January 29, 2007

Mr. Donald K. Cobb
Assistant Vice President
Nuclear Generation
Detroit Edison Company
6400 North Dixie Highway
Newport, MI 48166

SUBJECT: FERMI POWER PLANT, UNIT 2, NRC INTEGRATED INSPECTION REPORT 05000341/2006005

Dear Mr. Cobb:

On December 31, 2006, 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 January 17, 2007, with you 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, two findings of very low safety significance were identified which involved violations of NRC requirements. However, because these findings were of very low safety significance and because the issues were entered into your corrective program, the NRC is treating these findings as Non-Cited Violations in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you contest the subject or severity of a Non-Cited Violation, 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 2 facility.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made 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). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Christine A. Lipa, Chief
Branch 4
Division of Reactor Projects

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

Enclosure: Inspection Report 05000341/2006005
w/Attachment: Supplemental Information

cc w/encl: K. Hlavaty, Plant Manager
R. Gaston, Manager, Nuclear Licensing
D. Pettinari, Legal Department
Michigan Department of Environmental Quality
Waste and Hazardous Materials Division
M. Yudasz, Jr., Director, Monroe County
Emergency Management Division
Supervisor - Electric Operators
State Liaison Officer, State of Michigan
Wayne County Emergency Management Division

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-341
License No:	NPF-43
Report No:	05000341/2006005
Licensee:	Detroit Edison Company
Facility:	Fermi Power Plant, Unit 2
Location:	Newport, Michigan
Dates:	October 1 through December 31, 2006
Inspectors:	R. Michael Morris, Senior Resident Inspector T. Steadham, Resident Inspector M. Bielby, Senior Operations Engineer A. Garmoe, Reactor Engineer B. Jose, Reactor Inspector R. Lerch, Project Engineer M. Mitchell, Radiation Specialist T. Ploski, Senior Emergency Preparedness Analyst S. Sheldon, Reactor Inspector
Observers:	A. Wilson, Reactor Engineer
Approved by:	C. Lipa, Chief Branch 4 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000341/2006005; 10/01/2006-12/31/2006; Fermi Power Plant, Unit 2; Surveillance Testing and Other Activities.

This report covers a 3-month period of inspection by resident inspectors and announced baseline inspections by regional radiation protection, emergency preparedness, and operator licensing inspectors. Two Green findings associated with two non-cited violations (NCVs) were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be "Green" or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealed Findings

Cornerstone: Mitigating Systems

- Green. A self-revealed NCV was identified for failure to comply with 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," when an operator failed to properly follow procedures. As a result, an operator inadvertently caused a generator overvoltage trip on emergency diesel generator (EDG-14) during surveillance testing, which rendered it unavailable and inoperable for approximately 15 hours beyond the scheduled duration of 70 hours. Immediate corrective actions included consultation with the vendor and inspection of the exciter panel to ensure no equipment damage occurred.

  The finding was determined to be more than minor because it was associated with the Human Performance attribute of the Mitigating Systems Cornerstone, and impacted the Cornerstone objective of ensuring the availability, reliability, and capability of EDG-14 to respond to initiating events. The finding is of very low safety significance because all other EDGs remained operable and the actual loss of safety function of EDG-14 was less than the Technical Specification allowed outage time of 7 days. This finding had a cross-cutting aspect in the area of Human Performance (worker practices component) in the aspect of human performance error prevention techniques, because the licensee failed to follow procedures when personnel flashed the field at idle speed, contrary to specific guidance in relevant procedures and the associated work request. (Section 1R22.01)

- Green. The inspectors identified an NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," for the failure to adequately control the design of the plant when thermal insulation was removed from piping in the reactor building at power without a proper operability evaluation. In evaluating the room area temperatures with insulation removed from piping, the licensee inappropriately relied on risk to justify operability. The licensee consistently performed an improper evaluation of insulation removal since September 20, 2001. After the deficient evaluation was identified on June 16, 2006, the licensee replaced the insulation and performed a past operability evaluation.

This finding is more than minor because the inspectors identified significant programmatic deficiencies that could lead to worse errors if uncorrected. The finding is of very low safety significance because a review of all previously identified on-line insulation removals did not identify any instances where equipment was later determined to have been inoperable. This finding had a cross-cutting aspect in the area of Human Performance (decision making component) in the aspect of conservative assumptions, because the licensee did not thoroughly evaluate for operability the removal of thermal insulation from potentially hot pipes in EQ areas of the plant, which was an issue that could have impacted nuclear safety. (Section 4OA5.01)

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

Unit 2 operated at or near full power throughout the inspection period.

1. REACTOR SAFETY

Cornerstone: Initiating Events, Barrier Integrity, Mitigating Systems, Emergency Preparedness

1R01 Adverse Weather (71111.01)

a. Inspection Scope

The inspectors reviewed licensee procedures for mitigating the effects of cold weather. The inspectors reviewed severe weather procedures, emergency plan implementing procedures related to severe weather, annunciator response procedures, and performed walkdowns. Additionally, the inspectors reviewed condition assessment resolution documents (CARDs) and verified problems associated with adverse weather were entered into the corrective action program with the appropriate significance characterization.

These activities represented one adverse weather, cold weather (systems) inspection sample.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignments (71111.04)

.1 Partial System Walkdown (71111.04Q)

a. Inspection Scope

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

- Standby Feedwater, performed the week of November 11, 2006; and
- Reactor Building Closed Cooling Water, performed the week of December 30, 2006.

The inspectors selected these systems based on their risk significance relative to the reactor safety cornerstones. The inspectors reviewed operating procedures, system diagrams, Technical Specification (TS) requirements, Administrative TS, 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 were aligned correctly.

In addition, the inspectors verified equipment alignment problems were entered into the corrective action program with the appropriate significance characterization.

These activities represented two quarterly partial system walkdown inspection samples.

b. Findings

No findings of significance were identified.

.2 Complete System Walkdown (71111.04S)

a. Inspection Scope

The inspectors performed a complete system walkdown of the following risk-significant system:

- Emergency Equipment Cooling Water (EECW), performed the week of November 12, 2006.

The inspectors reviewed operating procedures, system diagrams, TS requirements, and applicable sections of the Updated Final Safety Analysis Report (UFSAR) to ensure the correct system lineup. The inspectors verified acceptable material condition of system components, availability of electrical power to system components, and that ancillary equipment or debris did not interfere with system performance.

These activities represented one semi-annual complete system walkdown inspection sample.

b. Findings

No findings of significance were identified.

1R05 Fire Protection - Tours (71111.05Q)

a. Inspection Scope

The inspectors conducted a tour of the five areas listed below to assess the material condition and operational status of fire protection features. The inspectors verified that combustibles and ignition sources were controlled in accordance with the licensee's administrative procedures; fire detection and suppression equipment was available for

use; passive barriers were maintained in good material condition; and compensatory measures for out-of-service, degraded, or inoperable fire protection equipment were implemented in accordance with the licensee's fire plan. In addition, the inspectors verified fire protection related problems were entered into the corrective action program with the appropriate significance characterization.

- Turbine Building, First Floor;
- Reactor Building Heating, Ventilating, and Air Conditioning (HVAC) Supply and Return Fans Room;
- Cable Tray Tunnel and Relay Room;
- Control Center HVAC; and
- Cable Spreading Room.

These activities represented five quarterly fire protection - tours inspection samples.

b. Findings

No findings of significance were identified.

1R06 Flood Protection (71111.06)

a. Inspection Scope

The inspectors performed an inspection related to the licensee's precautions to mitigate the risk from internal flooding events. The inspectors performed a walkdown of plant areas that were susceptible to flooding to assess the adequacy of watertight doors and verify drains and sumps were clear of debris and operable. The inspectors also reviewed the work activities associated with internal flooding to verify identified problems were being entered into the corrective action program with the appropriate characterization and significance.

These activities represented one internal flood protection inspection sample.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

.1 Operating Test Results (71111.11B)

a. Inspection Scope

The inspectors reviewed the overall pass/fail results of the comprehensive annual job performance measure operating tests and the annual simulator operating tests (required to be given per 10 CFR 55.59(a)(2)) administered by the licensee during the biennial licensed operator requalification program examinations conducted in October and November 2006. The overall results were evaluated in accordance with NRC Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process."

b. Findings

No findings of significance were identified.

The activities for this biennial inspection will be counted as a sample in odd numbered years.

