

June 6, 2001

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

SUBJECT: FERMIL 2 NUCLEAR POWER STATION  
NRC INSPECTION REPORT 50-341/01-08(DRP)

Dear Mr. O'Connor:

On May 12, 2001, the NRC completed an inspection at your Fermi 2 Nuclear Power Station. The enclosed report documents inspection findings which were discussed on May 10, 2001, with Mr. Fessler and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel. Specifically, this inspection focused on plant operations, emergency preparedness and radiation protection areas.

No findings of significance were identified.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Sincerely,

*/RA/*

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

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

Enclosure: Inspection Report 50-341/01-08(DRP)

See Attached Distribution

DOCUMENT NAME: G:\ferm\fer200108 drp.wpd

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

OFFICE	RIII	N	RIII	RIII	RIII
NAME	PPelke/trn	MRing			
DATE	05/29/01	06/06/01			

**OFFICIAL RECORD COPY**

W. O'Connor, Jr.

-2-

cc w/encl: N. Peterson, Director, Nuclear Licensing  
P. Marquardt, Corporate Legal Department  
Compliance Supervisor  
R. Whale, Michigan Public Service Commission  
Michigan Department of Environmental Quality  
Monroe County, Emergency Management Division  
Emergency Management Division  
MI Department of State Police

ADAMS Distribution:

CMC1

DFT

MAS4

GEG

HBC

SJC4

C. Ariano (hard copy)

DRPIII

DRSIII

PLB1

JRK1

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 50-341/01-08(DRP)

Licensee: Detroit Edison Company

Facility: Enrico Fermi, Unit 2

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

Dates: April 1 through May 12, 2001

Inspectors: S. Campbell, Senior Resident Inspector  
J. Larizza, Resident Inspector  
P. Pelke, Reactor Engineer, Branch 1  
R. Jickling, Emergency Preparedness Inspector,  
Division of Reactor Safety  
M. Mitchell, Radiation Protection Inspector,  
Division of Reactor Safety

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

## **SUMMARY OF FINDINGS**

IR 05000341-01-08(DRP), on 04/01 - 5/12/01, Detroit Edison Company, Fermi 2 Nuclear Power Station. Emergency Preparedness, Radiation Protection and Resident Operations Report.

This report covers a 6-week routine inspection, a baseline radiological protection inspection and a baseline emergency preparedness inspection. The inspection was conducted by resident and specialist inspectors. No findings of significance were identified.

## Report Details

### 1. REACTOR SAFETY

#### Plant Status

The Fermi 2 plant operated at or near full power until April 26, 2001, when operators reduced reactor power to 12 percent to identify the source of the increased unidentified drywell leakage. On April 27, 2001, the plant was placed in Mode 3, "Shutdown," when packing adjustments to stop a packing leak on residual heat removal shutdown cooling thermal relief line isolation valve E1100F086 were unsuccessful. Following repairs to the valve and upon completion of scheduled outage activities, operators restarted the unit on April 28, 2001, and criticality was achieved on April 29, 2001. On May 1, 2001, operators increased reactor power to 100 percent. Power remained at 100 percent until May 2, 2001, when power was decreased to 98 percent for rod pattern adjustments. Reactor power was increased to 100 percent following completion of rod pattern adjustments on that same day. The unit remained at 100 percent power throughout the rest of the inspection period.

#### 1R04 Equipment Alignments (71111.04Q)

##### a. Inspection Scope

The inspectors used piping and instrumentation diagrams, emergency operating, standard operating and surveillance procedures, condition assessment resolution documents (CARDs), and maintenance work requests to verify valves aligned correctly, material condition, pipe hangers installed correctly and functional, and that electrical power was available for the following systems:

- Standby liquid control system
- Emergency diesel generator 11
- Residual heat removal system
- High pressure coolant injection system

##### b. Findings

No findings of significance were identified.

