



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, IL 60532-4352

October 26, 2011

Mr. Jack M. Davis  
Senior Vice President and  
Chief Nuclear Officer  
Detroit Edison Company  
Fermi 2 - 210 NOC  
6400 North Dixie Highway  
Newport, MI 48166

**SUBJECT: FERMPOWER PLANT, UNIT 2, INTEGRATED INSPECTION  
REPORT 05000341/2011004**

Dear Mr. Davis:

On September 30, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Fermi Power Plant, Unit 2. The enclosed report documents the results of this inspection, which were discussed on October 6, 2011, with Mr. T. Conner, Plant Manager, and other members of your staff.

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

Based on the results of this inspection, one NRC-identified finding of very low safety significance was identified. The finding involved a violation of NRC requirements. However, because of its very low safety significance, and because the issue was entered into your corrective action program, the NRC is treating the issue as a non-cited violation (NCV) in accordance with Section 2.3.2 of the NRC Enforcement Policy.

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

J. Davis

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

Sincerely,

**/RA/**

John B. Giessner, Chief  
Branch 4  
Division of Reactor Projects

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

Enclosure: Inspection Report 05000341/2011004  
w/Attachment: Supplemental Information

cc w/encl: Distribution via ListServ

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 05000341/2011004

Licensee: Detroit Edison Company

Facility: Fermi Power Plant, Unit 2

Location: Newport, MI

Dates: July 1 through September 30, 2011

Inspectors: R. Morris, Senior Resident Inspector  
R. Jones, Resident Inspector  
N. Feliz-Adorno, Reactor Engineer  
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Branch 4  
Division of Reactor Projects

Enclosure

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## SUMMARY OF FINDINGS

Inspection Report (IR) 05000341/2011004; 07/01/2011 – 09/30/2011; Fermi Power Plant, Unit 2; Fire Protection.

This report covers a 3-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. One Green finding was identified by the inspectors. The finding was considered a non-cited violation (NCV) of NRC regulations. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Cross-cutting aspects were determined using IMC 0310, "Components within the Cross Cutting Areas." Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

### A. NRC-Identified and Self-Revealed Findings

#### **Cornerstone: Initiating Events, Public Radiation Safety**

- Green. A finding of very low safety significance and an associated NCV of the Fermi 2 Facility Operating License Condition 2.C(9), for the fire protection program, was identified by the inspectors for the licensee's failure to ensure combustible radwaste was not stored with spent charcoal filter material and HEPA filters. Specifically, the licensee failed to ensure the radwaste combustible material for the cleanup of the December 2010 resin spill was not in the same storage area as the metal containers in the on-site storage facility as required by Updated Final Safety Analysis (UFSAR) Chapter 11, "Radwaste Waste Management," Section 7.2.2.4, "Onsite Storage Facility, Fire Protection." This issue was placed in the licensee's corrective action program as CARD 11-28704, NRC Issue with Resin Storage in the Offsite Storage Facility. The site has taken action to separate the material as required by the UFSAR.

The finding was more than minor because if left uncorrected, the storage of the combined material in bay 1 and bay 4, could lead to a more significant safety concern in that the potential for an unplanned radiation release was possible. The licensee was using the area for storage of the metal containers and normal combustible radwaste. A fire in this area of the plant has the potential to affect radioactive material. The finding affected the Public Radiation Safety Cornerstone, Radioactive Material Control Program. Screening under IMC 0609, Appendix D, "Public Radiation Protection Significance Determination Process" was required. Based on a review of Appendix D, the inspectors concluded that the exposure received would be less than 0.005 rem total effective dose equivalent. Therefore, the finding screened to very low safety significance (Green). This finding has a cross-cutting aspect in the area of Human Performance, Work Control, because the licensee failed to coordinate work activities between Radiation Protection and Fire Protection groups to ensure combustible material was not stored with the metal containers in accordance with the UFSAR. H.3 (a) (Section 1R05.1)

### B. Licensee-Identified Violations

No violations were identified.

## REPORT DETAILS

### Summary of Plant Status

Fermi Unit 2 operated at 100 percent power until August 13, 2011, when power was reduced to 73 per cent for scram time testing. Power was restored to 100 per cent on August 14 and remained there for the rest of the inspection period.

#### 1. REACTOR SAFETY

##### **Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity**

#### 1R01 Adverse Weather (71111.01)

##### .1 Readiness for Impending Adverse Weather Condition – Extreme Heat/Drought Conditions

###### a. Inspection Scope

The inspectors performed a detailed review of the licensee's procedures and preparations for operating the facility during an extended period of time when ambient outside temperature was high and the plant had to reduce power due to high condensate temperatures. The inspectors focused on plant specific design features and implementation of the procedures for responding to or mitigating the effects of these conditions on the operation of the facility's condenser and feedwater system. The inspectors also walked down the transformers and verified grid stability. Inspection activities included a review of the licensee's daily monitoring of the off-normal environmental conditions, and that operator actions specified by plant specific procedures were appropriate to ensure operability of the facility's normal and emergency cooling systems.

This inspection constituted one readiness for impending adverse weather condition sample as defined in Inspection Procedure (IP) 71111.01-05.

###### b. Findings

No findings were identified.

#### 1R04 Equipment Alignment (71111.04)

##### .1 Quarterly Partial System Walkdowns

###### a. Inspection Scope

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

- Division 2 emergency diesel generator fuel oil transfer system;
- Division 2 standby gas treatment system during division 1 non-interruptible air supply safety system outage;

- Reactor core isolation cooling system; and
- Division 2 emergency equipment cooling water.

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

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

b. Findings

No findings were identified.

.2 Semi-Annual Complete System Alignment Verification

a. Inspection Scope

During the week ending August 6, 2011, the inspectors performed a complete system alignment inspection of the general service water system to verify its functional capability. This system was selected because it was considered risk significant in the licensee's probabilistic risk assessment. The inspectors walked down the system to review mechanical and electrical equipment line ups, electrical power availability, system pressure and temperature indications as appropriate, component labeling, component lubrication, component and equipment cooling, hangers and supports, operability of support systems, and to ensure that ancillary equipment or debris did not interfere with equipment operation. A review of a sample of past and outstanding WOs was performed to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the 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.

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

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Routine Resident Inspector Tours (71111.05Q)

a. Inspection Scope

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

- Reactor building, first floor, north hydraulic control unit area;
- Turbine building, first floor, station air compressor area;
- Auxiliary building, third floor, divisions 1 and 2, 130/260V battery room;
- Turbine building, second floor, main turbine lube oil reservoir; and
- On-site storage facility (OSSF) radiation waste storage areas.

The inspectors reviewed areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capability, maintained passive fire protection features in good material condition, and implemented adequate compensatory measures for out-of-service, degraded or inoperable fire protection equipment, systems, or features in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to impact equipment which could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. Using the documents listed in the Attachment, the inspectors verified fire hoses and extinguishers were in their designated locations and available for immediate use; fire detectors and sprinklers were unobstructed; transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's corrective action program. Documents reviewed are listed in the Attachment to this report.

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

b. Findings

Introduction: A finding of very low safety significance (Green) and an associated non-cited violation (NCV) of Fermi 2 Facility Operating License Condition 2.C(9) was identified by the inspectors for the failure to maintain spent charcoal filter material and HEPA filters separate from combustible material, contrary to the licensing basis as described in the UFSAR. Specifically, combustible material from the cleanup of the radwaste building was placed in the storage bay 1 and bay 4 with canisters containing radioactive filters and resin.

