July 25, 2001

EA-01-092

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

SUBJECT: FERMI 2
NRC INSPECTION REPORT 50-341/01-09(DRP)

Dear Mr. O'Connor:

On June 30, 2001, the NRC completed an inspection at your Fermi 2 Nuclear Power Station. The enclosed report documents inspection findings which were discussed on June 22, 2001, with you 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.

Section 4OA3 of this report discusses an issue that appears to have low to moderate safety significance. Emergency diesel generator 14 outboard bearing catastrophically failed during a 24-hour test on March 21, 2001. The failure was the result of inadequate design control during oil piping and sight glass modifications that occurred in 1984 and 1999, respectively. This issue was assessed using the applicable significance determination process as a potentially significant finding that was preliminarily determined to be WHITE. A WHITE finding is an issue with low to moderate importance to safety that will result in additional NRC inspection and potential other NRC action.

Inadequate design control during modifications of emergency diesel generator 14 outboard bearing oil sight glass and piping is an apparent violation of NRC requirements and is being considered for enforcement action in accordance with the "General Statement of Policy and Procedure of NRC Enforcement Actions" (Enforcement Policy), NUREG-1600. The current Enforcement Policy is included on the NRC's web site at www.nrc.gov/OE.

Before the NRC makes its final decision on these matters, we are providing you an opportunity to request a Regulatory Conference where you would be able to provide your perspectives on the significance of the findings, the bases for your position, and whether you agree with the

apparent violation. If you choose to request a Regulatory Conference, we encourage you to submit your evaluations and any differences with the NRC evaluations at least one week prior to the conference in an effort to make the conference more efficient and effective. If a conference is held, it will be open for public observation. The NRC will also issue a press release to announce the conference.

Please contact Mark Ring (630) 829-9703 within 7 days of the date of this letter to notify the NRC of your intentions. If we have not heard from you within 10 days, we will continue with our significance determination and enforcement decision, and you will be advised by separate correspondence of the results of our deliberations on this matter.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if you choose to provide one) 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). To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

Sincerely,

/RA/

Geoffrey Grant, Director
Division of Reactor Projects

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

Enclosure: Inspection Report 50-341/01-09(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 NAME: G:\ferm\fer200109 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		RIII		RIII		RIII	
NAME	PPelke		MRing		BClayton		GGrant	
DATE	07/18/01		07/18/01		07/20/01		07/25/01	

OFFICIAL RECORD COPY

ADAMS Distribution:
CMC1
DFT
MAS4
RidsNrrDipmlipb
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:	50-341/01-009(DRP)
Licensee:	Detroit Edison Company
Facility:	Enrico Fermi, Unit 2
Location:	6400 N. Dixie Hwy. Newport, MI 48166
Dates:	May 13 through June 30, 2001
Inspectors:	S. Campbell, Senior Resident Inspector J. Larizza, Resident Inspector
Approved by:	Mark Ring, Chief Branch 1 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000341-01-09(DRP), on 5/13-6/30/01, Detroit Edison Company, Fermi 2 Nuclear Power Station. Resident Operations Report.

This report covers a 6-week routine inspection. The inspection was conducted by the resident inspectors. One finding of significance was identified.

Cornerstone: Mitigating Systems

- WHITE. On March 21, 2001, the generator outboard bearing on emergency diesel generator 14 catastrophically failed during a 24-hour endurance run due to a lack of lubrication in the bearing housing. Inadequate design control for modifying the oil sight glass piping through a stiffener bar in 1984 and inappropriate labeling of the acceptable operating ranges ("green bands") for the sight glass in 1999 caused the deficient condition. The failures to properly control these modifications were two examples of an apparent violation of 10 CFR Part 50, Appendix B, Criterion III. This issue was preliminarily assessed using the significance determination process as a WHITE finding because the increase in core damage frequency due to internal events was determined to be about 3.8 E-6 per year (Section 4OA3).

Report Details

1. REACTOR SAFETY

Plant Status

Fermi 2 operated at or near 100 percent reactor power throughout the inspection period.

1R01 Adverse Weather (71111.01)

a. Inspection Scope

The inspectors reviewed the program to determine whether risk-significant systems were protected from an adverse hot weather condition that could lead to loss of multiple trains and loss of redundant equipment due to common causes.

b. Findings

No findings of significance were identified.

