

October 20, 2000

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

SUBJECT: FERMIL INSPECTION REPORT 50-341/00-10(DRP)

Dear Mr. O'Connor:

On September 30, 2000, the NRC completed an inspection at your Fermi 2 reactor facility. The results were discussed with you and other members of your staff. The enclosed report presents the results of that inspection.

The inspection was an examination of activities conducted under your license as they relate to safety and to compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas the inspection consisted of a selective examination of procedures and representative records, observations of activities, and interviews with personnel. Specifically, this inspection focused on resident inspection activities.

Based on the results of this inspection, the NRC did not identify any issues which were categorized as being risk significant.

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).

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

**/RA/**

Mark A. Ring, Chief  
Reactor Projects Branch 1

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

Enclosure: Inspection Report 50-341/00-10(DRP)

See Attached Distribution

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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:

CAC

DFT

DSH (Project Mgr.)

J. Caldwell, RAI

B. Clayton, RAI

SRI Fermi

DRP

DRSIII

PLB1

JRK1

BAH3

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 50-341/00-10(DRP)

Licensee: Detroit Edison Company

Facility: Enrico Fermi, Unit 2

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

Date: August 18 through September 30, 2000

Inspectors: S. Campbell, Senior Resident Inspector  
J. Larizza, Resident Inspector  
K. Zellers, Senior Resident Inspector, Davis-Besse  
Nuclear Plant

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

# NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

- | <b>Reactor Safety</b>   | <b>Radiation Safety</b>   | <b>Safeguards</b>   |
|---|---|---|
| <ul style="list-style-type: none"><li>● Initiating Events</li><li>● Mitigating Systems</li><li>● Barrier Integrity</li><li>● Emergency Preparedness</li></ul> | <ul style="list-style-type: none"><li>● Occupational</li><li>● Public</li></ul> | <ul style="list-style-type: none"><li>● Physical Protection</li></ul> |

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: <http://www.nrc.gov/NRR/OVERSIGHT/index.html>.

## SUMMARY OF FINDINGS

IR 05000341-00-10, on 8/18 - 9/30/00; Detroit Edison; Fermi 2; Resident Operations Report.

The inspection was conducted by the resident inspectors. The significance of issues is indicated by their color (green, white, yellow, red) and was determined by the Significance Determination Process. Based on the results of this inspection, there were no findings.

## Report Details

### Summary of Plant Status

During the inspection period the plant was operated at or near 100 percent power.

#### **1. REACTOR SAFETY**

##### 1R04 Equipment Alignments

###### .1 Partial Walkdown of the Division 2 Core Spray System (CSS)

###### a. Inspection Scope (71111-04)

On September 2, and 9, 2000, the inspectors used Drawing 6M721-5707 and Procedure 23.203, "CSS," to conduct a partial walkdown of the Division 2 core spray system.

###### b. Issues and Findings

There were no findings identified.

##### 1R05 Fire Protection

###### .1 Annual Fire Drill with Frenchtown Fire Department

###### a. Inspection Scope (71111-5A)

On September 23, 2000, the inspectors observed the licensee's fire brigade and the Frenchtown Fire Department response to a simulated fire in Warehouse C, which was located inside the Protected Area. The inspectors reviewed the following:

- Fire Brigade Drill Coordinators Instruction Desk Reference,
- Fire Brigade Radiation Worker Training Records,
- Fire Brigade Respirator Qualification Records,
- Annual Fire Brigade Training Attendance Records,
- Fire Brigade Drill Record Form, "Annual Drill with Frenchtown Fire Department,"
- Fire Brigade Leader Evaluation Form,
- Brigade Member evaluation Form,
- Offsite Fire Department Evaluation, and
- Drill Critique Notes.

###### b. Issues and Findings

There were no findings identified.

## 1R12 Maintenance Rule Implementation

### .1 Review Equipment Used in Emergency Operating Procedures (EOP) Against Equipment Within the Scope of the Maintenance Rule

#### a. Inspection Scope (71111-12Q)

The inspectors reviewed the Fermi 2 emergency operating procedures and emergency operating procedure support documentation, Section 1, NUMARC 93-01, "Nuclear Energy Institute Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," against equipment within the scope of the maintenance rule.

#### b. Issues and Findings

There were no findings identified.

### .2 Maintenance Rule Implementation for the Core Spray System

#### a. Inspection Scope (71111-12Q)

The inspectors reviewed the following documents to determine whether the licensee appropriately implemented the maintenance rule for the core spray system:

- Engineering core spray system Health Reports,
- Control Room Logs since January 1, 1998,
- Selected open CARDS dated since January 1, 1990, and
- Licensee Event Report 00-002-00, "Damaged Terminal Blocks for Division 1 Core Spray Test Line Isolation Valve."

#### b. Observations and Findings

There were no findings identified.

