

Detroit Edison



February 04, 2000
NRC-00-0002

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington D C 20555-0001

- References:
- 1) Fermi 2
NRC Docket No. 50-341
NRC License No. NPF-43
 - 2) Detroit Edison's Letter to the NRC,
"Submittal of the Inservice Inspection/Nondestructive
Examination Program – Second Ten-year Interval",
NRC-99-0056, dated August 19, 1999

Subject: Submittal of Revised Inservice Inspection Second
Ten-year Interval Relief Request RR-A28,
and Withdrawal of Relief Request RR-A27

In Reference 2, Detroit Edison submitted the revised Inservice Inspection (ISI)/Nondestructive Examination (NDE) program for the second ten-year interval of the Fermi 2 plant operation. The submittal included several relief requests for NRC review and approval as required by 10CFR50.55a(a)(3).

The enclosure to this letter contains a revision to Relief Request RR-A28 with a reference to the ASME Code Case N-566-1, "Corrective Action for Leakage Identified at Bolted Connections," as discussed in a telephone conversation between Detroit Edison and the NRC staff on January 28, 2000.

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Additionally, after further review of the ASME Code requirements, and per discussion with the NRC staff on January 28, 2000, Relief Request RR-A27, "Pressure Retaining Closure Head Nuts," is hereby withdrawn.

Should you have any questions or require additional information, please contact Mr. Norman K. Peterson of my staff at (734) 586-4258.

Sincerely,


W. T. O'Connor, Jr.
Assistant Vice President
Nuclear Assessment

Enclosure

cc: A. J. Kugler
M. A. Ring
NRC Resident Office
Regional Administrator, Region III
Supervisor, Electric Operators,
Michigan Public Service Commission

**RELIEF REQUEST
RR-A28 REVISION 1**

COMPONENT FUNCTION/DESCRIPTION:

Pressure Retaining Bolted Connection Leakage

SYSTEM:

All Systems included in the ISI NDE Program Plan

ASME CODE CLASS:

Class 1, 2, and 3

ASME SECTION XI REQUIREMENTS:

ASME Section XI 1989, IWA 5250(a)(2) requires the following corrective measures if leakage is observed during VT-2 examination during the system pressure test at bolted mechanical joints; 1) remove all the bolting material associated with that joint, 2) perform a VT-3 examination for corrosion and 3) evaluate the conditions in accordance with IWA-3100.

BASIS FOR RELIEF:

The 1989 Code is too restrictive and does not allow for evaluation and application of prudent engineering judgement. Satisfying the Code requirement for removing bolting may require significant planning and scheduling due to operational concerns and personnel safety. In cases of unisolatable or non-redundant piping, the requirement to remove the bolting in order to conduct the visual examination may necessitate shutdown of the plant and result in unnecessary plant transient cycles.

Pursuant to 10 CFR 50.55a(a)(3)(i) Detroit Edison is requesting relief from ASME Section XI requirements to remove bolting for visual examination when leakage is noted at a bolted connection. This request for relief is based on the alternative provided in Code Case N-566-1. This Code Case is ASME approved indicating Code Committee consensus that the alternative evaluation will provide essentially equivalent results. Removal of bolting is not often necessary because Fermi 2 is a boiling water reactor (BWR) and the reactor coolant system and associated systems do not experience the corrosive environment from boric acid residues as would a pressurized water reactor (PWR). Therefore, there is no reason to suspect degradation of bolting caused solely by the chemistry of leaking coolant.

The purpose of IWA-5250(a)(2) is to determine if inservice leakage has degraded the bolting material. Therefore bolting that is new or was visually examined during joint disassembly would not warrant removal. Additionally, bolting that is in air or gas service should also be excluded.

Bolted flange connections such as those on the control rod drive (CRD) housings have a history of leaking upon return to service but decrease over time. This bolting is a chrome alloy material that is resistant to general corrosion. CRDs are rebuilt periodically and bolting is VT-1 examined and reinstalled or replaced as necessary.

Bolting in flanged joints are often partially visible because of the space between the flanges. While flange or valve bonnet leakage is normally not acceptable the prudent corrective measure may be to verify torque and re-tighten bolting as necessary rather than remove the bolting.

The reasons provided above demonstrate the need for evaluation of leakage and application of engineering judgement.

ALTERNATIVES:

Detroit Edison proposes to implement the alternative described in Code Case N-566-1 dated February 15, 1999 as follows.

- (a) The leakage shall be stopped, and the bolting and component material shall be evaluated for joint integrity as described in (c) below, or
- (b) If the leakage is not stopped, the joint shall be evaluated in accordance with IWB-3142.4 for joint integrity. This evaluation shall include the considerations listed in (c) below.
- (c) The evaluation of (a) and (b) above is to determine the susceptibility of the bolting to corrosion and failure. This evaluation shall include the following:
 - (1) the number and service age of the bolts;
 - (2) bolt and component material;
 - (3) corrosiveness of process fluid;
 - (4) leakage location and system function;
 - (5) leakage history at the connection or other system components;
 - (6) visual evidence for corrosion at the assembled connection

APPLICABLE TIME PERIOD:

Relief is requested for the second 10-year inspection interval.