#### 1R05 Fire Protection (71111.05Q)

##### Quarterly Tour of Risk Significant Areas for Fire Protection

##### a. Inspection Scope

The inspectors toured the following risk significant areas to determine whether combustible hazards were present, fire extinguishers were properly filled and tested, the CARDOX units were operable, and if hose stations were properly maintained:

- Relay room
- High pressure coolant injection room
- Division 1 switchgear room
- Division 2 switchgear room

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12Q)

a. Inspection Scope

The inspectors reviewed the system health reports, associated CARDS, white papers for probabilistic risk assessment on conditional probabilities and the control room unit logs for the following systems to determine whether the maintenance rule program had been implemented appropriately by assessing the characterization of failed structures, systems, and components. The inspectors also determined whether goal setting and performance monitoring were adequate.

- Standby liquid control system
- Control rod drive system
- Combustion turbine generator 11-1
- Residual heat removal system

b. Findings

No findings of significance were identified.

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

.1 Planned Outage to Repair Unidentified Drywell Leak

a. Inspection Scope

The inspectors reviewed the circumstances surrounding the increase in unidentified drywell leakage and the activities associated with the planned outage of the unit to repair the leak on April 26, 2001.

The inspectors attended various planning meetings, reviewed the planned outage scope, observed the selected significant activities, and reviewed work requests.

b. Findings

No findings of significance were identified.

.2 Pressure Transient on High Pressure Coolant Injection System

a. Inspection Scope

Two pressure transients occurred while conducting a test on the high pressure coolant injection system. The inspectors attended several meetings of the root cause investigation team, formed because of the repetitive pressure transients, and observed a run of the system to gather system data used for troubleshooting the condition. The



inspectors independently verified the licensee's schedules and plant risk due to the increase in work scope and verified that contingencies were established to reduce risk and minimize time spent in high safety significant configurations. The inspectors verified that troubleshooting of the high pressure coolant injection system anomalies were adequately controlled and that the licensee restricted work activities to and maintained operability of the redundant reactor core isolation coolant system. The inspectors verified that emergent issues were placed in the corrective action program, particularly the high pressure coolant injection system barometric condenser spray line that was plugged with scotchbrite (CARD 01-11405).

b. Findings

No findings of significance were identified.

1R14 Non-Routine Plant Evolutions (71111.14)

a. Inspection Scope

The inspectors followed-up on the licensee's response to two high pressure coolant injection system hydraulic transients (water hammer) that occurred at 2:00 a.m. and 10:22 p.m. on April 11, 2001. The inspectors reviewed CARD 01-13940 documenting the flow transient occurrences, attended several root cause investigation team meetings, reviewed Drawing 6M721-5708-1, "High Pressure Coolant Injection System," and reviewed General Electric Transient Analysis Recording System traces. Further, because of the history of water hammers during high pressure coolant injection pump operations, the inspectors reviewed previous corrective action documents for the high pressure coolant injection system.

Discussion of Non-Routine Event

On April 11, 2001, at 2:00 a.m., operators performed high pressure coolant system Surveillance Procedure 24.202.01, "High Pressure Coolant Injection Pump Time Response and Operability Test at 1025 psig." During the test, an audible flow transient was heard upon starting the system. The high pressure coolant injection system was declared unavailable. A review of the General Electric Transient Analysis Recording System traces showed that the size of the flow spike was about 2400-gallons per minute. A walkdown of the system to inspect piping, hangers, and supports revealed no damage.

The licensee conducted a fill and vent of the system to remove any steam/air voiding to prevent further flow transients. At 10:22 p.m., operators performed System Operating Procedure 23.202, "High Pressure Coolant injection System," and a 2200-gallon per minute flow transient occurred. Subsequently, the licensee conducted a walkdown of the system piping and found no damage.

A solution team that included engineers from several disciplines was formed to determine the cause of the repetitive flow transients. The solution team met several times where personnel developed a history of the events, developed a change analysis, and developed an action item list that included development of time line and root cause

assessment. Tasks were assigned with due dates. The licensee employed an independent engineering group to review test data and previous flow transient histories.

