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April 30, 1982  
EF2-57465

Mr. R.L. Spessard, Director  
Division of Project and  
Resident Programs  
U.S. Nuclear Regulatory Commission  
Region III  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Subject: Noncompliance at Enrico Fermi Unit 2 Construction Site

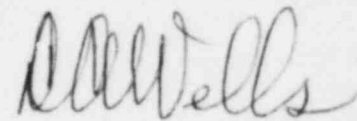
Dear Mr. Spessard:

This letter responds to the items of noncompliance described in your IE Report 50-341/82-01. This inspection of Enrico Fermi Unit 2 Site Construction activities was performed by the Site Resident Inspectors Messrs. B.H. Little and P.M. Byron of NRC Region III during the month of January, 1982.

Only the cited items of noncompliance are discussed in this reply, as required by Section 2.201 of the NRC's "Rules of Practice", Part 2, Title 10, Code of Federal Regulations.

The enclosed response is arranged in sequence of items cited in the body of your report. The finding and section numbers are referenced. We trust this letter satisfactorily answers the concerns raised in your report. We will be glad to discuss any further concerns you may have.

Very truly yours,



DAW/HAW/cp

cc: Mr. Richard DeYoung, Director  
Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Mr. Bruce Little, Resident Inspector  
U.S. Nuclear Regulatory Commission  
6450 North Dixie Highway  
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Mr. R.L. Spessard  
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THE DETROIT EDISON COMPANY  
QUALITY ASSURANCE DEPARTMENT  
ENRICO FERMI 2 PROJECT

Response to NRC Report No. 50-341/82-01

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

Inspection at: Fermi 2 Site, Monroe, Michigan

Inspection conducted: January, 1982

Prepared By:

*H. A. Walker*

H.A. Walker, Supervisor  
Construction QA

Approved By:

*T. A. Alessi*

T.A. Alessi, Director  
Project Quality Assurance

Response to NRC Inspection Report # 50-341/82-01

1. Statement of Violation 82-01, Appendix A (82-01-06)

Contrary to 10CFR50, Appendix B, Criterion XVI and the Enrico Fermi Unit 2 Quality Assurance Manual, Section 17.1.3, inadequate corrective actions were taken with regard to the failure of the Core Spray System Expansion Bellows during system hydrotest, in that actual pressure and displacement conditions which contributed to failure of the bellows were not factored into the evaluation of the failure, and were not documented and reported in accordance with the licensee's corrective action system.

Corrective Action Taken and the Results Achieved

The failed Core Spray System Bellows were removed prior to initiation of a nonconformance report (NCR). An NCR was issued and is being processed through the site NCR system.

The Core Spray System Bellows apparently failed due to over-pressurization during a filling operation prior to flushing. Engineering has performed a re-evaluation of components in the core spray system and the flushing pressure was reduced for this system.

Engineering investigation also determined that the expansion bellows were inadequately supported. The specific application and design for the bellows should have specified the use of tie bars necessary to restrain the axial pressure and seismic load, only allowing movement in the lateral and vertical directions. However, the bellows were designed and delivered without tie-rods.

Engineering design presently requires replacing both expansion bellows with bellows that include tie-rods.

Corrective Action Taken to Avoid Further Noncompliance

This incident has been discussed thoroughly with the management of the organizations involved and the necessity for immediate documentation of nonconformances has been emphasized. No additional incidents of removal of nonconforming items prior to initiation of NCRs and evaluation of failures have been noted.

A hold was placed on flushing operations and Engineering performed a re-evaluation of components in other systems being flushed at pressures in excess of the required hydrostatic test pressure. As this re-evaluation was completed flushing operations were allowed to resume.

Date When Full Compliance Will Be Achieved

Engineering re-evaluation of system components and investigation of the problem have been completed. Replacement Core Spray System Bellows will be installed prior to fuel load.

2. a. Statement of Violation 82-01, Appendix A (82-01-01)

Contrary to 10CFR50, Appendix B, Criterion V, and the Enrico Fermi 2 Quality Assurance Manual, Section 9.1.5, Reactor Controls (RCI) Procedure AC-1, Revision 2, requirements regarding access cleanliness control were not being implemented in the area of the reactor pressure vessel (RPV), in that a clean room had not been established for entry; material and tools were not being logged in and out of the RPV, and personnel were allowed to enter the RPV without removing or securing loose personal articles.

Corrective Action Taken and the Results Achieved

A clean room has now been established at the entrance to the reactor pressure vessel and the logging of tools and securing of personal items is now being performed. After discovery of the problem personnel controlling access to the reactor pressure vessel were immediately reindoc-trinated in procedural requirements. Compliance to the procedure was verified by both Reactor Controls Quality Control and Project Quality Assurance.

Corrective Action Taken to Avoid Further Noncompliances

Personnel controlling access to the reactor vessel were immediately re-indoc-trinated in the requirements of RCI Procedure AC-1, Revision 2. The procedure (AC-1) was re-reviewed for compliance to General Electric and Project requirements and was updated for clarification.

Date When Full Compliance Will Be Achieved

The Fermi 2 Project is now in compliance with requirements in this area.

