

March 15, 2001

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

SUBJECT: FERMILINSPECTION REPORT 50-341/01-03(DRP)

Dear Mr. O'Connor:

On February 16, 2001, the NRC completed an inspection at your Fermi 2 reactor facility. The enclosed report documents the inspection findings which were discussed on February 16, 2001, with Mr. Fessler and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and to compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, the inspectors identified one issue involving inadequate high pressure coolant injection system procedures which was categorized as being of very low safety significance (GREEN). This issue involved one violation of NRC requirements. However, because of the very low safety significance of the issue and because it has been entered into your corrective action program, the NRC is treating this issue as a Non-Cited Violation in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you deny the non-cited violation, you should provide a response with the basis for your denial within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, Region III, the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001 and the NRC Resident Inspector at the Fermi facility.

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  
Reactor Projects Branch 1

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

Enclosure: Inspection Report 50-341/01-03(DRP)

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

W. O'Connor, Jr.

-2-

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 your 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 50-341/01-03(DRP)

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

Document: G:\FERM\fermi2001003 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	E	RIII	E			
NAME	Lerch:dtp		Ring				

DATE	03/15/01	03/15/01		
------	----------	----------	--	--

**OFFICIAL RECORD COPY**

ADAMS Distribution:

CAC

DFT

MAS4 (Project Mgr.)

J. Caldwell, RIII

B. Clayton, RIII

SRI Fermi

C. Ariano (hard copy)

DRP

DRSIII

PLB1

JRK1

BAH3

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 50-341/01-03(DRP)

Licensee: Detroit Edison Company

Facility: Enrico Fermi, Unit 2

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

Dates: January 1 through February 16, 2001

Inspectors: S. Campbell, Senior Resident Inspector  
J. Larizza, Resident Inspector

Approved by: Mark A. 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>
! Initiating Events	! Occupational	! Physical Protection
! Mitigating Systems	! Public	
! Barrier Integrity		
! Emergency Preparedness		

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 05000341-01-03, on 1/01 - 2/16/2001, Detroit Edison, Fermi 2. Resident Operations Report.

The inspection was conducted by the resident inspectors. This inspection identified one GREEN issue, which was also considered a non-cited violation. The significance of the issue is indicated by its color (GREEN, WHITE, YELLOW, RED) and was determined by the Significance Determination Process.

### **Cornerstone: Mitigating Systems**

- GREEN. On January 13, 2001, a pressure transient occurred in the discharge piping of the high pressure coolant injection system when the system was being started for surveillance testing. The transient was caused by a leaking injection isolation valve which allowed backleakage of hot water to create steam voids in the piping and inadequate venting of the system prior to start up. Evaluation of the event revealed that the licensee's procedures did not contain instructions for venting the high pressure coolant injection system under the conditions encountered on January 13. The failure to establish adequate procedures for venting the system as required by Technical Specification 5.4.1.a was considered a **Non-Cited Violation (50-341/01-03-01)** (Section 1R14).

This issue was determined to be of very low safety significance because the high pressure coolant injection system remained capable of performing its safety function.



## Report Details

### 1. REACTOR SAFETY

#### Plant Status

During the inspection period, the plant was operated at or near 100 percent power. On February 3, 2001, at 4:48 a.m., reactor power was decreased to approximately 60 percent to perform planned routine maintenance, selected control rod scram time testing and control rod pattern adjustments. Reactor power was returned to 100 percent on February 4, 2001, at 4:52 a.m., where it remained for the rest of the inspection period.

#### 1R04 Equipment Alignments (71111.04)

##### a. Inspection Scope

On February 2, 2001, following high pressure coolant injection system maintenance, the inspectors used Drawing 6M721-5708-1, "High Pressure Coolant Injection Functional Operating Sketch," and Procedure 23.202, "High Pressure Coolant Injection System," to walk down system piping to ensure the valves were appropriately positioned and the drawing was correct.

##### b. Issues and Findings

No findings of significance were identified.

#### 1R05 Fire Protection (71111.05)

##### .1 Missing Suction Strainer on Electric Fire Pump

##### a. Inspection Scope

The inspectors reviewed Condition Assessment Resolution Document 01-10743, Updated Final Safety Analysis Report, Section 9.5.1.1.2, "Codes and Standards," and National Fire Protection Association Code 20, "Centrifugal Pumps," to follow up on the circumstances regarding a missing suction strainer on the electric fire pump.

