



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
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November 15, 2011

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

**SUBJECT: FERMIL POWER PLANT, UNIT 2, NRC PROBLEM IDENTIFICATION AND
RESOLUTION INSPECTION REPORT 05000341/2011008**

Dear Mr. Davis:

On October 7, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed a Problem Identification and Resolution biennial team inspection at your Fermi Power Plant, Unit 2. The enclosed report documents the results of this inspection, which were discussed on October 7, 2011 with J. Plona and other members of your staff.

This inspection was an examination of activities conducted under your license as they relate to problem identification and resolution and compliance with the Commission's rules and regulations and the conditions of your license. Within these areas, the inspection involved examination of selected procedures and representative records, observations of activities, and interviews with personnel.

Based on the inspection sample, the inspection team concluded that the implementation of the corrective action program and overall performance related to identifying, evaluating, and resolving problems was generally effective. Licensee identified problems were entered into the corrective action program at a low threshold. Problems were generally prioritized and evaluated commensurate with the safety significance of the problems. Corrective actions were generally implemented in a timely manner commensurate with their importance to safety and addressed the identified causes of problems. Lessons learned from industry operating experience were effectively reviewed and applied when appropriate. Audits and self-assessments were effectively used to identify problems and take appropriate actions.

No findings were identified during this inspection.

J. Davis

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

Sincerely,

/RA/

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

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

Enclosure: Inspection Report 05000341/2011008
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-341

License No: NPF-43

Report No: 05000341/2011008

Licensee: Detroit Edison Company

Facility: Fermi Power Plant, Unit 2

Location: Newport, MI

Dates: September 19 to October 7, 2011

Team Lead: R. Lerch, Project Engineer, RIII

Inspectors: R. Jones, Resident Inspector
V. Meghani Reactor Inspector
G. O'Dwyer, Reactor Inspector
S. Shah, Reactor Engineer

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

Enclosure

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SUMMARY OF FINDINGS

Inspection Report 05000341/201008; 09/27/2011 – 10/7/2011; Fermi Power Plant, Unit 2; Routine Biennial Problem Identification and Resolution Inspection.

This inspection was performed by four NRC regional inspectors and one resident inspector. 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.

Problem Identification and Resolution

On the basis of the sample selected for review, the team concluded that implementation of the Corrective Action Program (CAP) at Fermi was generally effective. The licensee had a low threshold for identifying problems and entering them in the CAP. Items entered into the CAP were screened and prioritized in a timely manner using established criteria and were properly evaluated commensurate with their safety significance. In general, causes for issues were adequately determined and corrective actions were generally implemented in a timely manner, commensurate with the safety significance. Based on engineering issues raised through the assessment period and recurring equipment issues, some licensee evaluations and corrective actions were not comprehensive or rigorous enough. The team noted that the licensee effectively reviewed operating experience for applicability to station activities. Audits and self-assessments were determined to be effectively performed at an appropriate level to identify deficiencies. Based on the independent assessment of safety culture results, interviews conducted during the inspection, and review of the employee concerns program, employee freedom to raise nuclear safety concerns without fear of reprisal appeared to be demonstrated.

A. NRC-Identified and Self-Revealed Findings

No items of significance were identified.

B. Licensee-Identified Violations

No violations of significance were identified.

REPORT DETAILS

4. OTHER ACTIVITIES

4OA2 Problem Identification and Resolution (71152B)

The activities documented in Sections .1 through .4 constituted one biennial sample of Problem Identification and Resolution (PI&R) as defined in Inspection Procedure (IP) 71152.

.1 Assessment of the Corrective Action Program Effectiveness

a. Inspection Scope

The inspectors reviewed the licensee's Corrective Action Program (CAP) implementing procedures and attended CAP meetings to assess the implementation of the CAP by site personnel.

The inspectors reviewed risk and safety significant issues in the licensee's CAP after August 31, 2009, which was since the last Nuclear Regulatory Commission (NRC) PI&R inspection in September/October 2009. The selection of issues ensured an adequate review of issues across NRC cornerstones. The inspectors used issues identified through NRC generic communications, department self assessment, licensee audits, operating experience reports, and NRC documented findings as sources to select issues. Additionally, the inspectors reviewed issue reports generated as a result of facility personnel's performance in daily plant activities. In addition, the inspectors reviewed condition reports, which are referred to as Condition Assessment Review Documents (CARDs) and a selection of completed investigations from the licensee's various investigation methods, which included root cause, apparent cause, equipment apparent cause, and common cause investigations.

The inspectors extended the review of the Diesel Fire Pump back 5 years with an emphasis on issues associated with system degradation due to aging aspects. The inspectors also performed a partial system walkdown of the Diesel Fire Pump.

During the reviews, the inspectors determined whether the licensee staff's actions were in compliance with the facility's corrective action program and 10 CFR Part 50, Appendix B, requirements. Specifically, the inspectors determined if licensee personnel were identifying plant issues at the proper threshold, entering the plant issues into the station's CAP in a timely manner, and assigning the appropriate prioritization for resolution of the issues. The inspectors also determined whether the licensee staff assigned the appropriate investigation method to ensure the proper determination of root, apparent, and contributing causes. The inspectors also evaluated the timeliness and effectiveness of corrective actions (preventing recurrence if required by Appendix B) for selected issue reports, completed investigations, and NRC findings, including Non-Cited Violations (NCVs).

b. Assessment

(1) Effectiveness of Problem Identification

In general, problem identification was adequate and at an appropriate threshold. The sample of issues reviewed by inspectors that were entered into the CAP indicated a low threshold, with a steady generation of CARDS on a monthly basis. Corrective Action Program generation numbers appeared representative of a good problem identification ethic. During the assessment period, the station initiated approximately eight thousand to nine thousand CARDS per year with the majority of the documents classified as a level 3 (an adverse condition that has or would have minimal affect on the safe or reliable operation of the plant or personnel safety) or a level 4 (a condition that is not adverse to quality or a concern, suggestion, or a question that does not represent a condition adverse to quality, nonconformance, or program deficiency). This was consistent with the last biennial NRC inspection. Other safety conscious work environment (SCWE) indicators such as surveys and interviews indicated willingness to identify issues and capture them in the CAP.

