

December 4, 2003

Mr. William O'Connor, Jr.  
Vice President  
Nuclear Generation  
Detroit Edison Company  
6400 North Dixie Highway  
Newport, MI 48166

SUBJECT: ENRICO FERMI, UNIT 2  
NRC INSPECTION REPORT 05000341/2003009

Dear Mr. O'Connor:

On October 23, 2003, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Enrico Fermi, Unit 2 nuclear power station. The enclosed report documents inspection findings which were discussed on October 23, 2003, with you, Mr. Cobb, and other members of your staff.

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

On the basis of the review, the team concluded that the corrective action program was generally effective in the identification, evaluation, and resolution of issues. Thousands of issues and concerns were successfully raised and resolved in the course of a year. Two of the issues reviewed by the team were concluded to be findings of very low safety significance (Green). These issues were determined to not involve violations of NRC requirements. However, the team's reviews of events documented in CARDS pointed to a decline in performance that was not related to the corrective action program. In July of 2002, mechanics simultaneously opened core spray containment isolation valves, and in October of 2002, the failure of circulating water pump casing bolts caused a reactor scram. In 2003, the removal of residual heat removal system insulation at power put system operability at risk, including a potential entry into the reactor shutdown requirements of Technical Specification 3.0.3. This issue distracted operators, contributing to a violation of Technical Specifications for a primary containment isolation penetration not being isolated within 4 hours. During the loss of grid voltage in August of 2003, the station blackout combustion turbine generator failed to start. Plant managers were aware of these several issues and were taking action to correct contributing causes. The corrective action process was being appropriately used to address these issues.

W. O'Connor, Jr.

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Sincerely,

**/RA/**

Mark A. Ring, Chief  
Projects Branch 1  
Division of Reactor Projects

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

Enclosure: Inspection Report 05000341/2003008  
w/Attachment: Supplemental Information

cc w/encl: N. Peterson, Director, Nuclear Licensing  
P. Marquardt, Corporate Legal Department  
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L. Brandon, Michigan Department of Environmental Quality  
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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 05000341/2003009

Licensee: Detroit Edison Company

Facility: Enrico Fermi, Unit 2

Location: 6400 N. Dixie Hwy.  
Newport, MI 48166

Dates: October 4 through October 23, 2003

Inspectors: R. Lerch, Project Engineer  
T. Steadham, Resident Inspector  
R. Winter, Reactor Inspector  
M. Mitchell, Reactor Engineer

Approved by: Mark Ring, Chief  
Branch 1  
Division of Reactor Projects

ENCLOSURE

## SUMMARY OF FINDINGS

IR 05000341/2003009; 10/04/2003 - 10/23/2003; Fermi Nuclear Power Station, Unit 2; Problem Identification and Resolution.

The inspection was conducted by three Region III inspectors and the resident inspector. Two Green findings of very low safety significance were identified. The significance of these findings was evaluated using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP).

### Identification and Resolution of Problems

The team concluded that the licensee was generally effective in the identification, evaluation and resolution of issues. However, the team's reviews of events documented in CARDS over the past 2 years pointed at decline in performance that was not related to the corrective action program, but related to poor performance in other areas. The corrective action process was being used to address these events. In July of 2002, mechanics simultaneously opened core spray containment isolation valves, and in October of 2002, the failure of circulating water pump casing bolts caused a reactor scram. In 2003, removal of residual heat removal system insulation at power put system operability at risk, including a potential entry into the reactor shutdown requirements of Technical Specification 3.0.3. This issue distracted operators, contributing to a violation of Technical Specifications for a primary containment isolation penetration not being isolated within 4 hours. During the loss of grid voltage in August of 2003, the station blackout combustion turbine generator failed to start, and in October, a reactor shutdown was initiated when the chillers in both trains of control room ventilation failed to start.

There were several observations by inspectors that were already identified in the licensee's assessments of the corrective action program. These included a backlog of Level 4 CARDS, documentation that was not clear and complete, and the self-assessment program in need of restructuring. Inspectors also observed that tracking corrective action through the documentation was sometimes difficult, although no lost items were identified. Quality Assurance assessments were thorough and added value. The licensee plans to add a computer generated CARD capability in the near future to enhance the program.

