion about the condition of the floor drain as it was reported by workers and documented in the WO by the supervisor.

Analysis: The inspectors determined the licensee's failure to correct a nonconforming condition adversely affecting plant safety (i.e., the Reactor Building Steam Tunnel clogged floor drain) was a performance deficiency warranting a significance evaluation. This issue was a performance deficiency because the licensee did not meet its CAP standard Quality Assurance Conduct Manual, MQA–11, "Condition Assessment Resolution Document," Revision 38, which requires nonconforming conditions be corrected. The inspectors reviewed the examples of minor issues in IMC 0612, "Power Reactor Inspection Reports," Appendix E, "Examples of Minor Issues," dated August 11, 2009, and noted several examples wherein a licensee's failure to correct conditions adverse to quality or safety would not be considered to be of minor safety significance when there was a safety impact. In this case, the clogged floor drain could not fulfill its design basis function. Similarly, consistent with the guidance in IMC 0612, Appendix B, "Issue Screening," dated September 7, 2012, the inspectors determined the performance deficiency was a finding of more than minor safety significance because, if left uncorrected, the performance deficiency has the potential to lead to a more significant safety concern. Specifically, the failure to correct the nonconforming condition adversely affected a design basis function credited with mitigating the consequences of internal flooding affecting safety-related plant equipment; in this case, water removal from the Reactor Building Steam Tunnel during HELB/MELB accident conditions.

In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Initial Characterization of Findings," Table 3, "SDP Appendix Router," dated June 19, 2012, the inspectors determined this finding affected the Mitigating Systems Cornerstone, specifically the Mitigating SSCs and Functionality contributor, and would require review using IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012. The inspectors performed a Phase 1 SDP review of this finding using the guidance provided in IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," and determined this finding was a licensee performance deficiency of very low safety significance (Green) because it: (1) was not a deficiency affecting the design or qualification of a mitigating SSC, (2) did not represent a loss of system and/or function, (3) did not represent an actual loss of function of at least a single train for greater than its

TS allowed outage time OR two separate safety systems out-of-service for greater than its TS allowed outage time, and (4) did not represent an actual loss of function of one or more non-TS trains or equipment designated as high safety significant in accordance with the licensee's Maintenance Rule Program for greater than 24 hours. Although the floor drain was not functional, the licensee subsequently evaluated the nonconforming condition and concluded adequate water removal capability existed such that safety-related SSCs in the area would remain operable or functional.

The inspectors determined this finding affected the cross-cutting area of human performance and the field presence aspect due to the licensee's failure to ensure supervisory and management oversight of work activities, including contractors and supplemental personnel, such that nuclear safety was supported (IMC 0310, H.2). Specifically, the supervisor did not actually witness the work performed or verify the floor drain was cleared, but only recorded what was reported to him by the workers.

Enforcement: No violation of regulatory requirements was identified because the Reactor Building Steam Tunnel floor drain was not a safety-related component. This issue was determined to be a finding **(FIN 05000341/2015001–01, Failure to Correct a Nonconforming Condition Adversely Affecting Plant Safety with the Reactor Building Steam Tunnel Floor Drain)**. The licensee entered this finding into its corrective action program as CARDs 15–20848 and 15–21403.

1R11 Licensed Operator Requalification Program (71111.11)

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

a. Inspection Scope

The inspectors observed licensed operators during evaluated simulator training on February 10. The inspectors assessed the operators' response to the simulated events focusing on alarm response, command and control of crew activities, communication practices, procedural adherence, and implementation of Emergency Plan requirements. The inspectors also observed the post-training critique to assess the ability of the licensee's evaluators and the operating crew to self-identify performance deficiencies. 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 inspection sample as defined in IP 71111.11.

b. Findings

No findings were identified.

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

a. Inspection Scope

On February 21, the inspectors observed licensed operators in the Control Room perform high risk to generation instrument and control surveillance testing while

implementing an operational decision making instruction. In addition, on March 21, the inspectors observed licensed operators in the Control Room perform procedures following a reactor scram to stabilize and cool down the plant. These activities required heightened awareness, additional detailed planning, and involved increased operational risk. The inspectors evaluated the following areas:

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

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

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

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors evaluated the licensee's handling of selected degraded performance issues involving the following risk significant SSCs:

- Emergency Equipment Cooling Water (EECW) System;
- Power Range Neutron Monitors; and
- Rod Position Indication System.

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the SSCs. Specifically, the inspectors independently verified the licensee's handling of SSC performance or condition problems in terms of:

- appropriate work practices;
- identifying and addressing common cause failures;
- scoping of SSCs in accordance with 10 CFR 50.65(b);
- characterizing SSC reliability issues;
- tracking SSC unavailability;
- trending key parameters (condition monitoring);
- 10 CFR 50.65(a)(1) or (a)(2) classification and reclassification; and
- appropriateness of performance criteria for SSC functions classified (a)(2) and/or appropriateness and adequacy of goals and corrective actions for SSC functions classified (a)(1).

In addition, the inspectors verified problems associated with the effectiveness of plant maintenance were entered into the licensee's corrective action program with the appropriate characterization and significance. Selected CARDs were reviewed to verify corrective actions were appropriate and implemented as scheduled. Documents reviewed are listed in the Attachment to this report.

This inspection constituted three quarterly maintenance effectiveness inspection samples as defined in IP 71111.12.

b. Findings

No findings were identified.

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

a. Inspection Scope

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

- Planned maintenance during the week of January 19 through 23 including the Division 1 Battery Charger Room Cooler, RHR and RHRSW Subsystems;
- Planned maintenance during the week of January 26 through 30 on EDG 13;
- Emergent maintenance during the week of February 9 through 13 on EDG 13;
- Planned maintenance during the week of February 16 through 20 including the Division 1 Non-Interruptible Air System Subsystem, South and Center Reactor Recirculation Motor Generator Ventilation Units;
- Planned maintenance during the week of March 16 through 20 including the Reactor Core Isolation Cooling (RCIC) System and Division 1 CS Subsystem; and
- Emergent work during the week of March 22 through 28 on Drywell Coolers #1 and #2, and Combustion Turbine Generator 11–3.

These activities were selected based on their potential risk significance relative to the Reactor Safety Cornerstones. As applicable for each of the above activities, the inspectors reviewed the scope of maintenance work in the plant's daily schedule, reviewed Control Room logs, verified plant risk assessments were completed as required by 10 CFR 50.65(a)(4) prior to commencing maintenance activities, discussed the results of the assessment with the licensee's Probabilistic Risk Analyst and/or Shift Technical Advisor, and verified plant conditions were consistent with the risk assessment assumptions. The inspectors also reviewed TS requirements and walked down portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid, redundant safety-related plant equipment necessary to minimize risk was available for use, and applicable requirements were met.

In addition, the inspectors verified maintenance risk related problems were entered into the licensee's corrective action program with the appropriate characterization and significance. Selected CARDs were reviewed to verify corrective actions were

appropriate and implemented as scheduled. Documents reviewed are listed in the Attachment to this report.

This inspection constituted six maintenance risk assessment and emergent work control inspection samples as defined in IP 71111.13.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed the following issues:

- CARD 14–20081, 73E–5B 2C–R Breaker for Standby Liquid Control (SLC) Heaters Keeps Tripping;
- CARD 14–21295, Snubber N30–2186–G17 Failed Functional Testing;
- CARD 14–26291, 65F Under-Voltage Relay XY-27A Did Not Meet Voltage As-Found Tolerance;
- CARD 14–27057, Failure of Lower Modicon Unit in G11–P604 Panel;
- CARD 15–20813, Process Breakdown Lead to Inadequate Procedural Guidance; and
- CARD 15–20815, Error in Calculation DC–4324 Volume I.

The inspectors selected these potential operability/functionality issues based on the risk significance of the associated components and systems. The inspectors verified the conditions did not render the associated equipment inoperable/non-functional or result in an unrecognized increase in plant risk. When applicable, the inspectors verified the licensee appropriately applied TS limitations, appropriately returned the affected equipment to an operable or functional status, and reviewed the licensee's evaluation of the issue with respect to the regulatory reporting requirements. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. When applicable, the inspectors also verified the licensee appropriately assessed the functionality of SSCs that perform specified functions described in the UFSAR, Technical Requirements Manual (TRM), Emergency Plan, Fire Protection Plan, regulatory commitments, or other elements of the CLB when degraded or nonconforming conditions were identified.

In addition, the inspectors verified problems related to the operability or functionality of safety-related and risk significant plant equipment were entered into the licensee's corrective action program with the appropriate characterization and significance. Selected CARDs were reviewed to verify that corrective actions were appropriate and implemented as scheduled. Documents reviewed are listed in the Attachment to this report.

This inspection constituted six operability determination and functionality assessment inspection samples as defined in IP 71111.15.

b. Findings

(1) Failure to Perform Functionality Assessments for Degraded and/or Nonconforming Plant Conditions

Introduction: The inspectors identified a finding of very low safety significance (Green) for the licensee's failure to follow its procedural guidance to assess the effects of degraded and nonconforming conditions involving plant SSCs not specifically covered by the plant's TSs and to correctly document a functionality assessment when the conditions affected functions described in the CLB. No violation of regulatory requirements was identified because the examples of degraded and/or nonconforming conditions involved non-safety-related plant SSCs.

Description: During the internal flooding inspection activity, the inspectors identified several examples wherein the licensee had not appropriately documented functionality assessments when degraded and/or nonconforming conditions were discovered affecting floor drains in the Reactor Building. Floor drains throughout the Reactor Building were credited in design basis calculations (DC–5110, "Main Steam and Feedwater Line Break in the Steam Tunnel," Volume I, Revision A and DC–5426, "PBOC High and Moderate Energy Line Break Evaluation," Volume I, Revision C) for water removal during HELB/MELB accident conditions to mitigate the consequences of internal flooding in areas affecting safety-related plant equipment. The examples included:

1. CARD 12–20576, Reactor Building Steam Tunnel Floor Drain Not Working Properly

   The only floor drain in the Reactor Building Steam Tunnel was found clogged just prior to the Cycle 15 refueling outage in 2012. The Operations Review of the CARD incorrectly concluded the condition did not affect functions described in the CLB and no functionality assessment was documented. The floor drain was credited for water removal during HELB/MELB accident conditions in the Reactor Building Steam Tunnel. The plant operated for about six weeks from the time of discovery until the start of the refueling outage with the clogged floor drain, without an engineering evaluation of the nonconforming condition. In addition, the inspectors identified the plant later operated the entire Cycle 16 without an engineering evaluation of the nonconforming condition to support continued operation. The floor drain was not unclogged during the Cycle 15 refueling outage. As discussed in Section 1R06.1, the inspectors identified a finding of very low safety significance for the licensee's failure to correct the nonconforming condition.