##### b. Issues and Findings

No findings of significance were identified.

##### .2 Tours of Areas Containing Fire Protection Equipment

- a. The inspectors toured the following areas to determine whether combustible materials were present. Fire extinguishers were inspected and found available, emergency lighting and CARDOX units were operable:

- Divisions 1 and 2 Switchgear Rooms;
- Control Air Compressor Room;
- Dedicated and Remote Shutdown Panel Areas;
- Main Control Room; and
- Relay Room.

b. Issues and Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

a. Inspection Scope

On February 7, 2001, the inspectors observed simulator training and evaluator critiques for the operating staff. The inspectors observed crew performance, ability to take timely actions, correct usage and implementation of emergency and abnormal procedures, oversight and direction provided by the shift manager, and the ability to implement appropriate Technical Specifications actions.

b. Issues and Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12)

a. Inspection Scope

The inspectors reviewed the following documents and attended the expert panel meeting on January 9, 2001, 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 if goal setting and performance monitoring were adequate.

- Procedure MR02, "Expert Panel," meeting for Combustion Turbine Generator 11-1, Turbine Building heating ventilation and air conditioning, and turbine generator controls,
- Condition assessment resolution documents since 1990 on the control rod drive system,
- Combustion Turbine Generator 11-1 System Health Report,
- In plant examination for electric fire pump,
- Condition Assessment Resolution Document 00-1715, "Inoperable Residual Heat Removal Sump Pump,"
- Condition Assessment Resolution Document 01-11128 for a failed high pressure coolant injection pneumatic controller and related condition assessment resolution documents since 1990,
- Condition Assessment Resolution Documents 00-15425, 01-11060, 99-15932, and

- 01-12160 for a leaking high pressure coolant injection lube oil cooler relief valve, Work Request E649911003 to replace static o-ring low pressure suction switch on the high pressure coolant injection system,
- Condition Assessment Resolution Document 01-11087, "Failure to Place High Pressure Coolant Injection Room Level Indicator GR11655 into the Preventive Maintenance Program."

b. Issues and Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors reviewed the following documents to determine whether emergent work activities were performed in a manner that did not place the plant in an unacceptable configuration, and to verify that the licensee managed plant risk adequately:

- Work Request 000Z01053 - "Scram Discharge Vent Valve C1100F010 Failed to Indicate Closed,"
- Work Request 000Z010049, "Division 1 Standby Gas Treatment Exhaust Fan Motor Increased Vibration Levels,"
- Condition Assessment Resolution Document 01-11050, "Increasing Vibration Level on Motor,"
- Condition Assessment Resolution Document 01-12129, "Vibration Reading Out of Specs," Failed Post Modification Testing,
- Procedure 35.000.224, "Align and Tension Adjustments of V-Belt Driven Equipment," and
- Procedure 35.404.001, "Standby Gas Treatment Filter Unit and Fan Maintenance."

b. Issues and Findings

No findings of significance were identified.

1R14 Nonroutine Plant Evolutions (71111.14)

a. Inspection Scope

The inspectors reviewed the circumstances surrounding an apparent water hammer (pressure/flow transient) that occurred on January 13, 2001 in the high pressure coolant injection system during testing following maintenance.

Discussion of Nonroutine Evolution

Prior to January 11, 2001, the high pressure coolant injection system had been taken out-of-service for maintenance. The licensee assessed the plant risk during the period the

high pressure coolant injection system was unavailable and determined the risk to be low. After completing the maintenance on January 11, operators began performing Surveillance Procedure 24.202.01, "High Pressure Coolant Injection Pump and Flow Test and Valve Stroke at 1025 psig." The test required that high pressure coolant injection test line isolation valve E4150F008 and high pressure coolant injection/reactor core isolation cooling test isolation pressure control valve E4150F011 be opened and high pressure coolant injection feedwater injection valve E4150F006 be closed to discharge the test water to the condensate storage tank. The feedwater injection valve E4150F006 had a known, existing deficient condition of back leaking hot feedwater into the high pressure coolant injection discharge pipe that increased pressure in the pipe. During the test, cooling water relief valve E4150F050 opened when a pressure regulator that controls cooling water pressure failed because of a faulty relay.