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

##### Cornerstone: Mitigating Systems

- Green Inspectors identified a finding that multiple equipment problems experienced with station blackout combustion turbine generator (CTG) 11-1 over several years showed system unreliability and that the licensee failed to establish corrective actions to provide adequate assurance that CTG 11-1 would start on demand. Subsequently, during the loss of offsite power event that occurred on August 14, 2003, CTG 11-1 did not start. The finding represented a decrease in availability, reliability, and capability of the station blackout combustion turbine generator to respond to initiating events. No violation of regulatory requirements occurred.

The inspectors concluded that the finding was greater than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Disposition Screening." The inspectors determined that the finding was more than minor because it affected the Mitigating Systems cornerstone objective to ensure availability, reliability, and capability of the CTG 11-1 system to respond during initiating events. This issue was considered a finding of very low safety significance (FIN 05000341/2003009-01).

- Green The inspectors identified a finding of very low safety significance for failure to adequately evaluate the cause of repeat low oil pressure trips on the control center chillers. No violation of regulatory requirements occurred.

This finding is greater than minor because, if left uncorrected, it would become a more significant safety concern. Specifically, the inoperability of both chillers is an immediate Technical Specification 3.0.3 entry. When the Div. 1 chiller failed to start on September 30, 2003, coincident with the simultaneous failure of the Div. 2 chiller, a plant shutdown was commenced. Thus, the failure to adequately address this issue could have resulted in a reactor shutdown via Technical Specification 3.0.3. Because operators successfully restarted the chiller before the control room temperature rose too high, this finding does not represent an actual loss of a safety function and Technical Specification requirements were met. Therefore, this performance deficiency is an issue of very low safety significance (FIN 05000341/2003009-02).

## Report Details

### **4. OTHER ACTIVITIES (OA)**

#### 4OA2 Problem Identification and Resolution

##### a. Effectiveness of Problem Identification

###### (1) Inspection Scope

The inspectors were briefed by licensee staff members on the operation of the corrective action program, recent program statistics, such as corrective action record document (CARD) generation and closure rates, significance and priority levels assigned to CARDS, and any plans for program changes. Inspectors reviewed a sample of CARDS selected from risk significant systems and issues including NRC findings from the past 2 years. Documents of the licensee ombudsman program, self-assessments, audits, and program monitoring were also reviewed. Samples of operating experience documents were also reviewed. The documents used during the review are listed in Attachment 1.

###### (2) Assessment

The identification of issues at Fermi was working adequately. The licensee was maintaining a low threshold and ease of initiation for CARDS. However, NRC inspectors had identified some issues and the failure of the circulating water pump No. 2 was self-revealing. The ombudsman program was also a viable route to identify issues. Self-assessments were being used by the various departments and appeared effective based on Cards generated from the assessments. The self-assessment program was in minor disarray at the time of the inspection due to lack of oversight while the program was being revised. There was also a disagreement by the operations department over the need to assess corrective actions directly.

##### b. Prioritization and Evaluation of Issues

###### (1) Inspection Scope

From the documents reviewed (from paragraph 4OA2.a.(1) above), inspectors independently assessed whether the prioritizations and evaluations of issues were appropriate. A sample of low level CARDS was reviewed for proper classification and causes for recent events also assessed.

###### (2) Assessment

Two findings of very low safety significance were identified for inadequate past evaluations for combustion turbine generator (CTG) 11-1 and control center HVAC (CCHVAC) chiller oil switch performance issues. In general, the prioritization and evaluation of CARDS were appropriate, although there were other examples of weak assessments and corrective actions identified in Non-cited Violations (NCV) over the



inspection period. The corrective actions for those NCVs were adequate. The documentation of issues and evaluations was often lacking in detail and completeness. A full understanding of some issues and the evaluations was only achieved by discussing the CARD with the participants. The licensee acknowledged that documentation thoroughness was not at the desired level.

(A) Station Blackout Combustion Turbine Generator Unreliability

Inspection Scope

The inspectors reviewed deficiencies documented in CARDS for the Station Blackout (SBO) Combustion Turbine Generator (CTG) 11-1, associated maintenance rule functional failure logs, engineering design packages that installed the station blackout capability for CTG 11-1, and the design package that will install five diesel generators to replace the station blackout capability of CTG 11-1. The inspectors interviewed station personnel to determine the similarities of the functional failures and to understand the proposed corrective actions for the CARDS.

