U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-341/84-39(DRP)

Docket No. 50-341 License No. CPPR-87

Licensee: Detroit Edison Company
2000 Second Avenue
Detroit, MI 48226

Facility Name: Enrico Fermi Nuclear Power Station, Unit 2

Inspection at: Fermi Site, Newport, MI

Inspection Conducted: October 1 through November 18, 1984

Inspectors: P. M. Byron RC Knop for — 12-21-84 Date

M. E. Parker RC Knop for — 12-21-84 Date

J. S. Wiebe RC Knop for — 12-21-84 Date

W. F. Christianson RC Knop for — 12-21-84 Date

S. Stasek RC Knop for — 12-21-84 Date

J. McCormick-Barger RC Knop for — 12-21-84 Date

Approved By: R. C. Knop, Chief
Projects Section 1C — RC Knop — 12-21-84 Date

Inspection Summary

Inspection on October 1 through November 18, 1984 (Report No. 50-341/84-39(DRP))
Areas Inspected: Routine, unannounced inspection by resident inspectors of licensee action on previous items of noncompliance; licensee action on previous inspector identified items; regional requests; comparison of as-built plant to FSAR description; Technical Specification review; operating procedure review; operational staffing; operating staff training; fire protection; management

meetings; and plant tours. The inspection involved a total of 621 inspector-hours onsite by 6 NRC inspectors, including 112 inspector-hours onsite during off-shifts.

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

DETAILS

1. Persons Contacted

*F. Agosti, Manager, Nuclear Operations
*L. Bregni, Licensing Engineer
*J. DuBay, Director, Planning and Control
O. Earle, Supervisor, Licensing
R. Eberhardt, Rad-Chem Engineer
*W. Fahrner, Manager, Fermi 2 Project
*E. Griffing, Assistant Manager, Nuclear Operations
*W. Holland, Vice-President, Fermi 2 Project
*W. Jens, Vice-President, Nuclear Operations
R. Kunkle, Director, SAFETEAM
S. Leach, Director, Nuclear Security
J. Leman, Maintenance Engineer
*R. Lenart, Superintendent, Nuclear Production
R. Mays, Director, Project Planning
*W. Miller, QA Supervisor, Operational Assurance
S. Noetzel, Site Manager
J. Nyquist, Acting Assistant Superintendent, Nuclear Production
*G. Overbeck, Assistant Plant Superintendent, Startup
J. Plona, Technical Engineer
E. Preston, Acting Operations Engineer
W. Ripley, Startup Director
*G. Trahey, Director, Nuclear QA
*R. Vance, Assistant Project Manager, Engineering

*Denotes those who attended the exit meetings.

The inspectors also interviewed others of the licensee's staff during this inspection on.

2. Followup on Items of Noncompliance

a. (Closed) Item of Noncompliance (341/83-05-02c(DPRP)): Surveillance reports were being dispositioned in the field without assigning a serial number and were not being entered into the surveillance log as required by Wismer & Becker (W&B) procedure WB-Q-113, "Quality Surveillance and Reporting of Inprocess Operations." W&B revised WB-Q-113 to Revision 9 dated March 1, 1983. Revision 9 requires all surveillances to be reviewed by the Project Quality Manager or his designee. Revision 9 also modified the flow chart which delineates the processing of surveillances. The inspectors also reviewed the training records for Revision 9 to WB-113. Sixty-three people attended the training classes held on March 22 and 25, 1983.

The inspectors also reviewed DECo Audit A-QS-P-84-07, conducted from March 21 to April 6, 1984, which covered W&B surveillances and DECo surveillance Report S-QS-84053 dated May 24, 1984. Both documents revealed that the W&B documents demonstrated that the W&B corrective action was effective. This item is considered to be closed.

b. (Closed) Item of Noncompliance (341/83-20-07a(DPRP)): Procedure 12.000.27 referenced procedures which were inactive and subsequently canceled. The licensee revised Procedure 12.000.27, "Material Receiving, Inspection, and Status," to correct the deficiencies in Revision 8 dated September 25, 1984. The licensee also issued Plant Order EFP-1053, "Responsibilities for Reviewing Plant Operations Manual Procedures," dated February 2, 1984, which requires Nuclear Administration to review for correct use of references and consistency with the Plant Operations Manual Index. The licensee also issued Procedure 11.000.131, "Fermi 2 Procedures," Revision 0, dated September 13, 1984. This procedure requires the procedure writer to ensure that references used are current and the subject matter expert is responsible for reviewing references for applicability. The inspectors reviewed the above three procedures and concluded that the licensee's corrective action has addressed the concern and is adequate. This item is considered to be closed.

c. (Closed) Item of Noncompliance (341/83-20-07d(DPRP)): Superseded procedure found in a controlled QA manual. The licensee re-emphasized the requirements of Section 5.1.2.4 of the Quality Assurance Manual which requires that documents superseded by revised issues be controlled to prevent their inadvertent use. Document Control has also initiated a program where controlled manuals are audited to verify that they contain the correct revisions. The licensee's audit results verify that the re-emphasis has been effective. The inspectors consider the licensee's corrective action to be adequate. This item is considered to be closed.