In response to the open relief valve, operators manually shut down the high pressure coolant injection pump while the test line valves to the condensate storage tank (E4150F008 and 011) were open. This permitted the high pressure injection discharge piping to depressurize to the condensate storage tank and drop discharge piping pressure below saturation pressure. Several seconds later, the test valves closed. Because the deficient feedwater injection valve (E4150F006) had leaked hot feedwater back into the discharge piping, which was depressurized, steam voids were created in the high pressure coolant injection discharge piping.

Following replacement of the faulty relay, but without venting the system to remove the voids, operators reperformed Procedure 24.202.01 on January 13, 2001. Consequently, when the high pressure coolant injection system was started and collapsed the voids in the discharge piping, control room personnel identified an unanticipated indication of a pressure/flow transient (water hammer). Operators immediately shut down the system and initiated Condition Assessment Resolution Document 01-10802. A walk down of the piping, performed by personnel qualified to American Society of Mechanical Engineering standards, found no damage to the piping and one loose piping support anchor bolt. The bolt was replaced and the operators subsequently conducted the surveillance test satisfactorily.

b. Issues and Findings

The inspectors reviewed Procedure 24.202.01, Revision 67 and System Operating Procedure 23.202, Revision 69, "High Pressure Coolant Injection System," and did not identify any precautions or instructions to vent the system following non-procedural (manual) shutdown of the high pressure coolant injection pump. As a result, the inspectors considered these procedures to be inadequate. As corrective action, the licensee revised Procedures 24.202.01 and 23.202 to include venting instructions following a high pressure coolant injection system trip.

Technical Specification 5.4.1.a., requires in part, that written procedures shall be established, implemented, and maintained covering activities recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Section 4h in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, requires procedures for filling, venting,

startup, and shutdown of emergency core cooling systems. Procedures 23.202, "High Pressure Coolant Injection System," and 24.202.01, "High Pressure Coolant Injection Pump and Flow Test and Valve Stroke at 1025 psig," were used in operating the high pressure coolant injection system, which is an emergency core cooling system. The failure to establish adequate instructions to operate the high pressure coolant injection system, such as venting prior to operation following a system trip when aligned to discharge to the condensate storage tank, was considered a Non-Cited Violation of NRC requirements **(50-341/01-03-01(DRP))**.

A manual trip of the high pressure coolant injection turbine had never occurred during previous high pressure coolant injection operation. The inspectors conducted a Phase 1 screening process for a mitigation system and determined this to be a very low significance (GREEN) finding because the system remained capable of performing its function.

#### 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. The following evaluations for equipment issues that occurred during the inspection:

- Engineering Functional Analysis for Condition Assessment Resolution Document 01-11128, "Degraded High Pressure Coolant Injection Cooling Water Regulator Causes Relief Valve to Lift;"
- Engineering Functional Analysis for Condition Assessment Resolution Document 01-11845, "Wrong Size Strainer on the Electric Fire Pump;"
- Engineering Support Conduct Manual 27, "Evaluation for Leak on Emergency Equipment Cooling Water Supply to Reactor Building Equipment Sump Heat Exchanger Isolation Valve P4400F605B;" and
- Operability Evaluation for Condition Assessment Resolution Document 01-11848, "Present Level of Torque Switch Exceeds Design Limit."

##### b. Issues and Findings

No findings of significance were identified.

#### 1R16 Operator Work-Arounds (71111.16)

##### a. Inspection Scope

The inspectors reviewed the following work-arounds to determine whether functional capability of the system or human reliability in responding to initiating events was affected. The inspectors also determined if the operator's ability to implement abnormal or emergency procedures was impacted.

- Operator Work-Around 98-005, "Sump Level Indication Inaccurate;" and
- Operator Work-Around 00-026, "Potential Leakby of Valve Division 1 Thermal Recombiner Valve T4804F001A Prevents Heater from Reaching Required Temperature."

b. Issues and Findings

No findings of significance were identified.