2. b. Statement of Violation 82-01, Appendix A (82-01-03)

Contrary to 10CFR50, Appendix B, Criteria V, and the Enrico Fermi 2 Quality Assurance Manual, Section 9.1.5, Detroit Edison's subcontractor failed to provide documented instructions for an activity affecting quality, i.e., the removal of machining chips from the control rod drive housing.

Corrective Action Taken and the Results Achieved

The machining chips in the CRD housing assemblies were removed by locating the chips using a mirror and then removing the chips by using angle needle nose pliers, a wire hook or other suitable means. This was the method specified by a memorandum from General Electric. After removal of the chips the affected surfaces of the CRD housing assemblies were re-inspected using the GE manufacturing drawing for acceptance or rejection of the assemblies. All CRD housing assemblies were inspected in this area. The entire operation is very simple and should not require a detailed documented procedure to perform. Detroit Edison feels that to proceduralize to this level is impractical and beyond the intent of Criterion V of 10CFR50, Appendix B.

Date When Full Compliance Will Be Achieved

The Fermi 2 Project is now in compliance with requirements in this area.

4. Notice of Violation 82-01, Appendix A (82-01-04)

Contrary to 10CFR50, Appendix B, Criterion XV and the Enrico Fermi 2 Quality Assurance Manual, Section 7.0.1 effective measures were not established to prevent the installation of nonconforming control rod drive housings (i.e., they contained machining chips) in the reactor vessel.

Corrective Action Taken and the Results Achieved

The Control Rod Drive Housing assemblies were manufactured by General Electric at their Wilmington, North Carolina facility and received at the site in 1972. After manufacture the parts were cleaned prior to final inspection by immersion in an agitated hot (180°F) alkaline solution followed by a hot deionized water rinse (180°F). The parts were tilted at each operation to accelerate drainage from the narrow opening (cap end) to the bottom end.

The parts were examined 100% visually for cleanliness following these cleaning operations. (It should be noted that the machining chips were not loose and were located underneath the inside lip of the CRD housing assemblies where they were not visible without an inspection mirror.)

In addition to this, at the time of manufacture a Detroit Edison source inspector performed a sampling inspection to assure that GE's inspections were being adequately performed.

Corrective Action Taken to Avoid Further Noncompliance

General Electric was notified of the problem and they have stated that the problem had been previously addressed. GE's letter of February 5, 1982 states, "We have had previous occurrences similar to the incident at Fermi. There has not been any similar problems in the past few years and this is attributed to an increased awareness of cleanliness requirements by inspector and shop cleaning personnel. To my knowledge, no complaints have been received since the added discipline was imposed".

Date When Full Compliance Will Be Achieved

The Fermi 2 Project is now in compliance in this area.



### Corrective Action Taken to Avoid Further Noncompliance

This matter has been thoroughly discussed with the Contractor quality personnel. They are fully informed of the requirement and need for procedures for work on safety related equipment.

### Date When Full Compliance Will Be Achieved

The Fermi 2 Project is now in compliance with requirements in this area.

### 3. Statement of Violation 82-01 Appendix A (82-01-02)

Contrary to 10CFR50 Appendix B, Criterion XVI and the Enrico Fermi Unit 2 Quality Assurance Manual, Section 17.1.1, Detroit Edison's subcontractor Quality Control personnel failed to promptly identify and report on machining chips found in the control rod drive housings in accordance with the licensee's procedures.

### Corrective Action Taken and the Results Achieved

General Electric's NED quality inspector noted, reported and recorded the machining chips in his weekly report in week 17 of 1981. This item was then recorded in GE's Open Items Log. This method of tracking unresolved items is required by the General Electric QA Program. All loose and easily removed chips have been removed and the control rod drive (CRD) housings have been re-inspected. A Deviation Disposition Request (nonconformance report) has been written on nine CRD housing assemblies from which the chips could not be removed or which have a rough machined surface. This DDR is now being processed through the Project DDR system.

The machining chips were not considered a significant problem for the following reasons:

1. The machining chips were not loose and probably would not have been dislodged in normal operations.
2. The machining chips did not interfere with the insertion and locking of the thermal sleeve during the thermal sleeve trial fit.
3. If the problem had not been noted and the chips were to be dislodged, the most likely time would be during flushing operations which would mean they would be removed from the system.
4. With the thermal sleeve installed, it is almost impossible for chips to reach the CRD.
5. Three filters are provided on the CRD to prevent foreign material from entering the drive.

### Corrective Action Taken to Avoid Further Noncompliances

Procedural requirements for documenting nonconformances have been discussed with RCI and GE. These contractors have been instructed to take the steps necessary to ensure that the contractor organizations follow Project Procedures for controlling nonconforming material.

The foregoing statements are based on facts  
and circumstances which are true and accurate  
to the best of my knowledge and belief.

*H. A. Walker*  
H.A. Walker, Supervisor  
Construction Quality Assurance

Subscribed and sworn  
to before me this  
29th day  
of April, 1982

*Jennifere Kyko*  
JENNIFERE KYKO  
Notary Public, Monroe County, MI  
My Commission Expires Nov. 26, 1984