Observations

Identification of Issues by the NRC and Self Revealing Events

Based on the population of issues identified by Component Design Basis Inspection (CDBI) (Fermi Inspection Report 05000341/2010006), the inspections for Independent Spent Fuel Storage Installation (ISFSI) preparations, as well as other issues such as weaknesses in the procedures for the dedicated shutdown panel, the inspectors concluded that there were too many issues that were self-revealed or identified by the NRC. For most issues of this nature, the plant staff had prior opportunities for identification and correction. The licensee had recently initiated a performance metric to measure and track the proportion of conditions identified by organizations outside of the line organization which will provide information on future performance in this area.

Findings

No findings were identified.

(2) Effectiveness of Prioritization and Evaluation of Issues

The inspectors determined that the overall performance in prioritization and evaluation of issues was acceptable. The inspectors determined that the Corrective Action Review Board and Ownership Screening Committee meetings were generally thorough and maintained a high standard for approving and reviewing CARDS. The timeliness of initial classifications and the level of classification (1, 2, 3 or 4) appeared consistent with the licensee's procedures. The inspectors determined that the licensee was generally effective at evaluating equipment functionality, operability, and reporting requirements after a degraded or non-conforming issue was identified. Risk consideration was used in prioritizing and evaluating issues.

While most evaluations were good, inspectors noted that some evaluations lacked depth and rigor. This was evidenced by issues identified during the inspection period where weaknesses were observed by inspectors with ISFSI and CDBI and other issues. In addition, inspectors were concerned with evaluations that characterized issues as “legacy issues”. This appeared to inhibit evaluators from delving into the true cause of issues to identify complete resolutions. Examples of this included the evaluation of the diesel fire pump failure and design calculation issues with ISFSI and CDBI findings.

Observations

Examples of a Lack of Comprehensiveness in Evaluations

The NRC Region III Division of Reactor Safety (DRS) inspectors commenced reviewing calculations and other design documents that established the basis for the ISFSI project, which did include reviews of reactor building superstructure and crane needed for ISFSI cask lifts. By June 2010 there were many unresolved technical questions from the DRS inspectors. There was no evaluation, such as an apparent or common cause, of these issues until fall 2010 when the licensee identified overstresses under seismic loading for the reactor building superstructure and the crane supports. That apparent cause evaluation (ACE) for (CARD 10-28090) reviewed only the calculation issues related to the use of a concrete compressive strength value of greater than the specified design strength of 4000 psi, and the use of structural steel strength values based on Certified Material Test Reports (CMTRs) rather than the minimum strengths per the American Institute of Steel Construction (AISC) specification. The apparent cause was determined to be legacy by personnel who were no longer at the station. The evaluation did not capture the broader set of technical issues raised by the DRS inspectors, many of which were associated with more recent calculations. The NRC issued NCV 05000341/2011002-02: Design Control Measures Failed to Ensure Adequacy of the Design Relating to the Reactor Building Crane Support Structure and Reactor Building Superstructure, addressing the engineering issues.

The evaluation of the automatic scram received due to degraded main condenser vacuum was reported in Inspection Report 05000341/2011002. The ACE for CARD 10-29450 determined that the cause of the loss of vacuum was the failure of #3 steam jet air ejector (SJAЕ) steam supply to nozzle gasket, which caused steam erosion of the seating surface and loss of capacity. The evaluation, done when the operating experience was first received, did not recognize the causal relationship between the operating experience received from the boiling water reactors owners group (BWROG) Off Gas committee regarding Browns Ferry reporting erosion of the nozzle to steam supply joint and the applicability to Fermi 2.

The evaluation of the monthly tritium sample of radwaste ventilation that was not taken (CARD 11-20542) assigned the direct cause to failure of multiple personnel to validate the procedure to plant conditions. While this was a true statement, it combined the specific responsibilities of operations, engineering, and the chemistry technician assigned to the task of sampling all together into one direct cause. The apparent cause identified the operations responsibilities for reviews and peer checks. Had the direct cause been separated into specific causes, they could have been individually identified and listed as direct and/or contributing causes in order to avoid masking the specific elements of defenses in depth that failed.

The ACE performed by the licensee for CARD 11-24234 identified that International Transmission Company (ITC) had installed a software feature to their real time contingency analyzer in 2005, which over-predicted the generation sources. The ACE concluded that the direct cause of the event was this software feature, and the apparent cause was that ITC did not recognize this software feature in their real time contingency analyzer. The ACE did not evaluate the period from the installation of this software feature in the ITC analyzer (2005) until November 2010 when Fermi 2 had first given direction to ITC to monitor the grid for predicted voltage drop in case of a plant trip. Further, the ACE did not evaluate a similar event occurring 1 month prior to the April 26, 2011 event (i.e., the CARD), to determine why sufficient investigation had not been performed to determine the magnitude of variation that should be expected between the ITC, Detroit Edison (DTE) Systems Operation Center (SOC), and Midwest independent Transmission Operator (MISO) analyzers. This value was later determined to be 0.2 percent. Finally, the ACE concluded that even though there is a Memorandum of Understanding (MOU) between Fermi 2 and ITC, that the causes were only related to ITC.

