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**DTE Energy**



10CFR50.90

December 20, 2002  
NRC-02-0084

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

- Reference: 1) Fermi 2  
NRC Docket No. 50-341  
NRC License No. NPF-43
- 2) Detroit Edison Letter to NRC, "Proposed License Amendment for a One-Time Deferral of the Primary Containment Integrated Leak Rate Test," NRC-02-0040, dated May 23, 2002

Subject: Response to NRC Request for Additional Information  
Regarding the Proposed License Amendment for a One-Time  
Deferral of the Primary Containment Integrated Leak Rate Test

In Reference 2, Detroit Edison requested NRC approval of a proposed license amendment to modify the Technical Specifications (TS) to allow a one-time deferral of the Type A primary containment integrated leak rate test (ILRT). Specifically, the request proposed revising TS 5.5.12, "Primary Containment Leakage Rate Testing Program," to extend the current interval for performing the containment Type A test to 15 years.

The NRC staff requested additional information to help complete their review of the proposed license amendment. The NRC questions were discussed in a conference call between Detroit Edison and the NRC staff on July 1, 2002. The enclosure to this letter provides Detroit Edison's response to the NRC questions.

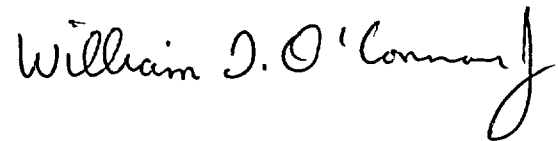
In Reference 2, Detroit Edison requested NRC approval of this license amendment by November 22, 2002, with an implementation period of within 60 days following NRC approval. The requested approval date was based on the need for advance

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work planning and scheduling for the upcoming ninth refueling outage, scheduled to start on March 28, 2003. However, Detroit Edison understands that, due to staff review work load, NRC approval is currently projected for December 16, 2002.

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

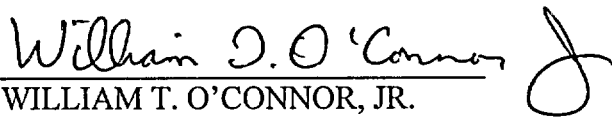
Sincerely,

A handwritten signature in black ink that reads "William J. O'Connor". The signature is written in a cursive style with a large, stylized "J" at the end.


Enclosure

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

I, WILLIAM T. O'CONNOR, JR., do hereby affirm that the foregoing statements are based on facts and circumstances which are true and accurate to the best of my knowledge and belief.

  
WILLIAM T. O'CONNOR, JR.  
Vice President - Nuclear Generation

On this 20<sup>th</sup> day of December, 2002 before me personally appeared William T. O'Connor, Jr., being first duly sworn and says that he executed the foregoing as his free act and deed.

  
Notary Public

KAREN M. REED  
Notary Public, Monroe County, MI  
My Commission Expires 09/02/2005

**ENCLOSURE TO  
NRC-02-0084**

**FERMI 2 NRC DOCKET NO. 50-341  
OPERATING LICENSE NO. NPF-43**

**RESPONSE TO RAI REGARDING THE REQUEST  
FOR A ONE-TIME DEFERRAL OF THE PRIMARY  
CONTAINMENT INTEGRATED LEAK RATE TEST**

**Response to NRC Questions**  
**Regarding Fermi 2 ILRT Deferral**

**Question 1:**

On page 3 of the submittal, attached to the letter, you state, "In response to concerns regarding the potential degradation of the uninspectable areas of the drywell liner, work was initiated to clean the drain lines in the sand cushion area and to perform a video probe inspection for any moisture trapped in the sand cushion region." Please provide information pertaining to the inspection of the inaccessible upper portion of the drywell liner and how the potential leakage under high pressures during severe accidents are factored into the risk assessment related to the extension of the integrated leak rate test.

**Response to Question 1:**

The design of the Fermi 2 primary containment includes an air gap between the drywell steel liner and the concrete shield wall. Leakage through the refueling bellows or any other source, that could result in potential moisture in the inaccessible exterior liner surface area, will drain down directly to the sand cushion region. Since 1994, the sand cushion area has been visually inspected on a quarterly basis to ensure early detection of any condition conducive to corrosion. No leakage has been identified as a result of these inspections.

The inaccessible upper portion of the drywell was evaluated in accordance with the American Society of Mechanical Engineers (ASME) Code, Section XI, Article IWE-1240, for augmented examination and was excluded from this requirement. The basis for the exclusion was the absence of degradation mechanisms described in the Code Article and the absence of any signs of leakage in the sand cushion drains.

