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Detroit Edison

A DTE Energy Company

10CFR50.92

September 20, 2000
NRC-00-0058

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) USNRC letter, dated December 7, 1995
Fermi 2 Control Center Heating, Ventilation,
and Air Conditioning (CCHVAC) System

3) USNRC letter, dated February 21, 1996
Control Center Heating, Ventilation, and Air Conditioning
(CCHVAC) Concern Resolution

4) Detroit Edison Letter, NRC-96-0127,
Fermi 2 Response to Request for Additional
Information Regarding CCHVAC Qualification,
dated November 8, 1996

Subject: Proposed Technical Specification Changes (License Amendment Request)
for the Control Room Emergency Filtration Pressure Drop Testing

Pursuant to 10CFR50.90, Detroit Edison hereby proposes to amend the Fermi 2 Plant Operating License NPF-43, Appendix A, Technical Specifications (TSs) Section 5.5.7.d, to decrease the maximum allowed pressure drop across Control Room Emergency Filtration (CREF) make-up and recirculation train filters and charcoal adsorbers. Additionally, the words "(CREF only)" are being removed to clarify that

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Standby Gas Treatment System (SGTS) prefilter is included in the Ventilation Filter Testing Program (VFTP).

Enclosure 1 provides a description and evaluation of the proposed TS changes. Enclosure 2 provides an analysis of the issue of significant hazards consideration using the standards of 10CFR50.92. Enclosure 3 provides the marked up pages of the existing TS to show the proposed changes and a typed version of the affected TS pages with the proposed changes incorporated.

Detroit Edison has reviewed the proposed TS changes against the criteria of 10CFR51.22 for environmental considerations. The proposed changes do not involve a significant hazards consideration, nor significantly change the types or significantly increase the amounts of effluents that may be released offsite, nor significantly increase individual or cumulative occupational radiation exposures. Based on the foregoing, Detroit Edison concludes that the proposed TS changes meet the criteria provided in 10CFR51.22(c) (9) for a categorical exclusion from the requirements for an Environmental Impact Statement or an Environmental Assessment.

Detroit Edison requests that the NRC approves and issues these changes by March 30, 2001 with an implementation period of within 60 days following NRC approval.

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

Sincerely,

William D. O'Connor

Enclosures

cc: D. S. Hood
M. A. Ring
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.
WILLIAM T. O'CONNOR, JR.
Vice President - Nuclear Generation

On this 20th day of September, 2000 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.

Karen M Reed-Ockerman
Notary Public

KAREN M. REED-OCKERMAN
Notary Public, Monroe County, MI
My Commission Expires Sep. 2, 2003

ENCLOSURE 1
TO NRC-00-0058

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

REQUEST TO REVISE TECHNICAL SPECIFICATIONS

PROGRAMS AND MANUALS SECTION 5.5.7.d,
VENTILATION FILTER TESTING PROGRAM

DESCRIPTION AND EVALUATION
OF THE PROPOSED CHANGES

**DESCRIPTION AND EVALUATION OF
THE PROPOSED CHANGES**

DESCRIPTION:

Fermi 2 Technical Specifications (TSs) Section 5.5.7.d, Ventilation Filter Testing Program (VFTP), states that the TS acceptance criteria for the pressure drop across the Control Room Emergency Filtration (CREF) is currently required to be less than 6.0 inches Water Gauge (WG) for the make-up train and 8.0 inches WG for the recirculation train.

The Control Center Heating, Ventilation and, Air Conditioning (CCHVAC) system is designed to provide a habitable environment in the Main Control Center for the control room operators during normal plant operation and following design basis accidents. The system also provides an optimum environment for equipment and controls within the Main Control Room and the associated ventilation zones.