On April 13, 2001, engineers entered the steam tunnel where some high pressure coolant injection piping is installed. They recorded piping temperatures using thermography, an imaging device that measures pipe contact temperatures, near high pressure coolant injection system injection valve E4150F006, which is the valve closest to the hot feedwater piping. The highest temperatures recorded on the feedwater side were about 400°F and 245°F in the discharge piping. The licensee believed that thermal migration across this valve caused the filled water on the high pressure coolant injection system discharge piping to heat up to a near saturated condition, causing steam voiding of the water. Upon a system start, the water would collapse the void and cause the flow transient.

Engineers also connected monitoring equipment that included strain gages on piping supports and flow monitors on various portions of the high pressure coolant injection system piping. A high pressure coolant injection system test was done at 1:00 a.m. on April 15, 2001, and at 2:00 a.m. and 1:30 p.m. on April 16, 2001. No abnormal noises were heard during these runs. Consequently, the solution team was unable to identify a root cause for the repeat flow transients from the data they collected. However, the independent engineering group recommended that a keep fill system be installed on the high pressure coolant injection system piping to provide pressures high enough to limit steam voiding in the piping. This proposal will be submitted for approval on June 1, 2001. Installation of the modification was not currently scheduled.

Fermi 2 has had a history of flow transients since 1987. Water hammer events occurred both on the discharge and suction pipes, which were attributable to: 1) steam voiding on the discharge piping, 2) failing to vent steam from the discharge piping, 3) removal of piping insulation on the high pressure coolant injection discharge piping to dissipate heat and limit temperature to preclude steam voiding, 4) inappropriate reinstallation of the previously removed insulation, 5) check valve slamming (suction line pressurization), and 6) indeterminate. Although the recent events caused no damage to structures, some previous events have caused piping supports to be loosened. The high pressure coolant injection system remained operable. Nevertheless, the inspectors were concerned about the repetitiveness of the flow transients experienced on the high pressure coolant injection system and the licensee's inability to resolve this issue.

b. Findings

Technical Specification Bases 3.5.1 states that the high pressure coolant injection system is normally aligned to the condensate storage tank. The height of the water in the tank is sufficient to maintain the piping full of water up to E4150F006. The relative height of the feedwater line connection for the high pressure injection system is such that the water in the feedwater lines keeps the remaining portion of the high pressure coolant injection discharge line full of water. Therefore, the system does not need a keep fill system. Based on this description in the Technical Specification Bases, the inspectors were concerned with the licensee's planned actions. This issue is considered an Unresolved Item (URI 50-341/01-08-001) pending completion of the licensee's actions and the inspectors' review of the adequacy of the licensee's actions.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed equipment evaluations to determine if operability was properly justified and the component or system remained available such that no unrecognized increase in risk occurred. Evaluations for equipment issues that occurred during the inspection were reviewed.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed post maintenance testing packages to confirm that the tests were adequate for the scope of the maintenance. The inspectors also determined that the tests restored the operational readiness consistent with the design and licensing basis documents.

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage (71111.20)

a. Inspection Scope

On April 2 through 29, 2001, the inspectors observed the shutdown and restart of the unit for a planned outage to repair an unidentified drywell leak. The inspectors observed the activity to ensure that reactivity changes were performed in a controlled manner, operators used proper self-checking techniques, operators followed procedures, equipment deficiencies were entered into the corrective action program and that management oversight was provided.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors witnessed and reviewed test data for surveillance tests. The inspectors reviewed the Updated Final Safety Analysis Report and Technical Specifications to confirm the surveillance activities had verified that the equipment would perform intended safety functions and operational readiness. The inspectors verified sufficient

staffing levels of the control room and other personnel to adequately conduct the test. The inspectors confirmed that the licensee had properly identified deficiencies and had entered them into the corrective action program:

b. Findings

No findings of significance were identified.