## 1R13 Maintenance Risk Assessment and Emergent Work Evaluation

### .1 Failed Control Center Air Conditioning (CCAC) Chiller Lube Oil Pump

#### a. Inspection Scope (71111-13)

The inspectors reviewed the following documents regarding the inadvertent loss of the Division 2 control center air conditioning that occurred on September 21, 2000:

- Technical Specification (TS) 3.7.4, "CCAC,"
- Updated Final Safety Analysis Report Section 3.11.4.1, "Loss of Ventilation, Control Center,"
- Condition Assessment Resolution Document (CARD) 00-19659, "Entry into TS 3.7.4 for INOPERABILITY of Division 2 CCAC," and
- The licensee's risk matrix for the failure.



b. Issues and Findings

There were no findings identified.

.2 Failed Stroke Test for Residual Heat Removal (RHR) Division 2 Suppression Pool Containment Spray/Test Isolation Valve

a. Inspection Scope (71111-13)

During maintenance testing on September 21, 2000, valve E1150F028B exhibited abnormal valve data traces due to a worn connection between the clutch and the worm gear inside the motor operator. The inspectors reviewed CARD 00-16980 and interviewed operations and maintenance personnel.

b. Issues and Findings

There were no findings identified.

1R15 Operability Evaluations

.1 Reactor Coolant Isolation System (RCIC) Turbine Control Valve, Hard to Operate

a. Inspection Scope (71111-15)

On September 10, 2000, during the weekly manual stroke of reactor coolant isolation system (RCIC) turbine control valve E5150-F044, the operator reported that the valve required more force than normal to fully close. When the valve was released to open on its own, it did not return to the full open position. The inspectors reviewed the following documents to follow up on the issue:

- CARD 00-19367, September 10, 2000, "E5150-F044, RCIC Turbine Control Valve, Hard to Operate," and
- Procedure MES 27, Engineering Functional Analysis for E5150-F044.

b. Issues and Findings

There were no findings identified.

.2 Damaged Cable to Division 1 Torus Water Level Monitoring Transmitter

a. Inspection Scope (71111-15)

The inspectors reviewed CARD 00-01519, "Damaged Cable at Primary Containment Torus Water Level Monitoring Torus Water Level Division 1 (T50N406A)," which documented that the electrical cable leading to level transmitter T50N406A was damaged and was separating from the transmitter. The inspectors reviewed the following documents:

- CARD 00-01519, dated September 12, 2000, "Damaged Cable at T5000-N406A," and
- Procedure MES 27, Engineering Functional Analysis for T50N406A, "Level Transmitter Electric: Primary Containment Torus Water Level Monitoring Torus Water Level Division 1."

b. Issues and Findings

There were no findings identified.

1R16 Operator Work-Arounds

.1 Review of Operator Work Arounds (OWAs)

a. Inspection Scope (71111-16)

The inspectors reviewed the following operator work arounds and the associated risk assessments:

- OWA 00-012, "Transformer Deluge Isolated to 64, 65, 2A, 65L Regulator,"
- OWA 00-014, "Extraction Steam Inlet Valve N3016F606 to Feedwater Heater 5S Failed to Operate From Control Room," and
- OWA 96-002, "Inadequate Drainage of the Reactor Feed Pump Turbine Drain Lines."

b. Issues and Findings

There were no findings identified.

1R19 Post Maintenance Testing

.1 Post Maintenance Testing of Station Blackout Combustion Turbine Generator (CTG) 11-1

a. Inspection Scope (71111-19)

On August 30, 2000, the inspectors observed the licensee perform Procedure 24.324.01, "CTG 11-1 Monthly Operability Check," following completion of work request 00Z003272, "Investigate, Troubleshoot and Determine Inability to Raise CTG 11-1's Load in Control Room."

b. Issues and Findings

There were no findings identified.

.2 Post Maintenance Testing of Residual Heat Removal System Division 2 Suppression Pool Containment Spray/Test Isolation Valve

a. Inspection Scope (71111-19)

Following repairs to the Division 2 residual heat removal system suppression pool containment spray/test isolation valve E1150F028B, the inspectors reviewed work request 000Z002828 and Surveillance Job No. 0266000922, to determine whether the test was performed appropriately.

b. Issues and Findings

There were no findings identified.

1R22 Surveillance Testing

.1 Routine Review of Plant and Control Room Surveillance Records

a. Inspection Scope (71111-22)

Between September 2, and 9, 2000, the inspectors reviewed records for Technical Specifications required surveillance activities conducted in the control room and in the plant.

b. Issues and Findings

There were no findings identified.

.2 Emergency Diesel Generator (EDG) 12 Surveillance Test

a. Inspection Scope (71111-22)

The inspectors reviewed the results of emergency diesel generator 12 surveillance conducted on September 7, 2000, per Procedure 24.307.15, "EDG 12 Start and Load Test."

b. Issues and Findings

There were no findings identified.