3. Followup on Inspector Identified Items

a. (Closed) Open Item (341/81-10-02): SER 2.4, "Emergency Procedure for Monitoring Groundwater after Spills." This SER item required the licensee to incorporate into plant operating procedures a program to monitor subsurface travel and dispersion of radioactive material in groundwater after a spill by drilling monitoring wells between the affected structures and Lake Erie. As identified in Inspection Report 50-341/84-07, Plant Operations Manual (POM), Procedure 69.000.26 did not address all items required by the SER.

The licensee has since revised POM 69.000.26 to address all spills of radioactive material and provided a step to pump out the diked area surrounding the condensate storage tank upon failure of the tank. This item is considered to be closed.

b. (Closed) Open Item (341/81-17-07(DPRP)): SER Item II.B.4., "Degraded Core Training." This item concerns implementation of a training program to teach the use of installed equipment and systems to control or mitigate accidents in which the core is severely damaged. As identified in Inspection Reports 50-341/84-07 and 50-341/84-20, one item remained to closeout this SER item (i.e., upgrading the course to cover methods of determining dose rates inside the containment from measurements taken outside the containment). The inspectors reviewed the upgraded course outline and plant procedures in which the licensee has adequately addressed the use of containment monitors to determine core damage. Review of the training records has indicated that the required individuals have successfully completed the course. This item is considered to be closed.

c. (Closed) Open Item (341/82-01-07(DPRP)): Approved emergency plan (EP) implementing procedures were not available for review. The inspectors reviewed the Plant Operations Manual (POM) index and noted that all 56 EP implementing procedures and all 10 EP administrative procedures had been approved. It was noted that only the administrative procedures are active. The inspectors verified that all the EP procedures had been approved. The procedures were demonstrated during the Radiological Emergency Response Plan exercise held June 26 and 27, 1984. This item is considered to be closed.

d. (Closed) Open Item (341/82-07-01(DPRP)): Preoperational test procedures do not meet FSAR commitments. The inspectors previously reviewed this open item as documented in Inspection Report 50-341/84-20. The inspectors requested that the licensee provide documentation that all applicable preoperational test procedures contain applicable FSAR commitments and acceptance criteria. The licensee documented in Startup letter SU-84-1768 dated November 8, 1984, that 19 preoperational test procedures had been approved by the Technical Review Committee (TRC) prior to the revision of Startup Instruction S.I.8.4.2.05, "Test Results Preparation and Review," dated November 9, 1983. It was determined that only 2 of the 19 procedures had some safety significance. The 2 procedures were reviewed by TRC and found to be satisfactory. The inspectors consider the corrective action to be adequate and consider this item to be closed.

e. (Closed) Unresolved Item (341/83-20-08(DPRP)): Cancelled Daniel procedures were listed as safety-related, but the superseding procedures do not require QA concurrence. The licensee issued Procedure 11.000.131, "Fermi 2 Nuclear Operations Interfacing Procedure," Revision 0, dated October 1, 1984, to establish minimum requirements for the preparation, review, approval, publication, and retention of Fermi 2 procedures. The inspectors reviewed the procedure on October 27, 1984, and determined that the procedure did not address the inspectors' concerns as identified by the unresolved item. Subsequently, Sections 8.11.1 and 8.11.2 of Revision 1, dated November 17, 1984, of Procedure 11.000.13 addressed the concerns by requiring a revision to cancel or supersede a procedure. This ensures that superseded procedures receive the proper review. In addition, Revision 1 requires that QA shall concur when a safety-related procedure is to be superseded by a non-safety related procedure. The inspectors consider the corrective action to be adequate and consider this item to be closed.

f. (Closed) Unresolved Item (341/84-06-02(DPRP)): Administrative discrepancies identified in emergency plan (EP) procedures. The inspectors observed that some EP procedures had been prepared and approved by the same individual. Emergency Plan Administrative Implementing Procedure, EPA-1, "Procedure Preparation, Review, Approval, Change, Revision, Cancellation, Control, and Distribution," was revised by Revision 1 dated April 17, 1984, to incorporate corrective action to preclude repetition of the inspectors' concerns. Section 6.2.1.7 requires that if the Radiological Emergency Response Plan (RERP) committee chairperson prepares a procedure, he cannot sign as the approving signature for the committee. The inspectors reviewed Surveillances QA-QSF-83-43, QA-QSF-83-44 and QA-QSF-83-45 all dated January 6, 1984. These surveillances were written after the above discrepancies had been identified to the licensee. The licensee corrected the deficiencies and the documents now fall within the normal document distribution system. There have been no additional findings. The corrective action has been effective and the item is considered to be closed.