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:

- Primary containment isolation valves
- Division 1 emergency closed cooling water system
- Division 2 emergency closed cooling water system
- Emergency diesel generator 13
- Emergency diesel generator 14

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:

- Division 1 battery room
- Division 2 battery room
- Relay room

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

a. Inspection Scope

On May 23, 2001, the inspectors observed licensed operator performance in mitigating the consequences of events at the simulator training facility as well as the licensed operator self and evaluator critique of the just completed high risk actions to mitigate these events. The inspectors observed crew performance, ability to take timely actions, verification of alarms, correct usage and implementation of abnormal and emergency operating procedures, oversight and direction provided by the shift manager, the ability to implement appropriate Technical Specification and emergency plan actions and notifications.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12Q)

a. Inspection Scope

The inspectors reviewed 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.

- Non interruptible air system, P5001
- 345 kV switchyard, R3100

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments 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:

- Unexpected locking of reactor recirculation pump "B" scoop tube
- Infrared identified hot spot in scram solenoid fuse panel C71-P002H
- Infrared identified hot spot in scram solenoid fuse panel C71-P002B

b. Findings

No findings of significance were identified.

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.

1R16 Operator Work-Arounds (71111.16)

a. Inspection Scope

The inspectors reviewed selected documents 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.

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.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors witnessed and reviewed test data for the surveillance tests. The inspectors reviewed Technical Specifications to confirm that surveillance activities had verified the equipment performed their intended safety functions and operational readiness. The inspectors verified sufficient staffing levels of the control room and other personnel to adequately conduct the test.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed a potential temporary modification where an ultrasonic flow transmitter was installed to substitute for a degraded emergency equipment cooling water flow transmitter. The inspectors reviewed this installation to determine whether it may result in a departure from the design basis and success criteria to mitigating core damage and to determine if the availability, reliability or functional capability of the system was impacted.

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 50-341/99007-00: "Reactor Water Cleanup System Isolation Due to a High Area Ventilation Differential Temperature Condition." This report described corrective actions (CARD 99-18242) to prevent a reactor water cleanup system isolation due to a high area ventilation differential temperature condition and subsequent trip of the reactor building heating. An undetected trip of the reactor water cleanup system room "B" cooler resulting in an increase in ventilation differential temperature caused the event. Operators entered emergency and abnormal operating procedures and started the Division 1 standby gas treatment system. Two root causes led to the undetected trip of the pump room cooler: 1) equipment indication/alarms and 2) inattention to detail by personnel. A contributing factor was that the auxiliary boiler had not been started in time to prevent the reactor building heating, ventilation and air-conditioning system from tripping. It had been anticipated that the outside air temperature would remain above 40 degrees Fahrenheit and the boiler would not be needed. The licensee reviewed past occurrences and determined that a similar condition occurred in 1991 (Licensee Event Report 91-019).

(Closed) Licensee Event Report 50-341/00002-00: "Damaged Terminal Blocks for Division 1 Core Spray Test Line Isolation Valve." During testing of component E2150-F015A, "Division 1 Core Spray Test Line Isolation Valve," five damaged terminals of a terminal block assembly were discovered. The plastic barriers between terminal blocks of motor control center 72B-3A were broken, creating a potential for a short circuit between the terminals. Damaged blocks could cause adjacent leads to contact and short-circuit under seismic conditions with a design basis accident. This condition could have rendered the Division 1 core spray inoperable and core spray Division 1 pump flow test isolation valve E2150-F015A incapable of primary containment isolation function. Because the condition was determined to have existed for approximately 6 months, a period exceeding that permitted by Technical Specifications, the event was considered a condition prohibited by Technical Specifications. The violation had no impact on plant safety. Therefore, the failure to meet the requirements of Technical Specification 3.5.1 was of very low safety significance and is 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 the corrective action program as CARD 00-12246.