## **Emergency Preparedness**

### **1EP2 Alert and Notification System Testing (71114.02)**

a. Inspection Scope

The inspectors discussed with the emergency preparedness staff the design, equipment, and periodic testing of the public alert and notification system for the Fermi 2 reactor facility emergency planning zone to verify that the system was properly tested and maintained. The inspectors also reviewed procedures and records for the 24-month period ending December 2000, related to alert notification system testing, annual preventive maintenance, and non-scheduled maintenance. The inspectors reviewed the licensee's criteria for determining whether each model of a siren installed in the emergency planning zone would perform as expected if fully activated. Records used to document and trend component failures for each model of installed sirens were also reviewed to ensure that corrective actions were taken for test failures or system anomalies.

b. Findings

No findings of significance were identified.

### **1EP3 Emergency Response Organization (ERO) Augmentation Testing (71114.03)**

a. Inspection Scope

The inspectors reviewed the licensee's ERO augmentation testing to verify that the licensee maintained and tested its ability to staff the ERO during an emergency in a timely manner. Specifically, the inspectors reviewed semi-annual, off-hours staff augmentation drill procedures, related years 1999, 2000 and 2001 drill records, primary and backup provisions for off-hours notification of the Fermi 2 reactor facility emergency responders, and the current ERO rosters for Fermi 2. The inspectors reviewed and discussed the facility and the emergency preparedness staff's provisions for maintaining and distributing ERO call out lists.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies (71114.05)

a. Inspection Scope

The inspectors reviewed and discussed nuclear quality assurance staff's 1999 and 2000 audits and the facility emergency preparedness staff's 2000 and 2001 self-assessment reports to ensure that these audits complied with the requirements of 10 CFR 50.54(t) and that the licensee adequately identified and corrected deficiencies. The inspector also reviewed a sample of CARs related to the facility's emergency preparedness program in order to determine whether related corrective actions were acceptably completed as indicated.

b. Findings

No findings of significance were identified.

**2. RADIATION SAFETY**

**Cornerstone: Occupational Radiation Safety**

2OS1 Access Control to Radiologically Significant Areas (71121.01)

.1 Plant Walkdowns and Radiological Boundary Verifications, and Observations of Radiation Worker Performance

a. Inspection Scope

The inspector performed walkdowns of the radiologically controlled area to verify the adequacy of radiological controls and postings. Specifically, the inspector reviewed access controls implemented in conjunction with transverse incore probe movements in the reactor building and high integrity container transfer to a shipping cask in the on-site storage facility to verify that radiologically significant work areas (radiation areas) were properly posted and controlled in accordance with 10 CFR Part 20 and the licensee's procedures.

b. Findings

No findings of significance were identified.

2OS3 Radiation Monitoring Instrumentation (71121.03)

.1 Source Tests and Calibration of Radiological Instrumentation

a. Inspection Scope

The inspector reviewed the most recent calibration records for radiological instruments associated with transient high and very high radiation areas (area radiation monitors) and instruments used for coverage of high radiation work and/or for air monitoring for jobs

with the potential for workers to receive greater than 100 millirem committed effective dose equivalent, to verify that they had been calibrated in accordance with procedures and had their alarm setpoints (if applicable) properly set. The inspector verified that selected area radiation monitors (spent fuel pool, transversing incore probe room, onsite storage facility resin processing and transportation bay areas and drywell) had been appropriately calibrated, and function and operation tested in 2000. The inspector reviewed the calibration procedures and calendar year 2000 calibration records to verify that selected portable radiation survey instruments had been properly calibrated consistent with the licensee's procedures. The inspector also reviewed the calibration procedures and calendar year 2000 calibration records for the whole body counters and selected personnel contamination monitors used at access control and the radwaste control room, to verify that they had been properly calibrated. The inspector observed the calibration of a Bicorn portable ion chamber survey instrument to verify that the instrument was calibrated in compliance with the appropriate procedures.

b. Findings

No findings of significance were identified.

.2 Self-Contained Breathing Apparatus (SCBA) Program

a. Inspection Scope

The inspector reviewed PTP 28.508.04, "Emergency Equipment Monthly Inventory/Inspection," Revision 20, and PTP 65.000.707, "Inspection of MSA Respiratory Equipment," Revision 8, to verify the adequacy of the program to provide self-contained breathing apparatus (SCBA) for unknown or emerging conditions. The inspector walked down the available SCBA equipment, reviewed the status and surveillance records of SCBA staged for use in the plant, assessed the licensee's capability for refilling and transporting SCBA bottles to the control room and support locations in the plant, and reviewed year 2000 training, medical, fit test, and qualification records of selected individuals to verify compliance with Subpart H of 10 CFR 20 and with station procedures.

b. Findings

No findings of significance were identified.