As documented in inspection report 05000341/2010006, the CDBI team identified weaknesses in various electrical design calculations. The ACE for CARD 10-20823 identified that the extent of the observed weaknesses in the engineering process were only present in Plant Support Engineering (PSE) electrical group. It further concluded that there were no issues with civil calculations. The extent of condition evaluation failed to include the PSE mechanical-civil calculations for which many technical issues were identified by the NRC during the ISFSI inspections. Further, the associated barrier analysis identified no failure of the engineering process.

Findings

No findings were identified.

(3) Effectiveness of Corrective Actions

The inspectors concluded that corrective actions for identified deficiencies were generally timely and adequately implemented, commensurate with their safety significance. With one notable exception, problems identified using root or apparent cause methodologies were resolved in accordance with licensee program and NRC requirements. The exception was a finding identified in Nuclear Quality Assurance (NQA) audit, NQA 11-0103, which found four examples of "significant conditions adverse to quality" as defined by licensee procedures, did not have the required "corrective actions to prevent recurrence" assigned. The inspectors reviewed the corrective actions taken by the licensee (CARD 11-22599) and concluded that they were appropriately extensive and thorough. The inspectors also sampled corrective actions assignments for selected NRC documented violations and findings and determined that the actions were generally effective and timely. The inspectors noted NQA, an onsite independent group, added value in identification of the issue. The licensee generally used risk insights in prioritizing corrective actions.

Observations

Repeat Failures of Maintenance Rule Systems

The inspectors reviewed CARDS related to the risk significant system, D1100, Radiation Monitors to determine if the CARDS were being closed with incomplete equipment work through closure of work orders. Although the inspectors did not note any such examples, they did, in a few instances, observe that the work performed on equipment was ineffective. Equipment had repetitive failures and the corrective actions were not effective, particularly, those related to the radwaste system particulate iodine and noble gas (SPING) radiation detector equipment (CARDS 09-00829, 09-28802, 10-00378, 11-24624, 11-27834), Circulating Water Decant Radiation Monitor (CARDS 11-25534, 11-28172, 11-20497), and Offgas Radiation monitors (CARDS 09-27855, 10-21398). There were not significant conditions adverse to quality.

Examples of a Lack of Effectiveness in Evaluations

Potential High Pressure Coolant Injection (HPCI) Failure Recurrence

Level 1 CARD 10-32191 documented the December 28, 2011 failure of the HPCI minimum flow valve due to blown fuses. This card investigated and corrected potential failures, as no specific failure mechanism was identified. There were no corrective actions to prevent recurrence (CATPR) developed/implemented. This was identified on a subsequent NQA audit NQA 11-0103. Subsequently, on 9/6/2011, the HPCI minimum flow valve fuses again blew (CARD 11-28197). An emergent issue team (EIT) was formed and the HPCI minimum flow valve was repaired and restored to operability. An ACE investigation was underway. The inspectors will follow-up on this issue under the baseline program.

Diesel Fire Pump Failures

The inspectors identified several concerns with the ACE and the Equipment Cause Evaluation (EACE) associated with CARD 09-26811. On September 2, 2009; CARD 09-26811 was issued to document that during a start of the Diesel Fire Pump (DFP) personnel observed a few drops of raw fuel dripping from the first exhaust clamp downstream of the turbocharger. The fuel oil rapidly burned off as the exhaust line temperature increased with some smoke forming in the room. Personnel shut down the DFP and investigated the problem. The licensee determined that the fuel line check valve had failed to prevent fuel oil from draining back into the engine cylinder while it was shutdown. When the DFP was started the excess fuel oil was blown unburned out of the cylinder and into the exhaust line with some fuel oil leaking out of the exhaust line clamp and burning, which produced smoke in the room. The licensee replaced the check valve and the DFP ran correctly during subsequent tests. On September 28, 2009; CARD 09-27514 was issued to document that during another DFP start, personnel observed a larger amount of raw fuel dripping from the first exhaust clamp which burned and produced significant amounts of smoke in the room requiring the operators to shutdown the DFP. The Shift Manager declared the DFP inoperable and the DFP could not be run because of concern that there could be a fire in the room. The licensee then determined that the reason the check valve had failed in both events was because pieces of a degraded elastomer grommet in the fuel line had wedged under the seat of the valve and allowed the fuel oil backflow. The licensee closed CARD 09-27514 to

CARD 09-26811 because the events had been similar and the corrective actions would be the same. The ACE written for the events of CARD 09-26811 and CARD 09-27514 was not written clearly, because sometimes it seemed to combine the two separate events as one event. Also, Section 6.9 stated that the root cause was that the service life of the grommet was exceeded because there was no Preventive Maintenance (PM) [task] to inspect or replace the grommet. The inspectors questioned why the failure of the vendor manual drawings to identify that degradable elastomers were used in the fuel lines was not identified as the cause. The licensee wrote a PM to inspect and/or replace the grommet but had decided not to revise the vendor manual. The inspectors questioned why the vendor manual had not been revised to ensure future personnel would be cognizant of the elastomer. The licensee also had decided not to issue an operating experience report (OE) to notify other licensees that there were degrading elastomers in the fuel lines not identified on vendor documentation. The inspectors questioned this decision to not issue an OE because this type of diesel is in use throughout nuclear and non-nuclear industries. The inspectors identified that the CARD had also incorrectly specified that the DFP was both NQ (no quality requirements) and QA1M (augmented quality requirements) and questioned if training on quality classifications was necessary. While reviewing CARD 09-28611 to respond to the inspector's questions, the licensee identified that an effectiveness review of the corrective actions had not been done. On October 5, 2011, the licensee initiated CARD 11-29057 to clarify the description of events in CARD 09-28611, correct the DFP quality classification in the CARD, consider quality classification training, recommend adding the elastomer locations to the vendor manual, reconsider issuing OE, and perform an effectiveness review of the corrective actions. These issues did not prevent the site from having an adequate fire protection program.