Findings

Introduction. The team identified a Green finding regarding multiple CTG 11-1 equipment problems experienced over several years. The issue involved decreased system reliability and that the licensee failed to establish interim corrective actions (i.e., installation of a temporary diesel) to ensure that the CTG could have started during the loss of offsite power event that occurred on August 14, 2003. The finding was not considered a violation of regulatory requirements. The finding represented a decrease in availability, reliability, and capability of the station blackout combustion turbine generator to respond to initiating events to prevent undesirable consequences (i.e., core damage).

Description. The risk significant function of CTG 11-1 was to provide alternate AC power to system service transformers 64, 66 and 68. These system service transformers supply engineered safety feature bus and balance of plant loads (64), circulating water pump house loads (66), and general service water pump house loads (68). Additionally, updated Final Safety Analysis Report Section 8.2.1.3, "Offsite Power Supply to the Plant from the Switchyards," stated that CTG 11-1 is utilized as the alternate AC source for a station blackout event and to support the dedicated shutdown panel to respond to an Appendix R fire.

On February 15, 1996, CTG 11-1 was classified as 10CFR 50.65 (the Maintenance Rule) a(1) status due to a large number of failures and poor reliability. As part of the 1996 Get Well Plan to remove CTG 11-1 from a(1) status (reference CARD 98-12408 and Deviation Event Report 96-0190), a major multi-million dollar refurbishment upgrade was performed on this combustion turbine generator. This upgrade included installation of a new General Electric Mark V control system, a new GE EX 2000 excitation system, and a new dedicated battery system among other improvements under

Engineering Design Package 28192. System performance improved but was not satisfactory.

In 1997, CTG 11-1 was removed from service for about 5 months for substantial maintenance and not returned to service until 50 reliability start and load tests were successfully completed. Combustion Turbine Generator 11-1 performance had improved and the system was returned to 10 CFR 50.65 a(2) status on October 5, 1999. Since October 1999, CTG 11-1 exceeded maintenance rule performance criteria of "less than 3 failures in the last 20 demands," in December of 2000. Two failures in December 2000 were associated with the original CTG 11-1 equipment. The first occurred while starting CTG 11-1 per Procedure 23.324, "Supervisory Control -120KV Switchyard & CTG 11 Generators." The unit tripped during startup due to high exhaust temperature. The second failure occurred December 12, 2000, when a CTG 11-1 "diesel engine compartment temperature low," alarm annunciated at 03:10. Subsequently, a CTG 11-1, "low hydraulic ratchet forward stroke pressure," alarmed 39 minutes later at 03:49. Again, on January 9, 2001, CTG 11-1 was declared maintenance rule a(1).

The inspectors reviewed CARDS and the CTG 11-1 functional failure log since December 6, 2000 and found fourteen functional failures. These failures included:

Five T1 Fire protection System or CO<sub>2</sub> system actuation alarms caused by a faulty Micro 1-EV card and/or an inadequate ground on the Mark V controller card due to corrosion of tin on tin connections (CARDS 02-15383, 02-12888, 02-12879 and 00-12161(1/6/00 and 1/12/00))

Three hydraulic ratchet failures (CARDS 01-22432, 01-1751, and 00-4366)

One inverter failure due to failed circuit boards (CARD 01-17125)

An excitation failure due to a failure of the LTB circuit board in the CTG 11-1 EX 2000 exciter system (CARD 01-11417)

An inadequate electrical splice causing the atomizing air booster pump not to operate correctly (CARD 00-24766)

Two events involving a diode across 72DSX (Auxiliary Starting Relay) that failed and caused a short across the relay coil which caused a failure of the Mark V termination board (CARDS 00-17465 and 03-14341)

Faulty circuit cards and potential of tin on tin corrosion connections on the Mark V controller (CARD 00-11179)

On August 14, 2003, a loss of offsite power occurred and several attempts to start CTG 11-1 to augment onsite power loads were unsuccessful because the

low voltage set point for the inverter was set too high, causing the inverter to trip repeatedly. Operators powered the inverter by connecting a portable generator. Compounding the start sequence was the fuel forwarding pump failure to start because a contactor was hanging up on the lower portion of an arcing horn (used for arc suppression drain) which prevented the contact from fully closing. This issue was documented in NRC Inspection Report 50-341/2003-008 as an unresolved item pending the root cause determination for the basis of the inverter low voltage set point. Combustion Turbine Generator 11-1 was restored about 7:19 p.m., about 3 hours after the event occurred.