Description: On August 29, 2011, the inspectors performed a fire protection walkdown of the radwaste and OSSF buildings. The licensee used the OSSF crane and cameras to allow the inspectors to view the non-occupied locked high radiation areas of the building. The inspectors observed bags of radwaste in bay 1 and bay 4 stored along

with canisters of spent charcoal filters and HEPA filters. The licensee indicated the material was from the cleanup of the resin spill in December 2010. The Fermi UFSAR, dated February 12, 2008, Chapter 11, "Radwaste Waste Management," Section 7.2.2.4, "Onsite Storage Facility, Fire Protection," states, "Significant quantities of potential combustibles which are stored in the facility are normally kept in storage containers as described in Section 11.7.1.2, which are segregated into two distinct areas (see Figures 11.7-2 and 11.7-3, Sheets 1 through 3). This configuration reduces the probability of ignition to insignificant levels. A portion of the dry-active-waste storage area is used for trash sorting before further processing." The licensee's radiation protection and fire protection groups did not coordinate to ensure the material in the OSSF bays was separated properly. This issue is being addressed in condition assessment resolution document (CARD) 11-28704, "NRC issue with resin storage in the OSSF." The licensee is now separating the canisters and combustible radwaste and enhancing plant procedures to maintain compliance with the UFSAR.

Also the Fermi response in UFSAR, 9A.5, "Point-by-Point Comparison," Section 9.G.4, "Materials Containing Radioactivity" states, "Spent charcoal filter material and HEPA filters will be stored in metal containers in the radwaste bailed waste storage room. This room removes the material from other areas of the radwaste building." This section is the licensee's response to the Appendix A of NRC Branch Technical Position APCS9.5-1, dated August 23, 1976, which states, "Material that is collected and contains radioactivity such as spent exchange resins, charcoal filters, and HEPA filters should be stored in closed metal tanks or containers that are located in areas free from ignition sources or combustibles." The licensee was using the area for storage of the metal containers and normal combustible radwaste such that a fire in this area of the plant has the potential to affect radioactive material. The inspectors questioned the origins of the waste and why it was located in this area.

The inspectors also reviewed MOP11, "Fire Protection" from the Operations Conduct Manual to determine if the organization was tracking transient combustibles as required. MOP11, Section 4.1.3, states, "Specific controls will define an allowable combustible weight where no specific permit controls or evaluation will be required for USE or STAGING of the combustible material." The conduct manual allows the transient combustible permit process to be waived for the OSSF if the amount of combustibles is below the Enclosure F limit for USE and STAGING. The inspectors questioned the licensee about the amount of transient combustibles that had been loaded into the area following the resin spill and asked if the load in the OSSF had been evaluated recently. The radiation protection and fire protection groups indicated there had not been a recent evaluation. The licensee performed the evaluation and determined the fire load was within limits. The inspectors also questioned why the combustibles did not meet the conditions of MOP11, Section 4.1.4, "SHORT TERM STORAGE will always require a Transient Combustible permit or Transient Evaluation AND an evaluation per MOP23, 'Plant Storage'," since there were limited conditions to address long-term storage in an enclosure that listed only the amount of combustible material rated for fire loading in that area. The OSSF is used as an interim and long-term storage facility; therefore, the licensee's procedure did not address the conditions required by the UFSAR. The inspectors determined the licensee was not using the transient combustible control process in accordance with MOP11 and the licensee should be performing Transient Combustible Permits in the OSSF and/or Transient Evaluations on a periodic basis to ensure the OSSF limit was not exceeded. The inspectors found no process for

performing periodic evaluations of the OSSF. This issue is being addressed in CARD 11-28989, "MOP11 Storage Controls Not Correct for OSSF."

Analysis: The inspectors determined that putting combustible material in the same area as the spent charcoal filter material and HEPA filters was contrary to the UFSAR. Therefore, the issue was a performance deficiency impacting the Public Radiation Safety Cornerstone. The inspectors determined this finding was more than minor because, if left uncorrected the performance deficiency would have the potential to lead to a more significant safety concern in that the potential for an unplanned radiation release was possible. The Fermi UFSAR, Chapter 11, "Radwaste Waste Management," Section 7.2.2.4, "Onsite Storage Facility, Fire Protection," states, "Significant quantities of potential combustibles which are stored in the facility are normally kept in storage containers as described in Section 11.7.1.2, which are segregated into two distinct areas (see Figures 11.7-2 and 11.7-3, Sheets 1 through 3). This configuration reduces the probability of ignition to insignificant levels. A portion of the dry-active-waste storage area is used for trash sorting before further processing." Specifically, the licensee did not control the containers and combustible material in separate areas. Bay 1 contains short-term storage for combustible material but has canisters in the bay. Bay 4 is for long-term storage of canisters and radiation protection was using it to store short-term combustible material. There were no examples in Appendix E related to this finding. The fire protection issue was screened to determine if there were any examples that helped in the determination of the significance of the finding. The inspectors determined the finding was associated with the Appendix E, Section 4, Example k, which states, in part, the issue is more than minor if "identified transient combustibles were in excess of those permitted by an NRC safety evaluation report which formed the licensing basis for the plant." Specifically, the Fermi response in UFSAR 9A.5, "Point-by-Point Comparison," Section 9.G.4, states, "Spent charcoal filter material and HEPA filters will be stored in metal containers in the radwaste bailed waste storage room. This room removes the material from other areas of the radwaste building." This is the licensee's response to the Branch Technical Position for Operating Plants which states, "Material that is collected and contains radioactivity such as spent exchange resins, charcoal filters, and HEPA filters should be stored in closed metal tanks or containers that are located in areas free from ignition sources and combustibles." The licensee was using the area for storage of the metal containers and normal combustible radwaste. A fire in this area of the plant has the potential to affect radioactive material.

In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the inspectors performed an SDP Phase 1 screening and determined the finding affected the Public Radiation Safety Cornerstone, Radioactive Material Control Program. Screening under Inspection Manual Chapter (IMC) 0609, Appendix D, "Public Radiation Protection Significance Determination Process" was required. Based on a review of Appendix D, the inspector concluded the exposure received would be less than 0.005 rem total effective dose equivalent. Therefore, the finding screened to very low safety significance (Green). The inspectors also reviewed Appendix F, "Fire Protection Significance Determination Process," to assist in informing the fire protection significance. Based on review of IMC 0609, Appendix F, the inspectors concluded the finding represented a degradation of the Fire Prevention and Administrative Control, Element 1 of Table 1.1.1. Since the combustibles would not result in the ignition of a fire from existing sources of heat or electrical energy, the inspectors concluded the finding represented a low degradation. Under Task 1.3.1, Question 1, the finding screened to

very low safety significance (Green) because the finding was assigned a low degradation rating. The finding was determined to be of very low safety significance, Green, using IMC 0609, Significance Determination Process, Attachment 0609, Appendix D and referencing Appendix F. This finding has a cross-cutting aspect in the area of Human Performance, Work Control, because the licensee failed to coordinate work activities between radiation protection and fire protection groups to ensure combustible material was not stored in the same area as the metal containers (H.3 (a)).

Enforcement: License Condition 2.C(9) required the licensee to implement and maintain in effect all provisions of the approved fire protection program as described in the UFSAR through Amendment 60 and as approved in the Safety Evaluation Reports through Supplement No. 5. Chapter 11, "Radwaste Waste Management," Section 7.2.2.4, "Onsite Storage Facility, Fire Protection," stated, "Significant quantities of potential combustibles which are stored in the facility are normally kept in storage containers as described in Section 11.7.1.2, which are segregated into two distinct areas (see Figures 11.7-2 and 11.7-3, Sheets 1 through 3). This configuration reduces the probability of ignition to insignificant levels. A portion of the dry-active-waste storage area is used for trash sorting before further processing." Also, Section 9A.5, "Point-by-Point Comparison," of the UFSAR provided the licensee's responses with respect to NRC positions established in Appendix A to NRC Branch Technical Position APCS 9.5-1, dated August 23, 1976. The licensee's response documented in Paragraph G.4 of UFSAR Section 9A.5 stated, "Spent charcoal filter material and HEPA filters will be stored in metal containers in the radwaste bailed waste storage room. This room removes the material from other areas of the radwaste building."

Contrary to the above, on August 29, 2011, the licensee failed to maintain separation between the metal containers and combustible radwaste. Specifically, combustible radwaste for the cleanup of the resin spill in December of 2010 was placed in with metal containers stored in bay 1 and bay 4 of the OSSF. Because this violation was of very low safety significance (Green), was not repetitive or willful, and was entered into the licensee's corrective action program as CARD 11-28704, "NRC issue with resin storage in the OSSF," this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy (NCV 05000341/2011004-01; Failure to Maintain Separation of Metal Containers and Combustible Radwaste).