.3 Identification and Resolution of Problems

a. Inspection Scope

The inspector reviewed the 2000 Nuclear Quality Assurance Department Audit Report 00-0114 to evaluate the effectiveness of the self-assessment process to identify, characterize, and prioritize problems and to verify that previous radiological instrumentation related issues were adequately addressed. The inspector also reviewed year 2000 CARDS that addressed radiation instrument deficiencies. The review determined if any significant radiological incidents involving radiation instrument deficiencies had occurred during the year 2000. The review was

conducted to verify that the licensee had effectively implemented the corrective action program.

b. Findings

No findings of significance were identified.

**4. OTHER ACTIVITIES (OA)**

4OA2 Performance Indicator Verification (71151)

a. Inspection Scope

The inspectors verified that the licensee had accurately reported the following performance indicators: alert notification system, emergency response organization drill participation, and drill and exercise performance, for the emergency preparedness cornerstone. Specifically, the inspectors reviewed the licensee's performance indicator records, data reported to the NRC, and CARDS for the 1999, 2000, and 2001 calendar years to identify any occurrences that were not identified by the licensee. Records of relevant control room simulator training sessions, periodic American Nuclear Standards tests, and excerpts of drill and exercise evaluations were also reviewed.

The inspector reviewed the licensee's assessment of the performance indicator for occupational radiation safety to determine if indicator related data was adequately assessed and reported. Since no reportable elements were identified by the licensee for the year 2000 and the 1<sup>st</sup> quarter of 2001, the inspector compared the licensee's data with 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> quarter 2000 and 1<sup>st</sup> quarter of 2001 CARDS to verify that there were no occurrences concerning the occupational radiation safety cornerstone.

b. Findings

No findings of significance were identified.

4OA3 Event Follow-up (71153)

a. Inspection Scope

The inspectors reviewed licensee event reports and other items. The inspectors reviewed the root cause analysis and corrective actions taken by the licensee for these events.

b. Findings

(Closed) Licensee Event Report 50-341/99002-00: "Reactor Recirculation Pump Trip Results in Manual Reactor Scram." Documented in this licensee event report was a description and associated corrective action (CARD 99-13885) for the trip of the reactor recirculation pump "A" motor generator set due to brush shorting on the opposite polarity bus bar while maintenance personnel were performing routine motor generator set

exciter brush replacement. Operators initiated a manual reactor scram when the core flow decreased, placing the plant in the Technical Specification power-to-flow map "Scram Region." The cause of the event was attributed to ineffective previous actions to prevent this type of maintenance circumstance. Corrective actions included a revision to the brush replacement preventive maintenance activity and changes to the instruction for changing the brushes. This event was discussed previously in Inspection Report 50-341/99009.

(Closed) Licensee Event Report 50-341/99003-00: "High Pressure Coolant Injection System Flow Controller Failure." This licensee event report involved the downscale failure of the high pressure coolant injection system automatic flow controller. CARD 99-14376 was written to document the failure. Manual operation of the high pressure coolant injection system was unaffected by the failure. The cause of the fluctuations was determined to be age-related degradation of an electrolytic capacitor that caused the failure of the control amplifier. Maintenance personnel replaced the control amplifier circuit card. The licensee is addressing the issue of generic age-related capacitor failures under CARD 99-16955. The licensee reviewed past occurrences and determined that a similar condition occurred as documented in DER 93-0100. Because the corrective actions taken in 1993 were inadequate, the licensee also addressed "inadequate preventive maintenance" and "risk and consequences of decisions not completely identified or assessed" as contributing factors. Although the corrective actions will remain open until a new controller is installed in October 2001 (the next refueling outage), the inspectors determined that the proposed corrective actions were sufficient to close this item.