Engineering Design Package 32110 was developed to install five diesel generators to replace the black start capability of CTG 11-1. This modification has been started and is expected to be completed by December of 2004.

Analysis. The inspectors determined that with the multiple CTG 11-1 equipment problems experienced over several years, the unreliability of the system was evident. The need to establish interim corrective actions (i.e, installation of a temporary diesel) to ensure that a CTG could have started during the loss of offsite power event could have been reasonably foreseen by the licensee and this constituted a performance deficiency. The inspectors concluded that the finding was greater than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Disposition Screening," issued on June 20, 2003. The inspectors determined that the finding was more than minor because it affected the Mitigating Systems cornerstone objective to ensure availability, reliability, and capability of the CTG 11-1 system that respond to initiating events to prevent undesirable consequences (i.e., core damage).

The inspectors determined that the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," because the finding was associated with the failure of the station blackout combustion turbine generator to start when called upon during the station blackout event of August 14, 2003. Using IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors answered "no" to all five screening questions in the Phase 1 Screening Worksheet under the Mitigating Systems column. The inspectors concluded the issue was of very low safety significance.

Enforcement. The station blackout combustion turbine generator was a non-Technical Specification system and not required by 10 CFR Part 50, Appendix B; therefore, no violation of regulatory requirements occurred. This issue was considered a GREEN finding of very low safety significance (**FIN 05000341/2003009-01**). The licensee entered improvement plans for CTG 11-1 into the corrective action program under CARD 02-24766.

(B) Failure to Adequately Evaluate Repeated Trips of the Control Room Chillers.

Inspection Scope

The inspectors reviewed plant maintenance history, engineering analyses, completed work requests, previous corrective action documents, and other licensee documentation to ascertain the previous deficiencies identified for the control room chillers. The inspectors also interviewed station personnel to determine the similarities of the failures and to understand the proposed corrective action(s) for the previously-identified failures.

Findings

Introduction. The inspectors identified a green finding regarding multiple control center HVAC (CCHVAC) chiller trips experienced over several years without an adequate evaluation of the extent of condition or the cause of the trips. The licensee identified the cause of the trips to be air in an oil pressure sensing line from a leaking pressure switch; however, the licensee failed to perform an adequate evaluation of why the switches continued to fail. No violation of regulatory requirements was identified since this finding did not represent a significant condition adverse to quality requiring corrective actions to prevent recurrence.

Description. The CCHVAC chillers are responsible for maintaining the control center complex temperature within an acceptable temperature band such that neither control room habitability nor equipment performance is challenged. Each CCHVAC division has one chiller and both chillers are identical units with the normal configuration being one chiller running with the other in standby. When a start signal is received, the chiller will trip if the oil pressure is not at least 6 psig within 25 seconds.

Since January of 1995, at least six separate CCHVAC chiller trips have occurred because of a low oil pressure trip. In July of 1995, it was discovered that the low oil pressure trips were caused by a leaking pressure switch diaphragm. While shutdown, the chiller is at a vacuum which allowed air to leak past the diaphragm and into the oil pressure instrument sensing line. When the chiller was started, this air delayed the oil pressure build-up in the sensing line thus causing the low pressure trip.

The licensee determined that each chiller start attempt forced air from the sensing line which allowed the chiller to successfully start after one or two restart attempts. Corrective actions consisted of replacing the pressure switches twice on the Div. 2 chiller (April 1995 & February 2003) and twice on the Div. 1 chiller (July 1997 & October 2003). After the February 2003 failure, the licensee created a preventative maintenance task to replace these switches on a 6-year frequency.

