

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-341/82-19(DETP)

Docket No. 50-341

License No. CPPR-87

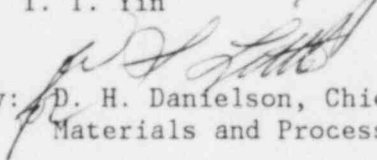
Licensee: Detroit Edison Company
2000 Second Avenue
Detroit, MI 48226

Facility Name: Enrico Fermi Atomic Power Plant, Unit 2

Inspection At: Fermi 2 Site, Monroe, MI

Inspection Conducted: December 9-10, 1982

Inspector: I. T. Yin 

Approved By:  D. H. Danielson, Chief
Materials and Processes Section

1/10/83
1/31/83

Inspection Summary

Inspection on December 9-10, 1982 (Report No. 50-341/82-19(DETP))

Areas Inspected: Followup in the licensee's potential 10 CFR 50.55(e) report that a large percentage of previously QC inspected piping support installations were found to be rejectable.

Results: A Region III Confirmatory Action Letter (CAL) was issued to the licensee on December 10, 1982.

DETAILS

Persons Contacted

Detroit Edison Company (DECo)

- *W. R. Holland, Vice President
- *W. J. Fahrner, Manager, EF-2
- *T. A. Alessi, Director, PQA
- *D. Spiers, Director, Field Engineering
- *S. H. Noetzel, Site Manager
- *G. M. Trahey, Assistant Director, PQA
- *A. E. Wegele, Licensing Engineer
- *D. Ferencz, Acting Supervisor, Construction QA
 - D. Wells, Manager, QA
 - D. Kimbro, PQA Engineer
 - S. Mc Garvey, PQA Engineer
 - W. R. Wingfield, PQA Engineer

USNRC RIII

- *B. H. Little, Senior Resident Inspector

*Denotes those attending the management exit interview on December 10, 1982.

Functional or Program Areas Inspected

The Region III staff was informed through a telephone call by the licensee on December 1, 1982, that a large percentage of the previously QC inspected and accepted safety-related piping supports were disclosed to be rejectable during recent Project QA (PQA) routine surveillance observations and inspections. The report documents Region III's followup of the problems which are considered by the licensee to be potentially reportable under 10 CFR 50.55(e).

1. Extent of the Problems

The inspector reviewed some of the PQA surveillance reports and work data. The deficiencies and findings in terms of rejection rates are summarized as follows:

Surveillance Report Issuance Date	Conducted	Rejectable rates	Kinds of Deficiencies
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1/26/82	Dec. 1981 to Jan. 1982	12 out of 16 Additionally, 8 supports where anchor bolt hole locations were in noncompliance with design.	All hardware problems
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Surveillance Report Issuance Date	Conducted	Rejectable rates	Kinds of Deficiencies
5/7/82	-	5 out of 12 Wismer and Becker installations 10 out of 16 RCI installations	All baseplate concrete anchor bolt hardware problems
-	April - Sept. 1982	141 out of 294 hanger and restraint installations	Less than 30% of the deficiencies were considered to be software type problems
-	Aug. - Sept. 1982	10 out of 17 items contained in the system turnover punchlists.	All hardware problems

In view of the apparent QC inspection program breakdown, and also the NRC-RIII findings discussed in RIII Inspection Reports 50-341/78-03; 78-14; 79-07; 79-16; 80-02; 81-04; and 82-08, the licensee was requested to provide justification why piping suspension installation activities should not be stopped until further confidence can be established. On December 9, 1982, the licensee presented:

- . Summary of the Status of the Pipe Support QA Program at EF-2 (Attachment 1 of this report)
- . Wismer and Becker's (W&B) QA Program (Attachment 2 to this report)

The inspector reviewed these documents and also the recently upgraded procedures listed in the "W&B QA Program", and determined that measures had been taken to reverse the previous adverse hanger QC inspector trends. As a result, it was concluded that the halting of pipe support installation was unwarranted.

2. Problem Resolution

Since large number of deficiencies have been revealed during routine licensee PQA surveillance/inspections, the extent of re-inspection effort to be performed by DECo was reviewed by the RIII staff. The

RIII position was presented by the inspector during meetings conducted at the site on December 9 and 10, 1982. The licensee's alternative proposal to hire an outside independent professional engineering firm to identify all existing deficiencies by performing inspections, and at the same time providing evaluations for acceptance or reject of these deficiencies in terms of system safety operations per design intent was concurred with by the inspector and the RIII staff. The agreements reached were documented in a RIII Confirmatory Action Letter dated December 10, 1982 (Attachment 3 to this report).