Findings

No findings were identified.

(4) Other Program Observations

Observations

CARDS as Stand-Alone Documents and Operability Evaluations

The inspectors concluded that the station was generally effective at documenting CARDS and including information related to the corrective actions implemented. The timeliness of initial operability/inoperability classifications appeared consistent with the licensee's procedures and NRC requirements. The inspectors concluded that the licensee was generally effective at evaluating equipment functional requirements after a degraded or non-conforming issue was identified.

While most operability evaluations were good, some documentation weaknesses were noted. While reviewing certain CARDS, it was not clear to the inspectors whether equipment was operable or inoperable. In cases where equipment was inoperable, the CARDS did not have enough information related to compensatory actions taken. In certain cases, it was difficult to understand what work was performed on equipment before returning it operation. In one specific case, notably an evaluation to leave a face shield in the reactor coolant system, the evaluations, conclusions and compensatory actions implemented were not adequate to ensure component operability.

NCV 05000341 2010005-01 in the fourth quarter of 2010). Other cases included conditions when radiation monitors were inoperable. Therefore, CARDS as standalone documents were inadequate, in some cases, in conveying all the measures and corrective actions taken to address unplanned equipment failures; specifically, CARDS 10-00378, 11-28172, 09-28405, 09-00829 and 11-28739.

Failure to Document Root Cause Downgrade

As previously reported in inspection report 05000341/2011002, the licensee chartered a root cause team (in August 2010) to conduct a formal root cause evaluation (RCE) under CARD 10-26632, to evaluate the 2010 CDBI results. After 6 months of effort, the team leader of the RCE was changed. Subsequently, the CARD 10-26632 title was also revised to Missed Opportunity Review for CDBI Results. The history of CARD 10-26632 identified that the management sponsor did not: approve the root cause evaluation report prepared by the root cause evaluation team, approve the change of team membership, nor approve the revision of the level 2 card from a formal root cause evaluation to a missed opportunity review (which is not a formal RCE). MQA12, RCEs, Section 4.3.4 regarding analyses, step 3 advises, if the picture is not complete and cannot be further developed, communicate this issue with the management sponsor and document the basis for ending the investigation and analysis in the RCE Section of the report. The evaluation effort performed over the period from initiation (on August 4, 2010) until revision of the team (on January 18, 2011) was never issued or documented in the CARD.

Corrective Action Program Computer Tracking System

The inspectors and some staff had issues with computer searches and issue tracking. Some personnel stated that if a CARD needs a work order (WO) to direct work to correct the identified condition, the CARD may be closed to a WO, however, the condition related the CARD may not have been corrected prior to CARD closure. This makes tracking the actual completion of a particular issue/condition difficult. Inspectors and some plant staff had difficulty with searching the database for WOs and CARDS indicating that a higher knowledge level was necessary to efficiently navigate the new CARD software system. Entering search criteria that were too broad resulted in a lengthy search time that appeared to lock up the computer, while there was also no easy way to terminate the CARD search.

.2 Assessment of the Use of Operating Experience

Inspection Scope

The inspectors reviewed the licensee's implementation of the facility's OE program. Specifically, the inspectors reviewed implementing OE program procedures, attended CA program meetings to observe the use of OE information, completed evaluations of OE issues and events, and selected monthly assessments of the OE composite performance indicators. The inspectors' review was to determine whether the licensee was effectively integrating OE experience into the performance of daily activities, whether evaluations of issues were proper and conducted by qualified personnel, whether the licensee's program was sufficient to prevent future occurrences of previous industry events, and whether the licensee effectively used the information in developing departmental assessments and facility audits. The inspectors also assessed if

corrective actions, as a result of OE experience, were identified and effectively and timely implemented.

a. Assessment

Operating experience was reviewed by the licensee and evaluated for applicability to Fermi. Necessary corrective actions and program enhancements from the licensee OE evaluations were placed into the CAP.

Observations

The inspectors reviewed the corrective actions implemented by the licensee based on feedback provided by the CDBI Team inspectors. These actions were documented in CARD 10-20898, "2010 CDBI, Operating Experience Review." The licensee's corrective actions included creating a system for quality grading of OE CARD documentation, and including this grade as a contributor to the OE program performance indicator health report. Additional actions included assigning OE CARDS a significance level of 3 or above to ensure that they receive a thorough review from management. The licensee's evaluation concluded that the OE CARD quality improved from a 78 percent pass rate in 2008 to a 92 percent pass rate in 2009-2010.

The NRC inspectors reviewed OE CARDS 11-26215, 10-23207, 10-22089 and CARDS 10-31430, 10-22632 and 10-29450 related to Root Cause evaluations to determine the effectiveness of licensee OE CARD program. The NRC inspectors concluded that the licensee made improvements to the OE review process and the corrective actions were effective.

Findings

No findings were identified.

.3 Assessment of Self-Assessments and Audits

a. Inspection Scope

The inspectors assessed the licensee staff's ability to identify and enter issues into the CA program, prioritize and evaluate issues, and implement effective corrective actions, through efforts from departmental assessments and audits.

b. Assessment

The inspectors concluded that self-assessments and audits were typically thorough, and effective at identifying issues and enhancement opportunities at an appropriate threshold level. A significant self-assessment program was scheduled and tracked across station organizations and issues were captured and resolved in the CA program. The inspectors reviewed the self-assessment performed on the CA program and found no issues with the overall results and conclusions drawn.

c. Findings

No findings were identified.