(Closed) Licensee Event Report 50-341/99001-00: "Previous Essential Room Cooler Maintenance Violated Technical Specifications." The licensee reviewed past preventive maintenance activities and discovered that on January 4, 1995, the Division 1 emergency equipment cooling water system room cooler was out-of-service for approximately 31.5-hours. This condition exceeded the associated Technical Specification 3.8.1.2 allowed outage time of 18-hours. Fermi Unit 2 was in Mode 2 at lower power and starting up from an extended outage for turbine repairs and a refueling outage when the room cooler was out of service. Inadequate oversight and verification of activities associated with Design Calculation 5526 justifying removal of the cooler for preventive maintenance caused the condition. The calculation concluded that the opposite train emergency equipment cooling water system and heat conduction through reactor building walls during the winter season was sufficient in removing design basis heat loads. Consequently, the calculation did not consider a single failure with a design

basis event. Failure to take the required action of the Technical Specification was a violation of Technical Specifications. The violation had no credible impact on plant safety. Therefore, the failure to meet the requirements of Technical Specification 3.8.1.2 was of very low safety significance and is a violation of minor significance that was not subject to enforcement action in accordance with Section IV of the Enforcement Policy. This issue was placed into the corrective action program as CARDs 98-10264 and 98-17910.

(Closed) Unresolved Item 50-341/01006-01: "Emergency Diesel Generator Outboard Bearing Fire Notice of Enforcement Discretion." This item involved the March 21, 2001 failure of the generator outboard bearing for emergency diesel generator 14. The bearing failed catastrophically due to inadequate oil in the bearing lubricating oil reservoir. At the time of the event, the actual oil level was about 6-7/8 inches below the centerline of the generator shaft, which was 7/8 inch below the vendor recommended minimum level. On March 26, 2001, the licensee requested enforcement discretion because the time required to repair the bearing and return the diesel to service would exceed the 7-day allowed outage time specified in Technical Specification 3.8.1. The NRC granted the requested enforcement discretion for the diesel to be inoperable for an additional 7 days after considering the risk associated with this additional outage time, stable grid conditions, and compensatory measures implemented to protect other plant equipment. The licensee conducted a root cause investigation into the circumstances that caused the failure, which was documented on Level 1 CARD 01-14004.

Two modifications allowed this event to occur:

1) In 1984, during plant construction, a stiffener bar was installed only on the emergency diesel 14 generator end-bell to reduce axial vibrations as corrective action to Nonconformance Report 84-0688. The other three diesels were unaffected. Without proper work control documents and proper design controls, mechanics modified the oil sight glass piping by penetrating the stiffener bar and making up the pipe joints at varying pipe lengths. This caused improper sight glass piping lengths and the incorrect lowering of the sight glass to show 7/8 inch higher than actual level.

2) In 1997, an NRC maintenance inspection team opened an unresolved item on the emergency diesel generator bearing level indicators and Deviation Event Report 97-1067 was issued. Technical Service Request (TSR) 30330 was issued to resolve the action from Deviation Event Report 97-1067. While developing the TSR, the licensee identified that the "as found" oil level was 6-½ inches below the generator shaft centerline, which was about ½ inch below the vendor recommended minimum. This was a missed opportunity for the licensee to identify an inadequate oil level in the emergency diesel generator 14 bearing. From the TSR, a minor maintenance work request was issued to install "green bands" on all emergency diesel generators. In 1999, a contract system engineer, responsible for installing the bands, failed to follow the TSR and marked the green band too low on emergency diesel generator 14. No independent verification of the engineer's activities was made. The remaining diesels were not adversely affected.

In Licensee Event Report 2001-01, which discusses this event, the licensee performed a risk evaluation and concluded the resultant increase in core damage frequency would be between one E-6/year and one E-5/year. For this report, the licensee bounded their analysis by assuming emergency diesel generator inoperability from the last successful operability run (approximately 17 months).

On April 23, 2001, the licensee reported that the increased fault exposure hours for the diesel generator due to this same assumed period of inoperability resulted in the emergency alternating current power unavailability performance indicator crossing the GREEN to WHITE threshold.

An NRC senior reactor analyst conducted a significance determination process evaluation to determine the significance of the event. The evaluation assumed the diesel generator was inoperable for half the time since the last successful operability run, and found the increase in core damage frequency due to internal events to be about 3.8 E-6 per year, and the risk impact of the inspection finding due to external initiating events to be negligible. The risk significance of the inspection finding based on the change in core damage frequency was considered WHITE. A WHITE finding represents a low to moderate risk significance.

There is an apparent violation associated with this finding. 10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires, in part, that measures shall be established to assure that the applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions. It further states, in part, that, design changes, including field changes, shall be subjected to the design control measures commensurate with those applied to the original design.