The CREF trains include the High Efficiency Particulate Air (HEPA) filters, moisture separators, prefilters, and charcoal adsorbers of the make-up and recirculation filter trains for each division of the CCHVAC. Flow Verification Testing (FVT) is performed for the CREF trains every eighteen months in accordance with Regulatory Guide 1.52, Revision 2, and ANSI/ASME N510-1980 test requirements. Simulated Pressure Drop Testing (SPDT) is performed after system modification to verify rated flow is maintained with design dirty filter pressure drops by artificially restricting system airflow.

Detroit Edison committed to reduce the maximum operating and design pressure for the make-up and recirculation trains of the CCHVAC system ductwork and hangers as documented in Reference 3, USNRC letter, dated February 21, 1996, Control Center Heating, Ventilation, and Air Conditioning (CCHVAC) Concern Resolution. During the Fifth Refueling Outage (RFO5), CCHVAC recirculation fan speeds were reduced per Engineering Design Package (EDP) 28160 to facilitate the requalification of the CCHVAC duct and hangers to be in conformance with ANSI/ASME N509-1980. This involved replacing the fan and motor sheaves and the matching drive belts. As a result, the maximum allowable pressure drop across the combined HEPA filters, prefilters, and the charcoal adsorbers was lower than the maximum specified TS acceptance criteria. Surveillance procedure 43.413.001, "Control Room Emergency Filter Performance Test," was revised, and the new acceptance criteria was established as a result of the post modification testing.

Prior to Improved Technical Specifications (ITS), the CREF performance tests did not include the CREF make-up moisture separator/prefilter in the flow verification or dirty filter pressure drop test. On October 30, 1999, ITS was implemented, and the new testing methodology of the

CREF system with the inclusion of the make-up moisture separator/prefilter became effective. The CREF make-up moisture separator/prefilter was included in the Seventh Refueling Outage (RFO7) dirty filter pressure drop testing to validate the administrative changes made following RFO5. The proposed values reflect the surveillance procedure limits and inclusion of resistance added by the moisture separator/prefilter of the CCHVAC make-up train.

The purpose of this proposed license amendment is to revise TS Section 5.5.7.d, VFTP acceptance criteria to decrease the maximum allowed pressure drop across the CREF trains. The TS acceptance criteria is being revised to reflect the simulated dirty filter pressure drops measured across the CREF make-up and recirculation trains during the RFO7 testing. Simulated dirty filter pressure drop values were obtained by increasing flow resistance by artificially restricting the CREF trains while maintaining the required flow rate of 1800 cubic feet per minute (cfm) for the make-up train and 3000 cfm for the recirculation train plus or minus 10 percent. The proposed maximum allowed pressure drops for the CREF are 3.0 inches WG for the make-up train and 4.2 inches WG for the recirculation train.

Additionally, in TS Section 5.5.7.d, VFTP, states that the inclusion of the prefilters applies only to the CREF System. The Standby Gas Treatment System (SGTS) prefilters have been included in the testing before and after ITS. Detroit Edison is proposing deletion of the words "(CREF only)." This parenthetical phrase was added erroneously during conversion to ITS.

EVALUATION OF THE PROPOSED CHANGES:

During RFO7, the demonstration of the VFTP for the CREF System, as required by TS Section 5.5.7.d, showed that the maximum allowable differential pressure drop across the combined HEPA filters, the prefilters, and the charcoal adsorbers of the make-up and recirculation trains were lower than the TS specified values.

The proposed TS Section 5.5.7.d revision of the acceptance criteria for the CREF make-up and recirculation train filters and adsorbers is based on the results of the SPDT dirty filter airflow capacity tests performed during RFO7. The test was performed by blanking off portions of the filter banks, obtaining the highest differential pressure while maintaining design flow of plus or minus 10 percent. From the test results, the maximum measured pressure drop values were 3.0 inches WG for the make-up train and 4.2 inches WG for the recirculation train. These values are proposed for the FVT acceptance criteria to determine system operability. The VFTP now includes the CCHVAC make-up moisture separator/prefilter since it is now included in ITS.

