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April 18, 1985
EF2-70452

Mr. James G. Keppler
Regional Administrator
Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Dear Mr. Keppler:

Reference: Fermi 2
NRC License No. NPF-33

Subject: Detroit Edison Response
Inspection Report 50-341/85011

This letter responds to the items of noncompliance described in your Inspection Report No. 50-341/85011. This inspection was conducted by Messrs. P. D. Kaufman and J. W. Muffett of NRC Region III on February 19 through 22 and March 4, 1985.

The 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 to correspond to the sequence of items cited in the body of the inspection report. The appropriate criterion and the number identifying the item are referenced.

We trust this letter satisfactorily responds to the noncompliances cited in the inspection report. If you have questions regarding this matter, please contact Mr. Lewis Bregni, (313) 586-5083.

Sincerely,

Wayne H. Jens

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THE DETROIT EDISON COMPANY

FERMI 2

NUCLEAR OPERATIONS ORGANIZATION

RESPONSE TO NRC INSPECTION REPORT NO. 50-341/85011

DOCKET NO. 50-341 LICENSE NO. NPF-33

INSPECTION AT: FERMI 2, NEWPORT, MICHIGAN

INSPECTION CONDUCTED: FEBRUARY 19-22, AND
MARCH 4, 1985

RESPONSE TO NRC INSPECTION REPORT NO. 50-341/85011

Statement of Noncompliance 85011-01

10 CFR 50, Appendix B, Criterion XVI, as implemented by Detroit Edison's Quality Assurance Manual, Enrico Fermi Power Plant, Unit 2, Policy 17.0, Paragraph 17.0.1, requires that appropriate and prompt corrective action be taken when conditions adverse to quality are identified.

Contrary to the above, Item #42, relating to spacing of concrete anchors, of the March 26, 1981, 50.55(e) DECo deficiency report was inadequately dispositioned in that:

a. Numerous deviations of the minimum anchor bolt spacing requirements, as outlined in DECo's Project Specification 3071-226, had not been observed or documented during the System Completion Organization's anchor violation surveillances walkdown of the site.

b. Deficiencies of anchor bolt spacings were documented on Anchor Bolt Surveillance Reports but were not adequately justified or documented as technically acceptable in any qualification calculations.

Corrective Action Taken and Results Achieved

a. Although not explicitly stated in our report on 10 CFR 50.55(e) Item 42, the scope of the Anchor Bolt Surveillance Report (ABSR) walkdown was not intended to provide a complete (100%) check for anchor bolt spacing violations. Evaluation of approximately 800 violations on a case-by-case basis had resulted in no rework of installed anchor bolts to alleviate the violations. When the inspectors identified some anchor bolt spacing violations which had not been documented, the following actions were taken:

   1. Because the drywell had not been included in the previous walkdown, a walkdown was conducted to identify any violations that might exist there. Seven violations were identified, analyzed and found to be acceptable.

   2. A generic calculation was performed to show that, for the length of anchor bolts specified for Fermi 2, significant spacing violations could be accepted. The calculation assumes several different severe spacing violations as worst case examples and demonstrates that acceptable capacity and ductility remain. This is accomplished by calculating the effects of reduction in shear cone area.

Corrective Action Taken and Results Achieved (Cont'd)

The results of this study have been documented in Design Calculation (DC #3200). This provides reasonable assurance that all practical cases of anchor spacing violations (including any that may not have been picked up during walkdowns) are enveloped by the severe case check.

b. All the documented deficiencies have been evaluated on a case-by-case basis and the acceptance results have been documented in design calculations.

Corrective Action Taken to Prevent Further Noncompliance

The following steps are being taken to prevent recurrence of such violations:

1. A review of the anchor spacing violations identified during the recent walkdowns revealed that most of these violations existed before the walkdown performed in response to our 10 CFR 50.55 (e) Item 42. Therefore the controls established to monitor and provide justification of such violations have been reasonably effective since that time.

2. To reinforce the corrective actions for 10 CFR 50.55(e) Item 42, a guide checklist to document and resolve anchor spacing violations is being added to Specification 3071-226. The pertinent checklist item will be added to checklists that already exist, for example, the hanger inspection checklist will have expansion anchor spacing requirements added to the expansion anchor section.

3. With the reduction in the number of contractors onsite, the responsibility for design of expansion anchors has been consolidated. This responsibility now rests with the Architectural-Civil Design Group and the Engineering Mechanics Group, currently supported by Sargent and Lundy.

