



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

April 27, 2010

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: FERMI POWER PLANT, UNIT 2, INTEGRATED INSPECTION
REPORT 05000341/2010002

Dear Mr. Davis:

On March 31, 2010, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Fermi Power Plant, Unit 2. The enclosed report documents the inspection findings, which were discussed on April 12, 2010, with J. Plona and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and to 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, a licensee-identified violation, which was determined to be of very low safety significance, is described in Section 40A7 of this report.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS), accessible from the NRC Web site 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 05000341/2010002
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: 05000341/2010002

Licensee: Detroit Edison Company

Facility: Fermi Power Plant, Unit 2

Location: Newport, MI

Dates: January 1 through March 31, 2010

Inspectors: R. Morris, Senior Resident Inspector
R. Jones, Resident Inspector
M. Learn, DNMS Reactor Engineer
M. Mitchell, Health Physicist
F. Tran, Reactor Engineer

Approved by: J. Giessner, Chief
Branch 4
Division of Reactor Projects

Enclosure

TABLE OF CONTENTS

| | |
|---|----|
| SUMMARY OF FINDINGS | 1 |
| REPORT DETAILS | 2 |
| Summary of Plant Status | 2 |
| 1. REACTOR SAFETY | 2 |
| 1R01 Adverse Weather Protection (71111.01) | 2 |
| 1R04 Equipment Alignment (71111.04) | 4 |
| 1R05 Fire Protection (71111.05) | 4 |
| 1R11 Licensed Operator Requalification Program (71111.11) | 5 |
| 1R12 Maintenance Effectiveness (71111.12) | 6 |
| 1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13) | 7 |
| 1R15 Operability Evaluations (71111.15) | 7 |
| 1R18 Plant Modifications (71111.18) | 8 |
| 1R19 Post-Maintenance Testing (71111.19) | 9 |
| 1R22 Surveillance Testing (71111.22) | 10 |
| 2. RADIATION SAFETY | 11 |
| 2PS1 Radioactive Gaseous and Liquid Effluent Treatment (IP71124.06) | 11 |
| 2RS07 Rogical Environmental Monitoring Program and Radioactive Material Control Program (71124.07) | 17 |
| 4. OTHER ACTIVITIES | 19 |
| 4OA1 Performance Indicator Verification (71151) | 19 |
| 4OA2 Identification and Resolution of Problems (71152) | 20 |
| 4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153) | 22 |
| 4OA5 Other Activities | 23 |
| 4OA6 Management Meetings | 23 |
| 4OA7 Licensee-Identified Violations | 24 |
| SUPPLEMENTAL INFORMATION | 1 |
| KEY POINTS OF CONTACT | 1 |
| LIST OF DOCUMENTS REVIEWED | 2 |
| LIST OF ACRONYMS USED | 9 |

SUMMARY OF FINDINGS

Inspection Report (IR) 05000341/2010002; 01/01/2010 – 03/31/2010; Fermi Power Plant, Unit 2; routine integrated report. This report covers a 3-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. 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

No findings of significance were identified.

B. Licensee-Identified Violations

A violation of very low safety significance identified by the licensee has been reviewed by inspectors. Corrective actions planned or taken by the licensee have been entered into the licensee's corrective action program. This violation and corrective action tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Fermi Unit 2 started this inspection period at 100 percent power and remained there until March 5, 2010, when power was reduced to 62 percent in preparation to repair the 'A' reactor recirculation motor generator (RRMG) set speed controller. Due to an increase in offgas flow, the power was increased to 100 percent on March 6 to stabilize offgas flow. On March 22, power was reduced to 50 percent to repair the scoop tube controller for the 'A' RRMG set. On March 25, a power increase was commenced and the main generator tripped on a differential relay signal. The main generator trip actuated a main turbine trip and a subsequent reactor scram. The plant was started on March 30 and returned to 100 percent power on March 31.

1. REACTOR SAFETY

Cornerstone: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Readiness for Impending Adverse Weather Condition – Heavy Snowfall Conditions

a. Inspection Scope

On January 7, 2010, a winter weather advisory was issued for expected snow squalls. The inspectors observed the licensee's preparations and planning for the significant winter weather potential. The inspectors reviewed licensee procedures and discussed potential compensatory measures with control room personnel. The inspectors focused on plant management's actions for implementing the station's procedures for ensuring adequate personnel for safe plant operation and emergency response would be available. The inspectors conducted a site walkdown including walkdowns of various plant structures and systems to check for maintenance or other apparent deficiencies that could affect system operations during the predicted significant weather. The inspectors also reviewed corrective action program (CAP) items to verify the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their CAP in accordance with station corrective action procedures. Specific documents reviewed during this inspection are listed in the Attachment.

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

b. Findings

No findings of significance were identified.

.2 Readiness of Offsite and Alternate AC Power Systems

a. Inspection Scope

The inspectors verified that plant features and procedures for operation and continued availability of offsite and alternate AC power systems during adverse weather were

appropriate. The inspectors reviewed the licensee's procedures affecting these areas and the communications protocols between the transmission system operator (TSO) and the plant to verify the appropriate information was being exchanged when issues arose that could impact the offsite power system. Examples of aspects considered in the inspectors' review included:

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

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

- actions to be taken when notified by the TSO that the post-trip voltage of the offsite power system at the plant would not be acceptable to assure the continued operation of the safety-related loads without transferring to the onsite power supply;
- compensatory actions identified to be performed if it would not be possible to predict the post-trip voltage at the plant for the current grid conditions;
- re-assessment of plant risk based on maintenance activities which could affect grid reliability, or the ability of the transmission system to provide offsite power; and
- communications between the plant and the TSO when changes at the plant could impact the transmission system, or when the capability of the transmission system to provide adequate offsite power was challenged.

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

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

b. Findings

No findings of significance 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:

- Non-isolatable instrument air system division 1;
- Division 1 and division 2 core spray; and
- Combustion turbine generator 11-1 electrical and fuel system.

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 CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment.

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

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Routine Resident Inspector Tours (71111.05Q)

a. Inspection Scope

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

- Turbine building basement, north end;
- Reactor building, fourth floor, RRMG set room;
- Reactor building, third floor, east side and standby liquid control;

- Auxiliary building, third floor, reactor protection system (RPS) motor generator(MG) sets and DC motor control center area;
- Personnel air lock, first floor; and
- Control room overhead, fourth floor.

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

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

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Regualification Program (71111.11)

.1 Resident Inspector Quarterly Review (71111.11Q)

a. Inspection Scope

On February 9, 2010, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator regualification examinations to verify that 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 of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Quarterly Evaluations (71111.12Q)

a. Inspection Scope

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

- Emergency diesel generators (EDGs); and
- Standby gas treatment system.