However, it appears that the design control measures for modifying the oil sight glass indicator and associated piping for emergency diesel generator 14 outboard bearing were inappropriate during the following occasions:

1) On or about August 4, 1984, the licensee made a field change to emergency diesel generator 14 that included adding a stiffener bar and modifying the outboard bearing oil indicator piping through the bar per Field Modification Request S-7455. The licensee failed to properly translate the design of the outboard bearing indicator piping causing the oil sight glass to be installed 7/8 inch lower than the original design.

2) On or about March 3, 1999, a contract engineer failed to translate the design of the emergency diesel generator 14 actual oil level indication on the outboard bearing oil sight glass by installing ”green band” indicators too low. Consequently, his error caused the top of the “green band” for the outboard bearing oil reservoir to be more than ½ inch below the vendor recommended minimum oil level.

The combination of both examples resulted in insufficient oil levels in the outboard bearing reservoir, inadequate lubrication of the bearing, and subsequent catastrophic failure during the 24-hour endurance run on March 21, 2001.

(Closed) Licensee Event Report 50-341/01001-00: "Emergency Diesel Generator 14 Inoperable for Greater than the Technical Specifications Allowed 7 Days." This licensee event report is closed based on the design control apparent violation documented in the above closeout review of Unresolved Item 50-341/01006-01.

4OA5 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 June 22, 2001. 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
N. Peterson, Director, Nuclear Licensing
D. Noetzel, Director, System Engineering
S. Stasek, Manager, Nuclear Assessment
K. Hlavaty, Superintendent, Operations
J. Davis, Superintendent, Outage Management
S. Booker, Superintendent, Work Control
E. Kokosky, Superintendent, Radiation Protection/Chemistry
P. Lynch, Supervisor, Operations
R. Johnson, Supervisor, Licensing
P. Wiltse, General Supervisor, Mechanical
J. Pendergast, Principal Engineer, Licensing
C. Heitzenrater, Engineer, Operations

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

50-341/99007-00	LER	"Reactor Water Cleanup System Isolation Due to a High Area Ventilation Differential Temperature Condition."
50-341/00002-00	LER	"Damaged Terminal Blocks for Division 1 Core Spray Test Line Isolation Valve."
50-341/99001-00	LER	"Previous Essential Room Cooler Maintenance Violated Technical Specifications."
50-341/01006-01	URI	"Emergency Diesel Generator Outboard Bearing Fire Notice of Enforcement."
50-341/01001-00	LER	"Emergency Diesel Generator 14 Inoperable for Greater Than the Technical Specifications Allowed 7 Days."

Discussed

None

LIST OF ACRONYMS USED

CARD	Condition Assessment Resolution Document
DRP	Division of Reactor Projects
NRC	Nuclear Regulatory Commission
TSR	Technical Service Request

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.

1R01 Adverse Weather

Work Request 000Z011064	MUXO2 Air Conditioner not Working Properly, Remove Multiplexer 2
Work Request N143000300	Clean Oil Soaked Inlet Air Filters Inside Motor
Work Request 000Z010973	East Off-Gas Chiller, Top Right Fan Broken From Shaft
Work Request T803010100	Inspect and Lube Climate Changer and Air Cooled Refrigerant Condenser, Computer Room
Work Request V478000100	Perform Annual Overhaul Inspection, Radwaste Building Heating, Ventilation and Air Conditioning Chiller
Work Request 000Z003300	Division 2 Switchgear Room Compressor, Condenser and Fan Coil Unit
Work Request 000Z003791	Suspect Air Leak, Division 1 Control Center Heating, Ventilation and Air Conditioning Compressor
Work Request 000Z010197	Absorber Room North Chiller Tripped on Oil Pressure
Work Request 000Z010314	Air Flow Low on Battery Room Air Handler
Work Request V465010100	Change Filters, Clean Strainers, Inspect Skids Wiring and Unit in General
Work Request H004010100	Perform H21-P492 Cabinet Door Seal Check During Warm Weather
Work Request H824010100	Radwaste Building Heating, Ventilation and Air Conditioning Lube Fans and Clean Fan Blades, Motor Housing and Vents, Change Belts
Work Request W922010100	Install, Remove Panel on Louvers Openings
Work Request 000Z010171	Hydrogen Seal Oil Cooler Possibly Fouled
Work Request A191010100	Check Air Conditioning Unit for Proper Operation, Clear or Replace Filters as Needed
Work Request 000Z010061	Transformer Fans
Work Request A112010100	Perform Seasonal Startup Preventive Maintenance per Vendor Requests, Reactor Building Closed Cooling Water Supplemental Cooling System
Work Request A113010100	Perform Diagnostic Software Test Prior to Seasonal Startup, Reactor Building Closed Cooling Water Supplemental Cooling System
Work Request A118010100	Perform Seasonal Startup Preventive Maintenance per Vendor Requirements, Center Supplemental Cooling Chiller Water
Work Request A119010100	Perform Seasonal Startup Preventive Maintenance per Vendor Requirements, South Supplemental Cooling Chiller Water