1R11 Licensed Operator Regualification Program (71111.11)

.1 Resident Inspector Quarterly Review (71111.11Q)

a. Inspection Scope

On August 30, 2011, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator regualification examinations to verify operator performance was adequate, evaluators were identifying and documenting crew performance problems, and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

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

- correct use and implementation of abnormal and emergency procedures;
- control board manipulations;
- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications.

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

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

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Quarterly Evaluations (71111.12Q)

a. Inspection Scope

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

- D1100 process radiation monitor SS-1 computer.

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

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

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

This inspection constituted one quarterly maintenance effectiveness sample as defined in IP 71111.12-05. This inspection is continuing.

b. Findings

No findings were identified.

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

.1 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

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

- Risk during division 1 bus 64C UV test; and division 1 non-interruptible air supply safety system outage;
- Risk during hot weather requiring derate;
- Risk during emergency diesel generator 13 safety system outage and hot weather;
- Risk during division 2 standby gas treatment safety system outage; and
- Risk during high pressure coolant injection minimum flow valve E4150F012 failure and repair.

These activities were selected based on their potential risk significance relative to the Reactor Safety Cornerstones. As applicable for each activity, the inspectors verified risk assessments were performed as required by 10 CFR 50.65(a)(4) and were accurate and complete. When emergent work was performed, the inspectors verified the plant risk was promptly reassessed and managed. The inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed TS requirements and walked down portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

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

b. Findings

No findings were identified.

1R15 Operability Determinations and Functional Assessments (71111.15)

.1 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following issues:

- CARD 11-26738, MUT 2A cooler bank No. 1 repair;
- Operability of combustion turbine generator (CGT) 11-1 with CTG 11-2 providing grid stability;
- CARD 11-27150, Operability of standby liquid control tank with increased level;
- Turbine building exhaust fan vibration increase;
- CARD 11-26846, Hot spots found on system service transformer #64;
- CARD 11-10108, Gas void detected downstream of E1150F006C; and
- RB-5 equipment hatch HELB operability question.

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

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

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

.1 Post-Maintenance Testing

a. Inspection Scope

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

- WO 32862404, Replace Bearing on T4100C014 (reactor building ventilation) Motor;
- WO 32295751; Inspect Standby Liquid Control Pump 'B' Check Valve;
- WO 29532890; Emergency Diesel Generator 14 Safety System Outage Work Package;
- WOs 32024714, 32231657, 32025007, 32669295; Control Rod Drive Hydraulic Control Unit Replacement; and
- WO 33261894, High Pressure Coolant Injection Min Flow Valve Main Fuses Blown.

These activities were selected based upon the structure, system, or component's ability to impact risk. The inspectors evaluated these activities for the following (as applicable):

the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing (temporary modifications or jumpers required for test performance were properly removed after test completion); and test documentation was properly evaluated. The inspectors evaluated the activities against TS, the UFSAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure the test results adequately ensured the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with post-maintenance tests to determine whether the licensee was identifying problems and entering them in the corrective action program and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

.1 Surveillance Testing

a. Inspection Scope

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

- Procedure 24.139.02, Standby Liquid Control Pump and Check Valve Operability Test (IST);
- Procedure 42.302.11, 4160 Volt Bus 64C Division 1 Undervoltage Circuit Functional (routine);
- Procedure 54.000.06, Average Power Range Monitor Calibration (routine);
- WO 30963730, Perform Torus Water In-Leakage Measurement and Calculation (leakage) and
- Procedure 44.020.242, Reactor Core Isolation Cooling Steam Line Pressure, Division 2, Channel D Calibration/Functional (PCIV).

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

- did preconditioning occur;
- were the effects of the testing adequately addressed by control room personnel or engineers prior to the commencement of the testing;

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

Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine licensee emergency drill on July 26, 2011, to identify any weaknesses and deficiencies in classification, notification, and

protective action recommendation development activities. The inspectors observed emergency response operations in the simulator (control room) and the Technical Support Center to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the licensee drill critique to compare any inspector-observed weakness with those identified by the licensee staff in order to evaluate the critique and to verify whether the licensee staff was properly identifying weaknesses and entering them into the corrective action program. As part of the inspection, the inspectors reviewed the drill package and other documents listed in the Attachment to this report.

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

b. Findings

No findings were identified.

**2. RADIATION SAFETY**

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

.1 Radiological Work Planning (02.02)

a. Inspection Scope

The inspection activities supplement those documented in IR 05000341/2010-004, and constitute one complete sample as defined in IP 71124.02-05.

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

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

b. Findings

No findings were identified.

2RS8 Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation (71124.08)

This inspection constituted one complete sample as defined in IP 71124.08-05.

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed the solid radioactive waste system description in the UFSAR, the process control program, and the recent radiological effluent release report for information on the types, amounts, and processing of radioactive waste disposed.

The inspectors reviewed the scope of any quality assurance audits in this area since the last inspection to gain insights into the licensee's performance and inform the "smart sampling" inspection planning.

b. Findings

No findings were identified.

.2 Radioactive Material Storage (02.02)

a. Inspection Scope

The inspectors selected areas where containers of radioactive waste are stored, and evaluated whether the containers were labeled in accordance with 10 CFR 20.1904, "Labeling Containers," or controlled in accordance with 10 CFR 20.1905, "Exemptions to Labeling Requirements," as appropriate.

The inspectors assessed whether the radioactive material storage areas were controlled and posted in accordance with the requirements of 10 CFR Part 20, "Standards for Protection against Radiation." For materials stored or used in the controlled or unrestricted areas, the inspectors evaluated whether they were secured against unauthorized removal and controlled in accordance with 10 CFR 20.1801, "Security of Stored Material," and 10 CFR 20.1802, "Control of Material Not in Storage," as appropriate.

The inspectors evaluated whether the licensee established a process for monitoring the impact of long-term storage (e.g., buildup of any gases produced by waste decomposition, chemical reactions, container deformation, loss of container integrity, or re-release of free-flowing water) that was sufficient to identify potential unmonitored, unplanned releases, or nonconformance with waste disposal requirements.

The inspectors selected containers of stored radioactive material, and assessed for signs of swelling, leakage, and deformation.

b. Findings

No findings were identified.

.3 Radioactive Waste System Walkdown (02.03)

a. Inspection Scope

The inspectors walked down accessible portions of select radioactive waste processing systems to assess whether the current system configuration and operation agreed with

the descriptions in the UFSAR, Offsite Dose Calculation Manual, and process control program.

The inspectors reviewed administrative and/or physical controls (i.e., drainage and isolation of the system from other systems) to assess whether the equipment, which is not in service or abandoned in place would not contribute to an unmonitored release path and/or affect operating systems or be a source of unnecessary personnel exposure. The inspectors assessed whether the licensee reviewed the safety significance of systems and equipment abandoned in place in accordance with 10 CFR 50.59, "Changes, Tests, and Experiments."

The inspectors reviewed the adequacy of changes made to the radioactive waste processing systems since the last inspection. The inspectors evaluated whether changes from what is described in the UFSAR were reviewed and documented in accordance with 10 CFR 50.59, as appropriate and to assess the impact on radiation doses to members of the public.

The inspectors selected processes for transferring radioactive waste resin and/or sludge discharges into shipping/disposal containers and assessed whether the waste stream mixing, sampling procedures, and methodology for waste concentration averaging were consistent with the process control program, and provided representative samples of the waste product for the purposes of waste classification as described in 10 CFR 61.55, "Waste Classification."

For those systems that provide tank recirculation, the inspectors evaluated whether the tank recirculation procedures provided sufficient mixing.

The inspectors assessed whether the licensee's process control program correctly described the current methods and procedures for dewatering and waste stabilization (e.g., removal of freestanding liquid).

b. Findings

No findings were identified.