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

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

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

This inspection constituted two quarterly maintenance effectiveness samples as defined in IP 71111.12-05.

b. Findings

No findings of significance 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 downpower with failed relay on Number 3 High Pressure Stop Valve;
- Risk during EDG-13 safety system outage, half turbine trip, and loss of turbine building heating, ventilating, and air conditioning (HVAC);
- Risk during turbine building loss of HVAC and RRMG set lube oil pump vibration increase;
- Risk during condenser vacuum leak, Turbine Building Closed Cooling Water Motor trip; and
- Risk during trip of 'A' RRMG set on startup.

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 of significance were identified.

1R15 Operability Evaluations (71111.15)

.1 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following issues:

- CARD 09-29116; Increase in main generator slip ring end 'air side' hydrogen seal oil flow;
- CARD 09-29290; ODMI 09-015 off-gas increase flow;

- CARD 10-20556; EFA-R32-10-003 revision of DC-0367 Volume 1 predicts operation of residual heat removal (low pressure coolant injection) above rated motor horsepower;
- CARD 10-21733; Configuration Design Basis Inspection (CDBI) DC-0919 load tap changer and motor starting; and
- UFSAR Change 16, Section 9.1.4.2; Fuel Handling System Equipment Design.

The inspectors selected these potential operability issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TS and 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 that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings of significance were identified.

1R18 Plant Modifications (71111.18)

.1 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the following temporary modification (TM):

- TM 2010-0003; Main Turbine Low Pressure Exhaust Hood Temperature Trip Switch.

The inspectors compared the temporary configuration changes and associated 10 CFR 50.59 screening and evaluation information against the design basis, the UFSAR, and the TS, as applicable, to verify the modification did not affect the operability or availability of the affected system(s). The inspectors also compared the licensee's information to operating experience information to ensure lessons learned from other utilities had been incorporated into the licensee's decision to implement the temporary modification. The inspectors, as applicable, performed field verifications to ensure the modifications were installed as directed; the modifications operated as expected; modification testing adequately demonstrated continued system operability, availability, and reliability; and operation of the modifications did not impact the operability of any interfacing systems. Lastly, the inspectors discussed the temporary modification with operations, engineering, and training personnel to ensure the individuals were aware of

how extended operation with the temporary modification in place could impact overall plant performance. Documents reviewed in the course of this inspection are listed in the Attachment to this report.

This inspection constituted one temporary modification sample as defined in IP 71111.18-05.

b. Findings

No findings of significance 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 30823085; Number 3 HPSV RPS relay failed to reset;
- WO D198060100: EDG 13 post-maintenance testing (PMT) following safety system outage;
- Reactor core isolation cooling (RCIC) standard operating procedure run after maintenance;
- WO 30966771; Turbine Building HVAC supply fan used and exhaust fan;
- Division 2 Control Center HVAC pressure control switch calibration after failure to control;
- Condenser vacuum leak repairs and downpower PMT; and
- WO 30618215; RRMG set 'A' scoop tube locked.

These activities were selected based upon the SSC'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 PMTs to determine whether the licensee was identifying problems and entering them in the CAP and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment to this report.

This inspection constituted seven PMT samples as defined in IP 71111.19-05.

b. Findings

No findings of significance 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:

- Inspection and testing of multi-contact auxiliary relays, C71A-19D (routine);
- Procedure 24.110.05; RPS Turbine Control and Stop Valve Functional Test (routine);
- Procedure 24.206.01; RCIC Pump and Valve Test (in-service testing);
- Procedure 24.413.03; Division 2 Control Room Emergency Filter Monthly Operability Test (routine);
- Procedure 42.302.12; 4160 Bus 65F Undervoltage Circulation Calibration and Functional Surveillance (routine);
- Procedure 44.030.251; Emergency Core Cooling System Reactor Vessel Water Level (Level 1, 2, & 8) Division 1, Channel 'A' Functional Test, and Procedure 44.030.253, Channel 'C' (routine); and
- WO 26910317; Perform 24.307.47 EDG 13 Fast Start Followed by Load Reject (routine).

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 TSs, the USAR, procedures, and applicable commitments;
- measuring and test equipment calibration was current;
- test equipment was used within the required range and accuracy; applicable prerequisites described in the test procedures were satisfied;
- test frequencies met TS requirements to demonstrate operability and reliability; tests were performed in accordance with the test procedures and other applicable procedures; jumpers and lifted leads were controlled and restored where used;
- test data and results were accurate, complete, within limits, and valid;
- test equipment was removed after testing;

- where applicable for 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 CAP.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted six routine surveillance testing samples and one in-service testing sample as defined in IP 71111.22, Sections -02 and -05.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

2PS1 Radioactive Gaseous and Liquid Effluent Treatment (IP71124.06)

This inspection constituted one sample as defined in IP 71124.06-05.

.1 Inspection Planning and Program Reviews (02.01)

Event Report and Effluent Report Reviews

a. Inspection Scope

The inspectors reviewed the Radiological Effluent Release Reports issued since the last inspection to determine if the reports were submitted as required by the Offsite Dose Calculation Manual (ODCM)/Radiological Environmental Technical Specifications (RETS). The inspectors reviewed anomalous results, unexpected trends, or abnormal releases identified by the licensee for further inspection to determine if they were evaluated, were entered in the CAP, and were adequately resolved.

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

b. Findings

No findings of significance were identified.

Offsite Dose Calculation Manual and Final Safety Analysis Report Review

a. Inspection Scope

The inspectors reviewed Final Safety Analysis Report (UFSAR) descriptions of the radioactive effluent monitoring systems, treatment systems, and effluent flow paths so they could be verified during inspection walkdowns. The inspectors reviewed changes to the ODCM made by the licensee since the last inspection against the guidance in NUREG-1301, 1302 and 0133, and Regulatory Guides 1.109, 1.21 and 4.1. When differences were identified, the inspectors reviewed the technical basis or evaluations of the change during the onsite inspection, to determine whether they were technically justified and maintain effluent releases as-low-as-is-reasonably-achievable (ALARA).

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

b. Findings

No findings of significance were identified.

Groundwater Protection Initiative Program

a. Inspection Scope

The inspectors reviewed reported groundwater monitoring results and changes to the licensee's written program for identifying and controlling contaminated spills/leaks to groundwater.

b. Findings

No findings of significance were identified.

Procedures, Special Reports, and Other Documents

a. Inspection Scope

The inspectors reviewed Licensee Event Reports, event reports, and/or special reports related to the effluent program issued since the previous inspection to identify any additional focus areas for the inspection based on the scope/breadth of problems described in these reports. The review included effluent program implementing

procedures, particularly those associated with effluent sampling, effluent monitor set-point determinations, and dose calculations. The review also included copies of licensee and third-party (independent) evaluation reports of the effluent monitoring program since the last inspection to gather insights into the licensee's program and aid in selecting areas for inspection review (smart sampling).

b. Findings

No findings of significance were identified.