On September 30, 2003, while shifting divisions of CCHVAC, the Div. 1 chiller failed to start due to a low oil pressure trip. The operators unsuccessfully attempted to restart Div. 2 CCHVAC due to a failed limit switch. Both divisions of CCHVAC were declared inoperable, Technical Specification 3.0.3 was entered, and a plant shutdown was initiated.

About an hour later, the licensee identified the cause of the Div. 1 chiller trip and successfully restarted the chiller. The licensee determined that operator action could be credited towards declaring Div. 1 CCHVAC operable so the operators exited Technical Specification 3.0.3 and terminated the plant shutdown at approximately 84 percent reactor power. The inspectors determined that the licensee's failure to adequately evaluate the pressure switch failures contributed to the entry into Technical Specification 3.0.3 and initiation of a plant shutdown.

Analysis. The inspectors determined that failure to adequately evaluate the cause of the repeated CCHVAC chiller trips was a performance deficiency warranting a significance evaluation. The inspectors concluded that the finding was greater than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Disposition Screening." The inspectors determined that if left uncorrected, repeat pressure switch failures would become a more significant safety concern. Specifically, a failed pressure switch contributed to the entry into Technical Specification 3.0.3 and initiation of a plant shutdown.

In response to this issue, the licensee began an engineering analysis to determine the cause of the repeat pressure switch failures and to effect appropriate corrective actions. The control center heat-up rate, calculated as part of the Engineering Functional Analysis for CARD 99-16680, determined that the most limiting control center temperature is reached in 31 hours without an operating chiller. Because the chillers have routinely been restarted within 1 hour after a low oil pressure trip, the inspectors concluded that reasonable assurance existed that a tripped chiller could be restarted in sufficient time to ensure that no loss of safety function would occur. Therefore, this finding does not represent an actual loss of a safety function.

The inspectors concluded that the mitigating systems cornerstone was appropriate because the loss of cooling capability of both divisions of CCHVAC impacts control room habitability. Using Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors answered "no" to all three screening questions in the Phase 1 Screening Worksheet under Containment Barriers. The inspectors therefore concluded that the issue was of very low safety significance.

Enforcement. No violation of regulatory requirements was identified since this finding did not represent a significant condition adverse to quality requiring corrective actions to prevent recurrence. This issue was considered to be a finding. The licensee entered this finding into the corrective action program as CARD 03-21549 (**FIN 05000341/2003009-02**).

c. Effectiveness of Corrective Action

(1) Inspection Scope

The inspectors evaluated selected CRs and associated corrective actions for the effectiveness of corrective actions. Root cause evaluations and effectiveness reviews were examined. The documents reviewed are listed in Attachment 1.

(2) Assessment

The licensee has had several long term issues that were being addressed such as updating the process computer and the reliability of the station blackout combustion turbine generator which have been difficult to resolve. However, in general, the team found corrective actions appropriate and effective. Follow up actions or ineffective actions were documented on CARDS. No significant issues were identified with the effectiveness of corrective actions.

d. Assessment of Safety-Conscious Work Environment

(1) Inspection Scope

During the inspection, the inspectors asked plant staff the type of questions that might indicate any unwillingness to raise safety questions. The types of questions that were asked are listed in Appendix 1 to Inspection Procedure 71152, "Suggested Questions for Use in Discussions with Licensee Individuals Concerning PI&R Issues." The inspectors also discussed the implementation of the Employee Concerns Program with the plant's Ombudsman and reviewed the types of issues being brought to the ECP.

(2) Assessment

Based on discussions with station personnel, there was no indication of reluctance to raise issues or lack of knowledge of the availability of the corrective action process. Review of the list of issues brought through the ombudsman and interviews indicated that the ombudsman program was another viable outlet for concerns. The ombudsman program was widely advertised and any safety concerns brought to the ombudsman were placed in the corrective action program as appropriate.

4OA6 Meetings

Exit Meeting

The inspectors presented the inspection results to Mr. W. O'Conner, Jr., and other members of licensee management in an exit meeting on October 23, 2003. Licensee management acknowledged the findings presented and indicated that no proprietary information was provided to the inspectors.