1R04 Equipment Alignments

Technical Specification SR 3.6.1.3.2	
Technical Requirement Manual Table TR3.6.3-2	
Procedure 24.425.01	Primary Containment Operability Verification
Drawing 6M721-5729-02	Emergency Equipment Cooling Water (Division II) Functional Operating Sketch
Design Basis Document P44-00	Emergency Equipment Cooling Water System.
Drawing 6M721-5734	Emergency Diesel Generator Functional Operating Sketch

1R05 Fire Protection

Nuclear Quality Assurance Audit Report 99-0113	Fire Protection Program,
Drawing 6A721-2407	Fire Protection Evaluation Reactor and Auxiliary Buildings Third Floor Plan,
Updated Final Safety Analysis Section 9A.4.2.11	Divisions 1 and 2 Battery Rooms Zone 10, El 643 Feet 6 Inches
Emergency Operating Procedure 20.000.18,	Loss of Offsite Power
Annunciator Response Procedure 16D27	Fire Alarm
Updated Final Safety Analysis Report Table 8.3-15	
Drawing I-2095-09	Automatic Depressurization System Solenoid Valves B2104F013A, M and N
Drawing I-2095-01,	Automatic Depressurization System General Information I-2095-04, Automatic Depressurization System Solenoid Valves B2104F013F, G, and H
Drawing D-2530-11,	One Line Diagram 260/130V Dual Battery Distribution Division II
Drawing D-2530-13,	260V Direct Current Motor Control Center 2PA-1 Aux Bldg 3rd Flr

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

Work Request 000Z002490	Scram Time Delay Relays Out of Specs - Test/Adjust Time Delays
Work Request 000Z010378	Infrared Identified Hot Spot in Scram Solenoid Fuse Panel C71-P002B
Work Request 000Z010380	Infrared Identified Hot Spot in Scram Solenoid Fuse Panel C71-P002H
Alarm Response Procedure 3D74	Trip Actuators B1/B2 Tripped
Alarm Response Procedure 3D78	Manual Trip B System Trip
Abnormal Operating Procedure 20.000.21	Reactor Scram

CARD 00-17185	Relay Time Out of Specifications
CARD 01-12380	Infrared Identified Hot Spot in Scram Solenoid Fuse Panel C71-P002B
CARD 01-12381	Infrared Identified Hot Spot in Scram Solenoid Fuse Panel C71-P002H
Procedure 44.010.061	Reactor Protection System - Logic Functional Test
General Electric Transient Analysis Recording System Traces	Reactor Recirculation Flow, Reactor Power, Motor Generator Set Pump B Speed for June 9, 2001
Drawing I-2105-21	Control System (Distributed Control System Reactor Recirculation) External Connections
Drawing I 2105-07RR	Motor Generator G Sets A & B Speed Control System Part 2
Drawing I-2105-22	Bailey Modules Functional Block Diagram (Reactor Recirculation System),"
Reactor Recirculation Motor Generator B Scoop Tube Positioner Plan Opened and Closed CARDs since 1/1/1997	

1R15 Operability Evaluations

CARD 01-14752	Loss of Non-interruptible Air Supply Response of the High Pressure Coolant Injection and Reactor Coolant Injection Isolation Cooling System
CARD 01-15492	Emergency Diesel Generator Reliability - Governor Oil, and associated MES 27, "Engineering Functional Analysis," for placing the wrong oil in the governors

1R16 Operator Work Arounds

Operations Department Expectations (ODE)-6	Operator Workaround
Operator Workaround 01-011	Control Rods 14-31 and 38-47 Double Notch
May 8, 2001, Nuclear Generation Memorandum	Aggregate Assessment of Operator Workaround
May 2, 2001, Nuclear Generation Memorandum	Risk Assessment of Revised Operator Workarounds
Operator Work Around 01-014	Screening Form for the Locked Scoop Tube on Reactor Recirculation Pump B