.2 Walkdowns and Observations (02.02)

a. Inspection Scope

The inspectors walked down selected components of the gaseous and liquid discharge systems to verify that equipment configuration and flow paths align with the documents reviewed in Section 02.01 above and to assess equipment material condition. Special attention was made to identify potential unmonitored release points (such as open roof vents in boiling water reactors turbine decks, temporary structures butted against turbine, auxiliary or containment buildings), building alterations which could impact airborne, or liquid, effluent controls, and ventilation system leakage that communicates directly with the environment.

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

The inspectors walked down those filtered ventilation systems whose test results were reviewed to verify that there are no conditions, such as degraded High Efficiency Particulate Air charcoal banks, improper alignment, or system installation issues that would impact the performance, or the effluent monitoring capability, of the effluent system.

The inspectors observed selected portions of the routine processing and discharge of radioactive gaseous effluent (including sample collection and analysis) to verify that appropriate treatment equipment was used and the processing activities align with discharge permits.

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

The inspectors did not observe selected portions of the routine processing and discharge liquid waste (including sample collection and analysis) to verify that appropriate effluent treatment equipment is being used and that radioactive liquid waste is being processed and discharged in accordance with procedure requirements and aligns with discharge permits, because the licensee does not conduct discharge of liquid waste and has not done so since the mid-1990s.

b. Findings

No findings of significance were identified.

.3 Sampling and Analyses (02.03)

a. Inspection Scope

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

The inspectors selected three effluent discharges made with inoperable (declared out-of-service) effluent radiation monitors to verify that controls are in place to ensure compensatory sampling is performed consistent with the RETS/ODCM and that those controls are adequate to prevent the release of unmonitored liquid and gaseous effluents.

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

The inspectors reviewed the results of the inter-laboratory comparison program to assess the quality of the radioactive effluent sample analyses to verify that the inter-laboratory comparison program include hard-to-detect isotopes as appropriate.

b. Findings

No findings of significance were identified.

.4 Instrumentation and Equipment (02.04)

Effluent Flow Measuring Instruments

a. Inspection Scope

The inspectors reviewed the methodology the licensee uses to determine the effluent stack and vent flow rates to verify that the flow rates are consistent with RETS/ODCM or UFSAR values, and that differences between assumed and actual stack and vent flow rates do not affect the results of the projected public doses.

b. Findings

No findings of significance were identified.

Air Cleaning Systems

a. Inspection Scope

The inspectors evaluated whether surveillance test results since the previous inspection for TS required ventilation effluent discharge systems (HEPA and charcoal filtration),

such as the standby gas treatment system (boiling water reactors), meet TS acceptance criteria.

b. Findings

No findings of significance were identified.

.5 Dose Calculations (02.05)

a. Inspection Scope

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

The inspectors reviewed three gaseous waste discharge permits to verify that the projected doses to members of the public were accurate and based on representative samples of the discharge path.

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

The inspectors reviewed changes in the licensee's offsite dose calculations since the last inspection to verify the changes are consistent with the ODCM and Regulatory Guide 1.109. Inspectors reviewed meteorological dispersion and deposition factors used in the ODCM and effluent dose calculations to ensure appropriate factors are being used for public dose calculations.

The inspectors reviewed the latest Land Use Census to verify that changes (e.g., significant increases or decreases to population in the plant environs, changes in critical exposure pathways, the location of nearest member of the public or critical receptor, etc.) have been factored into the dose calculations.

For the releases reviewed above, the inspectors assessed whether the calculated doses (monthly, quarterly, and annual dose) are within the 10 CFR Part 50, Appendix I, and TS dose criteria.

The inspectors selected, as available, records of any abnormal gaseous or liquid tank discharges (e.g., discharges resulting from misaligned valves, valve leak-by, etc.) to ensure the abnormal discharge was monitored by the discharge point effluent monitor. There were no abnormal discharges. Discharges made with inoperable effluent radiation monitors, or unmonitored leakages, were reviewed to ensure that an evaluation was made of the discharge to satisfy 10 CFR 20.1501 so as to account for the source term and projected doses to the public.

b. Findings

No findings of significance were identified.

.6 Groundwater Protection Initiative Implementation (02.06)

a. Inspection Scope

The inspectors assessed whether the licensee is continuing to implement the Voluntary Nuclear Energy Institute (NEI)/Industry Groundwater Protection Initiative (GPI) since the last inspection. The inspectors reviewed:

- monitoring results of the GPI to determine if the licensee has implemented its program as intended, and to identify any anomalous results (anomalous results or missed samples were reviewed to determine if the licensee has identified and addressed deficiencies through its CAP);
- identified leakage or spill events and entries made into 10 CFR 50.75 (g) records to assess any remediation actions taken for effectiveness and onsite contamination events involving contamination of ground water to assess whether the source of the leak or spill was identified and mitigated; and
- unmonitored spills, leaks, or unexpected liquid or gaseous discharges, to ensure that an evaluation was performed to determine the type and amount of radioactive material that was discharged, assess whether sufficient radiological surveys were performed to evaluate the extent of the contamination and the radiological source term, and verify that a survey/evaluation had been performed to include consideration of hard-to-detect radionuclides.

The inspectors reviewed whether the licensee completed offsite notifications (State, local, and if appropriate, the NRC) as provided in its GPI implementing procedures.

The inspectors reviewed the evaluation of discharges from onsite surface water bodies (ponds, retention basins, lakes) that contain or potentially contain radioactivity, and the potential for ground water leakage from these onsite surface water bodies to determine if licensees are properly accounting for discharges from these surface water bodies as part of their effluent release reports.

The inspectors assessed whether onsite ground water sample results and a description of any significant onsite leaks/spills into ground water for each calendar year was documented in the Annual Radiological Environmental Operating Report for the Radiological Environmental Monitoring Program (REMP) or the Annual Radiological Effluent Release Report for the RETS. For significant, new effluent discharge points (such as significant or continuing leakage to ground water that continues to impact the environment if not remediated), the inspectors determined if the ODCM was updated to include any new release points.

b. Findings

No findings of significance were identified.

.7 Problem Identification and Resolution (02.07)

a. Inspection Scope

Inspectors evaluated whether problems associated with the effluent monitoring and control program are being identified by the licensee at an appropriate threshold and are

properly addressed for resolution in the licensee CAP. In addition, they assessed appropriateness of the corrective actions for selected sample of problems documented by the licensee involving radiation monitoring and exposure controls.

b. Findings

No findings of significance were identified.

2RS07 Radiological Environmental Monitoring Program and Radioactive Material Control Program (71124.07)

This inspection constituted one sample as defined in IP 71124.07-05

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed the annual radiological environmental operating reports and the results of any licensee assessments since the last inspection, to verify that the REMP was implemented in accordance with the TS and ODCM. This review included report changes to the ODCM with respect to environmental monitoring, commitments in terms of sampling locations, monitoring and measurement frequencies, land use census, inter-laboratory comparison program, and analysis of data.

The inspectors reviewed the ODCM to identify locations of environmental monitoring stations and the UFSAR for information regarding the environmental monitoring program and meteorological monitoring instrumentation.

