

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-341/84-24(DRS)

Docket No. 50-341

License No. CPPR-87

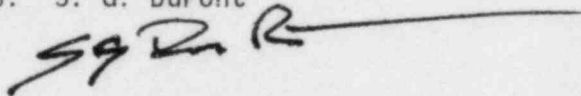
Licensee: Detroit Edison Company
2000 Second Avenue
Detroit, MI 48224

Facility Name: Enrico Fermi Nuclear Power Plant, Unit 2

Inspection At: Enrico Fermi 2 Site, Monroe, MI

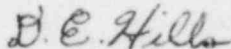
Inspection Conducted: June 12 through July 13, 1984

Inspectors: S. G. DuPont



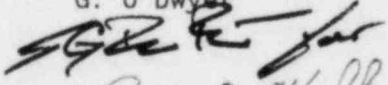
7-26-84
Date

D. E. Hills



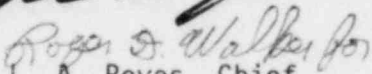
7-26-84
Date

G. O'Dwyer



7-26-84
Date

Approved By: L. A. Reyes, Chief
Test Programs Section



7-26-84
Date

Inspection Summary

Inspection on June 12 through July 13, 1984 (Report No. 50-341/84-24(DRS))

Areas Inspected: Routine, unannounced inspection of licensee action on previous inspection findings, preoperational test procedure verification, preoperational test procedure review, preoperational test witnessing, preoperational test result verification, and preoperational test program implementation. The inspection involved a total of 259 inspector-hours by three NRC inspectors onsite including 81 inspector-hours during off-shifts.

Results: Of the six areas inspected, no items of noncompliance or deviations were identified.

DETAILS

1. Persons Contacted

- *W. H. Jens, Vice President, Nuclear Operations
- *R. S. Lenart, Superintendent, Nuclear Productions
- *T. S. Nickelson, Startup Engineer
- *T. L. Mintun, Startup Director
- *M. Ripley, Assistant Startup Director
- *F. Reimann, Assistant Startup Director
- *R. J. Salmon, LSTE - I&C
- *P. Fessler, LSTE - NSSS
- *G. M. Ford, LSTE - BOP
- *D. Brooke, LSTE - Electrical
- *M. E. Haver, Startup Assurance Engineer
- *J. J. Wald, Quality Assurance
- *L. P. Bregni, Licensing Engineer, Licensing
- *J. E. Slider, Licensing Engineer, Licensing
- *P. L. Nadeau, Quality Technician, Licensing

The inspector also interviewed other licensee employees, including members of the quality assurance, technical, construction, and operating staff.

*Denotes those attending the exit interview on July 13, 1984.

2. Licensee Action on Previous Inspection Findings

(Closed) Open Item (341/84-04-01(DE)): Process Radiation Monitor System preoperational test procedure did not clearly define certain acceptance criteria. The inspector reviewed Test Change Notice (TCN) 1600 to procedure PRET D1100.001 and found that the changes adequately define the applicable acceptance criteria and will ensure that steps in the test procedure are sufficient to accomplish these acceptance criteria.

(Closed) Open Item (341/84-04-05(DE)): Radwaste Building HVAC preoperational test procedure did not indicate the range or accuracy of all required test equipment, verify ventilation fan trip on high radiation, or test the Radwaste Building Low Pressure Annunciator. The inspector reviewed TCN 1645 to procedure PRET 4100.001 and found that the changes adequately accomplish each of these concerns.

(Open) Open Item (341/84-04-04(DE)): RHR Complex Building HVAC preoperational test procedures did not contain provisions to test the objectives of FSAR section 14.1.3.2.56 pertaining to verification of operation of air intake filters, louvers, unit heaters and controls. The inspector reviewed revision 2 to procedures X4103.001 and X4103.002 and found them adequate in testing of the unit heaters and controls. The licensee has initiated FCN 84-221 to remove the requirements for verification of operation of the air intake filters and louvers from FSAR section 14.1.3.2.56. This is to remain an open item until the FSAR revision is reviewed by the inspector.

(Closed) Open Item (341/84-04-02(DE)): Communications System preoperational test procedure did not contain provisions to test the visual beacons provided in high noise areas. The inspector reviewed TCN 1827 to procedure PRET H4000.001 and found that the change adequately provides for testing of these visual beacons.

(Open) Open Item (341/84-04-03(DE)): Secondary Containment System Preoperational test procedure did not provide guidance to determine the test duration. The licensee is in the process of revising the entire testing method for secondary containment in such a way as the test duration criteria no longer applies. This remains an open item until the inspector has reviewed procedure T9200.001 changes, the engineering justification for the revised test method, and the corresponding FSAR revision.

(Closed) Unresolved Item (341/83-25-05(DE)): Emergency Diesel Generator (EDG) control rooms do not have installed automatic fire suppression system. The inspector reviewed the RHR Complex Building requirements with the regional staff and concluded that the EDG control rooms met 10 CFR 50 Appendix R with redundancy of divisions and two EDG trains within each division.

(Closed) Open Item (341/83-22-01(DE)): Previous documented problems with diesel testing. The inspector witnessed testing of all four EDGs during preoperational test R3000.001 including 24 hour runs and consecutive starts. During testing, none of the previous problems were repeated and the inspector has determined that all problems had been resolved by test changes or design changes or both.