2. CARD 12–27314, Blockage Experienced in Floor Drains

   Two of five floor drains in the High Pressure Coolant Injection Pump Room were found clogged during testing. The Operations Review of the CARD incorrectly concluded the conditions did not affect functions described in the CLB; however, a prompt functionality assessment referencing portions of the UFSAR was then documented. The assessment did not identify the floor drains were credited for water removal during HELB/MELB accident conditions in the room. No basis was provided to conclude having only three of five floor drains unclogged was acceptable (i.e., no engineering evaluation of the nonconforming condition with respect to the relevant design calculation was performed).

3. CARD 14–26154, Drain Needs to Be Unclogged/Housekeeping Is Required of RCIC Trench

   One of two floor drains in the Division I CS Pump and RCIC Pump Quadrant was found clogged. The Operations Review of the CARD incorrectly concluded the condition did not affect functions described in the CLB and no prompt functionality assessment was documented. The floor drains were credited for water removal during HELB/MELB accident conditions and the inspectors noted this was clearly stated in the condition description section of the CARD. Engineering did, however, provide an evaluation of the nonconforming condition and concluded the remaining floor drain was adequate.

Based on the guidance in IMC 0326, "Operability Determinations & Functionality Assessments for Conditions Adverse to Quality or Safety," dated January 31, 2014, functionality assessments should be performed for SSCs not described in TSs, but which warrant programmatic controls to ensure SSC availability and reliability are maintained. Additionally, SSCs not described in TSs may warrant functionality assessments within the processes used to address degraded and nonconforming conditions because they perform functions described in the USFAR, TRM, Emergency Plan, Fire Protection Plan, regulatory commitments, or other elements of the CLB. As stated in the guidance, the effect of nonfunctional SSCs on compliance with other regulatory requirements (e.g., Station Blackout, 10 CFR 50 Appendix R, Anticipated Transients Without Scram, Environmental Qualification, and Maintenance Rule) should also be determined.

In addition to the above examples with Reactor Building floor drains, the inspectors found other recent examples of degraded and/or nonconforming conditions affecting plant SSCs not specifically covered by the plant's TSs, for which the licensee had not documented functionality assessments when the conditions affected functions described in the CLB. The additional examples identified by the inspectors were indicative of a broader programmatic issue with the licensee's process and procedural guidance for assessing functionality. The examples included:

1. CARD 14–27057, Failure of Lower Modicon Unit in G11–P604 Panel

   The radioactive waste Modicon programmable logic controllers not only provided process control for liquid radioactive waste processing, but also select alarms to the Radioactive Waste Control Room and Main Control Room. This equipment failure resulted in the loss of some annunciators used for emergency operating procedure implementation. The Operations Review of the CARD incorrectly concluded the condition did not affect functions described in the CLB. The Shift Manager's comment only discussed the effect on radioactive waste processing. No functionality assessment for the loss of the annunciators' impact on emergency operating procedure implementation was performed.

2. CARD 15–21008, Division 1 South CCHVAC [Control Center Heating, Ventilation, and Air Conditioning] Emergency Air Inlet Radiation Monitor Operate Light Lit with CCHVAC in Normal Mode

   The "operate" light on the CCHVAC emergency air inlet radiation monitor should be lit when the system operates in recirculation mode, but not in normal mode. The

Operations Review incorrectly concluded the condition did not affect functions described in the CLB and no functionality assessment was documented. The Shift Manager's comment stated the emergency air inlet radiation monitor was not required by the TSs or TRM and therefore was not licensed based. However, the CLB consists of more than just the TSs and TRM. The function of the emergency air inlet radiation monitor was discussed in Section 11.4.3.8.2.14 of the UFSAR, which included automatic selection of emergency air inlets during events involving a radiation release.

3. CARD 15–21663, S6L Battery Conductance

   While performing surveillance testing of emergency lights, electrical maintenance craftsmen identified one of the Appendix R emergency lights did not meet the established acceptance criteria for conductance after a battery discharge test. The Operations Review incorrectly concluded the condition did not affect functions described in the CLB and no functionality assessment was documented. The function of Appendix R emergency lighting to support safe shutdown actions in safety-related equipment areas and egress pathways was discussed in Section 9A, "Fire Protection Analysis," of the UFSAR.

The inspectors reviewed the licensee's guidance documents for performing and documenting operability determinations and functionality assessments. There were three procedures with applicable guidance (Quality Assurance Conduct Manual, MQA–11, "Condition Assessment Resolution Document," Revision 38; Operations Department Expectation, ODE–11, "CARD Operability/Reportability Determination Expectations," Revision 15; and Engineering Support Conduct Manual, MES–27, "Verification of System Operability," Revision 16). Each of these procedures provided guidance on assessing functionality as part of the operability determination process. The licensee's corrective action program implementing procedure, MQA–11, required the Shift Manager to assess the functionality of degraded/nonconforming conditions and document his assessment in the CARD. Specifically, Step 5.2.1.2.a stated: "If the identified issue represents a nonconforming or actual plant condition that reduces the functional capability of the plant equipment (i.e., degraded condition) and the equipment or activity is Licensed Based, mark "Yes" in the Licensed Based box." In addition, Step 5.2.1.2.b stated, in part: "If the issue is flagged Licensed Based equals "Yes," select the appropriate Operability Status (i.e., 'Operable,' 'Operable but degraded,' 'Operable but nonconforming,' or 'Inoperable.' If 'Operable,' Operable but degraded,' or 'Operable but nonconforming' is selected, provide justification comments (i.e., Operability/Functionality) of the component or system." In several of the above examples, the Shift Manager failed to perform Step 5.2.1.2.a by not correctly identifying Licensed Based equipment. In several other examples, the Shift Manager failed to perform Step 5.2.1.2.b by not correctly identifying the appropriate status or providing appropriate justification comments.

In response to the inspectors questions, the licensee initiated CARD 15–21063, "NRC Identified Issue–Functionality Assessment Process Gap," to identify an adequate functionality assessment process did not exist within its procedures and to investigate recommended process and procedure improvements. As stated in the CARD: "The issue identified in this CARD is a process gap concerning functionality assessments.... The intent is to drive a process change that will provide guidance on when and how

immediate functionality assessments by the Shift Manager are to be performed and then backed up by prompt functionality assessments by engineering when required."

Analysis: The inspectors determined the licensee's failure to follow its procedural guidance to assess the effects of degraded and nonconforming conditions affecting plant SSCs not specifically covered by the plant's TSs and to correctly document a functionality assessment when the conditions affected functions described in the CLB (e.g., clogged floor drains in the Reactor Building) was a performance deficiency warranting a significance evaluation. This issue was a performance deficiency because the licensee did not meet its corrective action program standard Quality Assurance Conduct Manual, MQA–11, "Condition Assessment Resolution Document," Revision 38, which requires the assessment of functionality for degraded and/or nonconforming conditions. The inspectors reviewed the examples of minor issues in IMC 0612, "Power Reactor Inspection Reports," Appendix E, "Examples of Minor Issues," dated August 11, 2009, and found no similar examples. Consistent with the guidance in IMC 0612, Appendix B, "Issue Screening," dated September 7, 2012, the inspectors determined the performance deficiency was a finding of more than minor safety significance because, if left uncorrected, the performance deficiency has the potential to lead to a more significant safety concern. Specifically, the failure to recognize degraded and/or nonconforming conditions that could adversely affect functions described in the CLB and to perform functionality assessments for them could reasonably result in an unrecognized condition of a SSC failing to fulfill a safety-related or design basis function; for example, water removal from areas in the Reactor Building during HELB/MELB accident conditions.

In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Initial Characterization of Findings," Table 3, "SDP Appendix Router," dated June 19, 2012, the inspectors determined this finding affected the Mitigating Systems Cornerstone, specifically the Mitigating SSCs and Functionality contributor, and would require review using IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012. The inspectors performed a Phase 1 SDP review of this finding using the guidance provided in IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," and determined this finding was a licensee performance deficiency of very low safety significance (Green) because it: (1) was not a deficiency affecting the design or qualification of a mitigating SSC, (2) did not represent a loss of system and/or function, (3) did not represent an actual loss of function of at least a single train for greater than its TS allowed outage time OR two separate safety systems out-of-service for greater than its TS allowed outage time, and (4) did not represent an actual loss of function of one or more non-TS trains or equipment designated as high safety significant in accordance with the licensee's Maintenance Rule Program for greater than 24 hours. Although individual floor drains were not functional, the licensee subsequently evaluated the nonconforming conditions and concluded adequate water removal capability existed such that safety-related SSCs in the areas would remain operable or functional.

The inspectors determined this finding affected the cross-cutting area of human performance and the resources aspect due to the licensee's failure to ensure procedures and other resources were available and adequate to support nuclear safety (IMC 0310, H.1). Specifically, the licensee's processes and procedures lacked appropriate guidance to enable licensed senior reactor operators to perform functionality

assessments for degraded and/or nonconforming conditions affecting functions described in the CLB.

Enforcement: No violation of regulatory requirements was identified because the examples of degraded and/or nonconforming conditions involved non-safety-related plant SSCs. This issue was determined to be a finding **(FIN 05000341/2015001–02, Failure to Perform Functionality Assessments for Degraded and Nonconforming Plant Conditions)**. The licensee entered this finding into its CAP as CARD 15–21063 to identify a functionality assessment process did not exist within its procedures and to investigate recommended process and procedure improvements.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

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

- WO U367130100, Replace 10-Year Components Required by NE–6.6–EQMS.070 (T50–F450 Primary Containment Radiation Monitoring System Inlet Isolation Valve);
- WO 34062390, Replace Motor Bearings for R3000C002–EDG 12 Fuel Oil Transfer Pump A;
- WO 36958195, Replace EDG 13 Tachometer Relays;
- WO 37103504, Inspect/Test 260 Volt Direct Current Motor Control Center Bucket 2PA–1–2A–Feeds E5150F010;
- WO 42514834, Replace EDG 13 Jacket Cooling System Heater and Molded Case Circuit Breaker;
- WO 32830704, Contingency WO for 72C–F Throw-Over;
- WO 42745507, Reactor Recirculation Motor ‘A’ Cooling Water Flow Switch Leaking; and
- WO 42759937, Leak Found on #2 Drywell Cooler–Plug Leak.