4. A standard design methodology will be developed to document expansion anchor design criteria for plant wide use.

RESPONSE TO NRC INSPECTION REPORT NO. 50-341/85011

Date When Full Compliance Will Be Achieved

The guide checklist will be added to Specification 3071-226 by May 15, 1985. The standard anchor design methodology will be in place by June 15, 1985, at which time Detroit Edison will be in full compliance.

RESPONSE TO NRC INSPECTION REPORT NO. 50-341/85011

Statement of Noncompliance 85011-02

10 CFR 50, Appendix B, Criterion III, as implemented by Detroit Edison's Quality Assurance Manual, Enrico Fermi Power Plant, Unit 2, Policy 3, Paragraph 3.0.1, requires that plant design be appropriately controlled in process, and its adequacy be verified and documented.

Contrary to the above:

a. The average ultimate tensile loads were lowered for Phillips Wedge anchors by DECo Project Specification 3071-226, Revision F, and no engineering justification or design evaluations were conducted to verify that previously designed anchors were acceptable to the lower allowable loads.

b. Special installation torque and tension notes weren't being added to the installation drawings as required by Project Specification 3071-226 and DECo drawing 5C721-2002.

c. A reconciliation calculation related to Design Change Request P-5299, Revision B, utilized incorrect load values from superseded Revision E of Specification 3071-226.

Corrective Action Taken and Results Achieved

Specification 3071-226 was revised via Design Change Notice (DCN) No. 10677 dated July 2, 1984, to reduce the allowable tensile capacities for 3/8", 1", and 1-1/4" Phillips wedge anchor bolts designed using the higher (Table I-B) average ultimate tension loads. This change was made retroactive to October, 1982 (the date that Table I-B was added to Specification 3071-226) so that existing anchor bolts had to be reviewed and verified as acceptable for the revised allowable loads. However, at the time of the inspection, no calculations had been performed showing that the installed anchor bolts were acceptable, and the higher values were still being used in design. Further, the inspectors noted that the special installation requirements associated with the use of Table I-B tensile capacities were not always specified on the design drawings.

Corrective Action Taken and Results Achieved (Cont'd)

In response to this item of noncompliance, the following corrective actions were taken:

1. Detroit Edison Design Calculation No. 974, Revision C, was prepared, justifying the slightly lower (5%) allowable loads (Specification 3071-226 Table I-B Revision F values) for 3/8", 1" and 1-1/4" Phillips wedge anchor bolts on a generic basis for all installed anchors designed with the higher Table I-B allowable values. The reconciliation calculation for Design Change Request P5299 Revision B (cited as item c. above) is covered by this generic calculation.

2. In response to Item b., seventy-five (75) hanger calculations were reviewed to determine whether or not the higher (Table I-B) tension allowable loads were used in the design, which would require the addition of special installation notes to the drawings. The Main Steam and Feedwater systems were selected for this sample since they have a larger number of supports using the higher bolt allowable value. Also, spring and constant support hangers were excluded from the sample due to the infrequent use of the higher bolt allowables. In all cases which used the Table I-B allowable loads, either the special installation requirements were specified on the design drawings (10 supports) or the special installation requirements were not necessary (2 supports). Accordingly, no additional review for these requirements is necessary.

Corrective Action Taken To Avoid Further Noncompliance

In order to avoid further noncompliance, the following actions are being taken:

a. The Director of Project Design re-emphasized the importance of addressing design criteria changes in a timely manner in a design discipline supervisors meeting. The proper manner of addressing these changes was also stressed.

b. EDP-2356 is being prepared, revising drawing 5C721-2002 to clarify the special installation torque and tension test requirements for anchor bolts designed using the Table I-B allowable loadings. The standard sheet used with pipe support sketches to specify special installation requirements was revised to refer to the drawing

Corrective Action Taken To Avoid Further Noncompliance (Cont'd)

for installation data. These changes consolidate all anchor bolt installation data in a single controlled document.

c. The load table will be removed from the standard sheet and the user will be directed to Specification 3071-226 for current capacities. This will assure that the design input information is compatible with Specification 3071-226.

Memorandum F2E-85-0301 was also written to remind the Edison support designers, design discipline supervisors and (active) A/E project managers of the reduced allowable anchor bolt loadings in Table I-B of Specification 3071-226, Revision F, and EDP-2356 establishes an effective date for using the new loads in design. These documents also emphasize the need to specify special installation requirements where necessary for bolts designed using Table I-B allowable loads or to document in the hanger calculations why these special installation requirements are unnecessary.

Date When Full Compliance Will Be Achieved

Full compliance will be achieved by May 15, 1985.