## SUPPLEMENTAL INFORMATION

### KEY POINTS OF CONTACT

#### Licensee

W. O'Connor, Jr.	Vice President Nuclear Generation
D. Cobb	Plant Manager
J. Moyers	Manager - Nuclear Quality Assurance, (NQA)
R. Johnson	Supervisor, Licensing
N. Peterson	Manager, Nuclear Licensing
S. Stasek	Director, Nuclear Assessment
R. Libra	Director, Nuclear Engineering
K. Hlavaty	Manager, Maintenance
J. Friend	Specialist, NQA
J. Flint	Specialist, Licensing
K. Tyger	Supervisor, NQA

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

#### Opened

05000341/2003009-01	FIN	Multiple CTG 11-1 Equipment Problems
05000341/2003009-02	FIN	Failure to Adequately Evaluate the Repeat Trips on the Control Room Chillers

#### Closed

05000341/2003009-01	FIN	Multiple CTG 11-1 Equipment Problems
05000341/2003009-02	FIN	Failure to Adequately Evaluate the Repeat Trips on the Control Room Chillers

## LIST OF DOCUMENTS REVIEWED

The following documents were selected and reviewed by the inspectors to accomplish the objectives and scope of the inspection and to support any findings.

### **Procedures**

FBP-19, Integrated Work Management Guideline, Transitioning Between On-line and Off-line Maintenance, July 22, 2003

FBP-26, Self-Assessment Process, Revision 4

MLS-04, Licensing/Safety Engineering Conduct Manual Operation Experience Program, Revision 10

MQA-02, Quality Assurance Conduct Manual Internal Audits and Surveillances, Revision 10

MQA-11, Quality Assurance Conduct Manual Condition Assessment Resolution Document, Revision 8

MQA-12, Quality Assurance Conduct Manual Cause Analysis and Corrective Action Determination, Revision 5

MQA-13, Quality Assurance Conduct Manual Quality Trending, Revision 2

MWC-02, Work Control, Revision 27

General Administration Conduct Manual, MGA 12; Fermi 2 Ombudsman; Revision 1

ODE-4 Rev 3, Organizational Improvement, dated 8/14/03

### **Corrective Action Resolution Documents (CARs)**

DER 95-0060, Div. 1 CCHVAC compressor low or pressure trip, 1/21/95

DER 97-1176, "Div. 1 CCHVAC chiller compressor trip", 7/30/97

99-16680, During the winter months EECW temperature drops below 65 deg. F due to a mechanical stop in the EECW TCV. Analysis of components cooled by EECW have not been performed for the temperature below the system temperature green band lower limit of 65 deg. F, 9/3/99

00-15805, Procedural Discrepancies That May Prevent or Negate Actions Req'd for 20.000.18; 6/16/00

00-24766, ctg 11 Unit 1 Trips on High Exhaust Temperature



01-17302, There are No Site Guideline for Insulation Removal on Operable Equipment, August 1, 2001

01-17307, Ineffective Corrective Action ,CARDS 00-24350 and 0025501, August 22, 2001

01-18874, The Assignment and Tracking of Level 3 CARD Action Items are Inadequate to Ensure Timely Completion, August 29, 2001

01-19002, Inadequate Closure/Incomplete Corrective Action for Level 3 CARD 01-14935, October 11, 2001

01-19330, Nuclear Operator Finds and Stops Leak From Division 2 RHR, November 24, 2001

01-19702, Mispositioned Valve, N3016F355 Found Open During Investigation of High Off Gas Inflow, November 28, 2001

01-20570, Configuration Control: RSR-22214 Not Fully Implemented, October 30, 2001

01-21023, Blave Internal Configuration Does Not Match Vendor Drawing, November 10, 2001

01-21782, Lineup Incorrect for 23.17 Attachment 3C, November 23, 2001

02-10802; HPCI Surveillance 24.202.01, Section 5.3; 01/08/02

02-11747, Fire Protection Program Improvements; 08/14/02

02-11798, Audit Finding: Corrective Action Program Sub-panel Window,R61 CARD Program Effectiveness (Document Quality) has been RED for Approximately 15 Months without a CARD Being Initiated, 04/29/02

02-12530, SER 02-003 Workers Exit Plant Site with Detectable External Radioactive Contamination, May 28, 2002