.4 Assessment of Safety Conscious Work Environment and Safety Culture

a. Inspection Scope

The inspectors assessed the licensee's SCWE through the reviews of the facility's employee concern program implementing procedures, discussions with coordinators of the employee concern program, interviews with personnel from various departments, and reviews of issue reports. The inspectors also reviewed the results from a Safety Culture Survey conducted in 2010 and an internal safety culture review performed for the year 2010. The review was done to ensure there was a free flow of information and determine if there was a reluctance to raise nuclear safety concerns.

Assessment of SCWE

The Employee Concerns Program was accessible to employees and dealing with employee issues. Based on inspector observations of the CA process and discussions with plant staff, the indications were that plant staff felt free to raise issues either with their supervisor, through the CA process, or through the Employee Concerns Program without fear of retaliation.

b. Observations

Nuclear Safety Culture Assessment

A nuclear safety culture assessment was performed in July of 2010 at Fermi by the Utility Services Alliance organization using a process they have developed involving an anonymous survey, on-site reviews, observations, and interviews. The inspectors compared the 2008 results with 2010 and discussed the process and results with plant staff. Overall, the survey and plant follow up of the results through the 2010 review constituted a robust look at safety culture and a meaningful response effort to address the weaknesses identified by the assessment. The inspectors observed that the safety culture survey response rate improved from approximately 49 percent to approximately 66 percent, leaving 34 percent not responding. No reasons were given or proposals made to improve the response rate further. Neutral responses were considered with positive responses in assessing the data. Interpretation of these survey responses was presented with no industry context to indicate how this represented expected results.

The licensee issued Fermi 2 Business practice FBP-82, "Nuclear Safety Culture Monitoring" on October 6, 2011. This procedure is intended to monitor the health of the nuclear safety culture at Fermi.

c. Findings

No findings were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On October 7, 2011, the inspectors presented the inspection results to Mr. J. Plona, Site Vice President, 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.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

J. Plona, Site Vice President
S. Berry, Manager, Systems Engineering
M. Caragher, Manager, Nuclear Engineering
D. Chupurdy, Performance Improvement
K. Clark, Auditor, NQA
M. Clements, Trending Coordinator-Corrective Action Program
T. Conner, Plant Manager
J. Davis, Nuclear Training Manager
J. Dudlets, Supervisor, PSE Electrical and I&C
R. Eberhardt, Performance Improvement Manager
J. Ellis, Manager, Work Management
J. Fenner, Maintenance CAP coordinator
B. Ford, Manager, Maintenance
L. Green, Quality Assurance, Fermi 3
T. Himebauch, Engineer/Performance Improvement
K. Hullum Lawson, Supervisor, PSE, Mechanical and Civil
J. Korte, Manager, Nuclear Security
R. Johnson, Manager, Nuclear Licensing
J. Louwers, Nuclear Quality Assurance Supervisor
D. Noetzel, Manager, Engineering First Team
S. Oakes, Performance Improvement
J. Pendergast, Principal Engineer-Licensing
S. Reith, Performance Improvement Supervisor
B. Rumans, General Supervisor, Radiation Protection
D. Sadowyj, Senior Engineer-Corrective Action Program
R. Salmon, Compliance Supervisor/Licensing
K. Scott, Director Organizational Effectiveness
G. Strobel, Manager, Operations
T. Thomas, Ombudsman-Employee Concerns Program
J. Thorson, Lead, Engineering Assurance

Nuclear Regulatory Commission

J. Giessner, Chief, Branch 4, DRP Region III
R. Morris, Senior Resident Inspector

LIST OF ITEMS OPENED, CLOSED AND 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.

PLANT PROCEDURES

| <u>Number</u> | <u>Description or Title</u> | <u>Date or Revision</u> |
|---------------|--|-------------------------|
| FBP-82 | Nuclear Safety Culture Monitoring | 0 |
| MGA12 | Fermi Employee Concerns Program | 3 |
| MLS04 | Operating Experience Program | 26 |
| MQA11 | Condition Assessment Resolution Document | 34 |
| MQA12 | Root Cause Evaluations | 17 |
| MQA15 | Apparent Cause Evaluations | 14 |
| MQA16 | Self-Assessment | 8 |

CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED

| <u>Number</u> | <u>Description or Title</u> | <u>Date or Revision</u> |
|---------------|---|-------------------------|
| 09-00829 | RW SPING removed itself from service with no operator action | 09/30/2009 |
| 09-26746 | Received Div 2 RHR Service Water Rad Monitor Upscale Alarm | 09/01/2009 |
| 09-26746 | Received Div 2 RHR Service Water Rad Monitor Upscale Alarm | 09/01/2009 |
| 09-26889 | Div 2 RHRSW Rad Monitor Hi and Hi Hi light on | 10/06/2009 |
| 09-26889 | Div 2 RHRSW Rad Monitor Hi and Hi Hi Light on | 09/06/2009 |
| 09-26934 | D11R601 Off Gas PRMS recorder failure | 09/09/2009 |
| 09-27058 | Mispositioned component, E21F026B found not in service | 09/01/2009 |
| 09-27068 | Mispositioned component: south AB forced draft flow transmitter found valved out of service during attempted aux boiler run | 09/09/2009 |
| 09-27069 | Mispositioned component: north AB atomizing air pressure transmitter found valves out of service during aux boiler test run | 09/12/2009 |
| 09-27162 | Mispositioned component – incorrect breaker cautioned tagged on dist cab 72J-2A-3 | 10/29/2009 |
| 09-27267 | SS-1 Rad Monitor Causing Spurious Alarms | 09/19/2009 |
| 09-27483 | RHR Duct design does not meet UFSAR licensing basis | 09/25/2009 |
| 09-27486 | Mispositioned component: CTG 11 unit 4 compartment heater circuit | 11/21/2009 |

CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED

| <u>Number</u> | <u>Description or Title</u> | <u>Date or Revision</u> |
|---------------|--|-------------------------|
| 09-27693 | NRC PI&R inspection observations: Effective problem identification in security organization | 10/02/2009 |
| 09-27855 | Off gas rad monitor B showing erratic behavior | 10/20/2009 |
| 09-27855 | Off Gas Rad Monitor B showing erratic behavior | 10/08/2009 |
| 09-28028 | 2009 NRC PI&R Inspection Observation – CARD Initiation for Low Level Issues | 10/13/2009 |
| 09-28405 | D11K601B rest switch operation/condition is degraded | 10/28/2009 |
| 09-28405 | D11K601B Reset switch operation / condition is degraded | 10/28/2009 |
| 09-28802 | RW SPING off line | 11/12/2009 |
| 09-28802 | RW SPING off line | 11/12/2009 |
| 09-29361 | Failure of timer light to illuminate | 12/08/2009 |
| 09-29818 | Printer on SS1 is printing partial data | 12/23/2009 |
| 10-00378 | Radwaste SPING sample pump failed to restart after weekly sample obtained | 05/24/2010 |
| 10-00378 | Radwaste SPING sample pump failed to restart after weekly sample was obtained | 05/24/2010 |
| 10-00700 | RB SPING ball valves are starting to leak by | 08/27/2010 |
| 10-00844 | Div 1 SGTS SPING valve D1100F039A indicating light is starting to fail | 11/04/2010 |
| 10-200001 | Div 2 RHRSW rad monitor failure light bulb green cover loose in socket | 01/01/2010 |
| 10-20049 | Offgas linear rad monitor off scale high indication | 01/04/2010 |
| 10-20238 | Vendor seismic report in WEBARMS reviewed by EFT | 01/11/2010 |
| 10-20337 | Cooling fan failure on OSSF SPING | 01/14/2010 |
| 10-20339 | OSSF SPING flow and pressure calibration passes marginally | 01/14/2010 |
| 10-20365 | RWCU Leak during startup | 01/14/2010 |
| 10-20748 | CDBI Identified Canceled DC-5264 may have to be restated | 01/28/2010 |
| 10-20842 | Mispositioned component – Wrong HCU manipulated while responding to an alarm | 12/05/2010 |
| 10-20898 | 2010 CDBI, Operating experience review | 02/02/2010 |
| 10-21006 | Adverse Trend in Personnel Contaminations | 02/04/2010 |
| 10-21398 | B Offgas rad monitor D11K601B has sudden step change from 5.6mr/hr to 3.0 mr/hr | 02/15/2010 |
| 10-21469 | Replace power supply | 02/17/2010 |
| 10-21733 | 2010 CDBI DC-0919 LTC and motor starting | 02/25/2010 |
| 10-21792 | 2010 CDBI – EDP 35621 Backfit Mod Issue | 02/26/2010 |
| 10-21920 | 2010 CDBI NRC questioned completeness of EFA-R14-10-004 | 03/03/2010 |
| 10-22099 | Radwaste effluent radiation monitor inop | 03/10/2010 |

CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED

| <u>Number</u> | <u>Description or Title</u> | <u>Date or Revision</u> |
|---------------|---|-------------------------|
| 10-22364 | Battery hold down strap needs replacement | 03/18/2010 |
| 10-24214 | Trend-PSE CARDS were closed prior to completion of all corrective actions | 05/20/2010 |
| 10-24235 | TB SPING pressure channel failed calibration | 05/21/2010 |
| 10-24263 | Shop work for general atomic RP-23 power supply | 06/30/2010 |
| 10-25403 | Evaluate EECW heat exchanger design basis function | 06/28/2010 |
| 10-25526 | Removed RP-23 power supply needs caps replaced | 06/30/2010 |
| 10-25821 | Div 1 RHRSW rad monitor sample pump or motor bearing making whining noise | 07/12/2010 |
| 10-26745 | Inadequate procedures to control the plant from the dedicated shutdown panel | 04/29/2011 |
| 10-27995 | SSI keyboard requires replacement | 09/10/2010 |
| 10-28055 | D11P279 turbine building SPING surveillance functional unsat | 09/13/2010 |
| 10-28789 | Reactor Building 5th floor Superstructure column welds for built-up section does not meet the drawing | 10/02/2010 |
| 10-28789 | Reactor building 5 th floor superstructure column welds for built-up section does not meet the drawing | 10/02/2010 |
| 10-29450 | Reactor Scram due to loss of vacuum | 10/24/2010 |
| 10-31198 | Malfunctioning recorder MCR offgas linear | 11/26/2010 |
| 10-31897 | Damaged electrical conduit at D11-P274Z junction box | 12/15/2010 |
| 10-31947 | Extension for Analysis of Seismic Impact on Channel Bow – SC 10-21 | 12/16/2010 |
| 10-32219 | Generic Letter 2008-01 Situational Event Detected Air Void In Core Spray Division 2 | 12/29/2010 |
| 10-32219 | Generic Letter 2008-01 situational event detected air void in core spray division 2 | 12/29/2010 |
| 11-00024 | Div 1 RHRSW rad monitor sample pump is not working | 01/10/2011 |
| 11-00750 | Function switch misalignment | 08/05/2011 |
| 11-20497 | Circ Water Decant line radmon trouble in due to low flow | 01/18/2011 |
| 11-21479 | Core Spray Pump Interactions Affecting Minimum Flow Line Effectiveness | 02/08/2011 |
| 11-21479 | Core spray pump interactions affecting minimum flow line effectiveness | 02/08/2011 |
| 11-21521 | Check source not functioning | 02/09/2011 |
| 11-22599 | Audit Finding: Significant conditions Adverse to Quality Do Not Have Corrective Actions to Preclude Recurrence as Required by the UFSAR | 03/11/2011 |

CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED

| <u>Number</u> | <u>Description or Title</u> | <u>Date or Revision</u> |
|---------------|---|-------------------------|
| 11-22689 | EPG-05 "Fire Protection" GAP Closure Review | 03/14/2011 |
| 11-23023 | NRC Concern: T50N105B Flow Switch Calibration Acceptance | 03/24/2011 |
| 11-23153 | RHR/LCI suction strainer debris headloss potentially more limiting for RMI head loss than current analyzed debris source term | 03/29/2011 |
| 11-23687 | GSW radiation monitor recorder reads low during surveillance testing | 04/11/2011 |
| 11-23943 | Inadequate Detection in Emergency Diesel Generator Rooms | 04/29/2011 |
| 11-24624 | Battery backup failure during RW SPING functional surveillance | 05/05/2011 |
| 11-24859 | 3D27 alarmed and cleared, no abnormal rad readings/indications | 05/12/2011 |
| 11-24953 | D11K601A failed downscale | 05/14/2011 |
| 11-25534 | CW decant line rad monitor low flow alarm will not clear | 06/01/2011 |
| 11-26227 | EDG Control Panel Neutral Grounding Resistor Inspection Followup | 06/28/2011 |
| 11-26294 | D11K813 inoperative after surveillance | 06/28/2011 |
| 11-26450 | Heat-traced sample tubing insulation is damaged; needs repair/realignment | 07/02/2011 |
| 11-26471 | 3D45 Control Center makeup air rad monitor div 2 upscale trip | 07/04/2011 |
| 11-26518 | SGTS Div 2 SPING pump flow is trending low | 07/06/2011 |
| 11-26739 | Display failure on turbine building SPING during surveillance performance | 07/14/2011 |
| 11-26770 | Deficiencies with CARD 10-29450 identified during engineering PI&R quick hit self assessment | 07/15/2011 |
| 11-27160 | Deficiency with CARD 10-20982 identified during Engineering PI&R QHSA TMES 11-0023 | 07/28/2011 |
| 11-27538 | D11R602 recorder has failed (offgas linear scale PRMS rec) | 08/10/2011 |
| 11-27834 | Rad waste SPING sample pump would not restart after change out of the sample media | 08/23/2011 |
| 11-28172 | Circ water decant rad monitor flow low alarm locked in | 09/02/2011 |
| 11-28738 | Request visual inspection of main steam line rad monitors connectors J1 and J3 | 09/23/2011 |
| 11-28739 | Replace main steam line rad monitor B low voltage power supply | 09/23/2011 |
| 11-28742 | Request the training main steam line rad monitor chassis be sent to GE for refurbishment | 09/23/2011 |

AUDITS, ASSESSMENTS AND SELF-ASSESSMENTS

| <u>Number</u> | <u>Description or Title</u> | <u>Date or Revision</u> |
|---------------|--|-------------------------|
| | Safety Culture Review January 1, 2010 – December 31, 2010 | |
| | USA Nuclear Safety Culture Assessment | July 2010 |
| | NQA Audit Schedule for 2011 | 12/14/2010 |
| | 2011 Self-Assessment Schedule | 09/09/2011 |
| | 2010 Self-Assessment Schedule | 03/04/2011 |
| | 2009 Self-Assessment Schedule | 07/20/2010 |
| 10-0104 | NQA Audit Report – Evaluation& Corrective Action, and Operating Experience Review Programs | 2010 |
| 11-0103 | NQA Audit Report – Evaluation& Corrective Action, and Operating Experience Review Programs | 2011 |
| 11-26699 | OP.1-1 - Shift Operational Decisions | 07/13/2011 |
| 11-26702 | OP.1-2 - Operability Evaluations | 07/13/2011 |
| 11-26707 | MA.1-3 - Following Written Instructions | 07/13/2011 |
| 11-26714 | CM.2-1 - Time Operators Need To Mitigate Some Accidents | 07/13/2011 |
| 11-26721 | EP.1-1 - Untimely Activation of Emergency Response Facilities | 07/13/2011 |
| 11-26997 | Self-Assessment Recommendation: Emerging Trend Evaluation on CARD quality | September 2011 |
| NAPI 10-0030 | Focused Assessment Report – Operating Experience Program | 09/24/2010 |
| NAPI 11-0088 | Focused Assessment Report – Problem Identification and Resolution Inspection Preparation | 07/22/2011 |
| NPSC-11-0039 | Focused Self-Assessment – Work Management Critique meeting | 05/19/2011 |

WORK ORDERS

| <u>Number</u> | <u>Description or Title</u> | <u>Date or Revision</u> |
|---------------|--|-------------------------|
| 29875903 | D11P279 Turbine building SPING surveillance functional UNSAT | 2010 |
| 30305048 | Div 2 RHR Service Water Rad Monitor Upscale Alarm | 09/21/2009 |
| 30375471 | SS-1 Rad Monitor Causing Spurious Alarms | 2009 |
| 30462243 | Off Gas Rad Monitor B showing erratic behavior | 2009 |
| 30548327 | D11K601B reset switch operation / condition is degraded | 2009 |
| 30835996 | OSSF SPING flow and pressure calibration passes marginally | 2010 |
| 31320678 | TB SPING pressure channel failed Calibration | 2009 |
| 31714628 | RB SPING ball valves are starting to leakby | 2010 |
| 32368045 | Check Source not functioning | 2011 |
| 32611466 | GSW Radiation monitor recorder reads low during surveillance testing | 2011 |
| 32738767 | 3D27 alarmed and cleared, no abnormal rad | 2011 |