.2 Licensed Operator Requalification (71111.11Q)

a. Inspection Scope

On October 24, 2006, the inspectors observed an operations support crew during the annual requalification examination in mitigating the consequences of events in the requalification exam scenario on the simulator. 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.

These activities represented one quarterly licensed operator requalification inspection sample.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12Q)

a. Inspection Scope

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

- Emergency Diesel Generators (EDGs); and
- Standby Feedwater.

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. Specifically, the inspectors 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);
- characterizing system reliability issues;
- tracking system unavailability;
- trending key parameters (condition monitoring);
- ensuring 10 CFR 50.65(a)(1) or (a)(2) classification and/or re-classification; and
- verifying appropriate performance criteria for systems classified as (a)(2) and/or appropriate and adequate goals and corrective actions for systems classified as (a)(1).

In addition, the inspectors verified maintenance effectiveness issues were entered into the corrective action program with the appropriate significance characterization.

These activities represented two quarterly maintenance effectiveness inspection samples.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors reviewed the licensee's evaluation and management of plant risk for the maintenance and operational activities affecting risk-significant and safety-related equipment listed below:

- EDG-11 Safety System Outage, performed the week of October 23, 2006;
- EDG-12 Safety System Outage, performed the week of October 30, 2006;
- Fuel Bundle Movement and Fuel Pin Removal, planned the week of November 6, 2006;
- EDG-14, 18-month Outage and Low Pressure Intercept Valve Closure, performed the week of November 13, 2006;
- Reactor Core Isolation Cooling (RCIC), 120kV, and Combustion Turbine Generator (CTG) 11-1 Outage, performed the week of December 2, 2006; and
- Division II EECW Safety System Outage, performed the week of December 16, 2006.

These activities were selected based on their potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst and/or shift technical advisor, and verified plant conditions were consistent with the risk assessment. 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 activities represented six quarterly maintenance risk assessment and emergent work control inspection samples.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the following CARDs to ensure that the conditions did not render the involved equipment inoperable or result in an unrecognized increase in plant risk. The inspectors also verified that the licensee appropriately applied TS limitations and appropriately returned the affected equipment to an operable status:

- CARD 06-26080, Division I EECW Room Cooler RayChem;
- CARD 06-26705, Thermal Anomaly noted on B3100P002B;
- CARD 06-01011, Diesel Fire Pump Low Lube Oil Pressure;
- CARD 06-27096, Air Operated Valve Seismic Qualifications; and
- CARD 06-27664, Automatic Voltage Regulator Control General Alarms.

These activities represented five operability evaluations inspection samples.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed post-maintenance testing (PMT) activities associated with the following scheduled maintenance:

- EDG-11 Electrical and Instrumentation and Controls PMT;
- High Pressure Stop Valve No. 1 Testing;
- EDG-11, Mechanical PMT;
- WR 000Z063602, Standby Liquid Control Pump “A” Relief Valve Replacement;
- CARD 03-19464, CTG 11-1 Failure to Start During LOP;
- WR 000Z062684, CTG 11-1 Failure to Start; and
- B21N676B Main Steam Line Pressure Channel B.

The inspectors reviewed the scope of the work performed and evaluated the adequacy of the specified PMT. The inspectors verified the PMT was performed in accordance with approved procedures, the procedures clearly stated acceptance criteria, and the acceptance criteria were met. The inspectors interviewed operations, maintenance, and engineering department personnel and reviewed the completed PMT documentation.

In addition, the inspectors verified PMT problems were entered into the corrective action program with the appropriate significance characterization.

These activities represented seven PMT inspection samples.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

.1 Routine Review of Surveillances

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:

- EDG-14 Fast Start, Slow Start and Run, and Load Reject (routine); and
- Diesel Fire Pump Weekly Operability Surveillance (routine).

The inspectors reviewed the test methodology and test results to verify equipment performance was consistent with safety analysis and design basis assumptions. In addition, the inspectors verified surveillance testing problems were being entered into the corrective action program with the appropriate significance characterization.

These activities represented two routine surveillance inspection samples.

b. Findings

Introduction: A Green Non-Cited Violation (NCV) of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when an operator failed to follow procedures, which caused an overvoltage trip on EDG-14 and rendered it inoperable and unavailable for approximately 15 hours beyond the scheduled duration of 70 hours.

Description: On November 26, 2006, operators were performing surveillance activities on EDG-14 under work request (WR) 000Z060481 to perform governor venting and tuning following maintenance. The work was to be performed using standard operating procedure (SOP) 23.307, as referenced from WR 000Z060481, to start and run EDG-14 and maintenance procedure 35.307.004 to perform the actual venting and tuning of the governor.

Activity S2 of WR 000Z060481 instructed the operators to slow-start EDG-14 to idle speed and remain at idle speed in accordance with portions of SOP 23.307. Specifically, step 1 stated, in part, "DO NOT go to RATED SPEED, STOP at 23.307, Step 5.13.2.12," and "Leave IDLE/RATED Switch in IDLE." However, while in SOP 23.307, operators continued beyond step 5.13.2.12 and performed step 5.13.2.13, which instructed the operators to place the position of the idle/rated switch to "rated" and flash the field. Additionally, a caution was provided prior to step 5.13.2.13 that stated, "Engine should be up to rated speed prior to flashing the field." Contrary to the instructions in WR 000Z060481 and the caution in SOP 23.307, the operator flashed the generator field with EDG-14 at idle speed.

When the field flashed at idle speed the result was a generator overvoltage trip. Operators backed out of the surveillance and thoroughly evaluated potential damage to electrical equipment. No damage to equipment was identified and the licensee recommenced the surveillance approximately 15 hours later. The licensee entered this into their corrective action program as CARD 06-27386.

Analysis: The inspectors determined that the failure to properly follow procedures was a performance deficiency warranting a significance evaluation. The inspectors concluded the finding was more than minor in accordance with Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Disposition Screening," because it was associated with the Human Performance attribute of the Mitigating Systems Cornerstone, and impacted the Cornerstone objective of ensuring the availability, reliability, and capability of EDG-14 to respond to initiating events. This finding had a cross-cutting aspect in the area of Human Performance (worker practices component) in the aspect of human performance error prevention

techniques, because the licensee failed to follow procedures when personnel flashed the field at idle speed, contrary to guidance in relevant procedures and the associated WR.

The inspectors completed a significance determination of this issue using IMC 0609, "Significance Determination Process, (SDP)" Appendix A, Attachment 1, "SDP Phase 1 Screening Worksheet for IE [Initiating Events], MS [Mitigating Systems], and B [Barriers] Cornerstones." The inspectors concluded that this finding affected the MS Cornerstone and answered "NO" to all relevant questions. Specifically, all other EDGs remained operable and the actual loss of safety function for EDG-14 was shorter than its TS allowed outage time of 7 days. Therefore, this finding was considered to be of very low safety significance (Green).

Enforcement: 10 CFR 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires that activities affecting quality be prescribed by documented instructions, procedures, or drawings, and that activities be accomplished in accordance with these instructions, procedures, or drawings. WR 000Z060481 instructed operators to slow start EDG-14 to idle speed and remain there, in accordance with SOP 23.307, with specific directions to stop at SOP 23.307 step 5.13.2.12. Contrary to the above, on November 16, 2006, operators followed SOP 23.307 beyond step 5.13.2.12 and caused an overvoltage generator trip of EDG-14.

The licensee's corrective actions included inspection of the EDG-14 exciter panel and consultation with the vendor to determine what additional equipment inspections were recommended. Because this violation was of very low safety significance (Green) and documented in the licensee's corrective action program as CARD 06-27386, this finding is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy (NCV 05000341/2006005-01).

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

a. Inspection Scope

The inspectors completed a screening review of Revision 31 of the Fermi 2 Power Plant's emergency plan to determine whether changes identified in this revision may have reduced the effectiveness of the licensee's emergency planning. The screening review of this revision does not constitute approval of the changes and, as such, the changes are subject to future NRC inspection to ensure the emergency plan continues to meet NRC regulations.

These activities represented one inspection sample.

b. Findings

No findings of significance were identified.