02-14358, ORH 02-040, Discrete Radioactive Particles Found Outside RRA at Davis-Besse Plant (PNO-III-02-016), April 18, 2002

02-14553, Temp Control Valve Found to Have Body of Valve Eroded Away; 06/07/02

02-14719, Potential Safety Significant Issues in Fire Protection not being Aggressively Pursued, 5/24/02

02-14782, Need to Perform Engineering Evaluation on On-line Insulation removal to Support Pre-outage Inspection

02-15855, Evaluate All Security Firearms and Ammunition for Potential Enhancement or Replacement, July 18, 2002

02-16210; Reactor scram due to #2 CIRC Water Pump Failure; 10/03/02

02-16323; Abnormal Shutdown Indication; 10/22/02

02-16378; Ammeter Oscillated upon Air Compressor Shutdown; 11/9/02

02-16703; Work on D1 CCHVAC return fan; 06/28/02

02-18747; EDG13 & EDG14 DC distribution; 08/12/02

02-19051; Audit finding: Inadequate corrective action plan for CARD 00-10236 resulted in being out of compliance with MES08 procedure requirements for 2 years; 9/5/2002

02-19401; Untimely corrective Actions for Zone 11AB Fire Scenario, 11/26/02

02-20678; Power Found on Limit Switch for G4100-P210A During 00Z01392; 10/31/02

03-00203; Bearing Failure; 3/13/03

03-00690, Individuals Inprocessing Were Identified with Externally Contaminated Personnel Items, March 21, 2003

03-01655; Abnormal Noise/Vibration Div 1 EECW Pump Room Cooler; 10/9/03

03-01657; Pump Has Broken Coupling; 10/14/03

03-02781; Abnormal Noise From West SAC; 9/17/03

03-02811; CTG 11-1 Charger Found Tripped; 10/7/03

03-10310, Insulation found Removed From RCIC Rupture Disks, April 28, 2003

03-11191, T4100B008, Division 2 CCHVAC chiller did not start when required, dated 2/16/03

03-11287, Required Action Of Tech Spec 3.6.1.3 Condition A not6 Taken Within Allowable Completion Time, March 20, 2003

03-12102, Investigate Radioactive Sources Mounted on Radiation Detectors Using Duct Tape, July 4, 2003

03-13339, Individual Granted Access Prior to Receiving Drug Screen Results, February 3, 2003

03-13931; West Station Air Compressor Motor Bearing Failure; 3/19/03

03-14198, Individual Inprocessing was Identified With Externally Contaminated Personal Item, April 1, 2003

03-14451, Corroded Bolts on RHRSW Pump A Column Flanges; 4/5/03

03-14848, Insulation removed Online From RHR heat Exchanger Piping Contrary to Approved Disposition of CARD 02-14782

03-15040; Several CARDS (level 4) Were identified as not being in IT Database Contrary to the Requirements of MQA11; 10/13/03

03-15084, Vent Valve Found Open During Fill and Vent of System. Misposition Valve, April 15, 2003

03-16402, Repeat Issue: EDG #14 CARD 01-01100 "Broken Green Lens"/WR 000Z013304

030-16498, Need to Perform Engineering Evaluation for On-line Insulation removal to Support Pre-outage Inspections, September 10, 2003

03-16533; Qualifications of the Operations Representative on CARD Ownership Committee; 10/07/03

03-16537, Question from NRC PI&R inspection - procedure enhancement, 10/23/03

03-16951, Notification by Dominion that Contract Personnel, Inprocessing from Fermi 2, had Low Levels of Radioactive Material Identified During Entrance Whole Body Counts, April 23, 2003

03-16959, Multiple Low Level Personnel Contamination Events at Fermi 2 Involving Radioactive Material From Other Licensees, April 25, 2003

03-16987, Notification by DC Cook That an Individual Inprocessing had a Positive Whole Body Count, April 30, 2003

03-17138, Valves Not Restored to Correct Lineup Position During Valve Lineup, April 20, 2003

03-18713; Nonconservative Analysis Performed in 1999 EFA Cited in Support of Currently Active CCHVAC EFA (T41-03-016); 10/6/03