(Closed) Licensee Event Report 50-341/99008: "Ultimate Heat Sink Mechanical Draft Cooling Tower 'C' Fan Brake Nitrogen Supply Isolated." On October 28, 1999, the ultimate heat sink mechanical draft cooling tower "C" overspeed fan brake 2000 psig nitrogen supply pressure regulator was replaced. On November 11, 1999, Instrumentation and Control personnel identified that the regulator's outlet manual isolation valve was closed. The closed valve rendered the fan brake inoperable for 2-weeks. The licensee determined that the lack of a proceduralized valve lineup for the fan brake nitrogen system was the root cause of this event. The licensee took a number of corrective actions including revising drawings, adding the outlet valves to the residual heat removal reservoir valve lineup, and developing a procedure for fan brake nitrogen system maintenance.

The ultimate heat sink is divided into two one-half capacity reservoirs. A two-cell induced draft cooling tower is located above each one-half capacity reservoir. Each cell is equipped with one 50 percent capacity cooling fan. The fan brakes are provided to prevent potential damaging overspeed conditions during a design basis tornado. The inoperable fan brake resulted in one ultimate heat sink reservoir being inoperable greater than 72-hours in violation of the Limiting Condition for Operation in Technical Specification 3.7.2.b. Because the probability of a tornado in Michigan is very low in late October and early November, the duration of the fan brake inoperability was short, and the remaining ultimate heat sink cooling fan capacity was 150 percent, the violation had no credible impact on plant safety. Therefore, the failure to meet the requirements of Technical Specification 3.7.2.b was of very low safety significance and constituted a violation of minor significance that was not subject to enforcement action in accordance



with Section IV of the Enforcement Policy. The licensee entered this issue into their corrective action program as CARD 99-18349.

(Closed) Licensee Event Report 50-341/99009: "Division 1 Emergency Diesel Generator and Division 2 Powered Standby Liquid Control System Components Concurrently Inoperable." This issue was discussed in Inspection Reports 50-341/99009 and 50-341/99010. Violation 50-341/99010-01 was issued. This item is closed.

.4OA4 Management Meetings

.1 Exit Meeting Summary

The emergency preparedness, resident, and radiation protection inspectors presented the inspection results to Mr. O'Connor and other members of licensee management at the conclusion of the inspection on April 20, 2001, May 10 and 11, 2001, respectively. The licensee acknowledged the findings presented. No proprietary information was identified.

## PARTIAL LIST OF PERSONS CONTACTED

### Resident Inspection

W. O'Connor, Vice President, Nuclear Operations  
P. Fessler, Assistant Vice President, Nuclear Operations  
R. DeLong, Director, System Engineering  
N. Peterson, Director, Nuclear Licensing  
L. Sanders, Director, Nuclear Training  
D. Noetzel, Director, System Engineering  
S. Stasek, Manager, Nuclear Assessment  
D. Cobb, Superintendent, Maintenance  
K. Hlavaty, Superintendent, Operations  
J. Davis, Superintendent, Outage Management  
S. Booker, Superintendent, Work Control  
R. Johnson, Supervisor, Licensing  
R. Drone, Supervisor, Plant Safety Engineering  
B. Nearhoof, Supervisor, Chemistry  
L. Bugoci, Supervisor, PSA  
J. Rotondo, Supervisor, Oversight, Nuclear Quality Assurance  
D. Williams, Assistant Manager, Radiation Protection  
T. Haberland, Assistant Superintendent, Maintenance  
J. Pendergast, Principal Engineer, Licensing  
J. Tibai, Principal Engineer, Maintenance Rule  
C. Heitzenrater, Engineer, Operations  
M. Hobbs, System Engineering

### Emergency Preparedness Inspection

B. Baval, Radiological Emergency Response Preparedness Specialist  
J. Baum, Radiological Emergency Response Preparedness Specialist  
G. Garber, Radiological Emergency Response Preparedness Specialist  
S. Hsieh, Nuclear Fuel Supervisor  
R. Johnson, Licensing Supervisor  
J. Kauffman, Radiological Emergency Response Preparedness Specialist  
K. Morris, Radiological Emergency Response Preparedness Supervisor  
J. Pendergast, Principal Engineer  
N. Peterson, Nuclear Licensing Director

