

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

REPORT NO. 50-341/96003

FACILITY

Fermi Nuclear Plant, Unit 2

License No. NPF-43

LICENSEE

Detroit Edison Company
6400 North Dixie Highway
Newport, MI 48166

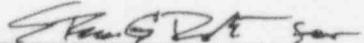
DATES

March 19 through March 30, 1996

INSPECTORS

- A. Vogel, Senior Resident Inspector
- C. O'Keefe, Resident Inspector
- J. Guzman, Reactor Inspector
- J. Neisler, Reactor Inspector
- P. Loughheed, Lead Engineering Assessment Project Inspector
- R. Langstaff, Reactor Inspector

APPROVED BY


Mike Jordan, Chief
Reactor Projects, Section 7

5/21/96
Date

AREAS INSPECTED

An integrated inspection effort by resident and region-based inspectors of Fermi's performance in the areas of operations, engineering, maintenance, and plant support was performed. Safety assessment and quality verification activities were routinely evaluated. Follow-up inspection was performed for non-routine events and for certain previously identified items.

RESULTS

Assessment of Performance

The inspectors determined that **OPERATIONS** performance during a rapid shutdown was excellent. However, ineffective coordination existed between operations and chemistry following the shutdown. This resulted in the torus being vented before completion of the torus sample. A challenge to the operators occurred when high particulates were found in the diesel fuel oil storage tank. This resulted in an emergency diesel generator being rendered inoperable. Operator response to the fuel oil degradation was prompt and conservative.

The inspectors determined that **MAINTENANCE** activities were well controlled and performed according to procedures with two exceptions. Maintenance personnel twice unexpectedly impacted emergency diesel generator systems while performing unrelated activities within the area of the diesels. Both occurrences demonstrated a continued concern with lack of attention to detail while performing maintenance activities.

The inspectors determined that performance of **ENGINEERING** during the licensee conducted service water operational performance inspection was effective in identifying design deficiencies. These deficiencies included an emergency equipment cooling water concern that resulted in a plant shutdown to correct a design error. However, the station was not prompt in addressing this deficiency. The service water performance inspection team identified the design concern early during the inspection, but it took the station several weeks to respond. Also, initiatives to resolve a long-standing control room ventilation concern were comprehensive but untimely.

The inspectors determined that **PLANT SUPPORT** performance, especially in radiological support, continued to be well-coordinated and effective during the forced outage.

The inspectors determined that the Comprehensive Integrated Technical Assessments of operations and engineering were an improvement in **SAFETY ASSESSMENT AND QUALITY VERIFICATION** performance. The assessment used multidisciplined teams which included industry peers to evaluate engineering and operations. The assessment was effective in identifying deficiencies.

Summary of Open Items

Violations: None identified.

Unresolved Items: None identified.

Inspector Follow-up Items: Identified in Sections 1.2.2, 3.2, 3.3, and 3.5

Non-cited Violations: Identified 3 in Sections 2.4/and 3.6.

INSPECTION DETAILS

1.0 OPERATIONS

NRC Inspection Procedure 71707 was used in the performance of an inspection of ongoing plant operations. The plant operated at or near full power until a plant shutdown was conducted on March 27 to correct a potential common mode failure condition due to an emergency closed cooling water (EECW) design deficiency affecting both divisions that was identified by the licensee.

1.1 Operator Control of Plant Shutdown

On March 27 inspectors observed control room operators perform a plant shutdown following identification of EECW design deficiencies. The EECW design deficiencies are discussed in Section 3.1 of this report. The inspector noted that the operators performed the shutdown methodically and per plant procedures. All activities were well-coordinated and expected plant response to equipment manipulation was properly anticipated. The nuclear shift supervisor (NSS) and nuclear assistant shift supervisor (NASS) provided excellent oversight of the evolution. The NASS stopped activities on several occasions to conduct pre-evolutionary briefs. This was to ensure that operators were cognizant of the anticipated plant response before shifting feedwater to startup level controller and inserting a reactor scram.