.4 Waste Characterization and Classification (02.04)

a. Inspection Scope

The inspectors selected the following radioactive waste streams for review:

- Resin; and
- Dry active waste.

For the waste streams listed above, the inspectors assessed whether the licensee's radiochemical sample analysis results (i.e., "10 CFR Part 61" analysis) were sufficient to support radioactive waste characterization as required by 10 CFR Part 61, "Licensing Requirements for Land Disposal of Radioactive Waste." The inspectors evaluated whether the licensee's use of scaling factors and calculations to account for difficult-to-measure radionuclides was technically sound and based on current 10 CFR Part 61 analyses for the selected radioactive waste streams.

The inspectors evaluated whether changes to plant operational parameters were taken into account to: (1) maintain the validity of the waste stream composition data between the annual or biennial sample analysis update; and (2) assure that waste shipments continued to meet the requirements of 10 CFR Part 61 for the waste streams selected above.

The inspectors evaluated whether the licensee had established and maintained an adequate quality assurance program to ensure compliance with the waste classification and characterization requirements of 10 CFR 61.55 and 10 CFR 61.56, "Waste Characteristics."

b. Findings

No findings were identified.

.5 Shipment Preparation (02.05)

a. Inspection Scope

The inspectors observed shipment packaging, surveying, labeling, marking, placarding, vehicle checks, emergency instructions, disposal manifest, shipping papers provided to the driver, and licensee verification of shipment readiness. The inspectors assessed whether the requirements of applicable transport cask certificate of compliance had been met. The inspectors evaluated whether the receiving licensee was authorized to receive the shipment packages. The inspectors evaluated whether the licensee's procedures for cask loading and closure procedures were consistent with the vendor's current approved procedures.

The inspectors observed radiation workers during the conduct of radioactive waste processing and radioactive material shipment preparation and receipt activities. The inspectors assessed whether the shippers were knowledgeable of the shipping regulations and whether shipping personnel demonstrated adequate skills to accomplish the package preparation requirements for public transport with respect to:

- The licensee's response to NRC Bulletin 79-19, "Packaging of Low-Level Radioactive Waste for Transport and Burial," dated August 10, 1979; and
- Title 49 CFR Part 172, "Hazardous Materials Table, Special Provisions, Hazardous Materials Communication, Emergency Response Information, Training Requirements, and Security Plans," Subpart H, "Training."

Due to limited opportunities for direct observation, the inspectors reviewed the technical instructions presented to workers during routine training. The inspectors assessed whether the licensee's training program provided training to personnel responsible for the conduct of radioactive waste processing and radioactive material shipment preparation activities.

b. Findings

No findings were identified.

.6 Shipping Records (02.06)

a. Inspection Scope

The inspectors evaluated whether the shipping documents indicated the proper shipper name; emergency response information and a 24-hour contact telephone number; accurate curie content and volume of material; and appropriate waste classification, transport index, and UN number for the following radioactive shipments:

- EF2-10-040, Type B Resin High Integrity Container;
- EF2-10-122, Main Steam Relief Valves;
- EF2-10-142, Refueling Tools/Equipment; and
- EF2-11-063, Type B Gross Dewatered Resin High Integrity Container.

Additionally, the inspectors assessed whether the shipment placarding was consistent with the information in the shipping documentation.

b. Findings

No findings were identified.

.7 Identification and Resolution of Problems (02.07)

a. Inspection Scope

The inspectors assessed whether problems associated with radioactive waste processing, handling, storage, and transportation, were being identified by the licensee at an appropriate threshold, were properly characterized and were properly addressed for resolution in the licensee corrective action program. Additionally, the inspectors evaluated whether the corrective actions were appropriate for a selected sample of problems documented by the licensee that involve radioactive waste processing, handling, storage, and transportation.

The inspectors reviewed results of selected audits performed since the last inspection of this program and evaluated the adequacy of the licensee's corrective actions for issues identified during those audits.

b. Findings

No findings were identified.

#### 4. OTHER ACTIVITIES

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

###### 4OA1 Performance Indicator Verification (71151)

###### .1 Mitigating Systems Performance Index - Emergency AC Power System (MS06)

###### a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index (MSPI) - Emergency AC Power System performance indicator for the period from the second quarter 2010 through the second quarter 2011. To determine the accuracy of the performance index data reported during those periods, performance indicator definitions and guidance contained in the Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, were used. The inspectors reviewed the licensee's operator narrative logs, MSPI derivation reports, issue reports, event reports and NRC integrated inspection reports for the period of July 2010 through June 2011 to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one MSPI emergency AC power system sample as defined in IP 71151-05.

###### b. Findings

No findings were identified.

###### .2 Mitigating Systems Performance Index - Heat Removal System (MS08)

###### a. Inspection Scope

The inspectors sampled licensee submittals for the MSPI - Heat Removal System performance indicator for the period from the second quarter 2010 through the second quarter 2011. To determine the accuracy of the performance index data reported during those periods, performance indicator definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, MSPI derivation reports, and NRC integrated inspection reports for the period of April 2010 through June 2011 to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data

collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one MSPI heat removal system sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.3 Reactor Coolant System Specific Activity

a. Inspection Scope

The inspectors sampled licensee submittals for the reactor coolant system specific activity performance indicator for the period from the second quarter 2010 through the second quarter 2011. The inspectors used performance indicator definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, to determine the accuracy of the performance indicator data reported during those periods. The inspectors reviewed the licensee's reactor coolant system chemistry samples, TS requirements, issue reports, event reports, and NRC integrated inspection reports for the period of second quarter 2010 through the second quarter 2011 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. In addition to record reviews, the inspectors observed a chemistry technician obtain and analyze a reactor coolant system sample. Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings were identified.

.4 Occupational Exposure Control Effectiveness

a. Inspection Scope

The inspectors sampled licensee submittals for the occupational radiological occurrences performance indicator for the period from the second quarter 2010 through the second quarter 2011. The inspectors used performance indicator definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, to determine the accuracy of the performance indicator data reported during those periods. The inspectors reviewed the licensee's assessment of the performance indicator for occupational radiation safety to determine if indicator related data was adequately assessed and reported. To assess the adequacy of the licensee's performance indicator data collection and analyses, the inspectors discussed with radiation protection staff, the scope, and breadth of its data review and the results of those reviews. The inspectors independently reviewed electronic personal dosimetry dose rate and accumulated dose alarms and dose reports

and the dose assignments for any intakes that occurred during the time period reviewed to determine if there were potentially unrecognized occurrences. The inspectors also conducted walkdowns of numerous locked high and very high radiation area entrances to determine the adequacy of the controls in place for these areas. Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors sampled licensee submittals for the radiological effluent TS/Offsite Dose Calculation Manual radiological effluent occurrences performance indicator for the period from the second quarter 2010 through the second quarter 2011. The inspectors used performance indicator definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, to determine the accuracy of the PI data reported during those periods. The inspectors reviewed the licensee's issue report database and selected individual reports generated since this indicator was last reviewed to identify any potential occurrences such as unmonitored, uncontrolled, or improperly calculated effluent releases that may have impacted offsite dose. The inspectors reviewed gaseous effluent summary data and the results of associated offsite dose calculations for selected dates between the second quarter 2010 through the second quarter 2011 to determine if indicator results were accurately reported. The inspectors also reviewed the licensee's methods for quantifying gaseous and liquid effluents and determining effluent dose. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one Radiological Effluent TS/Offsite Dose Calculation Manual radiological effluent occurrences sample as defined in IP 71151 05.

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems (71152)

**Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity**

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

a. Inspection Scope

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

action program at an appropriate threshold, adequate attention was being given to timely corrective actions, and adverse trends were identified and addressed. Attributes reviewed included: identification of the problem was complete and accurate; timeliness was commensurate with the safety significance; evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent-of-condition reviews, and previous occurrences reviews were proper and adequate; and that the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue. Minor issues entered into the licensee's corrective action program as a result of the inspectors' observations are included in the Attachment to this report.