The inspectors reviewed quality assurance audit results of the program to assist in choosing inspection "smart samples" and audits and technical evaluations performed on the vendor laboratory program.

The inspectors reviewed the annual effluent release report and the 10 CFR Part 61, "Licensing Requirements for Land Disposal of Radioactive Waste," report to determine if the licensee is sampling, as appropriate, for the predominant and dose-causing radionuclides likely to be released in effluents.

b. Findings

No findings of significance were identified.

.2 Site Inspection (02.02)

a. Inspection Scope

The inspectors walked down three of the air sampling stations and five of the thermoluminescent dosimeter (TLD) monitoring stations to determine whether they are located as described in the ODCM and to determine the equipment material condition. Consistent with smart sampling, the air sampling stations were selected based on the locations with the highest X/Q, D/Q wind sectors, and TLDs were selected based on the most risk-significant locations (e.g., those that have the highest potential for public dose

impact). For the air samplers and TLDs selected, the inspectors reviewed the calibration and maintenance records to verify that they demonstrate adequate operability of these components. Additionally, the review included the calibration and maintenance records of composite water samplers and evaluation to determine if the licensee has initiated sampling of other appropriate media upon loss of a required sampling station. The licensee does not use composite samplers.

The inspectors observed the collection and preparation of two environmental samples from different environmental media (e.g., ground and surface water, milk, vegetation, sediment, and soil) as available to verify that environmental sampling is representative of the release pathways as specified in the ODCM and that sampling techniques are in accordance with procedures.

By direct observation and review of records, the inspectors evaluated the meteorological instruments to verify they are operable, calibrated, and maintained in accordance with guidance contained in the UFSAR, NRC Regulatory Guide 1.23, "Meteorological Monitoring Programs for Nuclear Power Plants," and licensee procedures. Also, the inspectors assessed whether the meteorological data readout and recording instruments in the control room and, if applicable, at the tower were operable.

The inspectors assessed whether missed and/or anomalous environmental samples are identified and reported in the annual environmental monitoring report. They selected five events that involved a missed sample, inoperable sampler, lost TLD, or anomalous measurement to verify that the licensee has identified the cause and has implemented corrective actions. The inspectors reviewed the licensee's assessment of any positive sample results (i.e., licensed radioactive material detected above the lower limits of detection (LLDs)) and reviewed the associated radioactive effluent release data that was the source of the released material.

Inspectors selected three SSCs that involve or could reasonably involve licensed material for which there is a credible mechanism for licensed material to reach ground water, and evaluated whether the licensee has implemented a sampling and monitoring program sufficient to detect leakage of these SSCs to ground water.

The inspectors assessed whether records, as required by 10 CFR 50.75(g), of leaks, spills, and remediation since the previous inspection are retained in a retrievable manner.

The inspectors reviewed any significant changes made by the licensee to the ODCM as the result of changes to the land census, long-term meteorological conditions (3-year average), or modifications to the sampler stations since the last inspection. They reviewed technical justifications for any changed sampling locations to verify that the licensee performed the reviews required to ensure that the changes did not affect its ability to monitor the impacts of radioactive effluent releases on the environment.

The inspectors evaluated whether the appropriate detection sensitivities with respect to TS/ODCM are used for counting samples (i.e., the samples meet the TS/ODCM required LLDs). The inspectors reviewed the results of the vendor's quality control program, including the inter-laboratory comparison program, to verify the adequacy of the environmental sample analyses vendor laboratory program, and to verify that the

inter-laboratory comparison test including the media/nuclide mix was appropriate for the facility.

b. Findings

No findings of significance were identified.

.3 Identification and Resolution of Problems (02.03)

a. Inspection Scope

The inspectors assessed whether problems associated with the REMP are being identified by the licensee at an appropriate threshold and are properly addressed for resolution in the licensee's CAP. Additionally, they evaluated the appropriateness of the corrective actions for a selected sample of problems documented by the licensee that involved the REMP.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Unplanned Scrams per 7000 Critical Hours

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned scrams per 7000 critical hours performance indicator (PI) for the period from the first quarter 2009 through the fourth quarter 2009. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in Revision 6 of the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC inspection reports for the period of January 1, 2009, through December 31, 2009, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the Attachment.

This inspection constituted one unplanned scram per 7000 critical hours sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

.2 Unplanned Scrams with Complications

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned scrams with complications PI for the period from the first quarter 2009 through the fourth quarter 2009. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in Revision 6 of the NEI Document 99-02 were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC integrated inspection reports for the period of January 1, 2008, through December 31, 2009, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the Attachment.

This inspection constituted one unplanned scram with complications sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

.3 Unplanned Transients per 7000 Critical Hours

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned transients per 7000 critical hours PI for the period from the first quarter 2009 through the fourth quarter 2009. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, maintenance rule records, event reports, and NRC integrated inspection reports for the period of January 2, 2008, through December 31, 2009, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one unplanned transients per 7000 critical hours sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

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

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

a. Inspection Scope

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

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 of significance were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

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

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

b. Findings

No findings of significance were identified.

.3 Selected Issue Follow-Up Inspection: In-Depth Apparent Cause Evaluation

a. Inspection Scope

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

- In-Depth Apparent Cause Evaluation; CARD 09-29635, Mispositioned Component: Division 1 emergency equipment cooling water (EECW) makeup pump keylock switch was in OFF instead of AUTO as required by the standby lineup.

The inspectors discussed the evaluations and associated corrective actions with licensee personnel and verified the following attributes during their review of the above apparent cause evaluation:

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

The above constitutes completion of one in-depth problem identification and resolution sample as defined in IP 71152-05

b. Findings

No findings of significance were identified.

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

.1 Main Condenser Inleakage during Planned Downpower

a. Inspection Scope

The inspectors reviewed the plant's response to a planned downpower to repair RRMG set 'A.' On March 5, 2010, the licensee performed a plant downpower to approximately 50 percent to perform repairs to the 'A' RRMG set speed controller. During the downpower, the control room staff noted an increase in the offgas flow and subsequently the operators stopped the downpower at 62 percent. After several attempts to determine the source of the air in-leakage, the licensee decided to return power to 100 percent and stabilize the plant. As power increased, the offgas flow returned to a lower value and stabilized. The licensee prepared and performed a leak detection procedure. Upon completion of the repairs, the offgas flow was reduced to a value that allowed the plant to reduce power for repairs to the 'A' RRMG set. Documents reviewed in this inspection are listed in the Attachment.

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

b. Findings

No findings of significance were identified.