Operating Experience data indicates that primary containment design in plants which have experienced degradation in the upper areas of the drywell has concrete in direct contact with the steel liner. It was determined that foreign objects left in the concrete were in physical contact with the liner, allowing moisture to collect and cause degradation of the liner.

Based on previously approved ILRT interval extension submittals and NEI guidance, the Fermi 2 ILRT interval extension risk assessment was performed using a methodology that divides the spectrum of severe accidents into nine accident categories (defined in EPRI TR-104285 report, "Risk Impact Assessment of Revised Containment Leak Rate Testing," dated August 1994). The issue of potential containment shell degradation and leakage is accounted for by the following two accident categories:

**Response to NRC Questions**  
**Regarding Fermi 2 ILRT Deferral**

- Category 3b - Small Pre-Existing Failures: Accident sequences in which the containment is failed due to a pre-existing small leak in the containment structure or shell that may be identifiable by an ILRT but not by an LLRT (and thus affected by ILRT testing frequency).
- Category 3a - Large Pre-Existing Failures: Accident sequences in which the containment is failed due to a pre-existing large leak in the containment structure or shell that may be identifiable by an ILRT but not by an LLRT (and thus affected by ILRT testing frequency).

The frequencies of these accident categories are calculated, using NEI guidance and operating experience data, assuming a linear relationship between the length of the ILRT interval and the likelihood of a pre-existing containment leak pathway (e.g., shell degradation) at the time of a core damage accident. Therefore, the potential leakage under high pressures during severe accidents is factored into the risk assessment for the ILRT interval extension.

**Question 2:**

On page 4 of the submittal, attached to the letter, you state, "A drywell makeup station senses the pressure of both the primary containment and the secondary containment and maintains a positive pressure in the primary containment. The primary containment pressure is also periodically monitored in the control room." Please provide information related to the maintenance of this positive pressure (procedural requirements), such as, the average positive pressure maintained, how often it is monitored, the positive pressure range, and corrective actions if the positive pressure is not maintained due to a small, continuous leakage from the primary containment.

**Response to Question 2:**

Fermi 2 Technical Specification (TS) 3.6.1.4 requires maintaining pressure in the primary containment between  $-0.1$  and  $+2.0$  psig. However, Fermi 2 administrative procedures require maintaining a positive pressure between 5 and 19 inches of water column (0.2 to 0.7 psig). The pressure is normally maintained within this range by manual venting and purging, as required. Alarm response procedures requires increasing pressure if it falls below  $+0.1$  psig (about 3 inches, water column).

The primary containment pressure is continuously monitored by a control room recorder. Additionally, surveillance procedures require recording the pressure once every 12 hours. If the

**Response to NRC Questions**  
**Regarding Fermi 2 ILRT Deferral**

drywell pressure were to fall below the normally maintained average pressure of 5 to 19 inches of water, or if the low drywell pressure alarm is received, operators would add nitrogen to restore containment pressure to the specified range. If pressure could not be increased and there was no apparent reason for the pressure decrease, such as a temperature drop in the primary containment, the obvious conclusion would be that the pressure is escaping from the primary containment; therefore, primary containment integrity would be in question. This would result in the evaluation of the primary containment operability as required by the corrective action program. If primary containment was determined to be inoperable in violation of TS LCO 3.6.1.1; or if TS 3.6.1.4 pressure requirements could not be maintained, the pertinent TS required actions would be entered leading to a plant shutdown.

**Question 3:**

On page 4 of the submittal, attached to the letter, you state, "Detroit Edison determined, based on a review of the purchase specifications and discussion with the manufacturers, that the bellows installed at Fermi 2 have a wire mesh between the plies that ensures an air gap for the adequate performance of Appendix J, Type B testing." Please provide further information regarding the frequency of Type B testing of the bellows.

**Response to Question 3:**

Fermi 2 adopted 10CFR50 Appendix J, Option B in the fall of 1996, at which time the primary containment bellows were placed on a 5-year testing periodicity. This periodicity was maintained until the spring of 2000. At that time, based on the testing performance, the periodicity was extended to every 10 years, on a staggered test basis throughout the refueling outages (i.e. representative samples are tested during refueling outages with all bellows tested at least once every 10 years). The extension was justified because no bellows had any indication of leakage and because of the absence of any failure in the testing history of the plant despite the very restrictive acceptance criteria (1.00 scfh).