The inspectors reviewed the scope of the work performed and evaluated the adequacy of the specified post-maintenance testing. The inspectors verified the post-maintenance testing was performed in accordance with approved procedures; the procedures contained clear acceptance criteria that demonstrated operational readiness, and the acceptance criteria were met; appropriate test instrumentation was used; the equipment was returned to its operational status following testing; and the test documentation was properly evaluated.

In addition, the inspectors verified problems associated with post-maintenance testing were entered into the licensee's corrective action program with the appropriate characterization and significance. Selected CARDs were reviewed to verify corrective actions were appropriate and implemented as scheduled. Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings were identified.

1R20 Outage Activities (71111.20)

.1 Unit 2 Forced Outage (FO 15–01)

a. Inspection Scope

On March 19, the unit automatically scrammed due to actuation of the Reactor Protection System function of OPRM Upscale. The unit had just transitioned to single loop operation after operators secured a reactor recirculation pump due to the loss of its normal and emergency cooling water supply. The unit was restarted on April 3 and full power was achieved on April 6.

The inspectors evaluated the licensee's conduct of FO 15–01 (2015 Forced Outage Number 1) activities to assess the control of plant configuration and management of shutdown risk. The inspectors reviewed configuration management to verify the licensee maintained defense-in-depth commensurate with the shutdown risk plan, and reviewed major outage work activities to ensure correct system lineups were maintained for key mitigating systems. Other major outage activities evaluated included the licensee's control of the following:

- containment penetrations in accordance with the TSs;
- SSCs that could cause unexpected reactivity changes;
- flow paths, configurations, and alternate means for Reactor Coolant System inventory addition;
- Reactor Coolant System level instrumentation;
- radiological work practices;
- fatigue management, as required by 10 CFR 26, Subpart I;
- switchyard activities and the configuration of electrical power systems in accordance with the TSs and shutdown risk plan; and
- SSCs required for decay heat removal and for establishing alternate means for decay heat removal, including instrumentation.

The inspectors observed portions of the plant cool down to verify the licensee controlled the plant cool down in accordance with the TSs. The inspectors also observed portions of the restart activities including reactor startup and plant heat up to verify TS requirements and administrative procedure requirements were met prior to changing operational modes or plant configurations. Major restart inspection activities performed included:

- verification that Reactor Coolant System boundary leakage requirements were met prior to entry into Mode 2;
- verification that primary and secondary containment integrity was established prior to entry into Mode 2; and
- inspection of the drywell to assess material condition and search for loose debris, which, if present, could block floor drains or be transported to the containment suppression pool.

The inspectors interviewed operations, engineering, work control, radiological protection, and maintenance department personnel and reviewed selected procedures and documents.

In addition, the inspectors verified problems associated with the conduct of outage activities were entered into the licensee's corrective action program with the appropriate characterization and significance. Selected CARDs were reviewed to verify corrective actions were appropriate and implemented as scheduled. Documents reviewed are listed in the Attachment to this report.

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

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed surveillance testing 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:

- 24.208.03, Division 2 EESW and EECW M/U [Makeup] Pump and Valve Operability Test, Revision 73, Section 5.4, EECW M/U Comprehensive Pump Test;
- 24.107.03, Standby Feedwater Pump and Valve Operability and Lineup Verification Test, Revision 41, Section 5.2, Standby Feedwater Pump A Flow Test;
- 24.204.01, Division 1 LPCI and Suppression Pool Cooling/Spray Pump and Valve Operability Test; and
- 24.204.06, Division 2 LPCI and Torus Cooling/Spray Pump and Valve Operability Test.

The inspectors observed selected portions of the test activities to verify the testing was accomplished in accordance with plant procedures. The inspectors reviewed the test methodology and documentation to verify equipment performance was consistent with safety analysis and design basis assumptions, 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, and appropriate testing acceptance criteria were satisfied. When applicable, the inspectors also verified test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared inoperable.

In addition, the inspectors verified surveillance testing issues were entered into the licensee's corrective action program with the appropriate characterization and significance. Selected CARDs were reviewed to verify corrective actions were appropriate and implemented as scheduled. Documents reviewed are listed in the Attachment to this report.

This inspection constituted four in-service test surveillance inspection samples as defined in IP 71111.22.

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 scheduled licensee emergency drill on February 24 to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The drill was planned to be evaluated and was included in the performance indicator data regarding drill and exercise performance. The inspectors observed emergency response operations in the Control Room Simulator, Technical Support Center, and Emergency Operations Facility to determine whether the event classifications, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the licensee's drill critique to compare any inspector-observed weaknesses with those identified by the licensee's staff in order to evaluate the critique and to verify whether the licensee's staff was properly identifying weaknesses and entering them into the corrective action program. As part of the inspection, the inspectors reviewed the drill package and other documents.

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

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Unplanned Scrams per 7,000 Critical Hours

a. Inspection Scope

The inspectors verified the Unplanned Scrams per 7,000 Critical Hours Performance Indicator. To determine the accuracy of the performance indicator data reported, performance indicator definitions and guidance contained in Nuclear Energy Institute (NEI) 99–02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, was used. The inspectors reviewed each Licensee Event Report (LER) from January 1 through December 31, 2014, determined the number of scrams that occurred, and verified the licensee's calculation of critical hours. The inspectors also reviewed the licensee's corrective action program database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator

and none were identified. The inspectors noted there were no unplanned scrams reported by the licensee in 2014.

b. Findings

(1) Unplanned Scrams per 7,000 Critical Hours Performance Indicator Question

Introduction: The inspectors identified an Unresolved Item (URI) related to a manual reactor scram on February 10, 2014, that was not reported against the Unplanned Scrams per 7,000 Critical Hours Performance Indicator.

Description: On February 10, 2014, the licensee was lowering reactor power using a combination of reactor recirculation flow and control rods to enter a refueling outage. Normally, the licensee's general operating procedures governing plant shutdown would direct operators to lower power to about 20 percent before inserting a manual reactor scram. However, at about 66 percent power, the control rod select logic function of the Control Rod Position Indication System malfunctioned, resulting in an inability to manually move control rods. Both insertion and withdrawal of individual control rods were unavailable; however, the safety-related function to manually or automatically insert all rods to scram the reactor remained available. The licensee made a decision to revise its operating procedure, creating a completely new section directing operators to initiate a manual scram if the control rod select function was not working and the reactor was less than 75 percent power. Based on the fact that a scram was the desired outcome to enter the refueling outage and the malfunction with the control rod select logic was added to the general operating procedure, the licensee regarded this as a planned scram and did not report it against the performance indicator.

Based on review of the NEI 99–02 performance indicator reporting guidance, the inspectors questioned the licensee's decision not to report this scram against the performance indicator. Although scrams that are part of a normal planned operation or evolution (e.g., a scram initiated from 35 percent power or less during a planned plant shutdown) are not counted against the performance indicator per the NEI 99–02 guidance, the licensee does not normally scram from 66 percent power in the course of a normal plant shutdown and did not originally plan to do so. The licensee made a change to its operating procedure as a work-around for an equipment failure to allow operators to scram from a much higher power than the procedure normally directed.

This issue is considered a URI **(URI 05000341/2015001–03, Unplanned Scrams per 7,000 Critical Hours Performance Indicator Question)** pending final resolution of open questions regarding interpretation of the performance indicator guidance.

.2 Unplanned Scrams with Complications

a. Inspection Scope

The inspectors verified the Unplanned Scrams with Complications Performance Indicator. To determine the accuracy of the performance indicator data reported, performance indicator definitions and guidance contained in NEI 99–02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, was used. The inspectors reviewed each LER from January 1 through December 31, 2014, determined the number of scrams that occurred, and evaluated each of the scrams against the performance indicator definition. The inspectors also reviewed the licensee's corrective action

program database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. The inspectors noted there were no unplanned scrams with complications reported by the licensee in 2014.

This inspection constituted one Unplanned Scrams with Complications Performance Indicator verification inspection sample as defined in IP 71151.

b. Findings

No findings were identified.

.3 Unplanned Power Changes per 7,000 Critical Hours

a. Inspection Scope

The inspectors verified the Unplanned Power Changes per 7,000 Critical Hours Performance Indicator. To determine the accuracy of the performance indicator data reported, performance indicator definitions and guidance contained in NEI 99–02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, was used. The inspectors reviewed power history data from January 1 through December 31, 2014, determined the number of power changes greater than 20 percent of full power that occurred, evaluated each of the power changes against the performance indicator definition, and verified the licensee's calculation of critical hours. The inspectors also reviewed the licensee's corrective action program database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. The inspectors noted there were no unplanned power changes reported by the licensee in 2014.

This inspection constituted one Unplanned Power Changes per 7,000 Critical Hours Performance Indicator verification inspection sample as defined in IP 71151.

b. Findings

No findings were identified.

.4 Safety System Functional Failures

a. Inspection Scope

The inspectors verified the Safety System Functional Failures Performance Indicator. To determine the accuracy of the performance indicator data reported, performance indicator definitions and guidance contained in NEI 99–02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, was used. The inspectors reviewed each LER from January 1 through December 31, 2014, determined the number of safety system functional failures that occurred, evaluated each LER against the performance indicator definition, and verified the number of safety system functional failures reported. The inspectors also reviewed the licensee's corrective action program database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. The inspectors noted there was one safety system functional failure reported by the licensee in 2014.

This inspection constituted one Safety System Functional Failures Performance Indicator verification inspection sample as defined in IP 71151.

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

As 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 corrective action program at an appropriate threshold, adequate attention was being given to timely corrective actions, and adverse trends were identified and addressed. Some minor issues were entered into the licensee's corrective action program as a result of the inspectors' observations; however, they are not discussed in this report.

This inspection was not considered to be an inspection sample as defined in IP 71152.

b. Findings

No findings were identified.

.2 Annual In-depth Review Samples

a. Inspection Scope

The inspectors selected the following issues for in-depth review:

- CARD 14–23163, Oil Leak on Center Phase of Main Power Transformer 2B Resulted in Forced Outage; and
- CARD 15–20954, Received 2D36 NSSSS [Nuclear Steam Supply Shutoff System] Isolation Channel B/D Trip Alarm.