.2 Reactor SCRAM during Power Ascension

a. Inspection Scope

The inspectors reviewed the plant's response to an automatic reactor shutdown due to a main turbine trip on March 25, 2010. At 2:27 p.m. on March 25, 2010, the reactor mode switch was taken to shutdown following an automatic scram due to a main turbine trip. The scram was uncomplicated, and all control rods fully inserted into the core. The lowest reactor vessel water level reached was 136 inches; and as expected, high pressure coolant injection and RCIC did not actuate. Inspectors reviewed the licensee's reporting in accordance with 10 CFR 50.72. No safety relief valves actuated. The cause of the main turbine trip was determined on March 27, 2010, to be a ground on a current transformer on the main generator outlet. Documents reviewed in this inspection are listed in the Attachment.

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

b. Findings

No findings of significance were identified.

4OA5 Other Activities

.1 Preoperational and Operational Testing of an Independent Spent Fuel Storage Installation (60854.1)

a. Inspection Scope

An inspection of the licensee's activities that support the implementation of an independent spent fuel storage installation at the Fermi Power Plant was initiated. The inspection included in-office review of plant design calculations as well as on-site reviews of select dry run activities. Since preoperational testing of the licensee's ISFSI was still ongoing at the conclusion of this inspection period, this inspection did not constitute a sample as defined in IP 60854.1 and will be completed in the next routine quarterly inspection.

b. Findings

The results of this inspection will be documented in the next routine quarterly inspection.

4OA6 Management Meetings

.1 Exit Meeting Summary

On April 12, 2010, the inspectors presented the inspection results to J. Plona, Site Vice-President, 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 Meeting

An interim exit meeting was conducted for:

- the Radiological Hazards Assessment and Exposure Control, Radioactive Gaseous and Liquid Effluent Treatment, Radiological Environmental Monitoring Program, and Radioactive Material Control Program inspection with the Director of Organizational Effectiveness, Ms. C. Walker, on March 26, 2010.

40A7 Licensee-Identified Violations

The following violation of very low significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as an NCV.

Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," states, in part, that "Activities affecting quality shall be prescribed by documented procedures and shall be accomplished in accordance with these procedures." Contrary to the above, the licensee did not follow their approved procedures to place division 1 EECW makeup pump keylock control switch to AUTO before returning division 1 EECW to service. On December 15, 2009, in preparation for returning division 1 EECW to service, the licensee performed Procedure 23.127, "Reactor Building Closed Cooling Water/EECW System," Section 5.10 and Attachment 4. The licensee also performed Procedure 24.207.08, "Division 1 EECW Pump and Valve Operability Test," Section 5.1, and then returned the system to service at 5:01 a.m. EST on December 16, 2009. At 9:14 a.m., the licensee performed a quarterly surveillance test for the system using Procedure 24.207.08, "Division 1 EECW Pump and Valve Operability Test," Section 5.2. During performance of the surveillance test, the licensee discovered the P4400M058A, Division 1 EECW makeup pump keylock control switch, was in OFF instead of AUTO as expected. This condition had rendered Division 1 EECW inoperable and resulted in an unplanned entry into a 72-hour shutdown Limiting Condition for Operation. The licensee documented this issue in CARD 09-29635. Immediate corrective actions were to stop the quarterly surveillance test, to place the keylock control switch to AUTO, perform Procedure 23.127, Section 5.10, "Standby Mode EECW Division 1," and perform Procedure 23.127, Attachment 4, "Division 1 RBCCW/EECW Standby Verification Check List." The licensee determined the cause to be procedure adherence deficiencies. This finding was a violation of 10 CFR Part 50, Appendix B, Criterion V. Using the Significance Determination Process in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a, for the Mitigating Systems Cornerstone, dated January 10, 2008, the inspectors determined the finding to be of very low safety significance because the issue did not result in the actual loss of a safety function. Since the issue was of very low significance (Green) and was discovered during a normally scheduled surveillance, the issue is considered licensee identified.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

J. Plona, Fermi 2 Site Vice-President
T. Conner, Plant Manager
M. Caragher, Engineering Director
R. Johnson, Licensing Manager
E. Kokosky, Radiation Protection Manager
R. LaBurn, Assistant Radiation Protection Manager
T. Lashley, Radiological Engineer
T. VanderMey, Principle Radiological Engineer

Nuclear Regulatory Commission

J. Giessner, Branch 4

LIST OF DOCUMENTS REVIEWED

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

1R01 – Adverse Weather Protection

- Augmented Quality Program - 0001; Revision 1
- Augmented Quality Program - 0002; Revision 2
- Procedure 20.300.GRID; Grid Disturbance; Revision 2

1R04 – Equipment Alignment

- Design Basis Document E21-00; Core Spray System; Revision C
- Drawing 6M721-5707; Core Spray System Functional Operating Sketch; Revision AC
- Drawing 6M721-5730-3; Non-Interruptible Control Air System Division 1 and 2; Revision AH
- NIAS Valve Lineup from Procedure 23.129;
- Procedure 23.203; Core Spray System, Attachment 4A; Revision 47

1R05 – Fire Protection

- CARD 09-29081; Untimely Consideration of System P8000 for Maintenance Rule (a)(1) Classification
- CARD 09-23359; Manufacture Notification of Corrosion on Fire Hydrant Operating Rods
- CARD 10-20897; Industry OE and Fermi 2 Fire Header Valve Raise Concern with EDP 35955 Isolation Drawing 6A721-2400; Fire Protection Evaluation Pilot Plan; Revision P
- Drawing 6A721-2408; Fire Protection Evaluation Reactor and Auxiliary Buildings, Fourth Floor Plan; Revision U
- UFSAR 9A.4.1.9; Fourth Floor, Fire Zone 08RB, Elevation 659'6
- USFAR Figure 9A-8; Fire Protection Evaluation Reactor and Auxiliary Buildings Third Floor Plan Elevation 641.5 FT and 643.5 FT; Revision 16
- USFAR Figure 9A-9; Fire Protection Evaluation Reactor and Auxiliary Buildings Fourth Floor Elevation 659.5 FT; Revision 16
- Fermi UFSAR Figure 9A-9; Fire Protection Evaluation Reactor and Auxiliary Buildings, Fourth Floor (Elevation 659.5 Ft); Revision 15

1R11 – Licensed Operator Requalification Program

- Fermi 2 Evaluation Scenario SS-OP-904-1100; Fire/MT Trip/Pressure Regulator Failure/Scram/SC Leak; Revision 1

1R12 – Maintenance Effectiveness

- Design Basis Document T46-00; Standby Gas Treatment System; Revision B
- CARD 08-22446; SGTS Division 2 SPING 14 Pin Board Interconnection Cable Condition Deteriorating
- CARD 09-23411; Relay 122C in the H21P295A Panel Chattering;
- CARD 10-20709; Division 1 SGTS SPING, Pump Restart Problem;

- Maintenance Rule Demand Evaluation; System ID R3000; 12/29/2009
- Maintenance Rule Functional Failure Evaluation 091224-02-12; 01/07/2010
- Maintenance Rule OOS Evaluation; System ID R3000; 12/11/2009
- Standby Gas Treatment System Health Reports; first quarter 2008 thru fourth quarter 2009
- System Health Program; FBP-68; Revision 0