g. (Closed) Open Item (341/84-20-04(DRP)): The relief valve position indication on Panel H11-P601 uses the valve solenoid excitation instead of a positive position indicator. The licensee elected to use pressure sensors in the relief valve tail piping to determine the relief valve position indication. The design work was accomplished under Design Change Package (DCP) B2100 I03 and B2100 I04. The installation was accomplished under Operations and Maintenance Work Orders (PN-21) 555527 and 588038. The completed PN-21s were signed off by QA on July 23, and October 5, 1984,

respectively. The inspectors consider that the QA signoff as verification the work has been completed. This item is considered to be closed.

h. (Closed) Unresolved Item (341/84-20-15(DRP)): Nonconformance Report (NCR) listed as the basis for closing out a nonconformance identified by a surveillance did not address the issue. DECo Surveillance No. FC/M-4789 dated November 4, 1983, identified that all blue insulated terminations on the Motor Operated Control devices in each Emergency Diesel Generator control cabinet were deficient. This item was closed out on the basis of NCR 84-0109. This NCR addresses unsupported conduit and not deficient terminations. The licensee determined that NCR 84-0190 should have been used as the basis for closing the item out. The inspectors reviewed NCR 84-0190 and concur with the licensee. This item is considered to be closed.

i. (Closed) Unresolved Item (341/84-21-11(DRP)): NRC random review of DECo dispositions of Duke Power Company findings associated with the Duke Power Company Final Assessment of Construction of Fermi 2.

Inspection Report 50-341/84-21 identified eleven unresolved items associated with the findings reported during the Duke Final Assessment of Construction. Ten unresolved items were specific to particular subjects and the eleventh item (341/84-21-11) was identified as "Miscellaneous Duke Findings". The eleventh item specified that a random review of DECo dispositions of the remaining Duke findings (not directly associated with the ten specific unresolved items) was to be performed by Region III to assure that they were adequately addressed by DECo.

A sample of the Duke findings associated with apparent hardware inconsistencies was reviewed by the inspectors. This included reviewing associated nonconformance reports (NCRs), document change paper, work packages, supporting analyses, generic applicability, and Quality Control inspection reports associated with work performed on the affected hardware. In addition, field inspections of the components were performed when necessary to assure adequate action had been taken. The following is a list of Duke Power findings reviewed in this category and found to be acceptable:

CAT No.	Finding/ Concern*	Subject
3	Finding	Disconnected Rod on Pipe Whip Restraint
15	Concern	Damage to Penetration
19	Concern	Motor Thermocouple Box has Unused Opening
21	Finding	Rejectable Weld on Torus Support
34	Finding	Pipe Support Catalog Item
36	Concern	Missing Cotter Pins on Restraint
38	Concern	Missing Cotter Pins on Restraint
43	Finding	Fillet Weld Too Small on Pipe Support
44	Finding	Pipe Support Catalog Item
45	Concern	Pipe Support Spring Cans Need Resetting
46	Finding	Nuts on Pipe Support Not Properly Installed
51	Finding	Pipe Support Catalog Item
64	Concern	Binding Strut on Pipe Support
67	Concern	Binding Strut on Pipe Support
68	Finding	Lack of Full Thread Engagement on Bolts
70	Finding	Lack of Full Thread Engagement on Pump Bolts
79	Concern	Temporary Rigging to HVAC Support
80	Finding	Pipe Support Catalog Item
81	Concern	Pipe Support Shimming
82	Finding	Wrong Cold Load Setting and Missing Part for Pipe Support

*For the purpose of this inspection report, "Finding" will consist of both Duke potential findings and/or assessor concerns. The following are definitions used by Duke to identify potential findings and assessor concerns:

(1) Potential Findings - An apparent nonconformance or deviation from the final design disclosure document that is identified by the CAT assessor.

(2) Assessor Concern - An item identified by a CAT assessor which, while not related to a specific design requirement, is an apparent departure from appropriate engineering or construction practices and which the CAT assessor feels should receive further review by DECo.

CAT No.	Finding/ Concern	Subject (Cont'd)
85	Finding	Conflicting Design Drawings
92	Concern	Damaged Bolts on Valve Operator
100	Finding	Incorrect Penetration Pressure, Missing Cover Bolts
112	Concern	Questioned Disposition of NCR
124	Concern	Gouge in Drywell Plate Weld
140	Finding	Spare Conduit Not Capped per Specifications
151	Finding	Incomplete Thread Engagement - EECW Pump, Div. I
154	Concern	Foreign Items Located in Control Cabinets
156	Finding	Spare Conduit Not Capped per Specification
157	Concern	Fan Motor Attached to Expansion Anchor
160	Finding	Anchor Edge Distance Violation
162	Finding	Plates Improperly Welded - NIAS North Dehydration Units
176	Finding	Missing Nuts/Broken Bolts - Drywell Cooling Unit B002
182	Finding	Bolts Not Centered in Slotted Holes
186	Concern	Connections Not Capped/Hooked Up - Instrument Penetration X-55B
199	Finding	Required Radial Clearances Not Provided on Block/Key Supports

A sample of Duke findings associated with apparent drawing discrepancies was reviewed by the inspectors. This included the review of associated drawing changes, NCRs, additional training documentation, and any other documentation presented by DECo to support a drawing-versus-hardware problem. The following is a list of Duke findings reviewed in this category and found to be acceptable.