Exit Interview

A management working/exit meeting was held on December 10, 1982, to discuss and resolve the differences between DECo and NRC-RIII positions relative to the requirements in resolving the subject problems. A mutual consensus was reached.

SUMMARY OF THE STATUS OF THE PIPE SUPPORT
QA PROGRAM AT EF-2

1. Background:

Pipe supports (large bore, small bore, and I&C) have been installed at Fermi 2 by multiple contractors since 1978. At the present time, Wismer and Becker is the only contractor installing QA Level I supports.

In 1978 and 1979, deficiencies in contractors inspection programs were identified, by the NRC, which required corrective action. The corrective actions proposed were effectively implemented, as evidenced by NRC closure of these items in the period 1979 through 1982.

In addition to the inspection program problems, problems associated with control of hanger design and specific field problems have been identified by the NRC or identified by the QA program and reported to the NRC, in compliance with 10CFR50.55(e) requirements.

In ca 1st quarter 1982, the PQA Hanger Installation Surveillance program identified deficiencies in the contractors inspection program which were corrected. Our assessment of the contractor's present program is that it is effective. This assessment should be reinforced by the continuation of the PQA Surveillance Program (See Section 4).

2. Ongoing Programs Associated with Pipe Supports

A. Stress Report Reconciliation - initiated 1980, ongoing

This program addresses QA Level I, Seismic Cat. I; ASME Classes I, II and III; and D+ plus pipe, including attached group D, Seismic I supports.

The program involves physical walkdown by DECo Field Engineering to verify location orientation and configuration. The program addresses NRC Bulletin 79-14, in its entirety.

- B. Resolution of Strut Problems (Reference 50.55(e)s #68 and 74).

This program involves the walkdown, by DECo Hanger Engineering, of all large bore struts (≈ 1300) and examination of seventeen (17) distinct characteristics (e.g., bearing blownout, compliance with latest design, missing parts, strut misalignment, etc.).

Included in the program was training of contractor craft and inspection personnel, and PQA personnel relative to proper installation and inspection of strut installation. In addition, a repair procedure was developed and included in contractor's procedures (Reference W&B, C-114, Revision 9).

- C. Verification of Base Plate Anchor Spacing

This program involves a walkdown of installed supports by the DECo System Completion Organizations Civil Group, to verify and "map" base plate to plate anchor spacing. The scope of this program includes all piping, electrical and I&C support combinations.

The results of the program are being reviewed by DECo Field Engineering for compliance of design requirements. Corrective action is being taken, where appropriate.

- D. Pipe Lug Gap

Walkdown of affected support installations by DIC Engineering has been completed and results forwarded to DECo Project Engineering. Evaluation by Project Engineering is in process.

- E. Snubber Installation Program

This program is in place and being successfully implemented. The implementation of the program was preceded by training of craft and inspection personnel, including PQA.

F. Preoperational Test Supportability Assessment

In conjunction with the Preoperational Testing Program, the DECo Hanger Engineering Group conducts a system (test boundary) evaluation for supportability for the system operation scope associated with the test scope. The results of this evaluation reported (documented) to the Chairman of the Technical Review Committee, prior to approving the start of a test.

G. Operational Readiness Program

An operational readiness program is undergoing development. This program will be a final assessment of systems turned over to Nuclear Production, for initiation of startup testing. An essential element of this program will be reverification of pipe and instrumentation and control supports for "hot" operation.

3. "Potential" 50.55(e) Reported

The logic behind reporting the potential 50.55(e), in light of the current programs in place; stems from a question raised in light of the hanger problems identified at other Region III Construction Sites. The question raised by PQA Management was: "Are there any areas of vulnerability like those identified at other sites, that we may have overlooked at Fermi 2?"

To determine whether or not such vulnerability existed, the Construction QA Section conducted an analysis of surveillances performed in the period 1980 through 1982, on hangers installed and inspected prior to ca March, 1982. This cut-off date was chosen because of confidence in Contractor's programs subsequent to that date. Our analysis of these surveillances indicated that it was likely that there might be deficiencies in supports installed prior to March, 1982, which have not been adequately addressed by ongoing hanger programs (e.g., weld quality, etc.).