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

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

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

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

b. Findings

No findings were identified.

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors commenced a review of the licensee's corrective action program and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on licensee human performance results, but also considered the results of daily inspector corrective action program item screening discussed in Section 4OA2.2 above, and licensee trending efforts. The review will continue and be completed in the fourth quarter 2011.

This review did not constitute a completed semi-annual trend inspection as defined in IP 71152-05. It will be counted as a sample in the inspection report period during which it is completed.

b. Findings

No findings were identified.

.4 Selected Issue Follow-up Inspection: Aging and Obsolescence Management

a. Inspection Scope

The inspectors performed a review of items associated with equipment aging and obsolescence. The inspectors reviewed related CARDS, operating experience evaluations, procedures, work orders, and test results. In addition, the inspectors conducted walkdowns to assess the physical and environmental conditions of selected components installed in the station and spare parts stored in the warehouse.

b. Observations

The inspectors confirmed that, although aging was not managed by a centralized program, it was being considered by the licensee as an attribute of processes such as the Operating Experience Program. In addition, the inspectors noted that the licensee had recently implemented the Critical Spares Process with the intent of, in part, improving their equipment obsolescence management effort.

While reviewing how the licensee was managing the shelf life of items stored in the warehouse, the inspectors noted the licensee tested stored oil and greases on an annual basis in lieu of monitoring the vendors' recommended shelf life and that a number of the stored oil samples did not meet the acceptance criteria for the last two annual tests. However, the degraded oil condition was not captured in the corrective action program and dispositioned. The licensee initiated CARD 11-27969 to address the inspectors' concerns. As part of the immediate actions, the licensee reviewed the chemistry analysis results of the periodic in-service tests performed on the oil used on safety-related equipment for the last three years and did not find indication that the lower quality oil was added to the equipment. The inspectors determined this was a minor issue because the periodic in-service oil examination was expected to identify any adverse condition associated with oil being used on safety-related applications and records showed the lower quality oil was not added to safety-related equipment.

Documents reviewed are described in the Attachment to this report. This review constituted one in-depth problem identification and resolution sample as defined in IP 71152-05.

c. Findings

No findings were identified.

.5 Selected Issue Follow-up Inspection: 120 kV Offsite Source Declared Inoperable during Swan Creek Line Maintenance

a. Inspection Scope

The inspectors selected the following CARD for an in-depth review:

- CARD 11-24234, 120 kV Offsite Source Declared Inoperable during Swan Creek Line Maintenance.

The inspectors reviewed the apparent cause evaluation and several additional CARDS in which the 120 kV and/or the 345 kV Offsite Sources were declared inoperable causing limiting condition for operation (LCO) entries.

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

b. Observations

Introduction: On April 26, 2011, International Transmission Company (ITC) was performing scheduled maintenance requiring the Fermi-Swan Creek line to be shutdown. Combustion turbine generators 2 and 3 were running to support system voltage with the Swan Creek line shutdown. At 1055, ITC and the central system supervisor notified the Fermi 2 main control room that the ITC real time contingency analyzer indicated a loss of the Fermi 2 main generator would result in a voltage drop of 1.82 percent on the 120 kV transmission line. This is greater than the 1.6 percent limit specified in Operations Department Expectations (ODE) 12 that required the 120 kV offsite source to be declared inoperable. Fermi 2 declared the 120 kV offsite source inoperable, and entered LCO 3.8.1, condition D. Fermi 2 entered abnormal operating procedure (AOP) 20.300.GRID, Grid Disturbance, and directed the central system supervisor to direct ITC to restore the Swan Creek line. The Swan Creek line was restored and TS 3.8.1, condition D, was exited at 1711.

On March 21, 2011 (CARD 11-22909) and several events subsequently (May 22, 2011, CARD 11-22598; and May 31, 2011, CARD 11-25490), Fermi 2 was notified by the Systems Operation Center (SOC) and ITC that the 120 kV or 345 kV lines had exceeded limits specified in ODE 12, predicting post-trip voltages would not be acceptable to sustain the operability of safety-related loads, and therefore, declared one or both offsite sources inoperable.

Discussion: The apparent cause evaluation performed by the licensee (CARD 11-24234) identified that ITC had installed a software feature to the real time contingency analyzer in 2005, which over predicted the generation sources. The apparent cause evaluation concluded that the direct cause of the event was the software feature of the ITC real time contingency analyzer. The apparent cause was stated as, ITC not recognizing this software feature in their real time contingency analyzer. The conclusions in the evaluation did not assign any contribution to this event to Fermi 2 equipment, personnel, or processes.

The software feature installed in 2005 was a latent error that did not reveal itself until ITC was directed by Fermi 2 to monitor the grid for impact of degraded voltage on the plant; i.e., affecting the ability to start emergency core cooling systems with a degraded grid voltage. However, the apparent cause evaluation failed to evaluate the period from the installation of this software feature in the ITC analyzer in 2005 until November 2010, the date when Fermi 2 requested ITC to monitor voltage drop on the grid. If the plant had required ITC to monitor voltage drop on the grid earlier, the latent error may have been identified earlier.

Prior to the component design basis inspection (CDBI) in 2010, Fermi 2 had never requested ITC to monitor and report predicted voltage drop for loss of the Fermi 2 main generator. The CDBI identified that the requirement to monitor degraded voltage was not being performed. Further, they identified that the engineering design package, which was developed to install the degraded voltage back fit modification in the plant (reference IR 05000341/2008-008), contained calculation discrepancies, one of which affected monitoring of degraded voltage following the future installation of this modification. Following a revision to address the deficiencies, the degraded voltage back fit modification was installed during refueling outage 14 (RF14). Monitoring the grid for impact of predicted voltage drop on the plant then commenced by ITC.

Another weakness in the evaluation of these unplanned LCO entries occurred with the first entry into the LCO mentioned earlier. On March 31, 2011 (CARD 11-22909), the plant entered an LCO for predicted voltage drop for a Fermi 2 trip. The investigation for this CARD identified a difference in the predictions for voltage drop between ITC, DTE SOC, and the Midwest Independent System Operator (MISO). Recognizing that ITC, DTE SOC, and MISO are monitoring different portions of the grid, there was recognition of variance between the three real time analyzers in use. However, there was no attempt in the investigation for this CARD to define an expected variability among the real time analyzers, such that the significance of the observed variation (2.76 percent observed by ITC, and 2.2 percent observed by DTE SOC, and MISO) could be interpreted. This CARD occurred more than a month prior to the LCO entry in April 2010, and could have led to an earlier set of technical discussions and meeting between Fermi 2, ITC, DTE SOC, and MISO, to earlier define the variation that should be expected to be observed between analyzers, which ultimately led to the revelation from ITC regarding the latent error found.

Lastly, the apparent cause evaluation conclusion that this was solely caused by a software feature in the ITC real time analyzer and Fermi 2 had no control of this event does not seem to be supported in that there is a formal memorandum of understanding between Fermi 2, and the transmission entities, including ITC. The type of grid monitoring needed to detect this software feature was within the authority of Fermi 2 to identify and was needed to ensure operability of offsite sources.

Conclusions: The licensee, in their apparent cause evaluation for the 120 kV and/or the 345 kV offsite sources being declared inoperable, missed opportunities to gain insights into their actions regarding offsite power sources. The evaluation did not evaluate the period of time that monitoring the grid for predicted voltage drop for loss of the Fermi 2 main generator was not being performed following the installation of a latent software feature in 2005. Additionally, the evaluation did not evaluate the expected variation between real time contingency analyzers among ITC, DTE SOC, and MISO, when the first event occurred in March 2011. Finally, the evaluation failed to consider the ownership needed by Fermi 2 to ensure offsite operability can be assessed. This guidance exists in the formal memorandum of understanding between the transmission entities and Fermi 2. Although these insights were missed, no violations of NRC requirements existed.

c. Findings

No findings were identified.