1.2 Engineered Safety Feature Systems Material Condition

During inspection of engineered safety feature (ESF) systems, the accessible portions of the following systems were walked down.

- Emergency Diesel Generator Numbers 11, 12, 13, and 14
- High Pressure Coolant Injection System
- Reactor Core Isolation Cooling System
- Control Center Heating, Ventilation and Air Conditioning System
- Residual Heat Removal Service Water System

1.2.1 Emergency Diesel Generator (EDG) No. 11 Fuel Oil Degradation

On March 7, EDG 11 was declared inoperable to perform inspection and maintenance activities required for surveillance interval extension. A monthly fuel oil sample was taken on March 8 as required by Technical Specification (TS). The EDG was later returned to operable service.

The results of the fuel oil sample was analyzed on March 9. The results indicated a fuel oil particulate level of more than twice allowed by TS. Later, the second sample confirmed the previous sample.

Having confirmation of particulate levels greater than the TS limit, the NSS declared the EDG 11 inoperable. This placed the EDG in a 72 hour technical specification limiting condition for operation (LCO). The LCO action statement required returning the particulate levels to below the allowable limit or commencing an orderly reactor shutdown. The station staff conservatively determined that the action statement started on March 7. This coincided with the start of the maintenance activities.

The station determined that they would not be able to drain and refill the fuel oil storage tank within the remaining time of the LCO. The licensee requested a Notice of Enforcement Discretion for a 24 hour extension of the LCO. The NRC verbally granted the extension on March 10. Later on March 10, the EDG was returned to operational status following replacement and verification of the current fuel oil sample results. Fuel oil for the remaining EDGs was also verified to be satisfactory.

Since the duration of the LCO and action statement time limits were exceeded, Fermi 2 was operated in a condition prohibited by TS. Although the condition of exceeding the TS duration was approved by the NOED, the licensee reported the situation under 10 CFR 50.72 requirements.

The licensee's investigation of the event was still on-going at the end of the inspection period. The licensee planned to submit Licensee Event Report (LER) 96-004 to document event occurrence, investigation results, and corrective actions to prevent reoccurrence (Open LER 50-341/96004). This event and corrective actions will be evaluated under that LER and does not require a separate inspection followup item.

1.2.2 Sample Not Completed Prior to Torus Venting

On March 27 following the plant shutdown, the licensee commenced venting the nitrogen-inerted atmosphere of the torus before sampling was complete. The purpose of the sample was to determine the activity of the effluent before the release. The error was discovered by control room operators after about 49 minutes, and venting was stopped. A sample was taken and verified to have negligible activity before continuing the venting evolution. The release path included a process radiation monitor, which did not indicate an increase in activity during the venting process.

Deviation Event Report (DER) 96-0340 was written to document the event and track corrective action. Pending inspector review of licensee root cause investigation and corrective action determination, this event will be tracked as an inspection followup item (341/96003-01).

2.0 MAINTENANCE

NRC Inspection Procedures 62703 and 61726 were used to perform an inspection of maintenance and testing activities. Overall, maintenance activities were planned and executed well.

2.1 Observation of Work and Testing The following maintenance and surveillance activities were observed:

- EDG No. 11 Maintenance
- Division 1 and 2 EECW Expansion Tank Leak Rate Tests
- Heater Feed Pump Motor Cleaning
- Number 5 Jacking Oil Pump Troubleshooting
- Troubleshooting for 3N Heater Emergency Level Control Valve

For all activities observed, the inspectors noted safe work practices. The activities observed were performed satisfactorily in accordance with procedures. Some problems were identified as discussed below.