NOTE: The generic problem concerning document errors, as identified in Unresolved Item 341/84-21-09, will be addressed in a subsequent inspection report.

CAT No.	Finding/ Concern	Subject
2	Finding	Missing Plates on Torus Support
6	Finding	Conflicting Operator Size on Valves
35	Concern	Confusing Switchgear Mounting Details
37	Finding	Conflicting Drawings for Restraint
42	Finding	Anchor Edge Distance Deficiency

CAT No.	Finding/ Concern	Subject (Cont'd)
61	Finding	Piping Not in Accordance with Design Drawing
62	Finding	Motor Connections Not per Drawing
77	Finding	Valve Connections at Wrong Location
86	Finding	Installed Wire Size Not per Drawing
127	Concern	Missing Drawing Detail on Cable Tray
133	Finding	Installed Tray Not on Cable Documents

A sample of Duke findings, not specific to the two categories listed above, was reviewed. These included housekeeping findings and findings which were resolved as not being a discrepancy after additional information was obtained. The inspectors reviewed associated documentation related to the findings which substantiated the licensee's position. The following is a list of Duke findings reviewed by the inspectors and found to be acceptable:

CAT No.	Finding/ Concern	Subject
26	Finding	Panel Cables Not Installed per Drawing
27	Concern	Loose Material on Top of Devices in Panel
55	Finding	Items in Core Spray Records Not Closed Out
78	Finding	Valve Operator Orientation Not in Accordance with Drawing
83	Finding	Pipe Support Catalog Item
84	Concern	Pipe Support Lug Detail
87	Concern	Instrument Not Installed
88	Finding	HVAC Support Parts Not Installed Properly
90	Concern	Missing Welder I.D.
91	Finding	HVAC Support Drawing Detail Inadequate
96	Concern	Turbine Bearing Cover Bolting Missing
102	Concern	Valve Rusted Due to Package Leakage
105	Concern	Induced Voltages on Control Circuits
107	Concern	Inadequate Pull Space on Pump and Turbine
178		Void
195	Concern	Improper I.D. Tags - Reactor Recirculation Pump A

In addition, several Duke findings were reviewed in which DECo responses were initially found to be unacceptable, incomplete, or contained significant errors. The following is a description of those findings:

(1) Duke Assessor Concern 11: Inspection of Core Spray Motor C (E2101C001C) revealed: a) upper bearing oil drain plug was loose, b) upper bearing cooling water pipe connection was loose, c) sleeve to interior of motor was uncovered (assessor thought it should have been closed to protect motor windings from heat and moisture).

DECo issued an Operations and Maintenance Work Order (PN-21) No. 556487 to tighten the loose oil drain plug and pipe connection. In addition, DECo issued PN-21 No. 556813 to install terminal box covers over the uncovered sleeves of core spray pump motors A, B, C, and D. The original work package only required the installer to bolt a cover on to the existing terminal box. Since no determination of electrical leads was required, the PN-21 was stamped "No Testing Required". During the process of performing the required work, it was discovered that replacement covers were not available. Field Engineering then modified the Attachment A to PN-21 No. 556813, to require replacing the existing terminal boxes with new boxes for which covers were available. Although Attachment A to the PN-21 was again signed by the same individual who originally signed the attachment, the complete package which includes the PN-21 was not reviewed by all those required on the original PN-21 (as required by Procedure 12.000.15, Revision 7, Section 6.3.8, "PN-21 (Work Order Processing)". This resulted in the package not being reviewed by the organization responsible for the re-test.

Since no indication of retest was evident in the work package, the inspector asked the licensee if retest had occurred. The licensee immediately produced Startup Form 7.8 which specifically addressed the retest of the components affected by the above PN-21 No. 556813. The licensee stated that Field Modification Request (FMR) S-7377, issued to replace the existing terminal boxes, alerted the testing organization of the retest requirement. In addition, to preclude recurrence, the licensee modified the applicable site procedure to include the organization responsible for performing retesting to sign Attachment A to the PN-21 to ensure that any modifications to Attachment A receive the appropriate review.

The licensee's failure to obtain adequate review of the modification to the subject PN-21 was a potential item of noncompliance. However, the inspectors considered the incident to be isolated. In addition, credit was given for the fact that retest had occurred and the licensee's action to prevent recurrence was adequate. Therefore, no item of noncompliance is to be issued.