As appropriate, the inspectors verified the following attributes during their review of the licensee's corrective actions for the above CARDs and other related CARDs:

- complete and accurate identification of the problem in a timely manner commensurate with its safety significance and ease of discovery;
- consideration of the extent of condition, generic implications, common cause, and previous occurrences;
- evaluation and disposition of operability/functionality/reportability issues;
- classification and prioritization of the resolution of the problem, commensurate with safety significance;
- identification of the root and contributing causes of the problem; and
- identification of corrective actions, which were appropriately focused to correct the problem.

The inspectors discussed the corrective actions and associated evaluations with licensee personnel.

This inspection constituted two annual in-depth review inspection samples as defined in IP 71152.

b. Findings and Observations

No findings were identified.

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors reviewed repetitive or closely related issues documented in the licensee's CAP to look for trends not previously identified. This included a review of the licensee's quarterly trend coding and analysis reports to assess the effectiveness of the licensee's trending process. The inspectors also reviewed selected CARDs regarding licensee-identified potential trends to verify that corrective actions were effective in addressing the trends and implemented in a timely manner commensurate with the significance.

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

b. Assessment and Observations

No findings were identified.

(1) Overall Effectiveness of Trending Program

The inspectors determined the licensee's trending program was generally effective at identifying, monitoring, and correcting adverse performance trends. This has been reflected in the licensee's quarterly trend coding and analysis reports. The inspectors reviewed several common cause evaluations performed by the licensee to evaluate potential adverse performance and equipment trends. In general, these evaluations were performed well and identified appropriate corrective actions to address adverse trends that were identified. The inspectors did not identify any additional adverse performance trends.

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

.1 Operation Above the Licensed Thermal Power Limit

a. Inspection Scope

On March 10, Unit 2 reactor power exceeded the licensed thermal power limit of 3486 megawatts (MWTH) due to licensed reactor operators not appropriately monitoring reactor power and managing a Xenon transient in progress after returning the unit to full power following an emergent maintenance activity. The inspectors reviewed Control Room logs, plant procedures, plant process computer data, and the licensee's initial investigation and corrective actions for the event.

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

b. Findings

Introduction: A finding of very low safety significance (Green) with an associated NCV of the Fermi 2 Facility Operating License (NPF–43), Condition 2.C.(1), "Maximum Power Level," was self-revealed on March 10. Licensed reactor operators in the Control Room failed to appropriately monitor and control reactor power during a Xenon transient following manual reactivity manipulations and allowed reactor power to exceed the licensed thermal power limit for 16 minutes.

Description

On March 9, while performing a scheduled surveillance test of the automatic transfer (or throw-over) of 480–volt bus 72CF, the automatic transfer feature failed. This resulted in inoperability of both LPCI subsystems. As required by TS 3.5.1, Condition K, the licensee entered TS 3.0.3, requiring entry into Mode 2 within 7 hours. Accordingly, the licensee commenced a reactor shutdown at 4:15 p.m. and initiated maintenance to correct the problem. Reactor operators stabilized reactor power at about 81.5 percent when it appeared a resolution of the problem would allow exiting TS 3.5.1, Condition K, and TS 3.0.3. After completing corrective maintenance and returning both LPCI subsystems to an operable status to satisfy the TS requirements, the licensee returned the reactor to 100 percent power at 11:59 p.m.

On March 10, at 12:36 a.m., a Control Room annunciator alerted reactor operators that the 10-minute thermal power average had exceeded 100 percent. A Xenon transient was in progress due to the plant power changes that had just occurred, which at the time was causing reactor power to increase. Reactor operators had inadvertently allowed reactor power to exceed the 100 percent licensed thermal power limit of 3486 MWTH. Upon receiving the annunciator, reactor operators promptly reduced reactor power below 100 percent. The licensee initiated CARD 15–21824 to investigate the cause of the event and identify appropriate corrective actions.

The inspectors reviewed the licensee's initial investigation, which concluded licensed reactor operators' monitoring of reactor power was not adequate following the planned power ascension to 100 percent. Reactor power was increasing due to the burnout of Xenon, a reactor phenomenon well known by reactor operators in general. However, in this instance, operators shifted their focus on power monitoring too early and actions required to lower power were not performed at a frequency required by the existing plant conditions. The licensee's investigation further concluded: "Continuous and focused monitoring of reactor power should have been maintained until the magnitude of the effects of the Xenon transient were understood and compensated for. This is the normal expectation and practice, but a gap in performance occurred." The inspectors noted this expectation was clearly delineated in Operations Conduct Manual MOP–19, "Reactivity Management," Revision 20, Section 5.7. Specifically, Step 5.7.2 stated: "Monitoring frequency should be increased following changes in core power or flow, and during Xenon transients." In addition, Step 5.7.3 stated: "Operators shall anticipate, control, and respond to plant parameters in order to maintain the reactor in the desired condition."

The inspectors determined this operation in excess of 3486 MWTH for 16 minutes was in violation of the Fermi 2 Plant operating license. Based on the cause of the event (i.e., human error) and the duration of the transient, the inspectors concluded the power excursion above the licensed thermal power limit was not due to normal fluctuations of plant parameters while operating under steady state conditions at or near the licensed thermal power limit.

Analysis: The inspectors determined the licensee's failure to appropriately monitor and control reactor power during a Xenon transient following manual reactivity manipulation, which resulted in reactor power exceeding the licensed thermal power limit, was a performance deficiency warranting a significance evaluation. This issue was a performance deficiency because the licensee did not meet its reactivity management standard Operations Conduct Manual MOP–19, "Reactivity Management," Revision 20. The inspectors reviewed the examples of minor issues in IMC 0612, "Power Reactor Inspection Reports," Appendix E, "Examples of Minor Issues," dated August 11, 2009, and noted there were three examples related to adherence to thermal power limits. However, the inspectors determined these examples were not useful in evaluating this issue since they considered deviations from steady state power operations that resulted in exceedance of thermal power limits and did not address reactivity management during transient conditions following large power changes to achieve 100 percent reactor power. Consistent with the guidance in IMC 0612, Appendix B, "Issue Screening," dated September 7, 2012, the inspectors determined the performance deficiency was a finding of more than minor safety significance, and thus a finding, because, if left uncorrected, the performance deficiency has the potential to lead to a more significant safety concern. Specifically, operation above the licensed power limit reduced the analyzed margins to fuel cladding failure and could result in unanalyzed consequences during an initiating event.

In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Initial Characterization of Findings," Table 3, "SDP Appendix Router," dated June 19, 2012, the inspectors determined this finding affected the Mitigating Systems Cornerstone, specifically the Reactivity Control Systems contributor, and would require review using IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012. The inspectors performed a Phase 1 SDP review of this finding using the guidance provided in IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," and determined this finding would require evaluation using IMC 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," dated April 4, 2012, because the finding was the result of a mismanagement of reactivity by licensed reactor operators (e.g., reactor power exceeding the licensed power limit, inability to anticipate and control changes in reactivity during operations). The inspectors concluded the finding was of very low safety significance (Green) based on a qualitative evaluation of the conditions and consequences of the performance issue. The maximum power reached was 100.24 percent. Operators promptly reduced reactor power below 100 percent after the annunciator alerted them of the over-power condition. The inappropriate monitoring and control of reactor power during the Xenon transient did not result in exceeding the 2 percent reactor thermal power allowance contained in the safety analysis. Therefore, assumptions contained in the safety analysis remained bounded for this event.

The inspectors determined this finding affected the cross-cutting area of human performance and the procedure adherence aspect due to the licensee's failure to ensure

individuals follow processes, procedures, and work instructions (IMC 0310, H.8). Specifically, the licensee did not effectively communicate expectations of procedural compliance in that licensed reactor operators did not appropriately monitor and control reactor power during a Xenon transient following manual reactivity manipulations.

Enforcement: Fermi 2 Facility Operating License (NPF–43), Condition 2.C.(1), "Maximum Power Level," specified, in part, the licensee is authorized to operate the facility at reactor core power levels not in excess of 3486 MWTH (100 percent power).

Contrary to the above, on March 10, 2015, from 12:22 a.m. to 12:38 a.m. the licensee operated Fermi Unit 2 in excess of the licensed thermal power limit for approximately 16 minutes. Because this violation was not repetitive or willful, and was entered into the licensee's corrective action program, it is being treated as a NCV, consistent with Section 2.3.2.a of the NRC Enforcement Policy **(NCV 05000341/2015001–04, Operation Above the Licensed Thermal Power Limit)**. The licensee entered this violation into its CAP as CARD 15–21824.

.2 Reactor Scram Response

a. Inspection Scope

On March 19, the unit automatically scrammed from about 74 percent power due to actuation of the Reactor Protection System function of OPRM Upscale. The unit had just transitioned to single loop operation after operators secured a reactor recirculation pump due to the loss of its normal and emergency cooling water supply. After the pump was secured, reactor power lowered from 100 percent to about 62 percent power as designed. At this power level, the Heater Drains Pumping System stopped pumping forward, resulting in a loss of about one third of feedwater heating. Because of the increased sub-cooling due to the loss of the heater drains pumps, power began rising. At about 74 percent power, the OPRM Upscale logic actuated.

Upon notification of the cooling water leak in the Reactor Containment Drywell and loss of the reactor recirculation pump, the inspectors responded to the Control Room to observe plant operators' actions. The unit scrammed just as the inspectors arrived in the Control Room. The inspectors verified that operator response to the event was in accordance with plant procedures, post-scram plant parameters were as expected, and plant equipment responded as designed.

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

b. Findings

No findings were identified.