WORK ORDERS

| <u>Number</u> | <u>Description or Title</u> | <u>Date or Revision</u> |
|---------------|--|-------------------------|
| 32965549 | readings/indications Heat-traced sample tubing insulation is damaged; needs repair / realignment | 2011 |
| 33151644 | D11R602 recorder has failed (Off gas linear scale PRMS rec) | 2011 |
| 33211434 | Rad Waste SPING sample pump would not restart after change out of the sample media | 2011 |

CONDITION REPORTS GENERATED DURING INSPECTION

| <u>Number</u> | <u>Description or Title</u> | <u>Date or Revision</u> |
|---------------|---|-------------------------|
| 11-29023 | NRC PI&R Question CARD lacking action documentation | 10/2011 |
| 11-29057 | NRC Issues Identified during review of EACE/ACE for CARD 09-22811 | 10/2011 |
| 11-29111 | NRC PI&R- Electrical Design Calculation Reconstitution Program Tracking Card | 10/06/2011 |
| 11-29311 | NRC PI&R Inspection Observation on Identification of Problems | 10/13/2011 |
| 11-29312 | NRC PI&R Inspection Observation on Evaluation of Problems | 10/13/2011 |
| 11-29313 | NRC PI&R Inspection Observation on Effectiveness of Problem Resolution | 10/13/2011 |
| 11-29315 | NRC PI&R Inspection Comment on E-CARD use | 10/13/2011 |
| 11-29316 | NRC PI&R Inspection Comment on CARD Stand-alone Quality | 10/13/2011 |

OPERATING EXPERIENCE

| <u>Number</u> | <u>Description or Title</u> | <u>Date or Revision</u> |
|---------------|---|-------------------------|
| 10-22089 | Evaluate IN 2010-06 Inadvertent CRD Withdrawal Event While Shutdown | 04/05/2010 |
| 10-22632 | Automatic Reactor Scram due to Turbine Trip | 03/29/2010 |
| 10-23207 | Evaluate NRC Information Notice 2010-09, Importance of Understanding Circuit Breaker Control Power Indications, for impact to Fermi | 04/16/2010 |
| 10-29450 | Reactor Scram due to Loss of Vacuum | 10/24/2010 |
| 10-31430 | Failure of CFD D Main Drain caused entry into TB Flooding AOP | 12/02/2010 |
| 11-26215 | Document applicability of NRC Information notice 2011-12, Reactor Trips Resulting from Water Intrusion into Electrical Equipment | 06/24/2011 |

MISCELLANEOUS

| <u>Number</u> | <u>Description or Title</u> | <u>Date or Revision</u> |
|---------------|---|-------------------------|
| | Fermi 2 Cycle 15 Employee Engagement/Leadership Capability Excellence Plan – Tier 2 | 06/27/2011 |
| | List of Open Long Term Corrective Actions | 9/21/2011 |
| | CARDs Initiated by Organization/Month | 9/01/2011 |
| | CARD Ownership/Screening Committee Charter | 9/13/2010 |
| Get Well Plan | DFP is in a(1) of Maintenance Rule | Revision 1 |
| Get Well Plan | TBHVAC system is in a(1) of Maintenance Rule | Revision 1 |
| System | Fire protection system 1 st Quarter 2011 | Revision 1 |
| Health Report | | |
| System | Fire protection system 2nd Quarter 2011 | Revision 1 |
| Health Report | | |
| System | TBHVAC system 2nd Quarter 2011 | Revision 1 |
| Health Report | | |
| TE-B31-09-077 | Evaluate restart of B3101C001A, North RR Pump | 9/15/2009 |

LIST OF ACRONYMS USED

| | |
|-------|--|
| ACE | Apparent Cause Evaluation |
| ADAMS | Agencywide Document Access Management System |
| AISC | American Institute of Steel Construction |
| BWROG | Boiling Water Reactors Owners Group |
| CAP | Corrective Action Program |
| CARD | Condition Assessment Resolution Document |
| CATPR | Corrective Actions to Prevent Recurrence |
| CDBI | Component Design Basis Inspection |
| DFP | Diesel Fire Pump |
| DRS | Division of Reactor Safety |
| EACE | Equipment Apparent Cause Evaluation |
| EIT | Emergent Issue Team |
| HPCI | High Pressure Coolant Injection |
| IP | Inspection Procedure |
| ITC | International Transmission Company |
| ISFSI | Independent Spent Fuel Storage Installation |
| MISO | Midwest Independent Transmission Operator |
| MOU | Memorandum of Understanding |
| NCV | Non-Cited Violation |
| NRC | U.S. Nuclear Regulatory Commission |
| NQA | Nuclear Quality Assurance |
| OE | Operating Experience |
| PI&R | Problem Identification and Resolution |
| PM | Preventive Maintenance |
| PSE | Plant Support Engineering |
| RCE | Root Cause Evaluation |
| SCWE | Safety Conscious Work Environment |
| SJAE | Steam Jet Air Ejector |
| SOC | Systems Operation Center |
| SPING | System Particulate Iodine and Noble Gas |
| WO | Work Order |

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Sincerely,

/RA/

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

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w/Attachment: Supplemental Information

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Letter to J. Davis from J. Giessner dated November 15, 2011.

SUBJECT: FERMIL POWER PLANT, UNIT 2, NRC PROBLEM IDENTIFICATION AND
RESOLUTION INSPECTION REPORT 05000341/2011008

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