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## Detroit Edison



December 17, 1999  
NRC-99-0115

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 letter to NRC, NRC-99-0092,  
"Request for Enforcement Discretion,"  
dated September 24, 1999
  - 3) Detroit Edison letter to NRC, NRC-99-0082,  
"Proposed Exigent Technical Change  
(License Amendment) to Technical Specification  
(TS) 3/4 .6.1.8, Drywell and Suppression Chamber Purge System,"  
dated September 24, 1999
  - 4) NRC letter to Detroit Edison, "Notice of Enforcement  
Discretion for the Detroit Edison Company Regarding Fermi 2  
(TAC No. MA6521, NOED No. 99-6-007),"  
dated September 27, 1999
  - 5) NRC letter to Detroit Edison, "Fermi 2 – Issuance of Amendment  
Re: One-Time Change to the Requirements for Penetration X-26 in  
the Drywell and Suppression Chamber Purge System  
Specification," dated October 19, 1999 (TAC No. MA6752)

A001

PDV A0000 0500 0341

Subject: Additional Testing for Primary Containment Penetration X-26

This letter provides a summary of additional leak rate testing performed on primary containment penetration X-26 at Fermi 2. This testing was discussed in a telephone conference with NRC personnel on December 3, 1999.

Failure of this penetration to meet leak rate testing requirements of the Technical Specifications (TS) resulted in continued operation under a Notice of Enforcement Discretion (NOED) granted by the NRC on September 23, 1999 (References 2 and 4). The NOED was subsequently superceded by Amendment 135 to the Fermi 2 Operating License, which was issued on October 19, 1999 (References 3 and 5). Amendment 135 was issued in both a current Technical Specification format and in an Improved Technical Specification format. The Improved Technical Specification version of Amendment 135 was implemented along with the complete Technical Specification conversion to Improved Technical Specifications on October 31, 1999.

The NOED and the subsequent Technical Specification amendment allowed continued operation based upon the apparent failure of the inboard isolation valve, T4803F601 (See enclosure for a sketch of Penetration X-26). Although their individual leakages could not be quantified, the two outboard isolation valves, T4800F407 and T4800F408, were qualitatively assessed as having insignificant leakage. As additional mitigating measures, a blind flange was placed outboard of T4800F407. Valves T4800F407 and T4800F408 were required to remain closed and deactivated, and periodic leakage rate testing of Penetration X-26 was required on a 45-day frequency. These mitigating measures were contained in a Special Operations Technical Specification, LCO 3.10.8, which would allow operation to continue to the next plant shutdown, when repairs would then be made.

Performance of the 45-day leakage rate test showed an increase in the total penetration leakage that was attributed to further deterioration of the inboard isolation valve, T4803F601. This was based upon qualitative assessment that the two outboard valves continued to show only insignificant leakage. Since further deterioration of the inboard valve could eventually result in a failure of the 45-day test and a plant shutdown, Detroit Edison developed a modification and test configuration that provided for quantification of the leakage rates for the two outboard isolation valves individually.

If the combined leakage for the two outboard valves could be determined to be less than the Technical Specification leakage limit for the penetration of  $0.05 L_a$ , then plant operation could be continued based upon compliance with the requirements of Technical Specification LCO 3.6.1.3. As stated in LCO 3.0.7, Special Operation Technical Specifications allow specified Technical Specification requirements to be

changed to allow performance of special tests and operations. Compliance with Special Operations LCOs is optional and special operations may be performed either under the provisions of the Special Operations LCO or under the other applicable Technical Specification provisions.

To quantify the leakage for the two outboard valves, the blind flange outboard of T4800F407 was modified to provide a test connection and a temporary test flange was installed outboard of T4800F408. Installation of test flange required temporary removal of a portion of the Nitrogen Inerting system piping outboard of the valve. Considerable effort was required to develop, review, approve and implement this test method for the outboard valves. Because the time involved was considerably greater than would have been permitted by the Technical Specification Completion Time for this situation or the time frame typically allowed for establishing a basis for Enforcement Discretion, it was not considered to be feasible when the NOED was submitted.

The leakage rate tests on the two outboard valves were performed on December 7, 1999. The combined leakage for the valves was determined to be 0.237 standard cubic feet per hour (scfh) which is less than the 0.05  $L_a$  limit of 14.87 scfh. Following the testing, the test flange was removed and the piping outboard of T4800F408 was restored. The blind flange with a threaded test plug installed outboard of T4800F407 was left in place.

Following the successful test, Detroit Edison determined that the requirements of Technical Specification LCO 3.6.1.3 could be met for primary containment penetration X-26 and, as allowed by LCO 3.0.7, plant operation would no longer rely on compliance with the provisions of LCO 3.10.8.

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

Sincerely,



Enclosure

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