During implementation of ITS, Surveillance Requirement (SR) 5.5.7.d required measuring the emergency filter differential pressure across the combined HEPA filters, prefilters, and charcoal adsorbers of the CREF recirculation and make-up trains at rated airflow. Prior to ITS, Technical Specification 4.7.2.1.e required the same test but did not include the CREF make-up moisture separator/prefilters. Since the testing methodology changed with ITS, a simulated pressure test was required again in RFO7. The pressure drops recorded in Surveillance procedure 43.413.001, May 4, 2000, were the highest obtainable while still maintaining rated flow for the make-up and recirculation trains concurrently.

The simulated pressure test performed in Surveillance procedure 43.413.001 is an actual field system test and the pressure drops recorded will be considered the 100 percent design dirty filter pressure drops to be used for Technical Specifications Section 5.5.7.d. The slower of the two make-up fans, Division 1, was used for the testing. If tested with the faster fan, then the slower fan may not be able to maintain design flow at the same pressure drop. The Division 1 fan was chosen based on previous Surveillance procedure 43.413.001 test results.

The CCHVAC system was re-balanced following the RFO5 modification and the RFO7 testing, and air velocity remains unchanged. The system's rated airflow, ability to maintain temperature and humidity, and efficiency of filters remained unchanged.

The removal of the words "(CREF only)" does not change the methodology of the VFTP. Since both ventilation systems, SGTS and CREF, are tested with the inclusion of each system prefilter, the words "(CREF only)" inappropriately imply that the SGTS is tested without its prefilters. The SGTS has always been tested with the inclusion of its prefilters. The proposed change is an editorial change.

ENCLOSURE 2
TO NRC-00-0058

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

REQUEST TO REVISE TECHNICAL SPECIFICATIONS

10CFR50.92 SIGNIFICANT HAZARDS CONSIDERATION

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BASIS FOR SIGNIFICANT HAZARDS DETERMINATION

In accordance with 10CFR50.92, Detroit Edison has made a determination that the proposed amendment involves no significant hazards consideration. The proposed Technical Specification (TS) changes described above do not involve a significant hazard consideration for the following reasons:

1. The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed changes revise the pressure drop acceptance criteria of TS Section 5.5.7.d from "6.0 inches WG" to "3.0 inches WG" for the CREF makeup train, and from "8.0 inches WG" to "4.2 inches WG" for the CREF recirculation train. The change in pressure drop reflects the impact of reduced fan speed on system characteristics. The removal of "(CREF only)" is editorial and clarifies the inclusion of the SGTS prefilters in the VFTP. These changes assure that the Surveillance procedure appropriately demonstrate the ability of the CREF trains to perform its specified function.

   No changes in either system design or operating strategies will be made as a result of these changes. Thus, no opportunity exists to increase the probability or consequences of a previously analyzed accident. Therefore, the proposed change does not involve a significant increase in the probability or consequences of a previously evaluated accident.

2. The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

   The proposed change does not involve a change to the plant operation. As a result, the proposed change does not affect any of the parameters or conditions that could contribute to the initiation of any accidents. This change involves the pressure drop across the filters and adsorbers of the CREF make-up and recirculation trains. The surveillance requirements for performing the actual test have not changed. The VFTP tests are performed such that the pressure drop across the combined HEPA filters, the prefilters, and the charcoal adsorbers is less than the value specified in the acceptance criteria in accordance with Regulatory Guide 1.52, Revision 2, and ANSI/ASME N510-1980 at the system flowrate of plus or minus 10 percent. The change involves restrictive changes in test acceptance criteria and test methodology and no change in system operation.

   No new accident scenarios are created by the lower value of filter and adsorber pressure drop. No safety-related equipment or safety functions are altered as a result of this change. Additionally, the removal of "(CREF only)" is editorial and clarifies the inclusion of the

SGTS prefilters in the VFTP. Therefore, the changes do not create the possibility of a new or different kind of accident or malfunction from those previously analyzed.