1R19 Post Maintenance Testing

Work Request 000Z002490	Scram Time Delay Relays Out of Specs - Test/Adjust Time Delays and Post Maintenance Testing Instructions for Functional Check Shutdown Scram Reset Relay for Reactor Protection System Trip System B

Work Request 000Z010378	Infrared Identified Hot Spot in Scram Solenoid Fuse Panel C71-P002B" Post Maintenance Testing Instructions, Perform infrared inspection of C71-P002B, Terminal Board BB, Terminal F1
Work Request 000Z010380	Infrared Identified Hot Spot in Scram Solenoid Fuse Panel C71-P002H Post Maintenance Testing Instructions, Perform infrared inspection of C71-P002H, Terminal Board BB, Terminal F11
Procedure 44.010.061	Reactor Protection System - Logic Functional Test
CARD 01-13163	Modification Implementation Checklists for Completed Equivalent Replacements Are Not Returned to the Modification Implementations Checklist Coordinator on Time
CARD 01-18201	Recommend Utilizing Screen 56 in CECO to Indicate Unincorporated Chages Approved by Equivalent Replacement Equipment
Work Request 000Z003230	Emergency Diesel Generator 14 Jacket Coolant Standby Pump
Work Request 000Z010676	Emergency Diesel Generator 13 Jacket Coolant Standby Pump
Maintenance Conduct Manual MMA-11	Post Maintenance Testing Guidelines"
Engineering Support Conduct Manual MES 42	Equivalent Replacement Process"
Technical Service Request 27075	Colter Has Supplied Different Pump and Motor for the Emergency Diesel Generator Jacket Coolant Standby Pump
Vendor Manual VME8-1.7.1	Burks Series G Centrifugal Pump
CARD 00-10626	CARD 98-1484 Failed to Identify Cause and Corrective Action for Configuration Control Problem Associated with the Emergency Diesel Generator Receiver Low Pressure Alarm
CARD 98-15651	CECO Lead Field-Model Number Discrepancies
CARD 00-15657	Motor Detail Information Incorrectly Identified in CECO
CARD 98-10111	Incomplete or Wrong CECO Database Component Descriptions and Fields, Drawing Discrepancy
CARD 00-12180	Incorrect Model Number For Pump P6100C003 Shown in CECO
CARD 00-16995	CECO Discrepancies and Missing Info
Equivalent Replacement Evaluation 31486	Equivalent Replacement for Emergency Diesel Generator Jacket Coolant Standby Pump
Detroit Edison Letter NRC-99-0060	Response to Referral 99-A-0016
Updated Final Safety Analysis Report 9.5.5.2	Diesel Generator Service Water Systems

1R22 Surveillance Testing

Procedure 24.137.16	Division 2 Main Steam Isolation Valve Leakage Control System Quarterly Operability and Stroke Time Test
Procedure 24.307.16	Emergency Diesel Generator 13 - Start and Load Test
Procedure 44.030.155	Emergency Core Cooling System - High Pressure Cooling Injection Torus Level Functional Test"
Surveillance procedure 47.207.02	Emergency Equipment Cooling Water Division 2 Heat Exchanger Performance Test

1R23 Temporary Modification

Annunciator Response Procedure 2D17	Division 2 Emergency Equipment Cooling Water South Pump Differential Pressure High/Low
Deviation Event Report 95-0902	Unreliable Emergency Equipment Cooling Water Indication
CARD 98-11657	Transfer Deviation Event Report 95-0902
CARD 99-18511	Replace Non Functioning Emergency Equipment Cooling Water Flow
CARD 99-0210	Malfunctioning LED on Flow Indicator
Work Request 000Z992636	Malfunctioning LED on Flow Indicator
Drawing 6I721-2174-31	Schematic Diagram Emergency Response Information System Points 91 thru 93, 60, 96 & 99
Drawing 5I721-2600-02	One Line-Diagram 120V Alternating Current Distribution Panels Balance-of-Plant Auxiliary Building Relay & Control Room
Procedure 23.308	120V Alternating Current Instrument and Control Power System, Enclosure A, "120 Volt-Alternating Current and Control Power System Circuits and Descriptions of Loads," page 14 of 34 and Enclosure E, "Loss of Modular Power Unit 3 Impact," Page 21 of 25