4OA6 Management Meetings

.1 Resident Inspectors' Exit Meeting

The inspectors presented the inspection results to Mr. P. Fessler and other members of the licensee's staff on April 14, 2015. The licensee acknowledged the findings

presented. Proprietary information was examined during this inspection, but is not specifically discussed in this report.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

J. Auler, Principal Engineer, Nuclear Engineering
N. Avrakotos, Manager, Radiological Emergency Response Preparedness
S. Berry, Manager, Outage and Work Management
S. Bollinger, Manager, Performance Improvement
R. Breymaier, Supervisor, Performance Engineering
J. Chase, Supervisor, Fire Protection
D. Coseo, Supervisor, Regulatory Compliance
J. Ford, Director, Organization Effectiveness
D. Hemmele, Superintendent, Operations
V. Kaminskas, Vice President, Nuclear Generation
E. Kokosky, Manager, Nuclear Quality Assurance
R. LaBurn, Manager, Radiation Protection
W. Paul, Engineer, Regulatory Compliance
M. Philippon, Director, Nuclear Production
J. Pendergast, Principal Engineer, Regulatory Compliance
L. Peterson, Director, Nuclear Engineering
G. Piccard, Manager, Systems Engineering
C. Robinson, Manager, Licensing
K. Scott, Director, Nuclear Work Management
G. Strobel, Manager, Operations
J. Thorson, Manager, Performance Engineering and Fuels
H. Yeldell, Manager, Maintenance

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000341/2015001–01	FIN	Failure to Correct a Nonconforming Condition Adversely Affecting Plant Safety with the Reactor Building Steam Tunnel Floor Drain (Section 1R06.1)
05000341/2015001–02	FIN	Failure to Perform Functionality Assessments for Degraded and Nonconforming Plant Conditions (Section IR15)
05000341/2015001–03	URI	Unplanned Scrams Per 7,000 Critical Hours Performance Indicator Question (Section 4OA1.1)
05000341/2015001–04	NCV	Operation Above the Licensed Thermal Power Limit (Section 4OA3.1)

Closed

05000341/2015001–01	FIN	Failure to Correct a Nonconforming Condition Adversely Affecting Plant Safety with the Reactor Building Steam Tunnel Floor Drain (Section 1R06.1)
05000341/2015001–02	FIN	Failure to Perform Functionality Assessments for Degraded and Nonconforming Plant Conditions (Section IR15)
05000341/2015001–04	NCV	Operation Above the Licensed Thermal Power Limit (Section 4OA3.1)

LIST OF DOCUMENTS REVIEWED

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

1R01 Adverse Weather Protection

- CARD 15–00393; "Icing Prevent System Trouble" Locked in for North Cooling Tower on W24P400
- CARD 15–20440; Potential for P1100 Header to Freeze and Burst in the Reactor Building Airlock
- Procedure 27.000.04; Freeze Protection Lineup Verification; Revision 48
- Procedure 27.000.07; Cold Weather Operations; Revision 5

1R04 Equipment Alignment

- Apparent Cause Evaluation CARD 12–22077; Division 1 CS Minimum Flow Valve E2150F031A Failure to Close; March 17, 2012
- Apparent Cause Evaluation CARD 13–21995; Division 1 CS Minimum Flow Valve E2150F031A Failure to Open; September 6, 2013
- CARD 12–22077; Division 1 CS System Minimum Flow Valve Failure to Open During 24.203.02
- CARD 12–22783; E2100 F032A Flange Visibly Misaligned ("Cocked")
- CARD 12–23741; While Performing 24.203.04 Section 5.4 E2100F006B Failed to Move
- CARD 13–21995; Division 1 Core Spray Pump Minimum Flow Valve Failed to Open on Low Flow During 24.203.02 Section 5.1
- CARD 13–22156; Failed Effectiveness Review for Level 2 Apparent Cause Evaluation 12–22077
- CARD 14–21654; Indication on E2100F003B In–Body Seat
- CARD 14–21842; Failed Post–Maintenance Testing – E2100F006A Position Indication Failed Post-Maintenance Testing
- CARD 14–22153; Generic Letter 2008–01 Ultrasonic Testing Examination: Preventive Maintenance Event X059 (Void Detected Upstream of E2150D002B)
- CARD 14–22243; Generic Letter 2008–01 Ultrasonic Testing Examination: Void Detected Upstream of E2150D002B During RF–16
- CARD 14–22253; GL 08–01 Ultrasonic Testing Examination: Preventive Maintenance Event X057 Voids Detected Upstream of E2150D002A During RF–16
- CARD 14–23686; E2100F011B CS Discharge Relief Valve Insulation Removed
- CARD 15–00010; Packing Leak on Division 1 CS Keep Fill Pressure Control Valve
- Drawing 6M721–2015; Station and Control Air Diagram; Revision CG
- Drawing 6M721–2034; CS System Reactor Building; Revision AQ
- Drawing 6M721–2083; RHR – Division 2; Revision BQ
- Drawing 6M721N–2046; Diesel Generator System – Division 1 – RHR Complex; Revision AE
- Drawing 6M721N–2053; RHR Service Water System – Division 2 – RHR Complex; Revision AH
- Drawing 6M721–5707; CS System Functional Operating Sketch; Revision AE
- Equipment Apparent Cause Evaluation CARD 13–21995; Division 1 CS Minimum Flow Valve E2150F031A Failure to Open; March 19, 2013

- Evaluation 12–22077; Division 1 CS Minimum Flow Valve E2150F031A Failure to Close; Revision 1
- Fermi 2 Inservice Testing Program for Pumps and Valves; Part 3: Inservice Testing Pump Scope Table; Revision 0
- Fermi 2 Inservice Testing Program for Pumps and Valves; Part 5: Inservice Testing Pump Scope Table; Revision 0
- Fermi 2 Inservice Testing Program for Pumps and Valves; Part 6: Inservice Testing Check Valve Condition Monitoring Plans; Revision 0
- Letter From Detroit Edison; Failure Analysis of GE HMA Relay and Barton Low Micro-Switch; April 3, 2013
- Procedure 23.129; Station and Control Air System; Revision 104
- Procedure 23.203; CS System; Revision 58
- Procedure 23.208; RHR Complex Service Water Systems; Revision 106
- Procedure 23.307; EDG System; Revision 120
- Procedure 24.203.01; CS System Discharge Piping Filled and Valve Position Verification; Revision 26
- System Health Report; CS System (E2100), Fourth Quarter 2014
- WO 33920349; Perform Ultrasonic Testing Examination of Piping Upstream of E2150D002A
- WO 33920399; Perform Ultrasonic Testing Examination of Piping Upstream of E2150D002B
- WO 34357706; Perform 24.203.02 Section 5.3 Division 1 CS System Auto Act E2150F005A Only
- WO 34357708; Perform 24.203.04; Section 5.3 Division 1 CS System Valve Position Indication Verification Test
- WO 34379075; Perform 24.203.02 Section 5.3 Division 2 CS System Auto Act E2150F005B Only
- WO 34393508; Perform 24.203.04 Section 5.4 Division 2 CS System Valve Position Indication Verification Test
- WO 35347708; Perform 24.203.04 Section 5.3 Division 1 CS System Valve Position Indication Verification Test
- WO 36395657; Perform 24.203.02 Section 5.1 Division 1 CS System Pump and Valve Operability Test
- WO 36432825; Perform 24.203.03 Section 5.1 Division 2 CS System Pump and Valve Operability Test
- WO 36479951; Perform 24.203.04 Section 5.2 Division 2 CS System Cold Shutdown Valve Operability
- WO 36513095; Perform 24.203.04 Section 5.1 Division 1 CS System Cold Shutdown Valve Operability
- WO 36898989; Perform 24.203.02 Section 5.2 Division 1 CS System Simulated Automatic Actuation Test
- WO 36947893; Perform 24.203.03 Section 5.2 Division 2 CS System Simulated Automatic Actuation Test
- WO 38103421; Perform Partial 24.203.04 Section 5.3 Division 1 CS System Valve Position Indication Verification Test for E2100–F006A Only
- WO 38140524; Perform Partial 24.203.04 Section 5.4 Division 2 CS System Valve Position Indication Verification Test for E2100–F006B Only

1R05 Fire Protection

- CARD 15–21426; NRC Identified Improper Storage
- Drawing 6A721–2412; Turbine Building Basement Floor Plan Evaluation 564'–00"; Revision G
- Fermi 2 UFSAR; Section 9A.4.1, Reactor Building; Revision 18

- Fermi 2 UFSAR; Section 9A.4.2, Auxiliary Building; Revision 18
- Fermi 2 UFSAR; Section 9A.4.3, RHR Complex; Revision 18
- Fermi 2 UFSAR; Section 9A.4.5, Turbine Building; Revision 18
- Fire Protection Procedure FP–RB–Drywell; Revision 2
- Procedure FP–TB; Turbine Building; Revision 9
- Procedure 20.000.22; Plant Fires; Revision 44
- Procedure MES35; Engineering Support Conduct Manual, Chapter 35 – Fire Protection; Revision 18

1R06 Flood Protection Measures

- CARD 11–23441; IER 11–1 Potential Vulnerability – Floor Drain Maintenance
- CARD 12–20576; Reactor Building–1 Steam Tunnel Floor Drains Not Working Properly
- CARD 12–27314; Blockage Experienced in Floor Drains
- CARD 12–28991; IER 11–1 Self-Assessment Finding – Validation of Reactor Building Floor Drains in Support of DC–5426
- CARD 12–29245; Reactor Building Northwest Corner Sump Flood Level Detector/Transmitter Has Failed
- CARD 12–29961; Maintenance Rule Functional Failure Evaluation Required for "12–29245–RB NW Corner Sump Flood Level Detector/Transmitter Has Failed"
- CARD 13–21204; G1100 Radwaste System is Near A(1) Status by Exceeding 50 Percent of its Allowed Performance Criteria
- CARD 14–21439; Clogged Drain Needs Cleared
- CARD 14–23341; G1100, Radwaste, Enters Near (a)(1) Status
- CARD 14–25133; First Time Performance Scheduling and Tracking Event RL38 "Perform Flushing of HELB/MELB Credited Floor Drains" Needs Revised
- CARD 14–26514; Drain Needs to be Unclogged/Housekeeping Is Required of RCIC Trench
- CARD 14–27057; Failure of Lower Modicon Unit in G11–P604 Panel
- CARD 14–28039; G1100, Radwaste, Enters Near (a)(1) Status
- CARD 15–20848; NRC Identified Concern With Floor Drain 75–29 History
- CARD 15–21403; Evaluate Issues With Completion of WO 34011554 in RF–15
- Design Calculation `DC–5110; Main Steam and Feedwater Line Break in the Steam Tunnel; Volume Number 1; Revision A
- Design Calculation DC–5426, “PBOC High and Moderate Energy Line Break Evaluation,” Volume I, Revision C
- Technical Evaluation TE–T45–14–043; Evaluation of Blocked Drain #75–29 in the Reactor Building Steam Tunnel; Revision 0
- Work Control Conduct Manual MWC–02 “Work Management Process”; Revision 34
- WO 34011554; Reactor Building–1 Steam Tunnel/Floor Drains Not Working Properly
- WO 34126895; Perform Floor Drain Flushing as Required to Assure Drains Are Clean/Clog Free
- WO 37005461; Perform Flushing of High Energy Line Break/Medium Energy Line Break Credited Floor Drains – Any Mode