1R13 – Maintenance Risk Assessments and Emergent Work Control

- CARD 10-20621; BHVAC Exhaust Radiation Monitoring Sample Points May be Affected due to HVAC Exhaust Discharge Stack Opening on NE Corner; 01/25/2010
- CARD 10-21657; Center TB HVAC Exhaust Fan Nose Cone Failure; 02/23/2010
- CARD 10-21715; Request Generation of Work Orders for TBHVAC Temporary Modification 10-0009; 02/24/2010
- CARD 10-21797; Track Effect of Winding Temp when TBHVAC is S/D; 02/27/2010
- CARD 10-21801; Trend Effect on HFP Motor Winding Temp with TBHVAC SD; 02/26/2010
- CARD 10-21802; Trend Effect on HDP Motor Lower Bearing Temp with TBHVAC SD; 02/26/2010
- CARD 10-22001; Failure of Center TBHVAC Exhaust Fan; 03/07/2010
- Plan of the Day; 01/29/2010; 02/02/2010; and 02/03/2010
- Risk Profile Summary; Week of 01/25/2010
- Risk Profile Summary; Week of 02/22/2010
- Scheduler's Evaluation for Fermi 2; 01/19-22/2010
- Scheduler's Evaluation for Fermi 2; 03/23/2010
- Turbine Building Area Temperature; 02/25/2010

1R15 – Operability Evaluations

- CARD 09-27471; 2009 Configuration Design Basis Inspection (CDBI) Self Assessment – The cell-to-cell and terminal connection resistance may need to be addressed in DC-213 (09SA-RFI-001)
- CARD 09-29116; Increase in Main Generator Slip Ring End 'Air Side' Hydrogen Seal Oil Flow
- CARD 09-29250; Elevated off-gas flow since plant startup 11 Nov 2009
- CARD 09-29290; Off-gas flow transient
- CARD 10-20556; Revision of DC-0367 Volume I Predicts Operation of RHR (LPCI) Above Rated Motor Horsepower; 01/22/2010
- CARD 10-20878; NRC Question Regarding UFSAR Section 9.1.4.2 Update in Revision 16; 02/01/2010
- CARD 10-20956; LCR Not Issued with EDP-34472; 02/03/2010
- CARD 10-21733; 2010 CDBI DC-0919 LTC and Motor Starting; 02/25/2010
- Design Calculation DC-0367; ADHRS Hydraulic Calculation for Pump Selection – ADHRS Modification to RHR FPCCU – Assist Mode
- Detroit Edison letter EF2-25,622; Spent Fuel Cask Handling – Reactor Building Crane Redundancy; July 12, 1974
- Detroit Edison letter EF2-55.382; Control of Heavy Loads over or in Proximity to Irradiated Fuel; December 3, 1981
- Detroit Edison letter EF2-57,432; Control of Heavy Loads over or in Proximity to Irradiated Fuel; June 3, 1982
- Detroit Edison letter EF2-60,134; Control of Heavy Loads; October 15, 1982
- Detroit Edison letter EF2-67,211; Control of Heavy Loads and Response to Generic Letter 83/42; April 3, 1984
- Drawing 6M721-5719-2, Functional operating sketch off-gas and vacuum system; Revision V

- EFA-R32-10-003; Analysis to determine battery functionality due to incomplete accounting of intercell resistance in the DC-0213 Volume I calculation for terminal voltage
- Night Orders; February 23, 2010, through March 3, 2010
- Operational Decision Making Issue 09-014 and 09-015, Off-Gas Increased Flow
- Procedure 20.125.01; Loss of Condenser Vacuum; Revision 23
- Procedure 23.125; Condenser Vacuum System; Revision 59
- Procedure 23.712; Off-Gas System; Revision 61
- UFSAR, Fermi 2; Section 9.1.4.2; Revisions 15 and 16
- WR 000Z990882; Replace Division 1 130/260V Batteries in RF07

1R18 – Plant Modifications

- Applicability Determination; TM 10-0003, Eliminate the Half Turbine Trip; initiation caused by a spurious fault condition on the N30N499B (duplex Thermocouple); 02/02/2010
- 50.59 Screen No. 06-0474; TM 06-0029, Lifted Lead at Terminal 6 of N30K902A in H11P586; 12/01/2006
- 50.59 Screen No. 10-0035; TM 10-0003, Main Turbine LP Exhaust Hood Temperature Trip Switch; 02/03/2010
- CARD 10-20887; Turbine Trip Protection Fault Due to LP Exhaust Hood Temperature High Fault; 02/02/2010
- Drawing 6I721-2332-05; Turbine Tripping Circuits; Revision V
- Drawing 6I721-2336-06; ICFD 168 Turbine Low Pressure Exhaust Spray Cooling System; Revision AB
- Drawing 6I721-2339-02; Trip Logic Diagram Main Turbine; Revision K
- Electrical Transient Analysis Program; TM 10-0003, Index Item A2; 02/03/2010
- TM 2010-0003; Installation Work Order Number 30886069; 02/04/2010
- TM Continuation Sheets; TM 10-0003, Index Item Nos. 01, 06; 02/03/2010
- TM Continuation Sheets; TM 10-0003, Index Item Nos. B1, B2, B3, B4, B5; 02/03/2010
- TM Fire Protection Impact; TM 10-0003, Index Item 07; 02/03/2010
- TM Index Item Summary; TM 10-0003, Index Item No. 02; 02/03/2010
- TM Removal Sheet; TM 10-0003, Index Item No. 1; 02/02/2010
- TM Scope Sheet; TM 10-0003, Index Item No. 04; 03/03/2010
- TM Technical Review Form; TM 10-0003, Index Item 03; 02/04/2010

1R19 – Post-Maintenance Testing

- CARD 09-22921; EDG 13 Overspeed Limit Switch Mounting Screw Loose
- CARD 09-29886; EDG Governor Test Loop Set Voltage Indication Out of Calibration
- CARD 09-29930; Scaffolding Plank Impeding Valve Operation
- CARD 10-21127; EDG 13 Oil Temp Low Alarming with Oil Temperature at 124°F
- CARD 10-21397; RCIC Turbine – Coupling Bearing Sump Moisture Greater than Expected; 02/15/2010
- CARD 10-21400; Apparent Failure of RCIC Relay; 02/16/2010
- CARD 10-22058; Failed PMT for Division 2 CAC Room Cooler; 03/09/2010
- CARD 10-22069; Failed PMT Leak on Union to Division 2 CAC Dryer; 03/09/2010
- CARD 10-22080; Division 2 CCHVAC Did Not Maintain Positive Pressure in the MCR in Recirculation Mode; 03/09-2010
- CARD 10-22110; Negative Output Wire Found Disconnected from CCHVAC Controller; 03/10/2010
- CARD 10-22176; ERE for Replacement for T41K414 Needed Revision and Delayed Restoration of D2 CCHVAC to Operability Status; 03/13/2010