3. The change does not involve a significant reduction in the margin of safety.

   The proposed change in combination with existing restrictions within the TS provides assurance that there are no credible mechanisms to prevent the CCHVAC system from performing its specified function. The maximum allowable differential pressure is more restrictive and corresponds to the reduced fan speed across the HEPA filters, prefilters, and charcoal adsorbers as a result of this change. There will be no changes in system operating strategies because of the inclusion of the make-up moisture separator/prefilter and test acceptance criteria for the CREF trains. Additionally, the removal of "(CREF only)" is editorial and clarifies the inclusion of the SGTS prefilters in the VFTP. Therefore, the proposed change does not involve a significant reduction in the margin of safety.

ENCLOSURE 3
TO NRC-00-0058

FERMI 2

NRC DOCKET NO. 50-341
OPERATING LICENSE NPF-43

REQUEST TO REVISE TECHNICAL SPECIFICATIONS

SECTION 5.5.7.d VENTILATION FILTER TESTING PROGRAM

Attached is a mark-up of the existing Technical Specifications (TSs), indicating the proposed changes (Part 1) and a typed version of the TSs incorporating the proposed changes with a list of included pages (Part 2).

ENCLOSURE 3 - PART 1

PROPOSED TECHNICAL SPECIFICATION MARKED UP PAGE

INCLUDED PAGE:

TECHNICAL SPECIFICATION PAGE 5.0 - 14

5.5 Programs and Manuals

5.5.7 Ventilation Filter Testing Program (VFTP) (continued)

d. The following tests shall be performed once per 18 months.

Demonstrate for each of the ESF systems that the pressure drop across the combined HEPA filters, the prefilters (CREF) and, and the charcoal adsorbers is less than the value specified below when tested in accordance with Regulatory Guide 1.52, Revision 2, and ASME N510-1980 at the system flowrate specified as follows ± 10%:

ESF Ventilation System	Delta P (inches water gauge)	Flowrate (cfm)
Standby Gas Treatment	11.0 → 3.0	3800
Control Room Emergency Filtration (CREF)	6.0 (makeup train)	1800
	8.0 (recirculation train) → 4.2	3000

e. The following tests shall be performed once per 18 months.

Demonstrate that the heaters for each of the ESF system dissipate the value specified below when tested in accordance with ASME N510-1980:

ESF Ventilation System	Wattage (kW)
Standby Gas Treatment	≥ 24
Control Room Emergency Makeup Inlet Air	12.0 ± 2.0

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the VFTP test frequencies.

(continued)

ENCLOSURE 3 - PART 2

PROPOSED TECHNICAL SPECIFICATION REVISED PAGE

INCLUDED PAGE:

TECHNICAL SPECIFICATION PAGE 5.0 - 14

5.5 Programs and Manuals

5.5.7 Ventilation Filter Testing Program (VFTP) (continued)

d. The following tests shall be performed once per 18 months.

Demonstrate for each of the ESF systems that the pressure drop across the combined HEPA filters, the prefilters, and the charcoal adsorbers is less than the value specified below when tested in accordance with Regulatory Guide 1.52, Revision 2, and ASME N510-1980 at the system flowrate specified as follows ± 10%:

ESF Ventilation System	Delta P (inches water gauge)	Flowrate (cfm)
Standby Gas Treatment	11.0	3800
Control Room Emergency Filtration (CREF)	3.0 (makeup train) 4.2 (recirculation train)	1800 3000

e. The following tests shall be performed once per 18 months.

Demonstrate that the heaters for each of the ESF system dissipate the value specified below when tested in accordance with ASME N510-1980:

ESF Ventilation System	Wattage (kW)
Standby Gas Treatment	≥ 24
Control Room Emergency Makeup Inlet Air	12.0 ± 2.0

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the VFTP test frequencies.

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