.6 Selected Issue Followup Inspection: Outage Scope Changes for Refueling Outage 14

a. Inspection Scope

The inspectors selected Outage Scope Changes for RF14 for an in-depth review. Specifically, the inspectors reviewed the Outage Scope Deletions and inspected the following attributes during their review:

- deleted work scope was clearly identified;
- a systematic process existed for work deleted, deferred and rescheduled based on safety significance regulatory compliance and program; and
- search of licensee CARDS to determine whether specific components experienced equipment problems after being deleted from Outage Scope.

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

b. Observations

The Inspectors reviewed a sample of planned work that was deleted from RF14 and analyzed whether the work scope was well understood regarding safety-related significance, regulatory compliance and program requirements, as well as the impact on reliability and risk consequences for not performing the work during the refueling outage. The deleted work packages included deferring maintenance, calibrations, tests, troubleshooting on minor workaround problems, repair of minor leaks; and delaying replacement of aged, deteriorating components, and minor modifications such as installing covers.

The licensee evaluated the work deleted from RF14 to determine if the task could be completed online, during an outage period. Other work was deferred when materials or resources were not available or when management believed reliability existed for an extended period after RF14. As an example that controls were in place, the licensee wrote CARD 11-24690 to address a recent issue of unintended deletion of a WO in Maximo (the WO data base).

c. Findings

No findings were identified

.7 Selected Issue Follow-up Inspection: Review of Corrective Actions Associated with Implementation of the Buried Pipe Inspection Program

a. Introduction

The inspectors selected the licensee's corrective actions associated with the implementation of the Buried Pipe Inspection Program for an in-depth review in accordance with IP 71152 requirements. Documents reviewed during this inspection are listed in the Attachment to this report.

The inspectors' review of this selected follow-up issue constituted one inspection sample as defined in IP 71152-05.

b. Effectiveness of Problem Identification and Resolution

(1) Inspection Scope

The inspectors reviewed CARDS and licensee self-assessments to verify the licensee's identification and resolution of issues associated with the implementation of the Buried Pipe Inspection Program were complete, accurate, and timely, and that the consideration of extent-of-condition review, generic implications, common cause, and previous occurrences was adequate.

(2) Findings

No findings were identified.

c. Prioritization and Evaluation of Issues

(1) Inspection Scope

The inspectors reviewed the CARDS and self-assessments noted above to assess the licensee's evaluation and disposition of performance issues and application of risk insights for prioritization of issues.

(2) Findings

No findings were identified.

To date, the only direct inspections that have been performed have been "opportunistic inspections" conducted in locations where the licensee has excavated buried piping for other purposes. The program owner has established a 5-year plan for inspections to meet the program requirements. A recent licensee self-assessment noted that the overall health of the cathodic protection system has been declining. A large backlog (24) of open work orders for the system has been allowed to accumulate.

d. Effectiveness of Corrective Actions

(1) Inspection Scope

The inspectors reviewed the related CARDS to determine if the corrective action program addressed generic implications. Additionally, the inspectors verified corrective actions were appropriately focused to correct the problem.

(2) Findings

No findings were identified.

40A6 Management Meetings

.1 Exit Meeting Summary

On October 6, 2011, the inspectors presented the inspection results to Mr. T. Conner, Plant Manager, and other members of the licensee staff. The licensee acknowledged

the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

.2 Interim Exit Meetings

Interim exits were conducted for:

- Radioactive Waste and Transportation Program with Mr. T. Conner, Plant Manager, on September 2, 2011.

The inspectors confirmed that none of the potential report input discussed was considered proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee

T. Conner, Plant Manager  
M. Caragher, Director, Nuclear Engineering  
R. Johnson, Manager, Nuclear Licensing  
R. LaBurn, Manager, Radiation Protection  
K. Scott, Director, Organizational Effectiveness  
G. Strobel, Manager, Operations

#### Nuclear Regulatory Commission

J. Giessner, Chief, Reactor Projects Branch 4

### **LIST OF ITEMS OPENED, CLOSED AND DISCUSSED**

#### Opened and Closed

05000341/2011004-01	NCV	Failure to Maintain Separation of Metal Containers and Combustible Radwaste
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#### Discussed

None.

## LIST OF DOCUMENTS REVIEWED

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

### Section 1R01 – Adverse Weather Protection

- Reviewed plant logs ending week of July 23, 2011

### Section 1R04 – Equipment Alignment

- CARD 11-27238; GSW Header Pressure; 07/31/2011
- Drawing 6I721-2878-21; Installation Fire Detection System North half, 1<sup>st</sup> Floor; Revision A
- Drawing 6M721-5709-1; Reactor Core Isolation Cooling System Sketch; Revision AK
- Drawing 6M721-5709-2; TCIC Turbine Lube Oil/Control Oil; Revision F
- Drawing 6M721-5726; General Service Water System Functional Operating Sketch; Revision BW
- Drawing 6M721-5729-2; Emergency Equipment Cooling Water, Division II; Revision AV
- Drawing 6M721-5734; Emergency Diesel Generator System; Revision BC
- Drawing 6M721-5737; Standby Gas Treatment System; Revision P
- ODE-20, Attachment 14; Protected Equipment Form Division NIAS Safety System Outage; Revision 1
- Procedure 23.127, Attachment 2B; Division 2 EECW Electrical Lineup
- Procedure 23.131; General Service Water System Operating Procedure; Revision 102
- Procedure 23.404, Attachment 1; SGTs Initial Valve Lineup; 04/23/2009

### Section 1R05 – Fire Protection

- CARD 11-28704; NRC Issue with Resin Storage in the OSSF; 09/22/2011
- CARD 11-28989; MOP 11 Storage Controls not correct for OSSF (NRC Concern); 10/03/2011
- Drawing 6A721-2421; Fire Protection Evaluation RadWaste Building Second Floor Plan, EL 613'6"; Revision G
- Drawing 6I721-2868-12; Installation Fire Detection System Reactor Bldg. 1<sup>st</sup> Floor; Revision G
- Drawing 6I721-2868-17; Installation Fire Detection System Reactor Bldg. 4<sup>th</sup> Floor; Revision E
- Drawing 6I721-2868-19; Installation Fire Detection System Reactor Bldg. 5<sup>th</sup> Floor; Revision H
- Drawing 6I721-2878-22; Installation Fire Detection System North Half 2<sup>nd</sup> fl, Turbine Building Zone 20; Revision B
- Drawing 6I721-2878-26; Installation Fire Detection system South Half 2<sup>nd</sup> Fl. Turbine Building; Revision B
- Fermi 2 UFSAR, Chapter 9A, G.4.; Materials Containing Radioactivity; Revision 16
- Procedure FP-AB-3-14a; Auxiliary Building, East Battery Room, Zone 14; Revision 3
- Procedure FO-AB-3-14b; Auxiliary Building, West Battery Room, Zone 14; Revision 3
- FPEE-05-0025, Page D-2; Figure 1 – Ventilation Equipment Room; Revision 0
- Procedure MOP 11; Fire Protection, Administrative Controls; Revision 15

### Section 1R11 – Licensed Operator Regualification Program

- Evaluation Scenario SS-OP-904-1112; 64C Bus Trip, HPCI Start Failure, LOCA; Revision 0

### Section 1R12 – Maintenance Effectiveness

- CARD 11-27553; AC#Es and MR Get Well Plan for D1100 SS-1 Computer Lockups were ineffective; 08/11/2011
- CARD 11-27675; Reactor Building SPING display locked up; 08/16/2011
- Log 96-034; Maintenance Rule Program Position; 03/27/2011, Revision 4, and 03/21/1999, Revision 3
- Maintenance Rule Functional Failure Evaluation; 01/26/2011 through 08/09/2011

### Section 1R13 – Maintenance Risk Assessments and Emergent Work Control

- Fermi 2 Plan of the Day; 07/25–29/2011; 08/19/2011; 08/22-26/2011; 09/06-07/2011; and 09/07-09/2011
- Fermi Control Room Log; 09/06/2011
- Fermi T+1 Performance Analysis Review; Work Week 1141; 10/03/2011 – 10/09/2011
- Scheduled Risk Profile Summary; Week of 7/18/2011
- Scheduler's Evaluation for Fermi 2; 08/22-26/2011 09/06-09-2011
- Shift Manager Daily Operational Focus Meeting; 09/07/2011