2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems (71122.01)

.1 Inspection Planning

a. Inspection Scope

The inspectors reviewed the most current Radiological Effluent Release Report, dated April 28, 2006, to verify the program was implemented as described in Radiological Effluent Technical Standards/Offsite Dose Calculation Manual (RETS/ODCM) and to determine if ODCM changes were made in accordance with Regulatory Guide 1.109 and NUREG-0133. The inspectors reviewed these documents to determine if any modifications made to radioactive waste system design and operation changed the dose consequence to the public. The inspectors verified technical and/or 10 CFR 50.59 reviews were performed when required and conducted a review to determine whether radioactive liquid and gaseous effluent radiation monitor set-point calculation methodology changed since completion of any modifications. The inspectors determined if anomalous results reported in the current Radiological Effluent Release Report were adequately resolved.

The inspectors reviewed RETS/ODCM to identify the effluent radiation monitoring systems and the flow measurement devices, any effluent radiological occurrence performance indicator incidents in preparation for on-site follow-up, and the UFSAR description of all radioactive gaseous and liquid waste systems.

These activities represented one inspection sample.

b. Findings

No findings of significance were identified.

.2 On-site Inspection

a. Inspection Scope

The inspectors walked down the major components of the gaseous and liquid release systems, e.g., radiation and flow monitors, demineralizers and filters, tanks, and vessels to observe current system configuration with respect to the description in the UFSAR, ongoing activities, and equipment material condition.

These activities represented one inspection sample.

The inspectors observed the routine processing (including sample collection and analysis) and release of radioactive gaseous effluent to verify that appropriate treatment equipment is used and that the radioactive gaseous effluent is processed and released in accordance with RETS/ODCM requirements.

These activities represented one inspection sample.

The inspectors reviewed the records of abnormal releases or releases made with inoperable effluent radiation monitors and reviewed the licensee's actions for these releases to ensure an adequate defense-in-depth was maintained against an unmonitored, unanticipated release of radioactive material to the environment. The inspectors reviewed the licensee's technical justification for changes made by the licensee to the ODCM as well as to the liquid or gaseous radioactive waste system design, procedures, or operation since the last inspection to determine whether the changes affect the licensee's ability to maintain effluents as low as is reasonably achievable and whether changes made to monitoring instrumentation resulted in a non-representative monitoring of effluents. The inspectors reviewed records of spills, leaks, or unusual occurrences to verify that these areas were properly documented in the site decommissioning file according to 10 CFR 50.75(g).

These activities represented one inspection sample.

The inspectors reviewed the licensee's records and assessments of locations and construction of underground pipes, tanks, and storage pools that contain radioactive liquids, to evaluate the potential for unmonitored leakage of contaminated fluids to the groundwater as a result of degrading material conditions of aging. The inspectors reviewed the licensee's capabilities (such as monitoring wells) of detecting spills or leaks and of identifying groundwater radiological contamination both on-site and beyond the owner-controlled area. The inspectors reviewed the licensee's technical bases for its on-site groundwater monitoring program and discussed the licensee's bases for concluding that on-site groundwater is not contaminated, due to undetected leakage. The inspectors discussed with the licensee, its understanding of groundwater flow patterns for the site, and in the event of a spill or leak of radioactive material, if the licensee's staff can estimate the pathway of a plume of contaminated fluid both on-site and beyond the owner-controlled area.

These activities represented one inspection sample.

The inspectors reviewed changes made by the licensee to the ODCM as well as to the liquid or gaseous radioactive waste system design, procedures, or operation since the last inspection.

These activities represented one inspection sample.

The inspectors reviewed a selection of monthly, quarterly, and annual dose calculations to ensure that the licensee properly calculated the offsite dose from radiological effluent releases and to determine if any annual RETS/ODCM, i.e., Appendix I to 10 CFR Part 50 values were exceeded.

These activities represented one inspection sample.

The inspectors reviewed air cleaning system surveillance test results to ensure the system was operating within the licensee's acceptance criteria. The inspectors reviewed surveillance test results the licensee uses to determine the stack and vent flow rates. The inspectors verified that the flow rates were consistent with RETS/ODCM or UFSAR values.

These activities represented one inspection sample.

The inspectors reviewed records of instrument calibrations performed since the last inspection for each point of discharge effluent radiation monitor and flow measurement device and reviewed any completed system modifications and the current effluent radiation monitor alarm set-point value for agreement with RETS/ODCM requirements. The inspectors also reviewed calibration records of radiation measurement, i.e., counting room instrumentation associated with effluent monitoring and release activities and the quality control records for the radiation measurement instruments.

These activities represented one inspection sample.

The inspectors reviewed the results of the inter-laboratory comparison program to verify the quality of radioactive effluent sample analyses performed by the licensee. The inspectors reviewed the licensee's quality control evaluation of the inter-laboratory comparison test and associated corrective actions for any deficiencies identified. The inspectors reviewed the licensee's assessment of any identified bias in the sample analysis results and the overall effect on calculated projected doses to members of the public. In addition, the inspectors reviewed the results from the licensee's quality assurance audits to determine whether the licensee met the requirements of the RETS/ODCM.

These activities represented one inspection sample.

b. Findings

No findings of significance were identified.

.3 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed the licensee's self-assessments, audits, licensee event reports (LERs), and special reports related to the radioactive effluent treatment and monitoring program since the last inspection to determine if identified problems were entered into the corrective action program for resolution. The inspectors also verified that the licensee's self-assessment program was capable of identifying repetitive deficiencies or significant individual deficiencies in problem identification and resolution.

The inspectors also reviewed corrective action reports from the radioactive effluent treatment and monitoring program since the previous inspection, interviewed staff and reviewed documents to determine if the following activities were being conducted in an effective and timely manner commensurate with their importance to safety and risk:

- initial problem identification, characterization, and tracking;
- disposition of operability/reportability issues;
- evaluation of safety significance/risk and priority for resolution;
- identification of repetitive problems;
- identification of contributing causes;
- identification and implementation of effective corrective actions;
- resolution of NCVs tracked in the corrective action system; and
- implementation/consideration of risk-significant operational experience feedback.

These activities represented one inspection sample.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator (PI) Verification (71151)

.1 Radiation Safety Strategic Area

a. Inspection Scope

The inspectors sampled the licensee's submittals for the PIs listed below. The inspectors used PI definitions and guidance contained in Revision 4 of Nuclear Energy Institute (NEI) Document 99-04, "Regulatory Assessment Performance Indicator Guideline," to verify the accuracy of the PI data. The following PIs were reviewed:

- Reactor Coolant System Specific Activity;
- Occupational Exposure Control Effectiveness; and
- RETS/ODCM Radiological Effluent Occurrences.

The inspectors reviewed selected applicable conditions and data from logs, LERs and CARDs from November 2005 through October 2006, for the PI areas specified above. The inspectors independently re-performed calculations where applicable. The inspectors compared that information to the information required for the PI definition in the guideline to ensure the licensee reported the data correctly.

These activities represented three performance indicator verification inspection samples.

b Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

As discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify they were being entered into the licensee's corrective action system at an appropriate threshold, adequate attention was being given to timely corrective actions, and adverse trends were identified and addressed.

b. Findings

No findings of significance were identified.

.2 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a screening review of each item entered into the licensee's corrective action program to identify trends that might indicate the existence of a more significant safety issue. The inspectors considered repetitive or closely related issues that may have been documented by the licensee outside the normal corrective action program, such as in:

- trend reports or performance indicators;
- major equipment problem lists;
- repetitive and/or rework maintenance lists;
- departmental problem/challenges lists;
- system health reports;
- quality assurance audit/surveillance reports;
- self-assessment reports;
- maintenance rule assessments; and;
- corrective action backlog lists.

The inspectors verified the licensee was identifying issues at an appropriate threshold and entering them into their corrective action program by comparing those issues identified by the NRC during the conduct of the plant status and inspectible area portions of the program with those issues identified by the licensee. The inspectors reviewed the licensee's corrective action program data base for safety conscious work environment issues.

These activities represented one semi-annual trend review inspection sample.

b. Issues

The inspectors identified no significant issues with the licensee's problem identification.

Various lubrication issues have been identified by the licensee since 2004. There have been 31 lubrication-related issues entered into the corrective action program between 2004 and 2006. On October 4, 2006, the licensee began a review of the lubrication issue at the site and identified the common cause of the issue (CARD 06-26430). The licensee completed an extent-of-condition review and the engineering and maintenance departments are developing a comprehensive plan to correct the problem.