2.2 Unexpected Impact of Maintenance Activities on Plant Equipment

During this inspection period, two events occurred due to equipment being unexpectedly affected by maintenance activities. On March 4, work on a local switch enclosure for the EDG 11 starting air compressor caused a short. The short resulted in a blown control power fuse and an EDG 11 starting air receiver tank low pressure alarm. Following the alarm, the air start header was cross-tied to EDG 12 air header. The blown fuse was identified and replaced. The starting air receivers were promptly restored to normal.

On March 8, inspectors identified that the drain valve for the EDG 11 Engine Driven Air Coolant Pump was open. The valve should have been shut to prevent draining of the jacket water expansion tank. As previously documented in Inspection Report (IR) 96002, a similar valve on EDG 14 was found out of position open on February 26, 1996. That incidence resulted in the diesel being declared inoperable when the expansion tank was drained. In the case of the recent occurrence, the expansion tank for EDG 11 did not drain due to a rubber plug in the drain line. The licensee determined that the valve was most likely inadvertently bumped open due to unrelated maintenance near the valve.

The inspectors were concerned that these events indicated a lack of attention to detail, especially to equipment within the work area. Though the overall performance of maintenance activities observed this inspection period was good, increased attention to prevent inadvertently affecting equipment not directly being worked on appeared warranted.

2.3 Main Steam Line (MSL) Radiation Monitor "D" Failure

On March 23 the MSL Radiation Monitor Channel D and Fuel Pool Vent Radiation Monitor Channel D failed downscale. All the expected actuations and initiations occurred. Subsequent investigation by the licensee determined that cause of the monitors failure was due to a blown common power supply fuse. The fuse was replaced and Fuel Pool Vent Radiation Monitor was reset and restored to service. Attempts to restore the MSL radiation monitor were unsuccessful. Troubleshooting revealed that both MSL radiation monitor channel D power supplies had failed. A replacement radiation monitor drawer was obtained from stock and was qualified for plant use. The replacement drawer was installed, tested, and returned to service on March 24.

On March 25 the licensee determined that the installed radiation monitor was inadequately configured. The radiation monitor drawer had a programmable logic device (PLD) in the analog module that was susceptible to problems. The PLD did not contain circuitry to preclude "self test" anomalies that could cause momentary actuation of the upscale or downscale trip. The licensee determined that the actuation of these contacts could cause a Division II half-scam and half isolation. The licensee considered MSL Radiation Monitor Channel D operable on the basis that no "self-test" faults or alarms were

associated with this channel. The licensee replaced the suspect module with a proper PLD during the recent forced outage.

- 2.4 Follow-up on Non-Routine Events NRC Inspection Procedures 90712 and 92700 were used to perform a review of written reports on non-routine events. The following items were closed with no significant strengths or weaknesses noted.
- 2.4.1 (Closed) Licensee Event Report 341/94005 Actuation of Isolation Logic. An electrician installing a new relay loosened a screw to land a new lead. This resulted in power interruption to portions of the nuclear steam supply shutoff system control logic and caused the actuation of the ESF and isolation systems. Procedures did not require an impact statement update when revisions were issued. The inspector's review of the procedures indicated that the procedures had been revised/rewritten to require work control review to assure revisions to modifications were appropriately reviewed for their impact on other plant systems. Failure to ensure an adequate procedure was utilized during installation of the relay was a violation of 19 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings". However, this violation will not be subject to enforcement action because the criteria in Section VII.B(L) of the NRC Enforcement Policy were met. (341/96003-02) This LER is closed.
- 2.4.2 (Closed) Licensee Event Report 341/95006 Main turbine trip due to false overspeed during mechanical overspeed test. During the performance of the Turbine Generator Mechanical Overspeed Test, the main turbine tripped, causing a reactor scram. The turbine tripped because the test on the number 1 trip ring vibrated the number 2 trip lever sufficiently to cause the number 2 trip mechanism to also actuate.