(2) Duke Potential Finding 20: Pipe support 2183-G10 was found to have a weld that was not in accordance with the latest design drawing.

DECo issued Nonconformance Report (NCR) 84-0951 and, after analyzing the existing weld configuration, dispositioned the NCR by accepting the support use-as-is. DECo issued drawing change ABM-0449 to reflect the as-built condition.

The inspectors found the originally designed weld configuration to be typical of welds required for other supports. Since no additional sample of pipe supports with similar weld configurations were reviewed, the inspectors initially rejected the DECo response to this finding. Subsequently, DECo performed a review of 39 additional supports with similar type welds and found the as-welded condition to be in accordance with the design. In addition, the licensee referred to their response to 10 CFR 50.55(e), Item 82, which referenced a Stone and Webster review of several thousand field welds (approximately 50 percent of the safety-related pipe supports) and found a very limited occurrence of similar discrepancies. The Stone and Webster items were also found to be acceptable and dispositioned "use-as-is". The DECo response for this item 10 CFR 50.55(e) was accepted by Region III in Inspection Report 50-341/84-09. The inspectors consider Duke finding No. 20 to be acceptable.

(3) Duke Assessor Concern 60: Concerns lack of overall cleanliness, and components (motor coupling guards), which were not installed, on RHR pump A (E1102C002A).

DECo issued work packages to clean RHR pump A and install motor coupling guards on RHR pumps A and C. DECo stated that this finding was isolated and considered the issue to be closed.

The inspectors initially rejected the DECo response as two of the four RHR pumps inspected by Duke were found to have missing (not installed) motor coupling guards, signifying a potential generic problem.

DECo subsequently reviewed twenty-five additional pumps and found them to be acceptable as documented in DECo memorandum EF2-103,578 dated October 19, 1984. The inspectors consider the resolution of this finding to be acceptable.

The inspectors reviewed 66 of approximately 150 findings contained in this unresolved item which represents a percent sample. The inspectors consider this to be an adequate sample population and this item is considered to be closed.

4. Followup on Regional Requests

SAFETEAM Interviews

The inspectors reviewed the 24 interviews conducted by the Fermi 2 SAFETEAM between August 2 and October 16, 1984. It was determined that approximately 7 of the interviews contained potential safety-related concerns. The inspectors also reviewed the 106 responses issued by the SAFETEAM during the same period. The responses relating to potential safety-related concerns adequately addressed those concerns.

Concerns which contained items of potential wrongdoing had previously been transmitted to Region III for their review. These matters have been discussed with the office of Investigation. The SAFETEAM responses to these concerns were transmitted to Region III during the inspection period for their review as to the adequacy of the responses.

5. Comparison of As-Built Plant to FSAR Description

The inspectors selected four systems to verify that the as-built mechanical and fluid systems conform to commitments contained in the FSAR. The systems were examined by direct observation to determine that the physical installation was in agreement with the latest revisions of the Process and Instrumentation Diagrams (P&IDs) contained in the FSAR.

The four safety-related systems were 100 percent constructed and turned over to the licensee for preoperational testing. The results of the examinations of the systems are as follows:

a. Core Spray System

The latest issue of the P&ID, 6M-721-2034, M13, Revision P, was used for the walkdown of the system. Isometrics were also used to verify the as-built configuration. No major as-built deficiencies were noted.

In addition to verifying the as-built configuration, the inspectors viewed the systems for potential operational problems in the areas of accessibility, maintenance, and ALARA. The following were noted:

(1) Locked Valves

During the walkdown, the inspectors found instances in which the licensee's locked valve program could be easily defeated. These valves were typically on lines 2 inches or less. These valves are designated as locked valves and are locked with sealed lock-wire or chain locked. The inspectors found instances in which the valve handwheels were locked and the stem nut was missing, or was hand tight allowing easy removal of the valve handwheel thereby defeating the locking device.

Based on the inspections results, the inspectors recommended that the licensee review the locked valve policy. The licensee stated the locked valve policy would be reassessed.

(2) Accessibility of Valves

The inspectors experienced difficulty in gaining access to valves important to safety due to the lack of permanent platforms, catwalks, and ladders. Access required climbing on piping and supports, and in many cases, presented hazards. An inordinate number of valves will require mobile platforms to operate, inspect, and maintain the valves. The inspectors recommended that valves be reviewed for accessibility when requiring manual operation of the valve during emergency conditions and the ALARA considerations as recommended in Regulatory Guide 8.8.

The accessibility of valves for serviceability and manual operation of safety-related valves during abnormal conditions is to remain an open item (341/84-39-01(DRP)). Future inspections will be conducted to evaluate adequacy of valve accessibility, considering ALARA and manual valve operation.