The inspectors also reviewed repetitive combustible material controls issues that have been recorded in the licensee's corrective action program. The inspectors identified a fire protection issue in October of 2006 where the licensee's placement of protective clothing bins inside contaminated areas was not in accordance with plant procedures. The licensee's fire protection program requires bins not be located adjacent to plant equipment. Further investigation by the licensee identified five other locations in contaminated areas that required the bins to be relocated. In December of 2006 the resident inspector identified that a protective clothing bin in a contaminated area was against plant equipment. The licensee initiated a level 2 CARD to determine the reason the issue had not been corrected by the October CARD. Because none of the bins were located adjacent to safe shutdown equipment this issue was minor. The licensee entered the issue into their corrective action program as CARD 06-24210.

.3 Annual Sample: Combustion Turbine Generator (CTG) 11-1 Failures and Associated Corrective Actions

Introduction

Credit is taken for CTG 11-1 as an alternate AC source in the licensee's station black out (SBO) analysis. It is also required to be operable per Technical Requirements LCO 3.7.7 to meet Appendix R, "Alternative Shutdown Auxiliary System" requirements. On August 1, 2006, CTG 11-1 failed to start and remained inoperable until August 24, 2006. This start failure followed a recent plant transient that was initiated by a loss of Division I power which occurred on July 29, 2006. CTG 11-1 had also failed to start during the Northeast Blackout in August 2003. Concern that CTG 11-1 may not be reliable when needed to respond to a loss-of-power event prompted the inspectors to review the failure history and effectiveness of corrective actions taken on CTG 11-1.

These activities represented one annual inspection sample.

a. Effectiveness of Problem Identification

(1) Inspection Scope

The inspectors reviewed 2 years of CARDs generated for issues on all four CTG units to verify the licensee's identification of problems was complete, accurate, and timely,

and the consideration of extent-of-condition review, generic implications, common cause, and previous occurrences were adequate. The inspectors also reviewed the Auxiliary Electrical CTG 11 System Health report and maintenance history for CTG 11-1.

(2) Issues

Inspectors identified no significant issues with the licensee's problem identification. CTG 11-1 appears to be on an improving trend toward meeting a 95 percent reliability goal per NUMARC 87-00, Revision 1. The failures noted in the CARDs were primarily self-revealing issues and associated with equipment age. There was no apparent common thread between unit 1 issues and units 2, 3, and 4 issues.

b. Effectiveness of Prioritization and Evaluation of Issues

(1) Inspection Scope

The inspectors reviewed documents associated with CARDs 03-19464, 06-24977 and 06-25051. The intent of this review was to determine if the CARDs adequately evaluated and prioritized actions to address these problems.

(2) Issues

Inspectors identified no significant issues with the licensee's prioritization and evaluation of issues concerning CTG 11-1. In each case reviewed, the unit was declared inoperable and the actions taken appeared to be appropriate.

c. Effectiveness of Corrective Actions

(1) Inspection Scope

The inspectors reviewed 2 years of CARDs generated for CTG 11-1, documents associated with CARD 03-19464, CTG 11-1 maintenance history, CTG 11-1 surveillance requirements, procedures, and drawings. The intent of this review was to determine if corrective actions taken for problems were effective in correcting the problems and preventing the recurrence of significant problems.

(2) Issues

The inspectors identified an issue with the surveillance requirements for TRLCO 3.7.7. This TRLCO requires CTG 11-1 to be operable to meet Appendix R requirements. Surveillance requirement Technical Requirements Surveillance Requirement (TRSR) 3.7.7.3 is a monthly operability test. The surveillance used to satisfy TRSR 3.7.7.3 is conducted with external AC power available to the control circuitry for CTG 11-1. The failures associated with CARD 03-19464 were only evident when external AC power was not available. The DC motor that failed resulting in CARD 06-24977 is required only when external AC power is not available.

The inspectors questioned the acceptability of this surveillance requirement and were informed the licensee performs a test every 18 months which includes a black start (external AC power not available) of CTG 11-1. CTG 11-1 did start successfully on the last two attempts with external AC power not available. The licensee wrote CARD 06-27421 to evaluate whether or not this 18-month test should be included in the Technical Requirements Manual.

The inspectors determined that corrective actions had been taken to improve the reliability of black start capability which included staging a diesel generator in the area to provide external AC power if required during a loss-of-power event. The inspectors also noted that CTG 11-1 started successfully during the two black start opportunities in the last 2 years. External AC power was available during the August 1 failure and this failure does not appear to be related to previous black start issues.

.4 Operator Work-Around Review

a. Inspection Scope

The inspectors completed the annual review inspection sample by reviewing the cumulative effects of operator work-arounds. The inspectors reviewed licensee practices for the identification, review, and assessment of operator work-arounds including any cumulative impact. This inspection included review of the licensee's Operations Department Expectation, ODE-6, Revision 6, "Operator Challenges," completed Operator Challenge Screening Forms from the procedure, and computer generated lists used to evaluate the aggregate impact.

These activities represented one operator work-around inspection sample.

b. Findings

No findings of significance were identified.

.5 Annual Sample: Review of Several Condition Reports

a. Inspection Scope

The inspectors completed one annual inspection sample regarding problem identification and resolution by conducting in-depth reviews for several condition reports. Specifically, the inspectors reviewed CARD 06-25021, NRC Concern -Corrective Action Issues; CARD 06-24046, Main Unit Transformer 2B sudden Pressure Trip; and CARD 06-25246, Common Cause Review of Recent Plant Significant Issues.

The inspectors verified (1) the problems were accurately identified, (2) the root cause, apparent cause, and contributing causes were adequately justified, (3) extent of condition and generic implications were appropriately addressed, (4) previous occurrences were considered, and (5) corrective actions proposed/implemented were appropriately focused to address the problems and were commensurate with the safety

significance of the issues. The inspectors however, could not determine the effectiveness of the corrective actions to prevent recurrence because several corrective actions were still in the planning stage.

These activities represented one annual inspection sample.

b. Findings

No findings of significance were identified.

4OA3 Event Followup (71153)

.1 (Closed) LER 50-341/2006-004: Emergency Diesel Generators Out of Service Due to Undersized Control Power Transformers

As described in inspection report (IR) 05000341/2006015, the licensee declared all four EDGs inoperable on August 17, 2006, due to undersized control power transformers in the EDG service water pump motor control center breaker cubicles. The licensee implemented compensatory measures to restore operability to both Division II EDGs the following day and completed a modification to restore operability to both Division I EDGs on August 20, 2006. During the extent-of-condition review, the licensee discovered additional impacted equipment and declared the associated equipment inoperable, where appropriate, and completed repairs to restore operability. Two findings of very low safety significance were identified in IR 05000341/2006015. No new findings were identified in the inspectors' review of this LER. The licensee documented this issue in their corrective action program as CARD 06-25253. This LER is closed.

.2 Gasoline Can Fire Outside Turbine Building

a. Inspection Scope

The inspectors responded to a gasoline can fire that occurred outside the turbine building on November 3, 2006. While refilling the gas tank on a portable boring machine being used for cathodic protection upgrades, the wind blew some of the gasoline onto the still hot muffler, which ignited the gasoline. The person holding the can threw the can to the ground and attempted to put the fire out with water. Members of the fire brigade responded to the area and put the fire out with carbon dioxide extinguishers within approximately 4 minutes. The inspectors responded to both the area of the fire and the control room to monitor the licensee's response to the fire including firefighting activities. The inspectors ensured that the licensee entered and followed Abnormal Operating Procedure, 20.000.22, "Plant Fires." The inspectors also ensured that the licensee appropriately classified this event in accordance with the licensee's emergency response plan and with NUREG 1022, "Event Reporting Guidelines." The inspectors interviewed personnel and reviewed other documents to determine the cause of the fire and any performance deficiencies that may have contributed to the event. The licensee entered this event in the corrective action program as CARD 06-27127.

These activities represented one inspection sample.

b. Findings

No findings of significance were identified.

4OA5 Other Activities

.1 (Closed) URI 05000341/2006003-05: Inappropriate Use of Risk in Operability Evaluations

a. Inspection Scope

This item was open pending the inspectors' review of the licensee's full extent-of-condition review and subsequent risk evaluation of previous evaluations similarly performed with an inappropriate reliance on risk to help justify operability. The inspectors reviewed the previously identified evaluations to ensure the condition did not render the involved equipment inoperable or result in an unrecognized increase in plant risk. The inspectors interviewed engineering personnel, reviewed documents, and performed equipment walkdowns on a sampling basis. These activities were counted as an inspection sample in IR 05000341/2006003 and, therefore, do not constitute an additional inspection sample in this report.

b. Findings

Introduction: The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," for the failure to adequately control the design of the plant.