- Drawing 51721-2613-62; Auto Temp Control System L/D for Static Pressure Cont. Control Room Panel H21P296B; Revision O
- Procedure 23.206; Reactor Core Isolation Cooling System; Revision 92
- Procedure 23.307; Emergency Diesel Generator System; Revision 107
- Procedure 47.000.02; Mechanical Vibration Measurements for Trending; Revision 41
- WO D198060100; Replace 2301A and DRU Unit in EDG 13 Control Panel. Return to Vendor for Refurbishing
- WO 28665909; Perform 24.413.03, Section 5.2 Division 2 CCHVAC 10 HR Operability Test; 03/09/2010
- WO 30618215; 02-RR MG Set 'A' Scoop Tube Locked; 03/02/2010
- WO 30823085; No. 3 HPSV RPS Relays Failed to Reset; 01/19/2010
- WO 30966771; TBHVAC Supply Fan Used and Exhaust Fan
- WO 31027132; Perform Acceptance Test of 25 Mohm Resistors; 03/10/2010
- WO 31029527; Shop Workbench Test New Controller Division 2 CCHVAC Did Not Maintain Positive Pressure in Recirculation; 03/11/2010
- WR 31022549; Re-install the Original Controller for T41'K414, Division 2 CCHVAC Static Pressure Controller

1R22 – Surveillance Testing

- CARD 09-28577; EDG Performance Indicator not Met, CARD Required per FBP-60
- CARD 09-29829; While Performing 24.307.15 for EDG 12 Observed Lowering Load with No Operator Action
- CARD 10-20102; Work Suspended – Installed HFA Relay Model Number Does Not Match CECO nor Work Order; 01/06/2010
- CARD 10-20103; HFA Relay Found to be Mislabeled with Regard to Model Number; 01/06/2010
- Drawing 61721-2235-02; RCIC System Logic Circuit, Part 1; Revision S
- Procedure 24.110.05; RPS-Turbine Control and Stop Valve Functional Test; Revision 42
- Procedure 24.206.01; RCIC Pump and Valve Test
- Procedure 24.413.03; Division 2 Control Room Emergency Filter Monthly Operability Test
- Procedure 24.610.01; RPS – Manual Scram Functional Test; Revision 25
- Procedure 35.318.017; Inspection and Testing of Multi-Contact Auxiliary Relays
- Procedure 42.302.12; 4160 Bus 65F Undervoltage Circulation Calibration and Functional Surveillance
- Procedure 43.302.12; Channel Functional Test of Division 2 4160 Volt Bus 65F Undervoltage Circuits; Revision 33
- Procedure 44.030.251; Emergency Core Cooling System Reactor Vessel Water Level (Level 1, 2, & 8) Division 1, Channel 'A' Functional Test
- Procedure 44.303.253, Emergency Core Cooling System Reactor Vessel Water Level, Division 1, Channel 'C' Functional Test
- WO E942090100; Text C71A-K19D 120V HFA Relay Located in H11P611; 01/02/2010
- WO 26910317; Perform 24.307.47 EDG 13 Fast Start Followed by Load Reject
- WO 28227356; Perform 42.302.12, 4160 V Bus 65F (EDG 14) Div 2, Undervoltage Circuits, C/Functional; 01/08/2010
- WO 28559352; Perform 24.206.01, RCIC System Pump Operability and Valve Test at 1000 PSIG; 02/18/2010
- WO 28559418; Perform 44.030.251, ECCS Reactor Water Level 1, 2, & 8 Division 1 Channel A, Functional
- WO 28559427; Perform 44.030.253, ECCS Reactor Water Level 1, 2, & 8 Division 1 Channel C Functional; 02/15/2010

- Work Package Documentation Review List for WO E942090100

2RS06 - Radioactive Gaseous and Liquid Effluent Treatment

- Fermi 2 - 2007 Annual Radioactive Effluent Release Report; April 24, 2008
- Fermi 2 - 2008 Annual Radioactive Effluent Release Report; April 24, 2009
- Offsite Dose Calculation Manual; Revision 19
- Evaluation of Existing Plant Condition Impact on Turbine Building SPING Alarm Setpoint and Sampling Results; January 28, 2010
- Results of Radiochemistry Cross Check Program; February 20, 2009
- CA 08-22656; Proposed Replacement for Obsolete Meteorological Monitoring System Components; April 22, 2008
- CA 08-23751; Both Off-gas Radiation Monitors Inoperable; June 6, 2008
- CA 08-23836; No Formal Underground Piping Inspection Program; June 10, 2008
- CA 08-27324; Uptrend in Activation Product Releases from Reactor Building Stack; November 4, 2008
- CA 08-27697; Increase in Activity in Turbine Building SPING Samples; November 18, 2008
- CA 09-21811; Laboratory Reported Lower Limit of Detection for 10 CFR Part 61 Sample Not in Accordance with Branch Technical Position; March 24, 2009
- CA-09-24210; Trip of North Turbine Building HVAC Exhaust Fan; May 31, 2009
- CA 09-27429; Increase in Activation Products in Reactor Building SPING Samples; September 24, 2009
- CA 10-20106; Adequacy of Ground Water Monitoring/Storm Water Monitoring at the ISFSI; January 6, 2010
- CA 10-21927; Turbine Building Single Fan HVAC System and Site Boundary Dose Impact; March 4, 2010
- WO 28660487; Perform 67.000.503 Sample Off-Gas Vent Pipe Effluent; February 16, 2010
- WO 28734902; Perform 64.713.019, Attachment 1, Reactor Building SPING Gaseous Effluents; March 2, 2010
- WO 28769167; Perform 64.713.019, Attachment 6, Turbine Building SPING Gaseous Effluents; March 8, 2010
- 62.000.100; Radioactive Effluent and Dose Tracking; Revision 5
- 62.000.110; Evaluation of Dose Rate Due to Radioactive Particulates, Iodine and Tritium in Gaseous Effluents; Revision 7
- 62.000.111; Gaseous Effluent Dose Due to Iodines, Particulates and Tritium; Revision 6
- 62.000.112; Noble Gas Site Boundary Dose Rate and Set-Point Evaluation; Revision 7
- 62.000.116; Gaseous Effluent Dose Projection; Revision 4
- 62.000.130; Liquid and Gaseous Gross Alpha Activity Calculation; Revision 5
- 62.000.132; Calculation of Maximum Dose to Fermi 2 Personnel Outside the Radiologically Restricted Area; Revision 5
- 67.000.502; Eberline SPING Radiation Monitors General Sampling; Revision 18
- 78.000.09; Off-gas Sampling and Analysis; Revision 19

2RS07 - Radiological Environmental Monitoring Program and Radioactive Material Control Program

- Fermi 2 - 2007 Annual Radiological Environmental Operating Report; April 24, 2008
- Fermi 2 - 2008 Annual Radiological Environmental Operating Report; April 24, 2009
- Tritium Rainwater Washout Study; September 10, 2007
- CA 09-29238; Iodine-131 Detected in Radiological Environmental Monitoring Program Control Sediment Sample; December 3, 2009