### Section 1R15 – Operability Evaluations

- CARD 01-00295; Standby Liquid Control Level Indication Out of Spec; 04/25/2001
- CARD 02-10543; Unexpected Increase in Standby Liquid Control Tank Level of 1"; 04/23/2002
- CARD 05-22149; Standby Liquid Control Tank Level Increased 2 inches with a Corresponding Decrease in SPB Concentration; 05/13/2004
- CARD 05-24526; Hot Spots Identified at Entry Points into 13.2KV Junction Box on Transformer #64; 08/01/2005
- CARD 09-25572; Standby Liquid Control Tank Level Increasing; 07/17/2009
- CARD 11-10108; Gas Void Detected Downstream of E1150F006C; 08/22/2011
- CARD 11-26738; Fault on 2A Transformer Group 1 Cooler 1 Causes Trip of Normal Power Supply to all Group 1 Coolers; 07/14/2011
- CARD 11-26846; Hot Spots Found on SST #64; 07/19/2011
- CARD 11-27150; Increased Level of Standby Liquid Control Tank; 07/28/2011
- CARD 11-27700; Increased Temperature Trend on Station Service Transformer #64; 08/17/2011
- CARD 11-27851; E1150F006C Gas Void UT; 08/23/2011
- DTE Reply to NRC Question Regarding CTG11-2, 3, and 4
- Detroit Edison Line Construction Standards K-311; December 1969
- Drawing 6SD721-2500-01; One-Line Diagram Plant 4160v and 480v, System Service Unit 2; Revision AP
- E11 Residual Heat Removal; SH-IC-331-1001-001; Revision 0
- EFA E11-11-003; EFA for Air Void in Residual Heat Removal Division 1 Pump Section Piping; 08/24/2011
- Fermi 2 Infrared Inspection Anomaly; Transformer #64, 13.2 Termination Box; 08/01/2005
- Fermi 2 Performance Engineering Thermography Reports; File Name Ir\_0083.jpg 07/19/2011; File Name IR\_0084.jpg 07/19/2011; File Name Ir\_0104.jpg 08/16/2011; and File Name Ir\_0110.jpg 08/17/2011
- ODMI 11-010; MUT 2A Cooler Bank #1 Repair Strategy; Revision 0
- Procedure 20.300 SBO; Loss of Offsite and Onsite Power; Revision 17
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- Procedure 23.308.05; 120kv Switchyard / SBO Uninterruptible Power Supple; Revision 3

- Procedure 23.324; Supervisory Control – 120 KV Switchyard and CTG11 Generators; Revision 77
- SS64 Thermal Anomaly; CARD No. 11-26846, System R1200
- Work Request 000Z052436; Tighten Bulkhead Connectors at 13.2KV Junction Box on Transformer #64; 03/29/2006

#### Section 1R19 – Post-Maintenance Testing

- Procedure 35.306.018; Revision 11
- Procedure 35.306.003; Revision 53
- Temp Mod 11-0029; Gag HPCI Minimum Flow Isolation Valve; 09/09/2011
- WO 33280576; Remove Temporary Modification 11-0029 E4150F012 Gag Device; 09/10/2011
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- WO 33277978; Perform Technical Evaluation of E4150F012; 09/09/2011
- WO 33261984; Abnormal Indication and Response of HPCI Min Flow Valve during surveillance Testing; 09/06/2011
- WO 33119007; PMT – Perform Fast Start Surveillance Per 24 Series Procedure; 08/07/2011
- WO 32862404; Replace Bearing on T4100C014 Motor; 07/06/2011
- WO 32669295; 04-CRD Accumulator Trouble for HCU 30-39; 08/11/2011
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- WO 32025007; HCU Accumulator Replacement; 08/11/2011
- WO 32024714; HCU Accumulator Replacement; 08/11/2011
- WO 31844986; PMT – Perform 24.307.48; 08/07/2011
- WO 31872714; PMT-24.307.48; 01/31/2011
- WO 31852866; PMT – SOP and Rack Check; 08/07/2011
- WO 31151030; Perform 54.000.03, Sect 6.1 and 6.5, Control Rod Scram Insert Time Test; 08/13/2011
- WO 30195430; Perform 24.307.48, EDG 14 Fast Start Followed by Load Reject; 08/07/2011
- WO 30155699; PMT – Perform 2.4307.XX Series Surveillance for Operability of EDG 14; 08/07/2011
- WO 30155698; PMT – Perform SOP Run (Loaded) of EDG 14; 08/07/2011
- WO 30155697; PMT – Functionally Check EOS Limit Switch for EDG 14; 08/06/2011
- WO-30132136; PMT - Operability surveillance; 08/07/2011
- WO 30132132; PMT - High Load Test, Scavenge Air Check; 08/07/2011
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- WO 29532890; EDG 14 Safety System Outage Work Package

#### Section 1R22 – Surveillance Testing

- Control Room Log; 07/25/2011
- Group Trend E41CL6323; Torus Average Level; 09/13/2011
- Group Trend G11CF6062; Drywell Floor Drain Sump, 1-min inlet Flow; 09/13/2011
- Procedure 24.139.02; SLC Pump and Check Valve Operability Test; Revision 44
- Procedure 42.302.11; 4160 Volt Bus 64C Division 1 Undervoltage Circuit Functional
- Procedure 44.020.242; RCIC Steam Line Pressure, Division 2, Channel D Calibration/Functional; Revision 31
- Procedure 54.000.06; APRM Calibration; Revision 42
- WO 30808483; Perform 24.139.02 SLC Pump and Check Valve Operability Test
- WO 30963730; Perform Torus Water In-Leakage Measurement and Calculation; 09/10/2011

- WO 31011653; Perform 42.302.11, 4160 V Bus 64C (EDG 12) Division 1, Undervoltage Circuits, C/Func; 07/25/2011

#### Section 1EP6 – Drill Evaluation

- Scenario 50; Revision 1

#### Section 2RS8 - Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation

- CARD 09-28570; Revise Previously Submitted NRC Performance Indicator Data; 06/04/2009
- CARD 10-24511; Top of Liner Contaminated; 06/02/2010
- CARD 10-25150; Establish an Apprenticeship for Radiation Protection to Train Radioactive Waste Personnel; 06/21/2010
- CARD 10-28876; Characterization Survey of Liner LH-10-009 Detector Configuration Questioned; 10/05/2010
- CARD 10-29014; Crew Clock Reset: High Bias Discovered In Chemistry Calibration Used to Analyze Spent Resin for Shipment; 10/08/2010
- CARD 10-29973; Two Radioactive Material Packages Found Outside With Doors Open; 11/03/2010
- CARD 10-30241; Radioactive Material Discovered Outside the Radiologically Restricted Area; 11/08/2010
- CARD 10-32215; Revise MRP30 Requirements for La-140/Ba-140 Lower Limit of Detection; 12/29/2010
- CARD 11-21918; 6-80 Liner Did Not Fit into 6-80 Shipping Cask; 02/18/2011
- CARD 11-25037; Open Drum Found to be Contaminated in an Unposted Area; 05/27/2011
- CARD 11-27570; Proposed Changes to 49 CFR Transportation Regulations; 08/12/2011
- CARD 11-27884; Radwaste Shipping Self-Assessment – Validate Adequate Mixing of Centrifuge Feed Tank; 08/24/2011
- CARD 11-27886; Radwaste Shipping Self-Assessment – Evaluate Threshold for Requiring Radiation Protection Presence at Pre-job Brief; 08/24/2011
- CARD 11-27887; Radwaste Shipping Self-Assessment – Incorporate Procedure Guidance/Standard for Trucks and Personnel Crossing Radiologically Restricted Area Boundaries; 08/24/2011
- CARD 11-27893; Radwaste Shipping Self-Assessment – Document Errors identified in Shipment EF2-11-072; 08/24/2011
- EF2-10-040; Type B Resin High Integrity Container; 06/14/2010
- EF2-10-122; Surface Contaminated Object Main Steam Relief Valves; 10/29/2010
- EF2-10-142; Surface Contaminated Object Refueling Tools/Equipment; 12/21/2010
- EF2-11-063; Type B Gross Dewatered Resin High Integrity Container; 06/17/2011
- Fermi 2 Updated Final Safety Analysis Report, Section 11; Revision 16
- Fermi Nuclear Quality Assurance Reports; 08/06/2010 and 05/12/2011
- Focused Self-Assessment: Radioactive Material Processing and Transportation; 08/24/2011
- Focused Self-Assessment: Radioactive Material Processing and Transportation; 07/14/2010
- MGA 20: Transportation Security Plan; Revision 5
- MRP 16; Use of On-Site Storage Facility; Revision 6
- MRP 19; Shipping Notifications; Revision 9
- MRP 21; Radwaste Shipping Operations; Revision 13
- MRP 24; Fermi 2 10 CFR 61 Compliance Manual; Revision 6
- MRP 26; Process Control Program; Revision 2
- MRP 27; Management of Low Level Mixed Waste at Fermi 2; Revision 3