(3) Valve Numbering System

The inspectors noted that the majority of valves in the piping systems reviewed have two numbers assigned to each valve, a construction and NSSS supplier number. The construction number appears on the P&ID, isometrics,

and the operating procedures. The NSSS supplier number appears on most valves and on the P&IDs and operating procedure.

The construction valve number may be a generic number assigned to a particular type valve. For example, number V23-2012 is assigned to thirty valves in the core spray operating procedure. The operator must depend on a written description in the valve check list to identify these valves. The inspectors recommended a reassessment of the dual numbering of valves on safety-related systems to minimize operator error by using a single number valve identifier. The licensee stated that the P&IDs will be upgraded to use a single valve numbering system. In addition, the licensee intends to generate a cross reference document to associate the second valve identifier number with the valve number they intend to use on the P&IDs.

During this walkdown, the inspectors noted that several valves were not labeled with the NSSS supplier number which is used by the operators to identify the valve. The inspectors notified the licensee of their concern and were informed that the operators were currently identifying labeling discrepancies and compiling a list of those valves where labeling was missing. The inspectors also pointed out that during the walkdown, several instances were observed in which the insulation contractors were removing valve identification labeling to facilitate installation of insulation. These labels were then set aside presumably to be reinstalled by the insulation contractors at a later date. Some mislabeling of valves was found. The mislabeling was a result of the insulation contractors removing and relabeling of valves. Due to the findings, the licensee was asked to evaluate their valve labeling program. This is considered an open item (341/84-39-02(DRP)) pending further review by the inspectors.

(4) Core Spray Discharge Header and Suction Header Relief Valves

The inspectors noted a discrepancy on the isometrics and P&ID pertaining to relief valves and the downstream check valves. The P&ID and the system walkdown indicated check valves were installed downstream of the core spray discharge header relief valves prior to discharge into the torus. Examination of isometrics revealed a notation that the internals of these check valves (2) were removed from the valve bodies. The P&ID, walkdown, and isometrics also indicated that the suction header relief valves (2) were intact; internals not removed.

The inspectors requested documentation to verify the as-installed configurations of the check valves in the system, that design changes were implemented according to procedural controls, and appropriate changes were made to reflect the as-installed configuration as applicable. Documentation provided by the licensee indicated that four relief valves had their internals removed, including the two suction header relief valves. The isometric and the P&ID did not reflect the as-installed condition of the two suction header relief valves.

The design change documentation generated to reflect the as-installed conditions of the check valves was examined by the inspector and found to be acceptable.

(5) Piping and Instrumentation Drawings (P&ID)

The inspectors noted fourteen instances where the P&ID instrumentation (PT, TE, CT) tap-off points did not reflect the as-built configuration relative to system branch-offs and components. It is realized the discrepancies do not have an impact on understanding the system designs and their relationship to safety evaluations; however, the P&IDs are an operational tool promoting a functional understanding of the system.

Although P&ID location of pressure taps may be of no consequence, temperature and conductivity tap-offs should be located accurately on the P&ID, considering the system branches and mode of operation.

The inspectors recommended the licensee review instrumentation tap-off points on the P&IDs for systems important to safety, and upgrade the P&IDs so instruments will be representative of the operating condition.

This is to remain an open item (341/84-39-03(DRP)) until the instrumentation tap-off points are corrected on the P&IDs and are representative of operating conditions.

(6) Hard Piped Drains and Valve Stem Leak-offs

The inspectors noted that typically vent and drain valves throughout the plant are not hard piped to a central collection facility. When used, a temporary hose connection must be set up to facilitate venting or draining a system. Presently the licensee installs a hose connection and pipes the water to the closest floor drain, creating a potential for spillage of

liquids and airborne contamination. Similar concerns were identified in Inspection Report 341/84-27. These concerns included drain systems for instrument racks and valve stem leak-offs. This item will be followed-up on previously identified Open Item 341/84-27-01.

The inspectors also noted throughout the walkdowns that several valve stem leak-offs were presently leaking creating a potential for airborne and floor contamination. The licensee has indicated that they are aware of this problem and action is being taken to correct the leaks with priority being given to those valves located inside the drywell.

(7) Capped Vent and Drain Valves

The inspectors noted that the P&IDs indicate test line vent and drain valves to be capped. During the walkdown, a large number of these valves were found with the caps removed. The licensee was requested to determine the intent of identifying caps on test lines. The inspectors will followup on this concern in a subsequent inspection.

b. Residual Heat Removal System (RHR), Division I and II.

The inspectors examined the configuration for the Low Pressure Coolant Injection System (LPCI) mode. The latest revisions of the P&ID 6M721-2084, Division I, Revision R, and P&ID 6M721-2093, Division II, Revision Q, and associated isometrics were used in the walkdown.

The P&IDs, isometrics, and as-built configurations were in agreement with the exception of instrumentation tap-off points. Instrumentation tap-off point location appears to be a generic item concerning P&IDs as previously noted in Paragraph 5.a.(5).

c. Standby Gas Treatment and Primary Containment Purge System.