3. Preoperational Test Procedure Verification

The inspector verified that the following preoperational test procedures were written, reviewed, and approved by the licensee in accordance with the requirements of Regulatory Guide 1.68 and the QA Manual and found them satisfactory:

PRET G1115.001 Reactor Water Cleanup Phase Separator System
PRET N2002.001 Condensate System
PRET P1100.001 Condensate Storage Tank System
PRET P1200.001 Makeup Demineralizer System
PRET P3321.001 Turbine Building Process Sampling System
PRET P3323.001 Post Accident Sampling System
PRET P4300.001 Turbine Building Close Cooling Water System
PRET P5001.001 Station Air System
PRET P6100.001 Condenser System
PRET U4100.001 Turbine Building HVAC System
PRET W2500.002 Cooling Towers System

No items of noncompliance or deviations were identified.

4. Preoperational Test Procedure Review

The inspector reviewed the following test procedures against the FSAR, the SER, Regulatory Guide 1.68, the QA Manual, and the Startup Manual and found them satisfactory:

PRET C7100.001 Reactor Protection System
PRET E1100.001 Residual Heat Removal System
PRET N2100.001 Feedwater System
PRET P4200.001 Reactor Building Close Cooling Water System
PRET T2303.001 Vacuum Breaker System

No items of noncompliance or deviations were identified.

5. Preoperational Test Witnessing

The inspector witnessed the following preoperational tests and reviewed associated records to ascertain that testing was conducted in accordance with approved procedures and found them satisfactory. Additionally, the performance of licensee personnel was evaluated during the test and found satisfactory.

a. PRET C7100.001 Reactor Protection System

The inspector witnessed the trip logic and time response testing of the Average Power Range and Intermediate Range Monitors, and Reactor Vessel High Pressure.

b. PRET B2106.001 Main Steam Isolation Valve Leak Control System

The inspector witnessed the Division I and II logic and interlock testing of isolation valves including integrated system operation to verify the operation of the system throughout the operating pressure range of the pneumatic system.

c. PRET B3100.00 Recirculation System

The inspector witnessed the isolation logic and stroke timing of recirculation pump seal isolation valves.

d. PRET B2100.001 Nuclear Boiler System

The inspector witnessed the Main Steam Isolation Valve (MSIV) manual and automatic operation, MSIV accumulator operation, Automatic Depressurization and Group I Isolation logic, and Reactor Vessel High Pressure logic.

e. PRET E5100.001 Reactor Core Isolation Cooling (RCIC) System

The inspector witnessed the RCIC valve initiation logic and verified valve stroke timing.

f. PRET R3201.001 130/260 VDC System

The inspector witnessed the performance of the Division II 2A-2 Battery Charger and the 2A-2 Battery Service Test to verify the battery performance under the duty load cycle conditions.

No items of noncompliance or deviations were identified.

6. Preoperational Test Result Verification

The inspector reviewed the results of the following preoperational tests against the acceptance criteria. Additionally the inspector reviewed the licensee's evaluation of test results for adequacy and found them satisfactory:

PRET C5113.001 Average Power Range Monitor System
PRET C5114.001 Rod Block Monitor System
PRET D2100.001 Area Radiation Monitor System
PRET P1200.01 Makeup Demineralizer System
PRET P4300.001 Turbine Building Close Cooling Water System
PRET P5001.001 Station Air System
PRET P6100.001 Condenser System
PRET P9000.001 Chemical Injection System

No items of noncompliance or deviations were identified.

7. Preoperational Test Program Implementation

a. Test Program

The inspector determined by interviews with the Startup Engineer and the Startup Director's staff that they are knowledgeable of the test program and the responsibilities of the test engineers.

Additionally, the inspector reviewed the licensee's test schedule and determined that all preoperational tests are scheduled to be completed as part of the preoperational test program with the following exceptions, which may have portions of the tests deferred until after fuel load:

PRET B2107.001 Loose Parts Monitoring System
PRET C9400.001 ERIS System
PRET G1120.001 Floor Drain System
PRET G1125.001 Liquid Radwaste System
PRET G1135.001 Solid Radwaste System
PRET G1140.001 OSSF Waste Handling Equipment
PRET N2103.001 Standby Feedwater System
PRET N6200.001 Off Gas System
PRET P3323.001 Post Accident Sampling System
PRET T4800.001 Primary Containment Control System
PRET T4804.001 Thermal Recombiner System
PRET T5000.001 Primary Containment Monitoring System
PRET X4106.001 OSSF HVAC System

b. Test Organization

The inspector determined by interview and record review that three Startup Test Engineers (STE) met the FSAR specified qualification requirements. In addition, the inspector witnessed preoperational testing performed by two newly qualified STEs and found them satisfactory.

c. Document Control

During the review of the following preoperational test procedures, the inspector verified that the licensee's review and approval were in accordance with the Startup Manual (SUM) and that the drawings used by the procedures were current.

PRET E1100.001 RHR System
PRET R1102.001 ESF Electrical System
PRET C7100.001 Reactor Protection System

d. Maintenance Control

The inspector verified by direct questioning of a maintenance supervisor and a Nuclear Shift Supervisor (operations) that they were familiar with administrative controls governing the conduct of corrective and preventive maintenance during preoperational testing.

e. Training

The inspector verified by reviewing the training records of three STEs that they have received the required training for administrative controls of testing, QA/QC indoctrination and appropriate technical training.

No items of noncompliance or deviations were identified.

8. Exit Meeting

The inspector met with site representatives (denoted in Paragraph 1) at the conclusion of the inspection on July 13, 1984. The inspector summarized the scope of the inspection.