03-18770; Monitoring of Reactor Parameters; 10/1/03

03-19199; Audit Finding: Corrective actions on Level 1 CARD 01-21316 were not fully implemented. In addition, new technical requirements for PM event P309 (6 year PM) diesel fire pump were not incorporated into event P309960708; 9/10/2003

03-19607; Adverse Trend With Storage and Handling Issues - Supply Chain; 8/5/03

03-19948; Loss of All Offsite Power due to System Grid Disturbed; 8/15/03

03-20433; (RBD04MX1) Reactor Building Door 04 Magnetic Switch Supervisory 1 Alarmed Numerous times During the Past Nine (9) Days; 10/2/03

03-21311; EDG 12 Lube Oil Pressure Continues to Drop; 10/2/03

03-21549, Div. 1 CCHVAC chiller failed to start, October 1, 2003

03-21550, Div. 2 CCHVAC chiller failed to start, September 30, 2003

03-21551, Tech. Spec. 3.0.3 Entry and Initiation of Plant Shutdown Due to Both Divisions of CCHVAC INOPERABLE, 10/01/03

03-21595; Procedure Enhancement to 24.202.01; 10/14/03

03-21604; Reactor Building Roof Blowout Panel Shear Pins Damaged; 10/16/03

03-21662; Improper Closure of CARD 03-12330; 10/7/03

03-21760; Peaker 1 Tripped During Start Sequence; 10/2/03

03-21869; W CRD Pump Gear Box SWI > AL "C"; 10/03/03

03-22193, Year to Date Review of PR's Human Performance-rate CARDS, September 18, 2003

03-22219; Noise and High Vibration on Div 1 EECW Room Cooler; 10/2/03

03-22251; CARD Written to Document >3 Failures of MW5 in 1 Year; 10/2/03

03-22523; 345 kV Switchyard and 120kV Switchyard do not meet Maintenance Rule Performance Criteria; 10/6/03

03-22639; Radioactive Material Found Outside The RRA; 10/16/03

### **Work Requests**

000Z950994, "Div. 1 CCHVAC chiller did not start after the 25 second time delay was over."

000Z967292, "Spurious alarms received during chiller starts. Troubleshoot/rework."

00Z971932, "Puddle of oil was found under switch."

000Z974298, "During s/u of Div. 1 CCHVAC received 'Comp oil press low.'"

A367030100, "Recal differential pressure switch HVAC chill compressor unit."

A367940726, "Recal diff pressure switch HVAC chill comp unit - rework as required."

A367970709, "Recal diff pressure switch HVAC chiller compressor unit."

H867030100, "replace oil pressure switch for Div. 1 CCHVAC chiller."

A560030100, Refuel Outage Weld Cleaning Including Scaffold and insulation Support for NDE.

A561030100, Pre-outage Weld Cleaning Including Scaffold and Insulation Support for NDE.

### **Miscellaneous Documents**

TSR-27564, Rev. 0, "Obsolete differential pressure switch for CCHVAC system", dated 5/10/95.

SOER 02-4, Recommendation 2, Self-Assessment Report Fermi 2, August 25, 2003.

ARP 8D5, Rev. 6, "Div. 1 Control Room A/C Trouble."

ARP 17D27, Rev. 13, "Div. 2 Control Room A/C Trouble."

VTM VMR1-4.15.2, Rev. A, "United Electric Controls differential pressure controller."

Selected operator logs from 9/30/03 - 10/1/03.

Fermi 2 Card Review Board (CRB) Meeting Minutes; October 1, 2003.

Nuclear Generation Memorandum NPMA-02-0010, "Self Assessment of M&TE Investigations" dated January 16, 2002.

Nuclear Generation Memorandum TMPE 00-0062, "Final Report of Subcommittee CA Program Gap Analysis," 2/9/00.

### **Nuclear Quality Assurance (NQA) Reports**

NQA Report March/April 2002, No. 02-002

NQA Report January and February 2003, No. 03-001

NQA Report March April and May 2003, No. 03-002

NQA Report June July and August 2003, No. 03-003

Self-Assessment Reports for Last 2 Years dated 10/7/2003

2003 Integrated Self-Assessment Schedule dated 10/7/2003 and 10/22/2003