- Procedure 65.000.506; Shipping Low Specific Activity Radioactive Material; Revision 19
- Procedure 65.000.508; Shipping Less Than or Equal to A1, A2 Quantities of Radioactive Material; Revision 14
- Procedure 65.000.509; Shipping Greater Than A1, A2 Quantities of Radioactive Material; Revision 19
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- Scaling Factor Report; 10/12/2010
- Survey 04013-R11; On-Site Storage Facility Mixed Waste Inspection Survey; 08/24/2011
- WI-RP-009, Work Instruction for INPO CDE Data; Revision 2

#### Section 4OA1 – Performance Indicator Verification

- CARD 08-23836; No Formal Underground Piping Inspection Program; 06/10/2008
- CARD 09-22571; Two Pieces of Concrete Found in Main Condenser SW Waterbox; 04/10/2009
- CARD 10-20442; Minimum Wall Condition Detected During UT Thickness Inspection; 01/19/2010
- CARD 11-20807; Potentially severe Corrosion Identified in 14 inch Buried CRT Spare Pipe; 01/25/2011
- CARD 11-22517; Recommend Enhancement to N7100 PM Inspections; 03/09/2011
- CARD 11-22521; Recommend PSE Evaluate Possible Remediation of RHRSW and EESW Piping for Contingency Repairs or Replacements; 03/09/2011
- CARD 11-24137; Timely Training of Buried Pipe Program Backup; 04/25/2011
- Enrico Fermi Nuclear Station Inspection Plan: Structural Integrity Associates, Inc.; July 2011
- Fermi 2 Operator Logs, EDG 11; 06/01/2011 to 07/01/2011 and 09/01/2010 to 10/01/2010
- Fermi 2 Operator Logs, EDG 12; 03/01/2011 to 04/01/2011 and 04/01/2011 to 05/01/2011
- Fermi 2 Operator Logs, EDG 13; 01/01/2011 to 02/01/2011 and 04/01/2011 to 05/01/2011
- Fermi 2 Operator Logs, RCIC; 12/01/2010 to 01/01/2011, 08/01/2010 to 09/01/2010, and 05/01/2011 to 06/01/2011
- Fermi 2 Program Health Report; Second Quarter, 2011
- MES71; Buried Pipe Inspection Program; Revision 1
- MS06; MSPI Emergency AC Power system; Third Quarter 2008 – Second Quarter 2011
- MSPI Indicator Margin Remaining in Green; June 2011
- MSPI Derivation Report; MSPI Heat Removal System; 07/19/2011
- PI MS08; MSPI Heat Removal System; Q3/2008 – Q2/2011
- WO 29637159; Perform 24.206.04 Sec-5.2 RCIC System Automatic Actuation Test; 12/03/2010
- TMIS 11-0064; Buried Pipe Program Self-Assessment, Revision 1; 05/26/2011
- WO 31011570; Perform 24.307.14, Sec-5.1; EDG 11 Start and toad Test – Slow Start; 09/13/2010
- WO 31110580; Perform 24.206.01 RCIC System Pump Operability and Valve Test at 1000 PSIG
- WO 31110586; Perform 24.206.01 RCIC System Pump Operability and Valve Test at 1000 PSIG
- WO 31653346; Partial of 24.206.01 to PMT E5150F019; 08/16/2010

## Section 4OA2 – Identification and Resolution of Problems

- CARD 08-28105; Level B storage requirements temperature not maintained within the acceptable range; 12/04/08
- CARD 09-21570; Audit finding – missed opportunity to use industry OE by materials management; 03/13/09
- CARD 09-24270; OE28731, Inadequate process for tracking relief valve in-service life; 06/02/09
- CARD 09-26533; OE27716 – High voltage bushings not stored in accordance with manufacturer recommendations; 08/25/09
- CARD10-21201; Evaluate NRC IN 2010-03, MOV failures due to degraded stem lubricant; 02/12/10
- CARD10-30737; Incorrect shelf life information on material stock label; 11/16/10
- CARD 11-20194; Review of NRC IN 2003-17, reduced service life of ASCO SOV with Buna-N material; 01/07/11
- CARD 11-20804; RF14LL: Post Outage Critique Items for O&WM-Scheduling; 1/28/2011
- CARD 11-24690; CECO/Maximo Interface Error Resulted in Component (Delete status); 5/7/2011
- CARD 11-27969; Issues from SPF28254573 and 2767821D; 08/26/11
- CARD search lists by keyword, system, component; 12/01/2010 – 07/07/2011
- Completed warehouse and outdoor storage walkdown checklist (MMM08001); 07/13/11
- Completed warehouse and outdoor storage walkdown checklist (MMM08001); 06/30/11
- MLS04; Operating Experience Program; Revision 26
- FBP-79; Critical Spares Process; Revision 0
- FBP-44; Obsolescence Program Description; Revision 3
- Fermi 2 OSRO Meeting Minutes #1257; dated October 14, 2010
- MMM08; Material Shipping, Handling, and Storage; Revision 10
- MMM13; Storage Maintenance Program; Revision 9
- TMTE-10-0123; RF!4 Scope Reduction; October 15, 2010
- Warehouse Self-assessment; Second Quarter 2011; 04/12/11
- WO 27678210; Inspect & obtain samples from all open oil & grease containers; 06/23/09
- WO 28254573; Inspect & obtain samples from all open oil & grease containers; 08/01/10
- WO 29100910; Replace Div 2 130/260VDC battery; 04/30/09
- WO 29223519; Perform PM requirements on warehoused material per MEG's direction; 05/12/10
- WO 30637653; Monthly spare battery inspections; 05/31/11
- Work Order Scopes Deleted from RF 14
- Work Scope Control Forms covering RF14 deleted Work; generated March 11, 2011

## LIST OF ACRONYMS USED

ADAMS	Agencywide Document Access Management System
ALARA	As-Low-As-Is-Reasonably-Achievable
CARD	Condition Assessment Resolution Document
CDBI	Component Design Basis Inspection
CFR	Code of Federal Regulations
DRP	Division of Reactor Projects
DW	Drywell
ECCS	Emergency Core Cooling System
ED	Electronic Dosimeter
EDG	Emergency Diesel Generator
HCU	Hydraulic Control Unit
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IST	In-service Testing
IR	Inspection Report
kV	Kilovolt
LCO	Limiting Condition for Operation
MISO	Midwest Independent System Operator
MRFF	Maintenance Rule Functional Failure
MSIV	Main Steam Isolation Valve
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
OSSF	Offsite Storage Facility
PCIV	Primary Containment Isolation Valve
PI&R	Problem Identification and Resolution
RF14	Refueling Outage 14
SDP	Significance Determination Process
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
WO	Work Order

J. Davis

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Sincerely,

**/RA/**

John B. Giessner, Chief  
Branch 4  
Division of Reactor Projects

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REPORT 05000341/2011004

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