The inspectors examined the configuration of the system utilizing the latest P&ID, TM721-2709, Revision H, and associated isometrics.

The P&IDs, isometrics, and as-built configurations were in agreement with the exception of the identified numbers assigned to valves and associated solenoids.

Valve Solenoid Operators

During review of the Standby Gas Treatment System (SBGTS), the inspectors noted that discrepancies existed between several of the solenoid valve operators associated with

the air-operated valves. Labeling of solenoid operators for valves T46-F407, F408, F409, and F410, either did not correspond with the Functional Operating Sketch (FOS) or did not correspond with the P&ID. In order to determine where the problem was (as-built operator labeling, FOS, or P&ID), the inspectors reviewed the Master Instrument List (MIL). The MIL was determined not to be consistent with either the P&ID or the FOS. The licensee indicated that the P&ID was the lead or controlling document, and that the errors were either in the operator labeling, MIL, or FOS. As a result of these discrepancies, the licensee has agreed to determine the extent of this problem. This is considered to be an unresolved item (341/84-39-04(DRP)) pending further review by both the licensee and the inspectors.

d. High Pressure Coolant Injection System (HPCI)

The inspectors examined the configuration of HPCI system utilizing the latest P&ID, 6M721-2035, Revision Q, and 6M721-2043, Revision K, and associated isometrics.

The P&ID, isometrics, and as-built configuration were in agreement, with no major discrepancies noted. Minor deficiencies noted by the inspectors on Revision Q were in the process of being corrected by the licensee and are now corrected on Revision R.

No items of noncompliance or deviations were identified.

6. Technical Specification Review

The inspectors reviewed the Final Draft Copy of Fermi 2's Technical Specifications. The scope of the review was primarily limited to incorporation of regional comments to the Proof and Review copy of Fermi 2's Technical Specifications. Because of the large number of errors, both technical and typographical in nature, a complete re-review was conducted by both the resident and regional inspectors. The inspectors' comments were forwarded to NRR, Division of Licensing. These comments were reviewed by NRR for points of contention and potential areas requiring change in the Final Draft Copy of Fermi's Technical Specifications. Because of the large number of changes required due to comments by both the licensee and the NRC, a revised Final Draft Copy will be forwarded to the inspectors to insure incorporation of regional comments and to review incorporated changes requested by the licensee.

No items of noncompliance or deviations were identified.

7. Operating Procedure Review

The inspectors reviewed the following operating procedures and verified that: 1) each procedure was technically adequate to perform the required operation, 2) each procedure was written in such a manner as to be easily understood and followed by the operator(s) performing the procedure, and 3) each procedure was consistent in content and format with all applicable regulatory requirements.

21.000.01	Shift Operation and Control Room
21.000.02	Operation Logs and Records
21.000.03	Post Scram Evaluation and Restart Authorization
22.000.17	Power Changes During Operation
23.139	Standby Liquid Control System
23.201	Automatic Depressurization System
23.202	High Pressure Coolant Injection System
23.203	Core Spray System
23.404	Standby Gas Treatment System
24.106.07	Scram Discharge Volume Vent and Drain Valve Monthly Verification
24.138.06	Jet Pump Operability Test

Two areas in the program were perceived by the inspector to be inadequate and generic in nature. One concerned a seemingly excessive referencing to other procedures within the body of a particular procedure being performed. It is noted that many times, referencing of this nature is required (such as when complex operations outlined in a referenced procedure are needed). However, it is felt that each individual procedure should stand alone as much as practicable, for the ease of operator usage.

The other area of concern deals with the excessive number of "laters" (individual items such as valve numbers, acceptance criteria, etc., not currently included in a procedure, specifically, but are to be added at a later date) within procedures that are already "active" (in use) or are soon to become "active", (i.e., at fuel load). It is felt that procedures should be as complete as possible before being utilized. These two inspector concerns are considered an open item (341/84-39-05(DRP)).

No items of noncompliance or deviations were identified.

8. Operational Staffing

The inspectors reviewed the organizational structure and determined that functionally it was in accord with the FSAR and the proposed Technical Specifications. The inspectors verified that all staff positions specified by the FSAR or the proposed Technical Specifications were filled.

The inspectors reviewed the qualifications of the following personnel:

Superintendent of Nuclear Production
Assistant Superintendent
Operations Engineer
Maintenance Engineer
Technical Engineer
Nuclear Shift Supervisors
Unlicensed Supervisors (sample)
Reactor Engineer
Unlicensed Operators (sample)

The inspectors noted that most personnel records reviewed in the categories of Nuclear Shift Supervisors, Unlicensed Supervisors, and Unlicensed Operators did not have evidence of a high school diploma or equivalent. It appears to the inspectors that this problem exists for all positions which require a high school diploma or equivalent. This item is open pending licensee resolution and further NRC review (341/84-39-06(DRP)).