- CA 10-21425; Add ISFSI Thermoluminescent Dosimeters to the Offsite Dose Calculation Manual; February 16, 2010
- CA 10-21461; Iodine Sample Cartridges Contain Low level of Colbalt-60 Contamination; February 17, 2010
- CA 10-22240; NRC Concern; Radwaste Decant Line May Contain Legacy Liquid Radwaste; March 16, 2010
- CA 10-22635; Lock Radiological Environmental Monitoring Program Groundwater Wellheads; March 26, 2010
- NPRP-10-0033; Focused Self-Assessment Report: Fermi 2 Radiological Environmental Technical Specifications/Radiological Environmental Monitoring Program; March 4, 2010
- NQA 08-0110; Radiation Protection, Radiological Effluents (Radiological Environmental Monitoring Program and Offsite Dose Calculation Manual and Environmental Protection Programs; December 22, 2008
- Procedure 62.000.133; Changing Radiation Monitor Set-Points; Revision 4
- Procedure 62.000.200; Land Use Census; Revision 5
- Procedure 62.000.208; Direct Radiation Monitoring Thermoluminescent Dosimeters; Revision 3
- Procedure 62.000.301; Low Flow Ground Water Sampling; Revision 1
- Procedure 66.000.007; Calibration of the RADeCO Model AVS-28A Air Sampler; Revision 0

4OA1 – Performance Indicator Verification

- NEI 99-02; Regulatory Assessment Performance Indicator Guideline, Revision 6
- PIs; Unplanned Scrams per 7000 Critical Hours
- PIs; Unplanned Scrams with Complications
- PIs; Unplanned Power Changes per 7000 Critical Hours
- Selected Operator Logs: January 1, 2008 through December 31, 2009
- ODMI-09-005A, Drywell Leakage
- LER 2009-001-00, Manual reactor scram in response to high turbine vibration
- LER 2009-002-00, Manual reactor scram due to hydrogen leakage into stator water cooling system

4OA2 – Identification and Resolution of Problems

- CARD 09-29635; Mispositioned Component: Division 1 EECW Makeup Pump Keylock Switch was in OFF instead of AUTO as Required by Standby Lineup
- CARD 10-21243-30; CRB Action Item from the 02/17/2010 Meeting: Rescheduled CARD 09-29635
- CARD 10-21198; Emerging Trend in Individual Crew Performance
- Procedure 23.127; Reactor Building Closed Cooling Water/Emergency Equipment Cooling Water System; Revision 116 and 119
- Procedure 24.207.08; Division 1 EECW Pump and Valve Operability Test; Revision 72

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

- CARD 10-21993; Increased Condenser In-Leakage Causes Abortion of Planned Downpower Activities; 03/06/2010
- CARD 10-22120; During IPTE 10-02 Water and Steam Noted Coming Down from Wall when N3039F005 Opened at Step 6.4.3; 03/11/2010
- Core Parameters; 05-MAR-2010 and 06-MAR-2010

- Drawing 6M721-2985; Drips and Drains from Steam Lines and Main Turbine; Revision AN
- Drawing 6M721-5717-5; Steam Leads and Turbine Drips & Drains; Revision AB
- Infrequently Performed Test or Evaluation Review and Approval No. 10-02; Revision 0
- Maneuver Plan; 3/5/2010 Single Loop Operation Maneuver Plan; Revision 0
- Post-SCRAM Data and Evaluation, CARD 10-22632; 03/25/2010
- SOE 10-01; Troubleshooting Operations, 'A' RRMG Drive Motor Trip; 03/24/2010
- WO 31073336; Trip of 'A' RRMGSET on Startup; 03/23/2010

LIST OF ACRONYMS USED

| | |
|-------|--|
| CAP | Corrective Action Program |
| CFR | Code of Federal Regulations |
| DRP | Division of Reactor Projects |
| EDG | Emergency Diesel Generator |
| EECW | Emergency Equipment Cooling Water |
| GPI | Groundwater Protection Initiative |
| HVAC | Heating, Ventilation, and Air Conditioning |
| IP | Inspection Procedure |
| LLD | Lower Limits of Detection |
| MG | Motor-Generator |
| NCV | Non-Cited Violation |
| NEI | Nuclear Energy Institute |
| NRC | U.S. Nuclear Regulatory Commission |
| ODCM | Offsite Dose Calculation Manual |
| PI | Performance Indicator |
| PMT | Post-Maintenance Testing |
| RCIC | Reactor Core Isolation Cooling |
| RETS | Radiological Environmental Technical Specification |
| REMP | Radiological Environmental Monitoring Program |
| RPS | Reactor Protection System |
| RRMG | Reactor Recirculation Motor Generator |
| SSC | Systems, Structures, and Components |
| TLD | Thermoluminescent Dosimeters |
| TM | Temporary Modification |
| TS | Technical Specification |
| TSO | Transmission System Operator |
| UFSAR | Updated Final Safety Analysis Report |
| WO | Work Order |

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: FERMI POWER PLANT, UNIT 2, INTEGRATED INSPECTION
 REPORT 05000341/2010002

Dear Mr. Davis:

On March 31, 2010, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Fermi Power Plant, Unit 2. The enclosed report documents the inspection findings, which were discussed on April 12, 2010, with J. Plona and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and to 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, a licensee-identified violation, which was determined to be of very low safety significance, is described in Section 40A7 of this report.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS), accessible from the NRC Web site 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 05000341/2010002
 w/Attachment: Supplemental Information

cc w/encl: Distribution via ListServ **See Previous Concurrence**

DOCUMENT NAME: G:\Fermi\Inspection Reports\Fermi 2010 002.doc

Publicly Available Non-Publicly Available Sensitive Non-Sensitive

To receive a copy of this document, indicate in the concurrence box "C" = Copy without attach/encl "E" = Copy with attach/encl "N" = No copy

| | | | | | | | | |
|--------|------------|-----------|--|--|--|--|--|--|
| OFFICE | RIII | RIII | | | | | | |
| NAME | RLerch:dtp | JGiessner | | | | | | |
| DATE | 04/22/10 | 04/27/10 | | | | | | |

OFFICIAL RECORD COPY

Letter to J. Davis from J. Giessner dated April 27, 2010.

SUBJECT: FERMIL POWER PLANT, UNIT 2, INTEGRATED INSPECTION
REPORT 05000341/2010002

DISTRIBUTION:

Susan Bagley

RidsNrrDorLpl3-1 Resource

RidsNrrPMFermi2 Resource

RidsNrrDirslrib Resource

Cynthia Pederson

Steven Orth

Jared Heck

Allan Barker

Carole Ariano

Linda Linn

DRPIII

DRSIII

Patricia Buckley

Tammy Tomczak

[ROPreports Resource](#)