Description: As described in section 1R15.3 of Inspection Report 05000341/2005003, on June 15, 2006, the inspectors identified that the insulation was missing from the suction pipe for the "B" residual heal removal (RHR) pump and questioned the licensee if the insulation removal had an approved engineering evaluation. The insulation was credited for limiting post-accident temperatures in the reactor building and was, therefore, required for operability of nearby equipment. With a proper evaluation, the insulation could be removed while the plant was on-line. Because the insulation was required, in part, for equipment qualification, the licensee was required to evaluate the temperature effects of removing the insulation after a design basis accident. However, the licensee's evaluation as documented in CARD 06-23913 utilized normal operating conditions because the licensee deemed the probability of an accident occurring during the period of time that the insulation was removed to be too small to be credible.

The improper use of risk in CARD 06-23913 was used to generate work instructions for removing the insulation as part of WR 000Z062027 which directed the removal of the insulation during the Division II RHR safety system outage. The contaminated insulation on the suction and discharge sides of the pump were to be replaced so the area could be free released. However, WR 000Z062027 did not specify that clean insulation was to be installed prior to declaring the system operable. Consequently,

the system was declared operable on June 14, 2006, with the insulation missing from the suction pipe.

While reviewing this evaluation, the inspectors found five additional CARDs dating back to September 20, 2001, where the licensee used the same method of evaluating on-line insulation removal. The licensee entered this issue into their corrective action program as CARD 06-24156 and reviewed the past operability during post-accident conditions. Neither the inspectors nor the licensee found additional instances where risk was inappropriately used to justify operability. In total, the licensee re-evaluated 57 instances where insulation was removed while at power and determined that potentially affected equipment remained operable in each instance.

In fifty-five of the instances, the insulation was removed to facilitate in-service inspection weld inspections. Both remaining instances involved insulation removal from suction and discharge piping for the "B" RHR pump room. The licensee considered equipment immediately adjacent to the section where the insulation was removed as well as equipment within a reasonable proximity of the exposed pipe. The inspectors reviewed the licensee's evaluation, independently performed plant walkdowns, and ultimately agreed with the licensee's conclusions. The licensee discussed this issue with the engineering staff to re-emphasize the prohibition of using probabilistic risk to justify operability, revised their procedures for performing formal engineering evaluations to clearly describe that prohibition, and were evaluating their program for performing routine engineering evaluations.

Analysis: The inspectors determined the licensee's failure to ensure the Fermi 2 design basis was correctly translated into work instructions for the on-line removal of pipe insulation in safety-related areas of the plant, was a performance deficiency. This finding is more than minor because the inspectors identified a significant programmatic deficiency that could lead to more significant errors if uncorrected. Specifically, the licensee consistently performed similar evaluations for on-line insulation removal as standard procedure since September 20, 2001. Furthermore, the failure to consider the effects of a design basis accident when changing the configuration of the plant could become a more significant safety concern if not corrected.

The inspectors assessed the finding using the phase 1 SDP and determined this performance deficiency affected the Mitigating Systems cornerstone since it affected equipment that would be required to respond to an accident. This finding screened as Green because it was determined to be a qualification deficiency confirmed not to result in loss of operability per "Part 9900, Technical Guidance, Operability Determination Process for Operability and Functional Assessment." This finding had a cross-cutting aspect in the area of Human Performance (decision making component) in the aspect of conservative assumptions, because the licensee did not thoroughly evaluate for operability the removal of thermal insulation from potentially hot pipes in EQ areas of the plant, which was an issue that could have potentially impacted nuclear safety.

Enforcement: 10 CFR 50, Appendix B, Criterion III, requires, in part, that the design basis for safety-related components be correctly translated into specifications, drawings, procedures, and instructions. Contrary to the above, on June 11, 2006, the licensee failed to ensure the post-LOCA design basis for safety-related, environmentally qualified equipment in the Division II RHR pump room was correctly translated into the instructions contained in WR 000Z062027 for removing and replacing the RHR pump "B" suction and discharge pipe insulation. Because this violation was of very low safety significance (Green) and documented in the licensee's corrective action program as CARD 06-24156, this finding is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy (NCV 05000341/2006005-02). URI 05000341/2006003-05 is closed.

.2 (Closed) Temporary Instruction (TI) 2515/169: Mitigating Systems Performance Index (MSPI) Verification

a. Inspection Scope

The inspectors sampled licensee data to verify correct implementation of the MSPI verification guidance for reporting unavailability and unreliability of the monitored safety systems in accordance with NEI 99-02, Revision 4. The monitored systems included EDGs, high pressure coolant injection (HPCI), RCIC, RHR, service water. The inspectors reviewed various documents such as operating logs, maintenance records, CARDs, surveillance test data, system health reports, and the maintenance rule database to verify that the licensee properly accounted for planned and unplanned unavailability. Specifically, the inspectors sampled data to verify that the licensee (1) accurately documented the baseline planned unavailability hours for the MSPI systems, (2) accurately documented the actual unavailability hours for the MSPI systems, and (3) accurately documented the actual unreliability information for each MSPI monitored component.

b. Issues and Observations

No findings of significance were identified. Although the inspectors discovered inaccuracies in the licensee's MSPI data as discussed below, none of the inaccuracies was significant enough to cause a change in the MSPI index color and, therefore, the inaccuracies screened as minor issues. Although this issue will be corrected, it constitutes a violation of 10 CFR 50.9 that is of minor significance and not subject to enforcement action in accordance with section IV of the Enforcement Policy. As required in section 05 of the TI, answers to the five questions are detailed below.

1. For the sample selected, did the licensee accurately document the baseline planned unavailability hours for the MSPI systems?

   No. The NEI guidance required the licensee to use unavailability information from the years 2002 through 2004 for the first submittal after which they could modify the baseline data if there was a substantial change in maintenance philosophy. Because the licensee revised their preventative maintenance program around 2002 to 2003, they believed the baseline data could, therefore, be modified to a

different time period. The licensee chose 2003 through 2005 as the baseline years and indicated as such in the basis document along with the statement that those years were chosen because of a change in maintenance philosophy.

While reviewing the basis document, the inspectors questioned why the baseline years were different than what was specified in the NEI guidance. The inspectors learned that the licensee relied on a qualitative judgement of what constituted a change in maintenance philosophy and never evaluated the actual 3-year unavailability data of 2002 through 2004 compared to 2003 through 2005. Therefore, the licensee did not have sufficient documentation to show the actual impact that the change in maintenance philosophy had on planned unavailability, i.e. whether it had a minor or a significant impact.

Further, the NEI guidance required the licensee to use 2002 through 2004 for the baseline years, regardless of any change in maintenance philosophy, for at least the 1st quarter MSPI submittal. Based on feedback from NEI, the licensee revised the baseline unavailability data to use data from 2002 through 2004. In reviewing the revised 2002 through 2004 baseline values, the inspectors noted only minor changes in planned baseline unavailability values from the 2003 through 2005 baseline values.

The inspectors also noted other discrepancies in how the licensee was computing the baseline unavailability values. The licensee utilized spreadsheets to perform the calculations and provided those spreadsheets to the inspectors. After reviewing the spreadsheets, the inspectors noted several errors such as incorrect equations that double-subtracted unplanned unavailability and 3 hours missing from the total critical hours in April 2005.

The licensee entered all of the inspectors' concerns into their corrective action program as CARDs 06-26229, 06-26273, 06-26402, 06-26403, 06-26599, and 06-27989. The inspectors reviewed the licensee's revised baseline unavailability values as well as the response to the inspector-identified basis document errors and were satisfied that the errors were corrected. Upon review of the revisions, there was no change in the MSPI index color. As of the end of this inspection, the consolidated data entry input was revised but the basis document remained unchanged; however, the licensee planned on revising the basis document prior to submitting the 4th quarter 2006 MSPI data which was due by January 21, 2007.