1R19 Post Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed the following 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:

- Procedure 24.202.01, "High Pressure Coolant Injection Pump and Flow Test and Valve Stroke at 1025 psig," Section 5;
- Work Requests 000Z003867 and 000Z003489 and Procedure 24.110.05, "Turbine Control and Stop Valve Testing;" and
- Work Request 000Z004261, "Post Maintenance Testing Following Removal of Temporary Modification for Combustion Turbine Generator 11-1."

b. Issues and Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111-22)

.1 Routine Review of Plant and Control Room Surveillance Records

a. Inspection Scope

The inspectors reviewed records for Technical Specification required surveillance activities conducted in the control room and in the plant to determine if operators were recording plant parameters appropriately and if the parameters were within Technical Specification limits. Following the completion of the test, the inspectors determined that the test equipment was removed and the equipment returned to a condition in which it could perform its intended safety function.

b. Issues and Findings

No findings of significance were identified.

.2 Review of Surveillance Test Records

a. Inspection Scope

The inspectors reviewed Surveillance Procedure 24.106.04, "Scram Discharge Volume Vent and Drain Valve Operability," to determine whether the tests were conducted properly and per regulatory requirements.

b. Issues and Findings

No findings of significance were identified.

.3 Review of Spent Fuel Pool Boraflex Surveillance

a. Inspection Scope

The inspectors reviewed the following documents to determine whether the licensee was addressing the industry issue of degrading Boraflex, used as a neutron absorber, in the high density spent fuel storage racks:

- Procedure 82.000.16, "High Density Spent Fuel Storage Rack Surveillance Program;"
- Detroit Edison Letter NRC-96-0120, Response to NRC Generic Letter 96-04;"
- Licensee Event Report 50-244/98001, "Boraflex Degradation at the Ginna Power Station;"
- Detroit Edison Purchase Order Number NS-256205, "Revised Boraflex Coupon Surveillance;" and
- Report NET-142-01, "Inspection and Testing of Boraflex Surveillance."

b. Issues and Findings

No findings of significance were identified.

.4 High Pressure Coolant Injection, Turbine Control and Stop Valve, and Primary Containment Radiation Monitoring System

a. Inspection Scope

The inspectors reviewed the results of the following surveillance tests to confirm that plant equipment could perform its intended safety function and satisfy the requirements contained in the Technical Specifications:

- 24.202.001, "High Pressure Coolant Injection Pump / Flow Test and Valve Stroke at 1025 psig;"
- 24.110.05, "Turbine Control and Stop Valve Test;" and
- 44.210.030, "Reactor Coolant System - Primary Containment Radiation Monitoring System Functional Test."

b. Issues and Findings

No findings of significance were identified.



## 1R23 Temporary Plant Modifications (71111-23)

### .1 Removal of Temporary Diesel for Combustion Turbine Generators

#### a. Inspection Scope

The inspectors reviewed the following documents to determine whether a temporary modification to supply power to the non-station blackout combustion turbine generators was removed appropriately:

- Temporary Modification 00-0014, "Install Portable Diesel to 480VAC Peaker House;"
- Updated Final Safety Analysis Report, Section 7.5;
- Work Request 000Z004261, "Remove Temporary Modification 00-0014 for Combustion Turbine Generator Peakers Nos. 1, 2, 3 and 4;"
- Condition Assessment Resolution Document 00-24766, "Combustion Turbine Generators 11-1 Trips on High Exhaust Temperature;"
- System Operating Procedure 23.324, "Supervisory Control - 120KV Switchyard and Combustion Turbine Generator 11 Generators;"
- Limiting Condition for Operation 01-0054, "Combustion Turbine Generator 11-1 Inoperable;" and
- Surveillance Procedure 24.324.001, "Combustion Turbine Generator 11-1 Monthly Operability and Meter Channel Check (Section 5.2)."

#### b. Issues and findings

No findings of significance were identified.

### .2 Fan Used on Main Turbine Generator CARDOX Unit

#### a. Inspection Scope

The inspectors reviewed Condition Assessment Resolution Documents 00-25688 and 00-4466 to determine whether a fan used as a substitute for the normal cooling system on the main turbine generator CARDOX unit was properly employed in accordance with the station's temporary modification program.

#### b. Issues and findings

No findings of significance were identified.