The licensee determined that the number 2 trip lever had not been fully latched during the previous actual overspeed test. The vendor manual required the reset overspeed pushbutton to be depressed and held down for at least five seconds, but the Fermi test procedure did not contain this requirement. Field testing determined that depressing the pushbutton for less than about 2 seconds could result in incomplete latching of the overspeed trip lever. The licensee revised the test procedure to require the reset pushbutton to be depressed and held down for at least 15 seconds. This LER is closed.

- 2.5 Follow-up on Previously Opened Items A review of previously opened items (violations, unresolved items, and inspection followup items) was performed per NRC Inspection Procedure 92902. No significant strengths or weaknesses were identified.
- 2.5.1 (Closed) Inspection Followup Item 341/94005-02 Inadequate work control during installation of a transmitter. A work package on hold for parts was inadequately prepared and issued for work. The licensee released Procedure MWC02, "Work Control," on September 9, 1995, to provide definitive instructions on work package and documentation requirements, including the handling of incomplete work requests. This item is closed.

- 2.5.2 (Closed) Inspection Followup Item 341/95012-08 Possible misoperation or anomaly of the third main steam isolation valve actuator while attempting to manually backseat the valve. This valve is a balance of plant valve, outboard of the mainsteam isolation valves. The licensee determined that the valve was operated in the wrong direction and that there was no anomaly with the actuator. This item is closed.
- 2.5.3 (Open) Violation 341/95008-03 Licensee Quality Assurance (QA) audit 93-0122 failed to comply with audit procedure. As part of their corrective actions, the licensee reviewed all 1993 and 1994 QA audits to determine if other checklist items were missed. Approximately 30 percent of the audits were found to have checklist items which were not completed. However, the licensee determined that in all cases the missed items had no effect on the QA program because the item was covered under a later audit.

The inspectors reviewed a sample of the QA audits identified as having incomplete checklists and the followup audits and had the following comment: One audit failed to look at the vendor document control program, although this was noted as a concern in an earlier audit. Per the QA checklist, previous audit findings were to be reviewed. A few months later, NRC issued a violation concerning inadequate incorporation of vendor requirements into design documentation (Violation 94012-01). The followup audit identified continuing problems. Despite this, the licensee concluded there was no adverse effect on the checklist item not having been completed.

Based on this and other minor examples, the inspectors determined that there was not sufficient information to support closure of the violation. The inspectors discussed with the licensee the apparent inadequacies in the violation response. This item will remain open, pending further inspector review.

3.0 ENGINEERING

NRC Inspection Procedure 37551 was used to perform an onsite inspection of the engineering function.

3.1 Emergency Equipment Cooling Water System Inoperable

Towards the beginning of the assessment, the SWSOPI team questioned the amount of leakage in the EECW makeup system. Pressure provided by a nitrogen blanket was required to ensure adequate net positive suction head for the EECW pumps because the makeup tank was at the same elevation as the pump. The team pursued this question throughout the assessment period, as the preliminary value provided was 0.26 gallons per hour, which the team considered unrealistic. On March 26, the team recognized that, in addition to the leakage concern, there was no method to guarantee makeup to the tank for the accident duration (later determined to be 30 days), and that both the nitrogen and demineralized water makeup system could contribute to voiding in the system, as they were non-seismic systems and the isolation valves were not leak tested.

Each division of the EECW system is designed with one makeup tank pressurized with nitrogen that provides makeup water to account for system leakage and to maintain sufficient net positive suction head for proper pump operation. The demineralized water system (which supplies makeup water to the tank) and the nitrogen supply system are not safety related or seismically qualified.

In the event of an accident or seismic event, no credit was taken for operation of the demineralized water or nitrogen supply system. The makeup tank was isolated from these systems. However, leakage of nitrogen from the system was found to cause the makeup tank nitrogen pressure to decay in a short amount of time when isolated from the nitrogen supply during a test. With the makeup tank depressurized, pressure in the EECW train would be reduced until pump cavitation or gas binding could occur. This concern affected both trains of EECW. The UFSAR failure modes and effects analysis for the EECW system described a failure of a single isolation valve on the makeup tank outlet line that would bound this failure, but takes credit for the availability of the remaining train. In this case, the loss of both makeup tanks had been previously unanalyzed.