2. For the sample selected, did the licensee accurately document the actual unavailability hours for the MSPI systems?

   No. The inspectors noted numerous minor errors in actual-versus-reported unavailability; however, none of the discrepancies was of sufficient magnitude to cause a change in the MSPI index color, which was currently classified as Green.

3. For the sample selected, did the licensee accurately document the actual unreliability information for each MSPI monitored component?

   No. The inspectors identified one instance where a failure was not properly tracked for the MSPI. Specifically, a failure of EDG-14 occurred on September 16, 2005, when a leak developed on the engine driven fuel oil pump discharge line and operators removed the engine from service to repair the leak. Although the surveillance was successfully completed, the licensee was unable to demonstrate the leak would not have prevented the EDG from performing its intended function as defined in the MSPI basis document. The licensee entered this issue into their corrective action program as CARD 06-27989. The licensee re-characterized this event as an MSPI failure; however, this change did not result in a change to the MSPI index color.

4. Did the inspectors identify significant errors in the reported data, which resulted in a change to the indicated index color? Describe the actual condition and corrective actions taken by the licensee, including the date when the revised PI information was submitted to the NRC.

   No. Although the inspectors identified errors in the data, none of the errors resulted in a change in the index color. The licensee revised their reported MSPI data, which was expected to be in the January 2007 submittal.

5. Did the inspectors identify any significant discrepancies in the basis document which resulted in (1) a change to the system boundary, (2) an addition of a monitored component, or (3) a change in the reported index color? Describe the actual condition and corrective actions taken by the licensee, including the date of when the basis document was revised.

   No. The inspectors identified minor discrepancies in the basis document that had no impact on the system boundary, the monitored components, or the reported index color. With the exception of the baseline years as specified in the original basis document, all inspector-identified discrepancies were editorial in nature. For example, the licensee is not required to include the failure of the HPCI minimum flow valve as a monitored function because it receives an automatic close signal on HPCI initiation. However, the basis document provided the reason for excluding it as a monitored function was due to the low probability of a valid HPCI initiation coincident with operation of HPCI in the test mode; however, that is not a valid reason for excluding the function. Although the licensee was correct in excluding the function, the basis document incorrectly identified the reason why. The licensee revised the basis document accordingly.

This completes the Region III inspection requirement for this Temporary Instruction.

4OA6 Exit Meetings

.1 Exit Meeting Summary

On January 17, 2007, the inspectors presented the inspection results to Mr. D. Cobb and other members of licensee management at the conclusion of the inspection. The inspectors asked the licensee whether any material examined during the inspection should be considered proprietary. No proprietary information was identified.

.2 Interim Exit Meetings

Interim exit meetings were conducted for:

- Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems inspection with Mr. D. Cobb, Assistant Vice President, on November 9, 2006;

- Biennial Operator Requalification Program inspection with Mr. T. Horan, Operations Training Supervisor, on December 4, 2006; and

- Emergency Preparedness inspection with Mr. K. Morris, Emergency Preparedness Supervisor, on December 27, 2006.

4OA7 Licensee-Identified Violations

No findings of significance were identified.

ATTACHMENT: SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

D. Gipson, Vice President Nuclear Generation
D. Cobb, Plant Manager
K. Burke, Supervisor, Performance Engineering
R. Gaston, Manager, Nuclear Licensing
T. Horan, Operations Training Supervisor
D. Kusumawati, Engineer, Nuclear Licensing
R. Libra, Director Nuclear Engineering
K. Morris, Emergency Preparedness Supervisor
D. Noetzel, Manager Nuclear System Engineering
B. O'Donnell, Manager, Performance Engineering
M. Philippon, Operations Manager
G. Piccard, Manager, Radiation Protection
J. Plona, Director, Nuclear Engineering
J. Priest, Acting Radiation Protection Manager

NRC

C. Lipa, Chief, Division of Reactor Projects, Branch 4
S. Orth, Team Leader, Division of Reactor Safety, Plant Support Team
H. Peterson, Chief, Division of Reactor Safety, Operations Branch
K. Riemer, Chief, Division of Reactor Safety, Plant Support Branch

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000341/2006005-01	NCV	EDG-14 Fast Start, Slow Start and Run, and Load Reject
05000341/2005005-02	NCV	Inappropriate Use of Risk in Operability Evaluations

Closed

50-341/2006-004	LER	Emergency Diesel Generators Out of Service Due to Undersized Control Power Transformers
05000341/2005003-05	URI	Inappropriate Use of Risk in Operability Evaluations
2515/169	TI	Mitigating Systems Performance Index (MSPI) Verification

Discussed

None.

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 of portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

Section 1R01: Adverse Weather Protection

2006 Cold Weather Preparations
ARP 5D106, Rev 8: CST/CRT/DST Temp Low
CARD 06-27069: Door Securing Mechanism for the Right Door to the GK Breaker Cabinet is Broken
Procedure 27.000.04, Rev 32: Freeze Protection Lineup Verification
Procedure 27.000.07, Rev 0: Cold Weather Operations
TMPE 04-0302: Engineering Evaluation and Recommendations for CWPH Flow Diverter Concrete Anchors
WR 000Z050086: Replace Existing Anchor Bolts With SST Anchor Bolts in #3 CWP Bay Sump Area
WR H532050100: Temperature Switch Electric: Condensate Storage Control Panel - Low Temperature

Section 1R04: Equipment Alignment

Drawing 6M721-5715-4, Rev D: Standby Feedwater Lube Oil System Turbine Building
Drawing 6M721-5727, Rev U: Reactor Building Closed Cooling Water Functional Operating Sketch
Procedure 23.127, Attachment 1C, Page 10 of 25: RBCCW Valve Lineup

Section 1R05: Fire Protection

CARD 06-27492: Cable Spread Room, NRC Concerns Found During Walkdown
Procedure 28.507.05, Rev 15: Inspection of Penetration Fire Stops
Procedure FP-AB-5-16e, Rev 2: Auxiliary Building, Division II Control Center Heating, Ventilating, and Air Conditioning System Equipment Room, Zone 16, El. 677'6"
Procedure FP-AB-5-16d, Rev 3: Auxiliary Building, Division I Control Center Heating, Ventilating, and Air Conditioning System Equipment Room, Zone 16, El. 677'6"

Section 1R06: Flood Protection Measures

CARD 05-25383: SEN Internal Flood Design Deficiencies

Section 1R11: Licensed Operator Requalification

Evaluation Scenario SS-OP-904-0211: 72R Loss / Loss of Air / ATWS / SRV Failure
Evaluation Scenario SS-OP-904-1025: Seismic event, 72E bus trip, Aftershock, Loss of Feedwater, LOCA
Fermi Licensed Operator Requalification Program Results

Section 1R12: Maintenance Effectiveness

Selected Maintenance Rule Out of Service Evaluations
N2103 Monthly MR Report
CARD 03-00518: Fire at EDG-11
CARD 03-16149: EDG-14 Speed Oscillations at Idle
CARD 03-17233: As-Found Flow for EDG-12 Service Water Less Than Acceptable Band/Also EDG-11
CARD 03-21459: EDG-12 Start Failure During Slow Start Surveillance
CARD 04-23549: EDG-12 Fast Start Load Reject Issues
CARD 04-23684: EDG-12 Start Failure
CARD 05-00004: Loose Bulkhead Fitting
CARD 05-00737: Leak from EDG-11 Standby JCS Pump
CARD 05-22237: Failed PMT EDG-13 Output Breaker 12EC POS EC3
CARD 05-25276: EDG-14 Engine Driven Fuel Oil Pump Discharge Leak
CARD 06-22739: Acrid Smell From EDG-13 Local Control Cabinet
Selected CECO data from 01/01/2005 to 10/01/2006 for System R30 (EDG)
Maintenance rule monthly reports from 01/01/2005 to 10/01/2006 for System R30 (EDG)