1R11 Licensed Operator Requalification Program

- Procedure 20.000.21; Reactor Scram; Revision 65
- Procedure 20.127.01; Loss of Reactor Building Closed Cooling Water System; Revision 30
- Procedure 20.138.01; Recirculation Pump Trip; Revisions 45 and 46
- Procedure 23.623; Reactor Manual Control System; Revision 64
- Procedure 29.100.01; Reactor Pressure Vessel Control; Revision 14

1R12 Maintenance Effectiveness

- CARD 12–24064; Rod 46–19 Has Mission Position Indicating Probe (PIP) Position Points
- CARD 13–20127; 24.208.03 Division 2 EECW M/U Pump Test Line Pressure High Out of Specification
- CARD 13–27135; Failed Acceptance Criteria for Leakage Past P4400F625B While Performing 24.208.03
- CARD 13–27136; Engineering Evaluate Past Operability Per 24.208.03 Step 5.2.21
- CARD 13–27245; Perform Common Cause Analysis
- CARD 13–27305; Stroke Time for P4400F504B
- CARD 13–27967; Pressure on Temperature Press Instrument Outside of Required Band
- CARD 13–28674; Received 3D114, Local Power Range Monitor Upscale
- CARD 14–20053; EECW Crosstie Valve Stroke Time Outside Inservice Testing Limits
- CARD 14–20054; System Engineer Recommendation: Swap Inservice Division 1 EECW Heat Exchanger
- CARD 14–20055; Could Not Throttle P4400F633B to Establish Pressure in Band
- CARD 14–20248; Rod Position Indication System Near a(1) Under Maintenance Rule
- CARD 14–20891; Received 3D18 IPCS Monitored Inputs Abnormal for Point C11DC0129 Rod Position Indication System Inoperative
- CARD 14–21017; Source Range Monitor 'B' Reading 10 Times Higher Than Normal After Being Agitated During Under Vessel Work
- CARD 14–21051; Indication of Loose PIP Connection on Hydraulic Control Unit 34–03
- CARD 14–21196; Get Well Plan for U4100 (TBHVAC) Was Not Updated After a Maintenance Preventable Functional Failure Was Determined
- CARD 14–21467; Intermediate Range Monitor G Counts Raised Unexpectedly
- CARD 14–21612; While Performing a Dry Run Under Vessel, Intermediate Range Monitor B Failed Upscale and Caused a Half Scram
- CARD 14–21776; Loose PIP Connection on Rod 30–03
- CARD 14–21825; Missing PIP Indications From February 20, 2014 Full Core Scram
- CARD 14–22337; C1107 Rod Position Indication System Exceeded Maintenance Rule Performance Criteria
- CARD 14–22350; R1400 Exceeds Maintenance Rule Performance Criteria/Near (a)(1) Criteria
- CARD 14–22439; CR 42–51 PIP at 02 Not Indicating
- CARD 14–22743; Intermediate Range Monitor B Upscale Trip Due to Under Vessel Work
- CARD 14–22911; Intermediate Range Monitor A Failed Downscale
- CARD 14–22912; Incomplete Corrective Maintenance in RF–16 (SE–HEALTH– WO)
- CARD 14–23129; Local Power Range Monitor 48–17B Indicates Downscale and Has No Response During Local Power Range Monitor Flux Response Test
- CARD 14–23247; Intermediate Range Monitor A Reading Low
- CARD 14–23288; CARD Submitted Per 24.208.03 5.2.21 Pressure Out of Required Range EECW M/U Pump
- CARD 14–23290; Failed Acceptance Criteria
- CARD 14–23297; Intermediate Range Monitor "A" Detector Replacement
- CARD 14–23363; P7300 Maintenance Rule Functions and Performance Criteria Do Not Align
- CARD 14–23616; Unexpected Loss of Heater Drains While Lowering Reactor Power
- CARD 14–23623; Maintenance Rule Expert Panel Placed C1107 System in (a)(1) Status
- CARD 14–23625; System Monitoring Under Maintenance Rule Program Identified Adverse Trend of PIP Failures
- CARD 14–24082; S1100 (Generator Transformer) Near a(1)
- CARD 14–24501; Establish Maintenance Rule Functions and Performance Criteria for Additional Structures

- CARD 14–24762; T50–F412B (Division 2 Torus Level Instruments Valve) Indicates Dual After Opening
- CARD 14–25309; Characterization of Outage Extension Losses Required for Maintenance Rule
- CARD 14–25395; Division 1 EECW Temperature Control Valve Indication Slowly Trending Closed
- CARD 14–25521; Bent Positioner Linkage on Division 2 EECW Temperature Control Valve Positioner
- CARD 14–25729; Division 1 EECW Temperature Control Valve Indication Drifting
- CARD 14–25869; Local Power Range Monitor 32–17B Failed Upscale
- CARD 14–26039; Marotta Regulator for P44F400A is Out of Tolerance
- CARD 14–26097; Division 1 EECW Temperature Control Valve Indication Slowly Trending Closed
- CARD 14–26257; P44F400A Flow Controller Indicating Less Than 100 Percent Open
- CARD 14–26301; Control Rods 18–27 and 30–27 Missing Position Indication
- CARD 14–26773; T50–F412B (PCAM PC Torus Level Monitor Division 2 SOV) Indicating Dual
- CARD 14–27591; Non Linear Condition on the Valve Positioner
- CARD 14–27627; P44–F400B Stroke Time Does Not Meet Acceptance Criteria
- CARD 14–27710; Failed Acceptance Criteria – Open Stroke Time too Slow
- CARD 14–27726; P44F400B Valve Stroke Outside Inservice Testing Limit, But Within Owner Specified Limit
- CARD 14–27871; Unexpected Data Point Discovered During 24.208.03 Surveillance Review
- CARD 14–28103; Received Local Power Range Monitor Upscale Alarm on Local Power Range Monitor 24–49B
- CARD 14–29077; Received Momentary (5 Seconds) Local Power Range Monitor Upscale Condition on Local Power Range Monitor 24–49B Which Feeds Average Power Range Monitor 4
- CARD 14–29426; P4400F625A Division 1 M/U Pump Discharge Check Valve Failure to Seat
- CARD 15–20075; P4400F504B Stroke Time Outside Inservice Testing Limits
- CARD 15–20228; Local Power Range Monitor 24–49B Upscale Feeding Average Power Range Monitor 4
- CARD 15–20836; 3D114, Local Power Range Monitor Upscale for Local Power Range Monitor 40–25a
- CARD 15–20982; Local Power Range Monitor 24–41B Upscale
- CARD 15–21017; Degrading Trend Local Power Range Monitors
- CARD 15–21771; Received Momentary Local Power Range Monitor Upscale Alarm on Average Power Range Monitor Number 2, Local Power Range Monitor 24–33B
- Get Well Plan; (a)(1) SSC: C1107 – Rod Position Indication System; Revision 0
- Get Well Plan; (a)(1) SSC: C5111 – Intermediate Range Monitoring Revision 7
- Local Power Range Monitor Detector – Associated Average Power Range Monitor/Local Power Range Monitor Chassis List 57.000.10; April 22, 2003
- Maintenance Rule Conduct Manual; Appendix E; Revision 19
- Plant Technical Procedure 23.607; Rod Block Monitoring System; Revision 18
- System Status C1100/C1107/CC1108; Reactor Manual Control System/Rod Position Indication System/Rod Worth Minimizer; Second Quarter, 2014
- System Status 5110; Source Range Monitors; Second and Third Quarters, 2014
- System Status 5111; Intermediate Range Monitors; Second and Third Quarters, 2014
- System Status C5112/C5113/C5114; Local Power Range Monitors; Second and Third Quarters, 2014

1R13 Maintenance Risk Assessments and Emergent Work Control

- CARD 15–20520; NRC Identified – Protected Equipment Posting Not in Place Per ODE–20; Attachment 6
- CARD 15–22093; Drywell Cooler Number 7 EECW Leak
- CARD 15–22112; Drywell Cooler Number 7 Does Not Pass Flatness Criteria
- CARD 15–22113; Drywell Cooler Number 7 Tubing Evaluation Needed
- CARD 15–22118; Improper Qualification of Drywell Cooler Number 7 for Grind/Repair Activities
- CARD 15–22159; Number 3 HPCV, Number 6 Pin Has Excessive Wear
- CARD 15–22199; Loss of Bus 102 While Syncing CTG11–3 to Grid
- CARD 15–22209; Observation During Loss of Bus 102 and TAG Line in the Emergency Operations Facility
- CARD 15–22223; Thread Engagement on Number 6 Pin
- Liquid Penetrant Examination Form for WO 42751683; March 23, 2015; Revision 28
- Operations Department Expectation ODE–20; Protected Equipment; Revision 15
- Scheduled Risk Profile Summary – Core Damage Frequency Risk Profile; Week of January 26, 2015
- Scheduled Risk Profile Summary – Large Early Release Frequency Risk Profile; Week of January 26, 2015

1R15 Operability Determinations and Functionality Assessments

- ARP 3D34; Secondary Containment Temperature High–High EOP Entry; Revision 8
- CARD 10–30404; NRC Question With 24.207.11
- CARD 12–20224; SLC Heater B Has No Power (Discovered During 24.139.03 Section 5.2)
- CARD 13–24798; SLC Storage Tank Heater Breaker Tripped
- CARD 13–27051; Insulation on C4100F031 Crushed and Buckle Broke Off
- CARD 13–28947; Negative Margin in the Open (Spring) Stroke
- CARD 13–28975; Blown Fuse in H21–P081 Panel
- CARD 14–20992; Hydraulic Pressure Failure for West Bypass Valve UA
- CARD 14–21139; Anti-Rotation Plate Welds Found Broken
- CARD 14–21295; Snubber N30–2186–G17 Failed Functional Test
- CARD 14–22132; Main Stream Snubbers Identified With Worn Attachments
- CARD 14–21869; Rigid Support E11–3151–G29 Is Bound Up
- CARD 14–21926; Rigid Support E11–3158–G46 Is Bound Up
- CARD 14–22329; Potentially Locked Up Snubbers N30–3259–G35 and N30–3249–G36
- CARD 14–25220; Inservice Testing Program Self–Assessment Recommendations (TMIS–14–0064)
- CARD 14–26150; EDG 13 Air Supply to Lube Oil Booster Vent Has Small Lube Oil Leak
- CARD 14–26291; 65F Undervoltage Relay XY–27A Did Not Meet Voltage as Found Tolerance
- CARD 14–26295; 65F Undervoltage Relay YZ–27A Did Not Meet Voltage as Found Tolerance
- CARD 14–26297; 65F Undervoltage Relay XN–27C Did Not Meet Voltage as Found Tolerance
- CARD 14–26298; 65F Undervoltage Relay YN–27C Did Not Meet Voltage as Found Tolerance
- CARD 14–26915; RHRSW Pump D Exceeded Inservice Testing Alert Criteria
- CARD 14–28843; 4160v Bus 64C Total as Found Time Delay Found Out of Specification High
- CARD 14–28853; Oil Leak
- CARD 14–28861; X4103F 152 Failed to Stroke While Performing IC13 WO 36657916