Both trains of EECW were declared inoperable and TS 3.0.3 was entered on March 27. A plant shutdown was conducted and an Unusual Event was declared due to TS required shutdown. The Unusual Event was terminated after the reactor was shutdown. The licensee reported the event in accordance with reporting requirements. In addition, the licensee intended on submitting LER 96005 to document event occurrence.

At the close of the inspection, the licensee had initiated a temporary modification to restore EECW to operable status in mode 4, and was working on a modification to provide more permanent, seismically qualified makeup sources for nitrogen and water. The inspectors observed operator training for use of the temporary modification and found the training to be good, and operator input for improvements to be excellent.

3.2 Untimely Corrective Actions To Address Deficiencies in Control Center Heating, Ventilation and Air Conditioning System (CCHVAC) Seismic Qualification

A meeting was held with the licensee on February 7, 1996, to discuss NRC staff concerns related to the CCHVAC system. These concerns were detailed in the NRC's December 7, 1995, "Safety Evaluation of Responses by DECO to the NRC CCHVAC Concerns at Fermi 2." At issue was the NRC concern that after numerous technical requests, the licensee had not adequately demonstrated the structural integrity of the CCHVAC system with a maximum expected internal negative pressure and combining the loading due to dead weight and a safe shutdown earthquake. In particular, deficiencies were found in supporting calculations and analyses including:

- Fermi revised the table in Appendix A (3.0.n) of the Updated Final Safety Analysis Report (UFSAR) to allow brazing as a means of insuring leak tightness and to allow local yielding of duct corners. These allowances were based on the licensee's

interpretation of the ANSI N509-1980 code (Nuclear Power Plant Air-Cleaning Units and Components), stating that the as-built ductwork conformed to the "intent" of the code for all areas of duct construction and testing. The NRC staff disagreed with Fermi's interpretation of the code.

- Verification of pressure proof testing of all ductwork was not available, as required by the ANSI N509-1980 code.
- Calculations misapplied seismic spectra in determination of seismic stresses.
- Ductwork calculations were based on properties (yield and ultimate strengths) of structural steel instead of galvanized sheet metal. Additionally, stress calculations were based on galvanized sheet metal thickness instead of bare sheet metal (i.e. credit was taken for galvanized ductwork coatings, which have no strength capability).

Based on these concerns the staff requested, by letter dated December 7, 1995, that the licensee requalify the CCHVAC system in accordance with the applicable requirements of ANSI N509-1980 to demonstrate structural integrity under all required load combinations prior to restart from the next refueling outage currently scheduled for the fall of 1996.

The February 7, 1996 meeting primarily addressed Fermi's response to the staff's request. The licensee acknowledged the deficiencies and described its action plan for resolution of all concerns by the end of the next refueling outage. The action plan included reanalysis of the design basis of the CCHVAC, reanalysis of the structural integrity and functionality, potential modifications, qualification and testing. Overall, the NRC concluded that the licensee's approach would adequately address the staff's concerns, although the details to effect these actions were still under development and will be reviewed further. Development and implementation of a design criteria specification for the CCHVAC system and structural qualification and the modifications planned, including reduction of the CCHVAC recirculation fan speed, will be reviewed and tracked as an inspection followup item (341/96003-03).

3.3 Turbine Steam Control Valve Vibration

The inspectors were concerned with vibration visible on the main turbine stop and control valves (IR 96002). The licensee had placed temporary sensors on the valves and piping to assist in evaluating and determining corrective actions. Permanent sensors were scheduled to be installed during the next refueling outage. The licensee determined that the results from the temporary mounted sensors were unusable due to improper mounting of the sensors. The licensee was developing a better way to attach the sensors. The licensee expected to attach the sensors during the current forced outage. Since the outage was in progress at the end of this inspection period, the effectiveness of these efforts could not be determined.