## 4OA1 Performance Indicator Verification (71151)

#### a. Inspection Scope

Condition Assessment Resolution Document 01-11893 described that performance indicators were inaccurately reported in the Fermi Business Plan by a factor of 2. The

inspectors interviewed licensee personnel and reviewed NRC performance indicator data.

b. Issues and 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. **Issues and Findings**

(Closed) Deviation 50-341/98004-01: "Irradiated Fuel Stored Overnight in the Fuel Preparation Machine." The licensee stored nuclear fuel in the fuel preparation machine which was considered a deviation from Updated Final Safety Analysis Report commitment to Regulatory Guide 1.25, "Assumptions used for Evaluating the Potential for Radiological Consequences of a Fuel Handling Accident." The licensee initiated Condition Assessment Resolution Documents 98-10066, 98-10629, 97-11973 and disagreed with the deviation as transmitted in Detroit Edison Letter NRC 98-0074. However, the licensee committed in the letter to perform an evaluation of other postulated fuel handling accidents involving water levels less than 23 feet above fuel assemblies. There was low risk significance (GREEN) to this event because of the lengthy time required to boil off 20.5 feet off water before fuel damage could occur. The licensee addressed the issue in the corrective action process. This Deviation is closed.

(Closed) Licensee Event Report 50-341/98005-00: "Manual Scram in Response to Reactor Power Fluctuations." Documented in this licensee event report is a description and the associated corrective actions for a manual plant scram from 70 percent power due to power fluctuations. The cause of the fluctuations was determined to be a spindle/tongue degradation of the number 3 high pressure control valve. The inspectors followup to this event was described in Inspection Report 50-341/98013. High pressure control valve number 3 failure was placed in the licensee's corrective action system as Condition Assessment Resolution Documents 98-15947 and 98-16353. The valve was repaired and no further power fluctuations have been caused by degraded turbine control valves. Although the initiating event did contribute to the reactor scram, the event did not contribute to the likelihood that a mitigation system would become unavailable. Therefore, the event was considered very low risk (GREEN). This LER is closed.

(Closed) Licensee Event Reports (50-341/98006-00 and -01): "Failure of Main Steam Isolation Valves to Meet Local Leak Rate Acceptance Criteria." During the sixth refueling outage, the local leak rate test of all four main steam isolation valves exceeded the 100 scf per hour Technical Specifications rate. The total leakage of 326.4 scf per hour was mostly attributed to the "C" Main Steam Line (243.68 scf per hour). Condition Assessment Resolution Document 98-15948 was initiated. The leakage was attributed to a minor scale

buildup on the seat and poppet, linear indications in the nose cone area and poppet misalignment due to localized rib guide wear. Main steam line leakage and post loss-of-coolant accident analysis concluded that leakages of less than 700 scf per hour would not impact the design basis conclusions. The valves were repaired and retested. The inspectors reviewed the licensee's corrective actions and found them acceptable. The inspectors considered the risk significance of this issue to be very low (GREEN) from a containment barrier perspective. This licensee event report is closed.

(Closed) Licensee Event Report 50-341/98007-00: "Inadvertent Deenergization of Safety Buses 65E, 72E, 13EC and 72EC During Performance of Surveillance Test Resulting in Emergency Safety Feature Actuations." On September 8, 1998, with the unit shut down for refueling and during emergency diesel generator 13 testing, the Division 2 safety buses ([EK] 65E, 72E, 13EC and 72EC) deenergized unexpectedly because of a faulty static under-frequency relay. Contributing to the event was a frequency transient when the emergency diesel generator 13 governor shifted from droop to the isochronous mode, as designed, following the opening of the breaker supplying offsite power to Bus 65-E6. Condition Assessment Resolution Document 98-16439 was issued for the event. Maintenance personnel replaced the faulty relay and operators tested emergency diesel generator 13 satisfactorily.

The static under-frequency relay satisfactorily passed voltage cutoff and frequency dropout testing; however, it was destroyed during bench testing before the time delay portion of the testing. Unfortunately the relay was not sent offsite for testing to confirm the actual failure mode.

There was no risk significance to this event since all equipment associated with this bus had been previously removed from service and the plant was in Operational Condition 5 (Refueling). The licensee implemented corrective actions for this event. This LER is closed. This event did not constitute a violation of NRC requirements.