### Radiation Protection Inspection

B. Bartossi, Radiation Protection Supervisor  
L. Crissman, Radiation Protection Supervisor  
D. Craine, Radiological Engineering Supervisor  
R. Gillore, Radiological Health Supervisor  
S. Hassoun, Licensing Engineer  
K. Hlavaty, Operations Superintendent  
E. Kokosky, Radiation Protection Manager  
W. O'Connor, Site Vice President

M. Offerle, Radwaste Supervisor  
N. Peterson, Director Nuclear Licensing  
D. Scheller, Radiation Engineering Technician  
T. VanderMey, Radiological Engineer  
D. Williams, Assistant Radiation Protection Manager

## ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened

50-341/01-08-01	URI	High Pressure Coolant Injection System Pressure Transients
-----------------	-----	--

### Closed

50-341/99002-00	LER	Reactor Recirculation Pump Trip Results in Manual Reactor Scram
-----------------	-----	---

50-341/99003-00	LER	High Pressure Coolant Injection System Flow Controller Failure
-----------------	-----	--

50-341/99008-00	LER	Ultimate Heat Sink Mechanical Draft Cooling Tower "C" Fan Brake Nitrogen Supply Isolated
-----------------	-----	--

50-341/99009-00	LER	Division 1 Emergency Diesel Generator and Division 2 Powered by Standby Liquid Control System Components Concurrently Inoperable
-----------------	-----	--

### Discussed

None

## LIST OF ACRONYMS USED

CARD	Condition Assessment Resolution Document
DER	Deviation Event Report
DRP	Division of Reactor Projects
ERO	Emergency Response Organization
NRC	Nuclear Regulatory Commission
SCBA	Self-Contained Breathing Apparatus

## 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.

### 1R13 Maintenance Risk Assessments and Emergent Work Evaluation

Work Request 000Z010964	Tighten or Repack Residual Heat Removal Shutdown Cooling Thermal Relief Line Isolation Valve E1100F086
Work Request 000Z011242	Replace 5 South Feedwater Heater ND Positioner
CARD 01-11405	

### 1R14 Nonroutine Plant Evolutions

CARD 01-13940		
Drawing 6M721-5708-1	High Pressure Coolant Injection	
CARD 01-10802	Pressure Transient During High Pressure Coolant Injection System Startup	January 11, 2001
CARD 98-14693	Water Hammer on High Pressure Coolant Injection System	July 28, 1998
Deviation Event Report (DER) 94-0799	High Pressure Coolant Injection System Flow Anomaly	
DER 94-0763	E41-3162-G09 Hanger Base Plate Pulled Away From Ceiling	December 15, 1994
DER 93-0237	High Pressure Coolant Injection Pump Discharge Line Pipe Supports 3167-G02, 3167-G10, 3167-G12, 3169-G-10 Found Degraded	April 23, 1993
DER 92-0063	Loose Base Plate Wedge Anchors Found on E41-3167-G02, G10 and G12	February 14, 1992
DER 91-0889	Steam Voiding in High Pressure Coolant Injection Discharge Piping	December 21, 1991
DER 87-235	Base Plate E41-3163-G20, Pulled Out From Wall	July 6, 1987

DER 87-232	High Pressure Coolant Injection System Overspeed Trip During Startup Testing	July 7, 1987
DER 87-211	High Pressure Coolant Injection System Suction Line Pressurization	June 13, 1987

1R15 Operability Evaluations

CARD 01-13940	Engineering Functional Analysis on the High Pressure Coolant Injection Water Hammer Event
CARD 01-13989	Engineering Functional Analysis on Potential Failure of Closing Keep Fill Check Valves  Engineering functional analysis for the inoperable emergency equipment cooling water sump isolation valve P440F605B
CARD 01-14182	Cross Connecting of the Reactor Building Southwest Sumps D074 and D076 During Installation of D076 Level Transmitter per Engineering Design Package 30078
CARD 01-11405	Scotchbrite Found in Barometric Condenser Water Supply