Section 1R13: Maintenance Risk Assessment and Emergent Work Evaluation

CARD 06-20571: EDG-12 Output Breaker 12EB Pos EB3 Failed to Close
CARD 06-26843: ITC Replacement of Transmission Line Poles
Maintenance Rule Conduct Manual MMR Appendix H, Rev 2: On-Line Maintenance Risk Matrix
Nuclear Training Lesson Plan, LP-GN-546-0100, Rev 0: Refuel Vendor Training, Refueling Vendor Leadership Training
Nuclear Training Lesson Plan, LP-GN-546-0200, Rev 0: Refuel Vendor Training, Operating the Fermi 2 Refueling Bridge
Refueling Platform Activities, Course 912102
Refueling Platform Qualification OE-GN-546-0200, Rev 0
Refueling/Undervessel, CP-GN-546, Rev 1
Operations Conduct Manual, MOP16, Rev 3: Conduct of Refuel Floor Activities (Non-outage)
Risk Management Plan: Irradiated Fuel Inspection
Safety Plan: EDG-11 Safety System Outage, 10/23/06
Scheduler's Evaluation for Fermi 2: 11/16/2006
Scheduled Risk Profile Summary: Week of 11/27/2006
Shift Manager's Meeting Agenda 11/28/2006
Temporary Modification: 06-0027, Rev 0 dated 11/12/06: System PIS Number H11P632
Training Attendance Record, Jan 31, 2006
WR 000Z052796: Part 7 PMT Activity-1

WR 000Z060445: Part 7 PMT Activity: PI Instruction
WR B846060100: Part 7: PMT Activity: PI Instruction
WR C640070100: Part 7: PMT Activity: P2 Instruction
WR G806040100: Part 7 PMT Activity: PI Instruction
WR X911060100: Part 7: PMT Activity 1
Weekly T+1 ALARA Review: November 20 through November 26, 2006

Section 1R15: Operability Evaluations

CARD 06-24156: Effect of Accidents Not Addressed in Insulation Removal Evaluation for E1100F031B. NRC Concern
CARD 06-26080: Div 1 EECW Room Cooler Raychem
CARD 06-27096: No Seismic Report for Seismic Cat. I AOVs exist at Fermi 2 per CECO
CARD 06-27664: AVR General Alarm
Operational Decision-Making Issue 06-007: High Temp of RRMG "B" Voltage Reg
TMOE-06-0145: Management Expectations Regarding Reliance on Engineering Evaluations Performed in Support of Planned Maintenance

Section 1R19: Post-Maintenance Testing

CARD 03-19464, CTG 11-1 Failure to Start During LOP
CARD 05-23843: EECW DW Leak
CARD 06-23488: Main Turb High Press Stop Valve #1
CARD 06-26837: #1 HPSV Closure
CARD 06-26863: Main Turbine HP Stop #1 Valve Not Fully Closing During Trip/Valve Closure Test Sequence.
Operational Decision Making Issue 06-009: AVR General Alarm
WR 000Z041000: Stroke Valves Open / Closed and Verify Proper Operations of Valves with No Unusual Binding
WR 000Z053182: PMT Activity - No PMT Required
WR 000Z060282: PMT Activity C WR 000Z060600: Perform EDG-11 Run
WR 000Z062684: CTG 11-1 Failure to Start
WR 000Z061755: Perform SOP Run of EDG-11
WR 000Z062063: PIS: R3001S002
WR 000Z063602: SLC Pump A Discharge Pressure Relief Valve Lifting During Surveillance
WR 000Z063606: PI: N3021F003A
WR 000Z063628: PIS: X41K002A
WR A531060100: During SOP Run Verify No Leaks at the Air Coolant Pump Piping and Seal
WR B597060100: PIS: R3000F097C
WR B599060100: PIS: R3000F100C
WR C680060100: Perform FAST START of EDG-11
WR D484060100: Perform Operational Check of X4103C004
WR E670050100: PIS: R3000F023A
WR F721060100: Perform Operational Check of R3001-C005
WR F743070100: Perform Operational Check of X4103-C001
WR F756070100: Perform Operational Check of MOC
WR G736060100: PIS: R3000F031C
WR X521060100: PIS: X4103F149A

Section 1R22: Surveillance Testing

Surveillance Performance: Perform 28.504-02 Diesel Fire Pump Weekly Operability

Section 1EP4: Emergency Action Level and Emergency Plan Changes

Fermi 2 Power Plant Emergency Plan; Revision 31

Section 2PS1: Radioactive Gaseous And Liquid Effluent Treatment And Monitoring Systems

Audit Number 06-0114; Radiation Protection; Environmental Protection (Non-REMP) and Radiological Effluents Program (Including Offsite Dose Calculation Manual); dated September 8, 2006
CARD 05-26416; Unanticipated Area Radiation Monitor Alarm During Reactor Water Clean-up Isolok Sampling; dated November 15, 2006
CARD 06-23561; Nuclear Energy Institute Industry Initiative on Managing Situations Involving Inadvertent Radiological Releases in Groundwater; dated July 18, 2006
CARD 06-2402; Potential Uncontrolled Release Path; dated June 14, 2006
CARD 06-25329; Revise ODCM to Incorporate Requirements of Groundwater Protection Initiative; dated August 18, 2006
CARD 06-26124; Recommended Improvements for Noble Gas Grab Sampling; dated September 21, 2006
CARD 06-27203; Circulation Water Reservoir Decant Line Radiation Monitor D11k8020 Failed Downscale; November 8, 2006
Fermi 2 ODCM - Technical Response Manual Volume II; Revision 14
MRP04; Accessing and Working in the Radiologically Restricted Area; Revision 18
NPRP-06-0004; Re-evaluation of EECW Division 1 Radiation Monitor Set-points; dated January 6, 2006
NRC-06-0031; Annual Radioactive Effluent Release and Radiological Environmental Operating Reports; dated April 28, 2006
NRC-05-0034; Annual Radioactive Effluent Release and Radiological Environmental Operating Reports; dated April 29, 2005
NRC-06-0058; Groundwater Protection - Data Collection Questionnaire; dated July 28, 2006
Updated Safety Analysis Report Section 5; Revision 22
WI-PO-016; Work Instruction - Radiation Protection Operations Guidance Response to Unplanned Radiological Events and Stop Work Criteria; Revision 0
WI-RP-012; Work Instruction for Voluntary Groundwater Reporting Requirements; Revision 0
Procedure 20.000.02; Abnormal Operating Procedure, Abnormal Release of Radioactive Material; Revision 23
Procedure 43.404.001; Standby Gas Treatment Filter Performance Test Division 1; dated January 25, 2006
Procedure 43.404.002; Standby Gas Treatment Filter Performance Test Division 2; dated March 8, 2006
Procedure 64.080.203; Standby Gas Treatment Exhaust Process Radiation Monitoring System Calibration; Division 1; Revision 12
Procedure 64.080.204; Standby Gas Treatment Exhaust Process Radiation Monitoring System Calibration; Division 2, Revision 10

Procedure 64.080.206; Reactor Building Exhaust Plenum Process Radiation Monitoring System Calibration; Revision 8
Procedure 64.080.212; Radwaste Building Ventilation Exhaust Process Radiation Monitoring System Calibration; Revision 11
Procedure 64.080.214; Turbine Building Ventilation Exhaust Process Radiation Monitoring System Calibration; Revision 10
Procedure 64.080.218 On-site Storage Building Ventilation Exhaust Process Radiation Monitoring System Calibration; Revision 11
Procedure 66.000.406; Residual Heat Removal Service Water Division 2 Radiation Monitor Radiological Calibration and functional test; Revision 4
Procedure 66.000.407; Emergency Equipment Cooling Water (EECW) Division 1 Radiation Monitor Radiological Calibration; Revision 6
Procedure 67.000.052; Eberline SPING Radiation Monitors General Sampling; Revision 15

Section 4OA2: Identification and Resolution of Problems

CARD Review Board Meeting 10/18/06
Corrective Action Review Board Meeting Comments from October 18, 2006
CARD 06-24210: NRC Concern: PC Storage Bin Located Next to an Instrument Rack in South West Quad
CARD 06-26430: No Lubricant Specified for EECW Pump Motors
CARD 06-26627: EDG-14 Overspeed Trip Test Issues
CARD 06-26782: NRC Concern: Potential Localized Fire Hazard from Protective Clothing and Trash Receptacles
CARD 06-27127: Portable Gas Can Caught on Fire During Refueling Evolution
DC-4921 Rev F: Fire Area Matrix Safe Shutdown Analysis
DC-5702, Attachment 2.5 Detailed Calculation (Summary of Combustibles)
E-mail from Mark McDonough dated 10/20/2006, 2:31 PM: No requirements that identify how far combustible materials (transients) should be kept away from ignition sources.
LER 2006-004: Emergency Diesel Generators Out of Service Due to Undersized Control Power Transformers
Memo dtd 11/03/2006 Transient Combustible Walkdown Results
Plant Support Equipment Approval Form 06-0382 11/09/1995
Procedure 27.307.01, Rev 0: Emergency Diesel Generator Failure
Procedure 27.307.01, Rev 2: Emergency Diesel Generator Failure
Procedure 27.307.02, Rev 0
Procedure 27.307.03, Rev 0
Procedure 27.307.04, Rev 0
Radiological Survey: AB-SB HPCI Rm
Radiological Survey: RB-SB Bottom of Torus
Radiological Survey: RB-3 CRD Rebuild Room
Radiological Survey: FPCCU Valve Gallery
Radiological Survey: RB-1
Operations Department Expectation ODE-6 Revision 6; Operator Challenges; 11/09/05
Administrative Procedure 4.12; Operator Work-around Program; Revision 4
CARD 06-21114, Opportunity for Improvement; 3/5/2006
Open Operator Challenges (ODE-006) printout; October 2006
CARD 06-25021, NRC Concern - Corrective Action Issues