(Closed) Licensee Event Report (50-341/98008-00 and -01): "Pressure Isolation Valve Leak Test Failure." The Division 2 residual heat removal / low pressure coolant injection system injection line inboard isolation check valve, E1100F050B, failed to meet the leakage criteria of 10 gpm as specified in the Technical Specifications. The licensee initiated Condition Assessment Resolution Document 98-16435. The cause of the leakage was a degraded soft seat in the valve. The valve was refurbished with a new soft seat and the leak test was performed successfully.

A corrective action solution team evaluated the periodicity and preventive maintenance requirements for replacing the soft seat. Previously, the licensee had eliminated the 10 CFR 50, Appendix J, Type C, air test requirement for this valve which meant that this check valve no longer had to be tested for a containment isolation function, thus eliminating the need for the soft seat. The check valve continues to perform its pressure isolation valve function requiring a different water high pressure test. The inspectors reviewed the licensee's corrective actions and found them acceptable. The inspectors considered the risk significance of this issue to be very low (GREEN) from a containment barrier perspective because the valve was still operable. This LER is closed.

(Closed) Licensee Event Report 50-341/98009-00: "Inadvertent Deenergization of Safety Bus 72F While Transferring from Alternate to Normal Power Resulting in Emergency Safety Feature Actuation." On September 14, 1998, with the unit shut down for refueling, an operator failed to ensure that the 72F transformer (normal feed) was energized as required by Procedure 23.321, "Engineered Safety Features Auxiliary Electrical Distribution System," while transferring 480 V Emergency Safety Feature 72F bus from its alternate to normal source. The personnel error caused deenergization of the safety bus and an Emergency Safety Feature actuation. This event was documented in Condition Assessment Resolution Document 98-17224. The operator involved in the event was counseled and a human performance presentation concerning this event was made to the licensed operators by operations management and the individuals involved. There was low risk significance (GREEN) to this event because the plant was in Operational Condition 5 (Refueling) with all control rods inserted when the 72F bus was deenergized. The licensee implemented corrective actions for this event. This issue was documented in Inspection Report 50-341/98015 as a non-cited violation. This LER is closed.

(Closed) Licensee Event Report (50-341/98011-00): "Cracking in Silicone Fire Barrier Penetration Seal Due to High Temperature." As a result of an industry 10 CFR 21 report, the licensee initiated Condition Assessment Resolution Document 98-15993 and inspected the seal integrity of fire barrier penetrations in high temperature applications. The licensee found a penetration with cracks and elastomer hardening. The inspectors reviewed the licensee's corrective actions and found them acceptable. Risk significance of this issue was considered very low (GREEN) from an internal and external event perspective. This licensee event report is closed. This event did not constitute a violation of NRC requirements.

(Closed) Escalated Enforcement Issue (50-341/98012-EEI-01): "Failure to Comply with Technical Specification Requirements for Combustion Turbine Generator 11-1." Licensed operators failed to perform a required surveillance to verify offsite power supply availability within one hour subsequent to declaring Combustion Turbine Generator 11-1 inoperable. The inspectors verified that the corrective actions in Condition Assessment Resolution Document 98-14689, which was initiated for the condition, were implemented. The inspectors determined the risk significance of this issue to be very low (GREEN) from a mitigating system perspective because power had always been available. This licensee escalated enforcement issue is closed.

#### Closure of Inspection Followup Item (IFI)

The new Enforcement Policy, issued March 11, 1999, allowed treatment of Severity Level IV violations as non-cited violations in accordance with Section VII.B.1.a, and allowed closure of the violations provided these violations were placed in the licensee's corrective action program. Because IFIs are typically not enforceable and are of low significance, they are being closed out in this report. After review, the inspectors determined that the following IFI was placed in the corrective action program and that no violations of regulatory requirements occurred:

IFI 50-341/99005-01      Review of Actual C-Factors Obtained from the Fire Protection Plan

28.504.04. This item is in the licensee's corrective action program as Condition Assessment Resolution Document 99-12772.

#### Closure of Severity Level IV Violation

The new Enforcement Policy, issued March 11, 1999, allowed treatment of Severity Level IV violations as non-cited violations in accordance with Section VII.B.1.a, and allowed closure of the violations provided these violations were placed in the licensee's corrective action program. The following violation is of low significance and is being closed out in this report. After review, the inspectors determined that the following violation was placed in the corrective action program:

VIO 50-341/99010-01 Emergency Generator 11 Maintenance Activity with Standby Liquid Control "B" Inoperable. This item is in the licensee's corrective action program as Condition Assessment Resolution Document 99-13518

#### 4OA4 Management Meetings

##### Exit Meeting Summary

The inspectors presented the inspection results to Mr. Fessler and other members of licensee management at the conclusion of the inspection on February 16, 2001. The licensee acknowledged the findings presented. No proprietary information was identified.