- CARD 14–29339; Fourteen Valves Found With Stroke Time Acceptance Criteria Discrepancies
- CARD 14–29452; 65F Loss of Voltage Relay Drift
- CARD 15–20081; 72E–5B 2C–R Breaker for SLC Heaters Keeps Tripping
- CARD 15–20622; Lower Lube Oil Booster Internal Corrosion
- CARD 15–20711; Past Operability Review for CARD 15–20622
- CARD 15–20813; Process Breakdown Lead to Inadequate Procedural Guidance
- CARD 15–20815; Error in DC–4324 Volume 1
- CARD 15–21008; Division 1 South CCHVAC Emergency Air Inlet Radiation Monitor Operate Light Lit With CCHVAC in Normal Mode
- CARD 15–21063; NRC Identified Issue – Functionality Assessment Process Gap
- CARD 15–21339; Mounting Screw Broke Off in Panel/Mounting Screw Missing
- CARD 15–21663; S6L Battery Conductance
- Design Calculation Number DC–5589; Volume Number 1; Revision C
- Drawing 29.100.01; Secondary Containment and RAD Release; Revision 9
- Drawing 6I721–2611–41; RX Building CS Emergency Equipment Cooler Number 1 and RCIC Cooler Number 2, Fans T4100B020 and T4100B021; Revision O
- DTE Memo; From W. Mayes to G. Otal; NRC Resident Question; March 11, 2015
- Engineering Support Conduct Manual, MES–27; Verification of System Operability; Revision 16
- Environmental Qualification EQ0–EF2–018; December 14, 2012; Revision L
- Fermi 2 UFSAR; 9.4.2 Reactor/Auxiliary Building Ventilation System; Revision 19
- Fermi 2 UFSAR; Table 3.9–27 ASME Code Class 2 and 3 Components; Revision 16
- Fermi 2 UFSAR; Table 3.11–4 Environmental Design of Areas Containing Safety-Related Equipment and Components – Outside Containment; Revision 16
- Fermi 2 UFSAR; Table 3.11–5 Design Environmental Conditions (Plant Operational); Revision 18
- Fermi 2 UFSAR; Table 3.2–1 SSCs Classification; Revision 19
- Inservice Inspection/Nondestructive Examination-Inservice Testing Program Evaluation; Snubber N30–2186–G17 Failed Functional Testing; February 18, 2014
- IMC 0326; Operability Determinations & Functionality Assessments for Conditions Adverse to Quality or Safety; January 31, 2014
- Operations Department Expectation ODE–11; CARD Operability/Reportability Determination Expectations; Revision 15
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- Procedure 24.139.03; SLC Manual Initiation, Reactor Water Cleanup Isolation, and Storage Tank Heater Operability Test; Revision 44
- Procedure 27.000.02; Shiftly, Daily, Weekly, and Situation Required Performance Evaluations; Revision 14
- Procedure 27.000.02; Shiftly, Daily, Weekly, and Situation Required Performance Evaluations; Revision 44
- Procedure 37.000.014; Emergency Lighting Performance Evaluation; Revision 52
- Quality Assurance Conduct Manual MQA–11; Condition Assessment Resolution Document; Revision 38
- T41–00; 6.2 Validation Conclusion and Open Item/Discrepancy List; Revision D
- Technical Evaluation TE–E11–14–031; Binding Evaluation of Rigid Supports; March 11, 2014
- Technical Evaluation TE–N30–14–026; Snubber N30–2186–G17 Functional Failure Evaluation; March 2, 2014

- Technical Evaluation TE–N30–14–040; Snubber N30–3259–G35 Functional Failure Evaluation; March 26, 2014
- Technical Service Request 26048; Process Computer Emergency Operating Procedures Area Temperatures Special Log 24 May be Changed at Operator Request From Computer Console; Revision A

1R19 Post-Maintenance Testing

- ASME Repair/Replacement Program/Plan Initiation and Completion Form; Log Number 15–017; March 24, 2015; Revision 0
- ASME Repair/Replacement Program/Plan Initiation and Completion Form; Log Number 15–018; March 24, 2015; Revision 0
- CARD 15–20374; Crew Learning Opportunity – Acceptance Criteria Not Signed For
- CARD 15–20627; EDG 13 Service Water Pump Failed to Start
- CARD 15–20712; EDG 13 Jacket Coolant System Standby Heater Failing to Maintain Temperature
- CARD 15–20713; Unable to Complete 24.307.36 Due to R3000F–139D EDG 14 SW Outlet Valve Bushing Stripped
- CARD 15–20715; Mispositioned Component – Incorrect Valve Closed During Performance of EDG 13 Diesel Generator Service Water Operability Test
- CARD 15–20738; EDG 13 Tripped on Jacket Coolant Pressure Low
- CARD 15–21016; Received 10D33 "EDG 13 Lube Oil Temperature High/Low" in Control Room
- CARD 15–21299; NRC Identified – WO 42514834 Post Maintenance Test Lacks Acceptance Criteria
- CARD 15–21357; No Acceptance Criteria for Post Maintenance Test Current Checks
- CARD 15–21792; 72CF Failed to Throw-over
- CARD 15–22074; Fail Open 15–01 Drywell Leak Inspection Result
- CARD 15–22089; Review Margin Associated With the B31N004A(B) Flow Switches
- CARD 15–22098; Flow Switches Associated With Cooling/Seal Flow for Reactor Recirculation Motor/Pumps are of Marginal Design
- CARD 15–22114; Leakage Issues With Replacement Flow Switch
- CARD 15–22136; Apparent Leak on Drywell Cooler Number 2
- CARD 15–22182; NQA – Warehouse Documentation Did Not Match ASME Tub Plug Heat Codes for Drywell Cooler Number 2
- Design Specification 3071–522; Reactor Drywell Cooling Coils; Revision C
- Design Verification Record Engineering Design Package 36271; Replacement of Drywell Cooler Coil T4700B011 and Fan T4700C011, Including Partial Implementation; Revision A
- Drawing 6I721N–2712–62; Wiring Diagram – D.G. #13 480 Volt Air Conditioning Distribution Cab – R1600S048 and C.T. Connection – Box R30P332; Revision W
- Drawing 6M721–4127; Reactor Drywell Cooling System Flow Diagram (P&ID); Revision X
- Drawing 6M721–5729–1; EECW (Division 1); Revision BE
- Equivalent Replacement Evaluation 44748; Replacement of the Synchro-Start Speed Switch for the EDGs; Revision 0
- Fermi Control Room Log; Wednesday, January 28, 2015
- Liquid Penetrant Examination Form for WO 42759937; March 25, 2015; Revision 28
- Liquid Penetrant Examination Form for WO 42765672; March 27, 2015; Revision 28
- Operational Decision Making Issue 09–007G; Drywell Temperature Control; Revision G
- Potential Design Change 13504; Rotometer Not Like-for-Like for Field Replacement (Stock Number 489–0578; Revision 0
- Procedure 23.307; EDG System; Revision 120

- Procedure 23.415; Drywell Cooling System; Revision 22
- Procedure 24.206.01; RCIC System Pump and Valve Operability Test; Revision 76
- Procedure 24.307.35; Diesel Generator Service Water, Diesel Fuel Oil Transfer and Starting Air Operability Test – EDG 12; Revision 53
- Procedure 24.321.07; Operability of 480 Volt Swing BUS 72CF Automatic Throw-over Scheme; Revision 10
- Procedure 24.408.03; Division 1 Primary Containment Monitoring System Valve Operability and Position Indication Verification Test; Revision 36
- Procedure 43.401.300; Local Leakage Rate Test Type C – General; Revision 55
- Procedure 43.401.354; Local Leakage Rate Testing for Penetrations X–48a, X–48b, X–48c, X–48d, and X–48e; Revision 33
- Technical Evaluation TE–T47–09–051; Impact of Impairments to Drywell Coolers Numbers 1, 9, and 11; Revision H
- Technical Evaluation TE–T47–15–013; FO 15–01 Drywell Coolers Tube Plugging Limitations; Revision 0
- Temporary Change Notice 35.415.001; Inspection of Drywell Cooling Fans and Coolers; Revision 29
- Temporary Modification Continuation Sheet 14–0008; Isolation of Drywell Cooler Number 1 (T4700B001) Cooling Coils "A" and "B"; Revision A
- WO 32830704; Contingency WO for 72C–F Throw-over
- WO 34062390; Replace Motor Bearings for R3000C002 – EDG 12 Fuel Oil Transfer Pump A
- WO U367130100; Replace 10-Year Components Required by NE–6.6–EQMS.070
- WO 36958195; Replace EDG 13 Tachometer Relays
- WO 37103504; Inspect/Test 260 VDC Motor Control Center Bucket MCC 2PA–1–2A, Feeds E5150F010
  WO 38568263; As-Found Voltage Found High at 4400 Volts Alternating Current During RF–16 EDG 13 Loss of Power/Loss of Coolant Accident Surveillance Testing
- WO 42514359; Received 10D33 "EDG 13 Lube Oil Temperature High/Low" in Main Control Room
- WO 42514834; Replace EDG 13 Jacket Cooling System Heater and M1 Molded Case Circuit Breaker
- WO 42759937; Leak Found on Number 2 Drywell Cooler – Plug Tube Leak
- WO 42765672; Leak Found on Number 1 Drywell Cooler – Plug Tube Leak
- Work Request 34062390; Replace One of the EDG 12 Fuel Oil Transfer Pump A Motor Tie Rods With a Threaded Rod and Nuts per Equipment Replacement Evaluation 46225; January 23, 2015
- Work Request 42745507; Post Maintenance Test Revised to add VT–2 Test by Inservice Inspection; March 21, 2015