CARD 06-24046, Main Unit Transformer 2B Sudden Pressure Trip
CARD 06-25246, Common Cause Review of Recent Plant Significant Issues

Section 4OA5: Other Activities

Selected CECO data from 01/01/2002 to 10/01/2006 for the following systems: EDG, HPCI, RCIC, RHR, and RHRSW.
Maintenance rule monthly reports from 01/01/2002 to 10/01/2006 for the following systems: EDG, HPCI, RCIC, RHR, and RHRSW
CARD 03-00518: Fire at EDG-11
CARD 03-16149: EDG-14 Speed Oscillations at Idle
CARD 03-17233: As-Found Flow for EDG-12 Service Water Less Than Acceptable Band/Also EDG-11
CARD 03-21459: EDG-12 Start Failure During Slow Start Surveillance
CARD 04-23549: EDG-12 Fast Start Load Reject Issues
CARD 04-23684: EDG-12 Start Failure
CARD 05-00004: Loose Bulkhead Fitting
CARD 05-00737: Leak from EDG-11 Standby JCS Pump
CARD 05-20210: Following HPCI Run, Turbine Steam Control Valve Indicates Dual in MCR
CARD 05-20760: RHR Pump 'D' Trip Following RHR Overpressure Alarm
CARD 05-21619: Pressure Regulator Failure
CARD 05-22237: Failed PMT EDG-13 Output Breaker 12EC POS EC3
CARD 05-23618: While Performing 24.204.06, E1150-F017B Would Not Re-open
CARD 05-25276: EDG-14 Engine Driven Fuel Oil Pump Discharge Leak
CARD 05-25805: E1150-F016A Position Indication Lost - Loose Fuse Clip
CARD 05-26202: NRC PI&R Inspection that the Effectiveness Review for CARD 03-12686, Loose Connection in Lube Oil Pressure Sensing Line of EDG-12, Did Not Identify CARD 05-00004, Loose Bulkhead Fitting as a Problem
CARD 05-26217: Control Power Fuse Blown
CARD 05-26821: Received 2D40 'NSSSS Outboard Valves Thermal Overload' Alarm
CARD 05-26919: Inadvertent Lifting of Incorrect Leads for E11N021B
CARD 06-21656: Blown Control Power Fuse on E1150-F017B
CARD 06-22311: Blown Control Power Fuse on E1150-F017B, 72CF-4B While Performing 24.204.03 - FME Issue
CARD 06-22361: E1150F608 Blown Fuse (Shutdown Cooling Valve)
CARD 06-22731: Load Shed of Bus 72EC Occurred During Surveillance Testing
CARD 06-22739: Acrid Smell From EDG-13 Local Control Cabinet
CARD 06-23494: E1100F050A Actuator Failed to Open Valve
CARD 06-24026: Dual Indication Received During Valve Stroke
CARD 06-24083: E11N601B was Found Failed During the Performance of the PM. AFCC2
CARD 06-26041: Blown Indication Fuse for E1150F024A While Changing Light Bulb
CARD 06-26229: MSPI Basis Document Surveillances Where a Train is Available with Operator Recovery Action Should be Listed - NRC Concern
CARD 06-26273: NRC Follow-up Items Concerning the MSPI Basis Document - NRC Concern
CARD 06-26544: EDG-12 Below MR Performance Criteria for Conditional Probability
CARD 06-26599: NRC Concern on MSPI Baseline Data Interval

CARD 06-27089: E11F400C (RHRSW Pump C Min Flow Valve) Did Not Fully Stroke During PM E152060100.
Surveillance Performance, Job ID 0213041129: Perform 42.302.02 Div 1 Bus 64B/11EA4160V
Surveillance Performance, Job ID 0301050915: Perform 24.307.33 EDG-14, 24-Hour Run Followed by Hot Fast Restart
Surveillance Performance, Job ID 0350030328: Perform 24.630.01 Remote Shutdown Panel Control Circuit/Switch Test
Surveillance Performance, Job ID 0350041022: Perform 24.630.01 Remote Shutdown Panel Control Circuit/Switch Test
Surveillance Performance, Job ID AA64060602: Perform 47.000.02 Mechanical Vibration Measurements for Trending (EDG-12)
Surveillance Performance, Job ID AA64060804: Perform 47.000.02 Mechanical Vibration Measurements for Trending (EDG-12)
Surveillance Performance, Job ID ED42051104: Sample EDG-12 Woodward Governor Oil
Surveillance Performance, Job ID 0123030203 Perform 24.205.05 Div 1 RHRSW Pump & Valve Operability
Surveillance Performance, Job ID: 0213030602: Perform 42.403.02 Div 1 Bus 64B/11EA 4160V Undervoltage Logic Functional
Surveillance Performance, Job ID 0302060125: Perform 24.307.34 DGSW, DFOT & Starting Air Operability Test-EDG-11
Surveillance Performance, Job ID 2243030703: Perform 24.321.02 Dedicated Shutdown (3L) H21P625 and H21P632 Operability - Online
Surveillance Performance, Job ID 2243041121: Dedicated Shutdown Panel H21-P625 Operability Test (For E1150F068A)
System Health Fermi 2, EDGs, Current Quarter, 3: Year, 2005
WR 000Z030743: E1151C001A and E1151C001C Pump Cavities Are Not Draining Thru Drain Lines
WR 000Z031277: Corroded Bolts on RHRSW Pump ‘A’ Column Flanges
WR 000Z033026: Install Splash Guard Per ERE-32656 and Clean Out Pump Cavity Drain Pipe
WR 000Z033115: Corrosion in the Pump Seal Area Causing Drain Blockage
WR 000Z033831: Perform Baseline AOV Diagnostic Testing of E11F400A
WR 000Z042173: RHRSW South Pump Room North Service Water ‘A’ Pump
WR 000Z973482: RHR Division 1 Heat Exchanger ‘A’ Service Water Outlet Isolation Valve
WR B758050100: Perform MINI Periodic MOV Inspection and MPM Stroke Test
WR B763040100: Perform MINI Periodic MOV Inspection. MPM Stroke Test (Not Required).
WR C960030100: Perform MOV Thermal O/L Test - E1150F068B
WR E252030100: Test Motor Per 35.329.001
WR E254030100: Perform Test on Medium Voltage Breaker 11EA-EA2
WR E370020200: Perform MOV Thrust (VOTES) Testing Per GL 96-05 Program
WR E435060100: Perform MAXI Periodic MOV Inspection and MPM stroke Test

LIST OF ACRONYMS USED

CARD	Condition Assessment Resolution Document
CFR	Code of Federal Regulations
CTG	Combustion Turbine Generator
DRP	Division of Reactor Projects
DRS	Division of Reactor Safety
EDG	Emergency Diesel Generator
HPCI	High Pressure Coolant Injection
HVAC	Heating, Ventilating, and Air Conditioning
LOCA	Loss of Coolant Accident
LER	Licensee Event Report
MSPI	Mitigating System Performance Indicator
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
PMT	Post-Maintenance Testing
PI	Performance Indicator
RETS/ODCM	Radiological Effluent Technical Standards/Offsite Dose Calculation Manual
RHR	Residual Heat Removal
SBO	Station Black Out
SDP	Significance Determination Process
SOP	Standard Operating Procedure
TR	Technical Requirements
TS	Technical Specifications
UFSAR	Updated Final Safety Assessment Report
WR	Work Request