The licensee also identified a crack on the No. 2 High Pressure Control Valve spring-can housing. The crack did not impact the operability of the spring-can support. The occurrence of this and the previous failures continue to be of concern. Pending inspector review of licensee corrective actions to resolve these vibration concerns, this item will be tracked as inspection followup item (341/96003-04).

3.4 Service Water Self-Assessment

During this inspection period, the licensee completed an internal service water system operational performance assessment. This inspection was performed in accordance with the requirements of NRC Temporary Instruction (TI) 2515/118 "Service Water System Operational Performance Inspection" to evaluate the emergency equipment service water, the residual heat removal service water, the diesel generator service water, the EECW, and the general service water systems.

The team was comprised of a mixture of Detroit Edison employees and outside contractors. The team's professional qualifications and experience levels met the standards set forth in TI 2515/118. The inspectors determined through observation and interviews that the team members were generally knowledgeable of their assessment areas and were sufficiently independent of the areas they were inspecting.

The assessment team covered all the inspection requirements of the TI and identified a number of substantial issues, including the lack of makeup to the EECW makeup tanks which resulted in a plant shutdown, as discussed in Sections 3.1. However, the response team did not disposition many items in a timely fashion. At the end of the assessment, a large proportion of the items (45 of 65) remained open or were unresolved (24 of 65). The inspectors noted that the surveillance/testing area had the most open items. The timely resolution of these issues was impacted by poor initial responses which listed where the information could probably be found, rather than providing answers.

While there did not appear to be any immediate operability issues, other than the EECW makeup tanks, the licensee made a number of interim operability assessments justifying continued operation through the end of April based on lake temperatures being lower than the design maximum. The licensee believed that there was sufficient conservatism in the design to ensure continued operability after this date, and planned on updating their design model and calculations to address the issues. The inspectors discussed the interim operability justifications with the response team leader and were satisfied with the licensee's conclusions.

On March 29 the assessment team held a preliminary exit to discuss their findings with Fermi management. Due to the plant shutdown, and the large number of issues remaining unresolved, the formal assessment team exit was delayed until late April. NRC will perform a followup inspection, once the licensee has formally exited and the assessment report is issued, to evaluate the effectiveness of both the assessment and response team.

3.5 Increased Offgas Radioactivity Levels Possibly Indicative of New Fuel Leak

As previously discussed in Inspection Report 95012, the licensee detected a small nuclear fuel leak in mid-October 1995 and took prompt action to suppress the leak to avoid further degradation. In March 1996, the licensee detected a number of increases in offgas radioactivity.

Since the initial leak suppression actions, offgas radioactivity levels remained in the range of 87-120 uCi/sec. However, in March offgas radioactivity showed a number of short duration increase, the largest being 1430 uCi/sec for a short time. The radioactivity appeared to have stabilized at a new level near 488 uCi/sec just prior to the plant shutdown on March 27. The shut down delayed licensee plans to perform flux suppression testing to identify if the increase in offgas activity was caused by a new small leak, or was an increase in the leak rate of the original leak.

Inspector review of licensee actions in response to the increased offgas radioactivity will be track as an inspection followup item (341/96003-05).