1R19 Post Maintenance Testing

Procedure 24.413.03, Section 5.1	Division 1 Control Center Heating, Ventilation and Air Conditioning 10-hour Operability Test," following the system outage on May 3, 2001
Work Package R913010100	Calibrate and Inspect Standby Gas Treatment Fan Control Loop," following the system outage on May 8, 2001

1R20 Refueling and Outage

CARD 01-11427	Level 8 Isolation Following Reactor Shutdown
CARD 01-14321	Double Notch of Control Rod 38-47
CARD 01-14317	Double Notch of Control Rod 14-3
CARD 01-11401	5 south Feedwater Heater Level Controller Requires Adjustment
CARD 01-11421	Gland Seal Regulator not Operating Properly At 35 Percent Power
CARD 01-11422	No-Flow Condition on North Steam Tunnel Cooler
CARD 01-11423	Control Rod 46-07 Drift Alarm
CARD 01-14314	Intermediate Range Monitor C Fuse Blown
Procedure 22.000.02	Plant Startup to 25 Percent Power
Procedure 22.000.03	Power Operation 25 Percent to 100 Percent to 25 Percent
Procedure 22.000.04	Plant Shutdown from 25 Percent Power

1R22 Surveillance Testing

Procedure 24.139.02	Standby Liquid Control Pump and Check Valve Operability Test	Revision 34
Procedure 24.307.14	Emergency Diesel Generator 11 - Start and Load Test	
Procedure 24.307.17	Emergency Diesel Generator 14 - Start and Load Test, Slow Start and Fast Start	
Procedure 23.202	High Pressure Coolant Injection System	

20S1 Access Control to Radiologically Significant Areas

PTP 67.000.100	Posting and De-Posting of Radiological Hazards	Revision 10
MRP04, Enclosure A	Area Posting Requirements	Revision 8

20S3 Radiation Monitoring Instrumentation

PTP 28.508.04	Emergency Equipment Monthly Inventory/Inspection	Revision 20
PTP 64.080.303	Area Radiation Monitoring System Channel 15 Calibration	Revision 9
PTP 64.120.041	Containment Area High Range Radiation Monitor Division 2 Calibration	Revision 8
PTP 64.611.504	Area Radiation Monitoring System Channels 1-5,7-14 and 18-48 Calibration/Functional Test	Revision 12
PTP 65.000.218	Operation of the J. L. Shepherd Model 89 Gamma Calibrator	Revision 2
PTP 65.000.707	Inspection of MSA Respiratory Equipment	Revision 8
PTP 66.000.205	Calibration of Portable Ion Chamber Survey Instruments	Revision 4
PTP 66.000.223	PCM-1B (Att 1) Calibration Form	Revision 3
PTP 66.000.265	Maintenance and Operation of Fermi 2 Whole Body Counter (WBC) Using Renaissance Software	Revision 0



Other Data

Nuclear Generation Memorandum	Documenting the Section of Alarm Settings for Eberline Personnel Contamination Monitors (PCM) and Automatic Tool Frisker (ATF) Operation at Fermi 2	June 7, 1999
Nuclear Generation Memorandum	Fermi's Site-Specific Internal Sensitivity Check for the PCM-1B	November 16, 2000
CARD 01-11467	SCBA Eyeglass Inserts not Available for On Shift STA	May 10, 2001

Self-Assessments

NQA Audit Report 00-0114	Radiological Protection and Environmental Protection (Non-REMP) Programs	October 16 through November 16, 2000
--------------------------	--	--------------------------------------

4OA1 Performance Indicator Verification

Data Table	Greater than 100 millirem Personnel Dose for a Single Entry	May 9, 2000 to May 9, 2001
Data Table	Index of CARDS Containing High Radiation Area and Locked High Radiation Area	May 9, 2001 to May 9, 2001