## PARTIAL LIST OF PERSONS CONTACTED

### Licensee

W. O'Connor, Vice President, Nuclear Generation  
P. Fessler, Assistant Vice President, Nuclear Operations  
J. Moyers, Director, Nuclear Quality Assurance  
K. Howard, Director, Plant Support Engineering  
L. Sanders, Director, Nuclear Training  
N. Peterson, Director, Licensing  
S. Stasek, Manager, Nuclear Assessment  
H. Higgins, Shift Manager, Operations  
R. Johnson, Supervisor, Licensing  
G. DePalma, Supervisor, System Engineering  
K. Sessions, General Supervisor, Maintenance  
S. Booker, Superintendent, Work Control  
K. Hlavaty, Superintendent, Operations  
E. Kokosky, Superintendent, Radiation Protection  
L. Kantola, Outage Management  
C. Heitzenrater, Engineer, Operations  
K. Harsley, Engineer, Licensing  
G. Wahl, System Engineering  
G. Lane, Maintenance

### NRC

M. Ring, Chief, Reactor Projects Branch 1  
S. Campbell, Senior Resident Inspector  
J. Larizza, Resident Inspector

## ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened

50-341/00003-01      NCV      Inadequate High Pressure Coolant Injection System Operating and Surveillance Procedures.

### Closed

50-341/00003-01      NCV      Inadequate High Pressure Coolant Injection System Operating and Surveillance Procedures.

50-341/98004-01      DEV      Irradiated Fuel Stored in the Fuel Preparation Machine.

50-341/98005-00      LER      Manual SCRAM in Response to Reactor Power Fluctuations.

50-341/98006-00      LER      Failure of MSIVs to Meet Local Leak Rate Testing.

50-341/98006-01      LER      Failure of MSIVs to Meet Local Leak Rate Testing.

50-341/98007-00      LER      Inadvertent Deenergization of Safety Buses During Performance of Surveillance Test Resulting in ESF Actuation.

50-341/98008-00      LER      Pressure Isolation Valve Test Failure.

50-341/98008-01      LER      Pressure Isolation Valve Test Failure.

50-341/98009-00      LER      Inadvertent Deenergization of Safety Bus 72F While Transferring from Alternate to Normal Power.

50-341/98011-00      LER      Cracking of Silicone Fire Barrier Penetration Seal Due to High Temperatures

50-341/98012-01      LER      Performance of Technical Specification Required Surveillance Activity Not Performed When Equipment was Declared Operable

50-341/98012-01      EEI      Failure to Comply with Technical Specification Requirements For Combustion Turbine Generator 11-1

50-341/99005-01      IFI      Review of Actual C-Factors Obtained From FPP 28.504.04

50-341/99010-01      VIO      Emergency Diesel Generator 11 Inoperable With Standby Liquid Control System B inoperable



## 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.

<u>Number</u>	<u>Title</u>	<u>Inspection Procedure</u>	<u>Report Section</u>
71111-04	Equipment Alignment		1R04
71111-05	Fire Protection		1R05
71111-11	Licensed Operator Requalification		1R11
71111-12	Maintenance Rule Implementation		1R12
71111-13	Maintenance Risk Assessment and Emergent Work Evaluation		1R13
71111-14	Nonroutine Evolutions		1R14
71111-15	Operability Evaluations		1R15
71111-16	Operator Work-Arounds		1R16
71111-19	Post Maintenance Testing		1R19
71111-22	Surveillance Testing		1R22
71111-23	Temporary Plant Modifications		1R23
71151	Performance Indicator Verification		4OA2
71153	Event Follow-up		4OA3
(none)	Management Meetings		4OA4

## LIST OF ACRONYMS USED

DRP	Division of Reactor Projects
EI	Escalated Enforcement Issue
IFI	Inspection Followup Item
LER	Licensee Event Report
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
VIO	Violation