3.6 Follow-up on Non-Routine Events NRC Inspection Procedures 90712 and 92700 were used to perform a review of written reports on non-routine events. Engineering evaluations were found to be safety conscious. All engineering evaluations and operability determinations reviewed by the inspectors were supported by accurate and thorough technical documentation. The following item was closed:

(Closed) Licensee Event Report 341/94002 Safety relief valve (SRV) set pressures outside of technical specification limits. Six of the 15 two-stage pilot-operated SRV pilot assemblies failed to lift within their specified setpoint tolerance ranges and one SRV pilot leaked excessively. All 15 SRV pilot assemblies were replaced with refurbished and certified assemblies. T.S. 3.4.2.1 required that at least eleven of the fifteen SRVs be operable with specified lift settings. Contrary to this, on July 14, 1994, the licensee was notified that nine SRVs failed to lift within specified tolerance during testing. The failure to ensure sufficient SRVs were operable was a violation of T.S. 3.4.2.1. However, this violation will not be subject to enforcement action because the criteria in Section VII B(L) of the NRC Enforcement Policy were met. (341/96003-06) The licensee's action on this LER is acceptable.

3.7 Followup on Previously Opened Items NRC Inspection Procedure 92903 was used to perform a review of previously opened items (violations, unresolved items, and inspection followup items). No problems were identified, and the following item was closed:

(Closed) Unresolved Item 341/95012-01 Adequacy of polystyrene spacers between battery cells. The inspectors questioned the adequacy of the spacers to prevent jar damage during a seismic event. Review of seismic documentation indicates polystyrene spacers were in place between the cell jars during the seismic test. Licensee's contact with the vendor indicated the spacers are closed cell polystyrene which was not as susceptible to crushing and remaining in the crushed state as open cell material. The closed cell material returns to near original thickness offering better seismic protection. The use of end spacers during seismic testing was not apparent. The licensee stated they were planning to make the necessary rack adjustments. This issue is closed.

4.0 PLANT SUPPORT

NRC Inspection Procedures 71750 and 83750 were used to perform an inspection of Plant Support Activities. Radiation protection and chemistry performance continue to be effective.

4.1 Continued Effective Radiological Controls

The inspectors verified that personnel were following health physics procedures for radiological practices. The inspectors also randomly examined radiation protection instrumentation for use, operability, and calibration. No deficiencies were identified. Radiation protection response to entering the forced outage at the end of the inspection were good, with preparation and setup for drywell work being particularly smooth and thorough. Radiation protection support for work under the reactor vessel was observed to be excellent, as was control of containment access and tool accountability.

4.2 Safeguards

Each week during routine activities or tours, the inspectors monitored the licensee's security program to ensure that observed actions were being implemented according to the approved security plan. No deficiencies were noted.

5.0 SAFETY ASSESSMENT AND QUALITY VERIFICATION

Inspectors used Inspection Procedure 40500 to evaluate licensee self-assessment activities.

5.1 Quality Assurance Audits/Activities

During this inspection period, the licensee utilized multidisciplined teams, including industry peers, to complete Comprehensive Integrated Technical Assessments (CITA) of engineering and operations. The purpose of CITAs was to identify performance and process weaknesses and strengths.

The inspectors considered the reports to be an improvement over previous QA reports. The CITAs provided good findings, clear assessments, and specific recommendations for improvements to be made. Both reports were also more probing and insightful than QA reports have been in the past.

Summaries of findings in the reports are provided below.

Operations CITA Results

While operations had many improvement initiatives underway, weaknesses were identified. The licensee's team identified the following deficiencies:

- Operator integrated plant knowledge.
- Technical specification administration performance.
- Operator knowledge of and adherence to site administrative requirements.
- Technical specification impact statement accuracy and usage.
- Focus of work control shift supervisor.

Engineering CITA Results

A licensee team evaluated safety focus, problem identification and resolution, quality of engineering work, and engineering programs using an integrated assessment process. The following deficiencies were identified by the CITA:

- Teamwork and communications.
- Integrated work prioritization and management.
- Engineering administrative process.
- Plant Modification Review Group process.
- Safety evaluation process for temporary modifications.
- Control of operability determinations.

Strengths were identified in the CITA report in the use of quarterly system health reports, engineering improvement group activities, use of a "high risk" EDP review board, formation of an engineering backlog reduction group, and completion of the design basis document project.