No items of noncompliance or deviations were identified.

9. Operating Staff Training

The inspectors reviewed the documented training programs for the following areas:

Principal Plant Staff
Personnel Scheduled for Licensing
Administrative Controls
Radiological Health and Safety
Controlled Access and Security
Emergency Plan
Industrial Safety
Fire Fighting
Quality Assurance Program
Instruction Concerning Prenatal Radiation Exposure for Female Employees.

The inspectors observed a Reactor Operator training session and reviewed the lesson plan. The training objectives of the session were adequately met.

The inspectors reviewed training department procedures. Responsibilities for administering the training program were assigned including scheduling, examining, record keeping, and evaluation.

The inspectors reviewed a sample of training records of individuals in each of the following job classifications to verify the implementation of the initial training programs as described in the FSAR:

Principal Staff Members

Reactor Operator Candidates and Senior Reactor Operator Candidates: The inspector noted that the course entitled "Academic Training Program" in the Training Program Description is not being implemented. The inspector also noted that the course entitled "Fuel Handling Equipment: (File number 500 13 21 02) is being implemented, but it is not listed on the Training Program Description. These items will be followed by open item (341/84-39-07(DRP)) pending resolution by the NRC.

Maintenance Craftsmen

Instrument and Control Technicians

Radiochemistry Technicians: The inspector could not find evidence that the radiochemistry technicians reviewed training on interpreting and complying with the chemical and radiochemical aspects of the Technical Specifications as required by the FSAR. This item will be followed by open item (341/84-39-08(DRP)) pending further review by the NRC.

Radiation Protection Technicians

Technical Staff Members

The inspectors noted that it is extremely difficult to verify completion of the courses required by the Training Program Description. The computer printout identifies courses by a program number and the Training Program Description identifies courses by file numbers. In addition, the computer printout is not tracking the simulator training (File number 500 09 01 00). The computer also does not identify waivered training or indicate that it is considered complete. These items will be followed by open item (341/84-39-09(DRP)) pending resolution by the licensee.

No items of noncompliance or deviations were identified.

10. Fire Protection

Meetings were held at NRR on November 1 and 2, 1984, between NRR management, Region III staff, and licensee management to discuss DECo's proposed design for the alternate shutdown system utilizing the auxiliary feedwater pumps. The staff accepted the proposed design with comments which the licensee agreed to incorporate.

DECo committed to have the alternate remote shutdown system installed and operational at the first outage greater than three weeks after NRC approval of the operational procedures and Technical Specification changes which must be submitted to NRR on or before September 30, 1985. The equipment must be installed and functioning no later than the first refueling outage. The licensee will submit their understanding of the commitment to NRR.

11. Management Meetings

a. Duke Final Assessment of Construction

Licensee and Region III management met at Fermi 2 on October 31, 1984, to review the NRC comments to the DECo response dated September 20, 1984, to the 24 recommendations listed in the Duke Final Assessment of Construction. The review resulted in many comments being adequately addressed, but additional information was requested to supplement several of the responses. The licensee committed to provide the supplemental information in a subsequent response. This meeting is documented in Inspection Report 50-341/84-56(DRP).

b. Fuel Load Readiness

Licensee and Region III management met at Fermi 2 on October 31, 1984, to review outstanding issues and work items which must be resolved prior to fuel load. Another meeting was held at Region III on November 16, 1984. The purpose of the second meeting was to again review outstanding issues and work items which must be resolved prior to fuel load, but in more detail than the October 31, 1984, meeting. An additional purpose was to allow Region III to determine the licensee's state of readiness for fuel load. The licensee requested that additional status meetings be held with Region III.

12. Plant Tours

During the period of October 1 through November 18, 1984, the inspectors conducted tours of the RHR complex, the Reactor Building, the Auxiliary Building, the Turbine Building, and the Radwaste area, including the fifth floor of the Reactor Building, the Control Room, and the cable spreading rooms. The areas were inspected for general housekeeping and fire prevention practices, work controls, and maintenance of safety-related system integrity. The inspectors observed control room operations, reviewed applicable logs, and conducted discussions with control room operators.

No items of noncompliance or deviations were identified.

13. Open Items

Open items are matters which have been discussed with the licensee, which will be reviewed further by the inspectors, and which involve some action on the part of the NRC or licensee or both. Open items disclosed during the inspection are discussed in Paragraphs 5.a.(2), 5.a.(3), 5.a.(5), 7., 8., and 9.

14. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. An unresolved item disclosed during the inspection is discussed in Paragraph 5.c.(1).

15. Exit Interview

The inspectors met with licensee representatives (denoted in Paragraph 1) throughout the month and at the conclusion of the inspection and summarized the scope and findings of the inspection activities. The licensee acknowledged the inspectors' comments.