1R23 Temporary Plant Modifications

.1 Temporary Modification 00-0007: Installation of Torque Thrust Cell on Motor Operator for Reactor Building Closed Cooling Water Division 2 Supply Isolation Valve

a. Inspection Scope (71111-23)

The inspectors reviewed the following documents to verify that the licensee appropriately implemented Temporary Modification 00-0007:

- Engineering Design Package 2992, “Motor and Gear Replacement P4400F603B,”
- Procedure MES 12001, “Temporary Modifications,” and
- Power Valve Stress Analysis - Independent Third Party Assessment Design Review, Hopper and Associates File No. HA 9/85-430, Edison DSN HA 9 85 430.

b. Issues and Findings

There were no findings identified.

**Emergency Preparedness (EP)**

1EP1 Drill, Exercise, and Actual Events

.1 Blue Team Drill Performance

a. Inspection Scope (71114-01)

The inspectors observed the Blue team respond to an emergency drill on September 20, 2000, that included inspector observations of emergency personnel performance in the Technical Support Center, the Emergency Operating Facility and in the Control Room Simulator. Further, on September 21, 2000, the inspectors attended the controller critique of the emergency personnel response to the drill.

b. Issues and Findings

There were no findings identified.

4OA2 Performance Indicator Verification

.1 Review of Unplanned and Fault Exposure Hours for EDG 13 Due to Wrong Outboard Bearing Oil

a. Inspection Scope (71151)

The inspectors reviewed the following to determine whether the licensee properly reported NRC performance indicator information after the wrong bearing oil was added to the generator outboard bearing on EDG 13:

- Control Room logs for March 1 through 3, 2000 and for April 14, 2000,
- the first and second quarter of 2000 NRC performance indicator information,
- sequence of events report for March 1 through 3, 2000 and for April 14, 2000, and
- Nuclear Energy Institute 99-02, “Regulatory Assessment Performance Indicator Guide.”

b. Issues and Findings

There were no findings identified.

4OA4 Management Meetings

.1 Exit Meeting Summary

The inspectors presented the inspection results to Mr. O'Connor and other members of licensee management at the conclusion of the inspection on September 29, 2000. The licensee acknowledged the findings presented. No proprietary information was identified.

## PARTIAL LIST OF PERSONS CONTACTED

### Licensee

W. O'Connor, Vice President, Nuclear Operations  
P. Fessler, Assistant Vice President, Nuclear Operations  
R. DeLong, Director, System Engineering  
J. Moyers, Director, Nuclear Quality Assurance  
L. Sanders, Director, Nuclear Training  
S. Stasek, Manager, Nuclear Assessment  
A. Kowalczyk, Manager, Nuclear Support  
R. Libra, Manager, Technical  
K. Hlavaty, Superintendent, Operations  
E. Kokosky, Superintendent, Radiation Protection  
J. Davis, Superintendent, Outage Management  
S. Booker, Superintendent, Work Control  
T. Stack, Supervisor, Security, Operations Support  
R. Johnson, Supervisor, Licensing  
J. Davis, General Supervisor, Operations  
J. Conen, Assistant to Manager, Nuclear Assessment  
T. Haberland, Maintenance  
K. Harsley, Licensing

### NRC

S. Reynolds, Deputy Division Director, Reactor Safety  
M. Ring, Chief, Reactor Projects Branch 1  
R. Lerch, Project Engineer, Reactor Projects Branch 1  
S. Campbell, Senior Resident Inspector  
J. Larizza, Resident Inspector  
W. Scott, Reactor Inspector

## LIST OF BASELINE INSPECTIONS PERFORMED

The following inspectable-area procedures were used to perform inspections during the report period. Documented findings are contained in the body of the report.

Inspection Procedure		Report Section
Number	Title	<u>Section</u>
71111-04	Equipment Alignment	1R04
71111-05	Fire Protection	1R05
71111-12	Maintenance Rule Implementation	1R12
71111-13	Maintenance Risk Assessment and Emergency Work Evaluation	1R13
71111-15	Operability Evaluations	1R15
71111-16	Operator Workarounds	1R16
71111-19	Post Maintenance Testing	1R1
71111-22	Surveillance Testing	1R22
71111-23	Temporary Plant Modifications	1R23
71114-01	Drill, Exercise, and Actual Events	1EP1
71151	Performance Indicator Verification	4OA2
71153	Event Follow-up	4OA3
(none)	Other	4OA4

## LIST OF ACRONYMS USED

CARD	Condition Assessment Resolution Document
CCAC	Control Center Air Conditioning
CSS	Core Spray System
CTG	Combustion Turbine Generator
EDG	Emergency Diesel Generator
EOP	Emergency Operating Procedures
NRC	Nuclear Regulatory Commission
OWA	Operator Work Arouds
RCIC	Reactor Coolant Isolation System
RHR	Residual Heat Removal
TS	Technical Specification
WR	Work Request