6.0 Review of UFSAR Commitments

A recent discovery of a licensee operating their facility in a manner contrary to the UFSAR description highlighted the need for a special focused review that compares plant practices, procedures, and parameters to the UFSAR descriptions. While performing the inspections discussed in this report, the inspectors reviewed the applicable portions of the UFSAR that related to the areas inspected. During this inspection period, the inspectors verified that the UFSAR wording was consistent with the observed plant practices, procedures, and parameters.

7.0 Exit Meeting Summary

The inspectors contacted various licensee operations, maintenance, engineering, and plant support personnel throughout the inspection period. Senior personnel are listed below.

On March 7, A. Thadani, Associate Director for Technical Review, Office of Nuclear Reactor Regulation, and H. Miller, Regional Administrator, Region III were on site to observe plant activities and conduct meetings with the licensee staff.

At the conclusion of the inspection on April 2, 1996, the inspectors met with licensee representatives and summarized the scope and findings of the inspection activities. The licensee did not identify any of the documents or processes reviewed by the inspectors as proprietary.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

W. Colonnello, Director, Safety Engineering
R. DeLong, Superintendent, Rad/Chem
D. Gipson, Senior Vice President, Generation
L. Goodman, Director, Nuclear Licensing
T. Haberland, Work Control Superintendent
R. Johnson, Acting Director, NQA
J. Korte, Director, Nuclear Security
R. McKeon, Assistant Vice President/Manager, Operations
W. Miller, Superintendent, System Engineering
J. Nolloth, Superintendent, Maintenance
W. O'Connor, Manager, Nuclear Assessment
D. Ockerman, Superintendent, Operations
J. Plona, Technical Manager, Engineering
W. Romberg, Assistant Vice President and Manager, Technical
T. Schehr, Operating Engineer
R. Szkotnicki, Manager, Outage

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

- 50-341/96003-01 IFI torus sample not completed before venting torus
- 50-341/96003-03 IFI development and implementation of design criteria for CCHVAC
- 50-341/96003-04 IFI review corrective actions for turbine control valve vibration
- 50-341/96003-05 IFI evaluate increase in offgass radioactivity

Closed

- 50-341/94005 LER actuation of isolation logic due to an electrician installing a new relay loosened a screw to land a new lead
- 50-341/95006 LER main turbine trip and reactor trip due to false overspeed during mechanical overspeed test
- 50-341/94005-02 IFI inadequate work control during installation of a transmitter
- 50-341/95012-08 IFI possible misoperation or anomaly of the third main steam isolation valve actuator while attempting to manually backseat the valve
- 50-341/95002 LER SRV set pressures outside of technical specification limits
- 50-341/95012-01 URI verify adequacy of polystyrene spacers between battery cells
- 50-341/96003-02 NCV actuation of isolation logic due to an electrician installing a new relay loosened a screw to land a new lead
- 50-341/96003-06 NCV SRV set pressures outside of technical specification limits

LIST OF ACRONYMS USED

CCHVAC	Control Center Heating, Ventilation and Air Conditioning System
CFR	Code of Federal Regulations
CITA	Comprehensive Integrated Technical Assessments
DECO	Detroit Edison Company
DER	Deviation Event Report
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
EECW	Emergency Closed Cooling Water
ESF	Engineered Safety Feature
IFI	Inspection Followup Item
IR	Inspection Report
LCO	Technical Specification Limiting Condition for Operation
LER	Licensee Event Report
MSL	Main Steam Line
NASS	Nuclear Assistant Shift Supervisor
NOED	Notice of Enforcement Discretion
NRC	Nuclear Regulatory Commission
NSS	Nuclear Shift Supervisor
PLD	Programmable Logic Device
QA	Quality Assurance
SRV	Safety Relief Valve
SWSOPI	Service Water System Operational Performance Inspection
TI	Temporary Instruction
TS	Technical Specification
UE	Unusual Event
UFSAR	Updated Final Safety Analysis Report
VIO	Violation