1R20 Outage Activities

- CARD 15–22028; 3D100 Recirculation System Coolants Temp High Received for Point 3 North Recirculation Pump
- CARD 15–22029; Reactor Building Closed Colling Water / EECW Drywell Leak Causes Single Loop Operation and Reactor Scram
- CARD 15–22030; Division 1 EECW Pump Cavitation During Reactor Building Closed Cooling Water Leak in the Drywell
- CARD 15–22055; Leak Found on Drywell Cooler #6 and Reactor Recirculation Motor “A”
- CARD 15–22074; FO 15–01 Drywell Leak Inspection Result
- CARD 15–22085; Short Duration Increases Noted on the Main Steam Line Radiation Monitor and RB Stationary Particulate Iodine and Noble Gas After the March 19, 2015 Scram

- CARD 15–22090; Evaluate Reactor Scram from OPRM Upscale During Single Loop Operation
- Procedure 20.000.21; Reactor Scram; Revision 65
- Procedure 20.127.01; Loss of Reactor Building Closed Cooling Water System; Revision 30
- Procedure 20.138.01; Recirculation Pump Trip; Revisions 45 and 46
- Procedure 23.623; Reactor Manual Control System; Revision 64
- Procedure 29.100.01; Reactor Pressure Vessel Control; Revision 14

1R22 Surveillance Testing

- CARD 15–20154; Pump P4400–C002B Division 2 EESW M/U Pump Exceeded Inservice Testing Alert Criteria
- CARD 15–21642; Degraded Grease in Motor Operated Valve
- Control Room Log; March 4, 2015
- Fermi 2 Inservice Testing Program for Pumps and Valves; Part 5: Inservice Testing Valve Scope Table; Revision 0
- Maintenance Procedure 35.306.020; Motor Operated Valve Mini Periodic Inspection; Revision 5
- Procedure 24.107.03; Standby Feedwater Pump and Valve Operability and Lineup Verification Test; Revision 41
- Procedure 24.204.01; Division 1 LPCI and Suppression Pool Cooling/Spray Pump and Valve Operability Test; Revision 74
- Procedure 24.208.03; Division 2 EESW and EECW M/U Pump and Valve Operability Test; Revision 73
- WO 36478574; Perform 24.208.03 Section 5.4 Division 2 EECW M/U Pump Comprehensive Pump Test
- WO 37239286; Perform Mini Periodic Motor Operated Valve Inspection for E1150F004D
- WO 37391203; Perform 24.204.06 Division 2 LPCI and Torus Cooling/Spray Pump and Valve Operator Test

4OA1 Performance Indicator Verification

- CARD 15–21383; NRC Performance Indicator for Unplanned Scrams
- NEI 99–02; Regulatory Assessment Performance Indicator Guideline; Revision 7
- Procedure 22.000.03; Power Operation 25 Percent to 100 Percent to 25 Percent; Revision 95
- Procedure 22.000.04; Plant Shutdown From 25 Percent Power; Revision 76
- Reactor Oversight Process Feedback Form for IP 71151 "Performance Indicator Verification"; Performance Indicator Flag MS05; June 28, 2007
- Reactor Oversight Process Feedback Form for IP 71151 "Performance Indicator Verification"; Performance Indicator Flag IE01; September 26, 2012

4OA2 Problem Identification and Resolution

- 4Q14 Quarterly Trend Report
- 50.59 Screen 13–0297; Transformer 2B Low Voltage Busing Turret Equipment Upgrades to Devised to Prevent Leaks; Revision 0
- 50.59 Screen 13–0313; Test Jacks Installed for Greater Than 90 Days at Power to Support Maintenance Activity; Revision 0
- CARD 13–23833; Review Monroe Power Peaking Unit 3 Event, Main Transformer Oil Leak, for Applicability to Fermi
- CARD 13–25957; Received 2D36 'NSSSS Isolation Channel B/D Trip' Alarm

- CARD 13–26289; Received 2D36 'NSSSS Isolation Channel B/D Trip' Alarm Following Scram for PO13–02
- CARD 13–27288; NRC Concern – Request Engineering Evaluation Regarding Configuration Control for ODMI 13–004
- CARD 13–28175; Potential Emerging Trend in Cause Code IP2 – Work Quality
- CARD 13–28389; Improvement is Needed in the Work Control of the Test Jack Installations – NRC Senior Resident Inspector Question
- CARD 14–20112; Received 2D36 'NSSSS Isolation Channel B/D Trip' Alarm
- CARD 14–20230; Hot Spot Developed on Gasket for M/U Tank 2B
- CARD 14–21796; RF–16 Emerging Trend: Storage/Housekeeping
- CARD 14–23163; Electricians Informed Research Tagging Center of Oil Leak on Center Phase of Transformer 2B at 90 Percent Power
- CARD 14–24891; Existing Trend in the Area of Housekeeping
- CARD 14–25223; Adverse Trend in Non-Essential Air Conditioning Equipment
- CARD 14–26133; Trend Noted With Riley Temperature Switches
- CARD 14–26504; Bubble Chart Analysis Identified Trend Related to Parts Quality
- CARD 14–26505; Bubble Chart Analysis Identified Trend Related to Troubleshooting, Cause Analysis and Corrective Action
- CARD 14–26956; NQA – Potential Emerging Trend in Welding
- CARD 14–26958; NQA – Periodic Review of Unsatisfactory Quality Control Inspections
- CARD 14–28903; NQA Deficiency – Untimely Supervisor Review of Newly Initiated CARDs
- CARD 14–29110; Control Room Drawing Impact Missed During the Preparation of Equipment Replacement Evaluation 45906; Revision 0
- CARD 15–20763; Engineering Design Package / Equipment Replacement Evaluation Process and Implementation
- CARD 15–20764; Lubrication Identification Discrepancy Within Equipment Replacement Evaluation 46152 Revision 0 Critical Characteristics Evaluation
- CARD 15–20954; Received 2D36 'NSSSS Isolation Channel B/D Trip' Alarm
- CARD 15–21055; Emerging Trend Regarding Engineering Design Package Quality
- CARD 15–21470; Level 4 Tagging Event 2015–000581
- CARD 15–21471; Level 4 Tagging Event
- CARD 15–21531; Installation of Test Jacks in H11P611 Panel – NRC Concern
- CARD 15–21866; Central Component Database Needs To Be Updated for Configuration Control
- CARD 15–21878; Central Component Databases Does Not List a Set Pressure
- Common Cause Analysis CARD 14–21888; Adverse Trend in Plant Status Control Behaviors
- Common Cause Analysis CARD 14–23623; Maintenance Rule Expert Panel Placed C1107 System in (a)(1) Status
- Common Cause Analysis CARD 14–24143; Common Cause for Safety Tagging and Clearance Behaviors
- Common Cause Analysis CARD 14–24187; Potential Emerging Trend: Human Performance – Avoid Complacency
- Common Cause Analysis CARD 14–25822; Emerging Trend Instrumentation and Controls Management Review Meeting Identified Issue
- Common Cause Analysis CARD 14–28584; Perform Common Cause Analysis on Maintenance and Testing Comprehensive Self Evaluation Identified Deficiencies
- Common Cause Analysis CARD 14–29107; NQA – Quality Assurance Step/Hold Point Non Applicable by Work Group
- Common Cause Analysis CARD 14–26503; Bubble Chart Analysis Identified Trend Related to Preventative Maintenance Bases, Processes and Implementation

- ODMI 11–015; Spurious Half Main Steam Isolation Valve Isolation Signal From Channel D; Revision 0
- ODMI 13–004; Spurious Half Main Steam Isolation Valve Isolation Alarm and Potential Trip; Revision 0
- ODMI 13–004; Spurious Half Main Steam Isolation Valve Isolation Alarm and Potential Trip; Revision A
- ODMI 15–001; Spurious Half Main Steam Isolation Valve Channel D Isolation; Revision 0
- Technical Service Request 37311; Transformer 2B Low Voltage Busing Turret Equipment Upgrades to Devices to Prevent Leaks; Revision 0
- WO 37211502; Received 2D36 'NSSSS Isolation Channel B/D Trip' Alarm
- WO 42525236; Jumper A71B–K10D for Division 1 NSSSS Surveillances

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

- CARD 15–21824; Crew Learning Opportunity, Core Thermal Power 10-Minute Average Exceeded Following Power Ascension
- Control Room Log; March 10, 2015
- NRC Regulatory Issue Summary 2007–21; Adherence to Licensed Power Limits; Revision 1
- Operations Conduct Manual; Chapter 3 – Policies and Practices; Revision 34
- Operations Conduct Manual; MOP19 – Reactivity Management; Revision 20

LIST OF ACRONYMS USED

10 CFR	Title 10 of the Code of Federal Regulations
ADAMS	Agencywide Documents Access Management System
ASME	American Society of Mechanical Engineers
CAP	Corrective Action Program
CARD	Condition Assessment Resolution Document
CCHVAC	Control Center Heating, Ventilation, and Air Conditioning
CLB	Current Licensing Basis
CS	Core Spray
EDG	Emergency Diesel Generator
EECW	Emergency Equipment Cooling Water
EESW	Emergency Equipment Service Water
FO 15–01	2015 Forced Outage Number 1
HELB/MELB	High and Moderate Energy Line Break
IMC	Inspection Manual Chapter
IP	Inspection Procedure
LER	Licensee Event Report
LPCI	Low Pressure Coolant Injection
M/U	Makeup
MWTH	Megawatt Thermal
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NQA	Nuclear Quality Assurance
NRC	U.S. Nuclear Regulatory Commission
NSSSS	Nuclear Steam Supply Shutoff System
ODE	Operations Department Expectation
OPRM	Oscillation Power Range Monitor System
PARS	Publicly Available Records System
PIP	Performance Indicating Probe
RCIC	Reactor Core Isolation Cooling
RF–15	Cycle 15 Refueling Outage
RF–16	Cycle 16 Refueling Outage
RHR	Residual Heat Removal
RHRSW	Residual Heat Removal Service Water
SDP	Significance Determination Process
SLC	Standby Liquid Control
SSC	Structure, System, and(or) Component
TRM	Technical Requirements Manual
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
WO	Work Order

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Sincerely,

/RA/

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