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DTE Energy



10CFR50.90

March 31, 2003
NRC-03-0016

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, "Proposed License Amendment for the Revision of Control Room Emergency Filtration System Technical Specification Surveillance Requirements Regarding Unfiltered Inleakage," NRC-02-0072, dated September 26, 2002
 - 3) Detroit Edison Letter to NRC, "Proposed License Amendment for the Implementation of Alternative Radiological Source Term Methodology," NRC-03-0007, dated February 13, 2003

Subject: Resubmittal of Proposed License Amendment for the Revision of Control Room Emergency Filtration System Technical Specification Surveillance Requirements Regarding Unfiltered Inleakage

In Reference 2, Detroit Edison proposed to amend the Fermi 2 Plant Operating License, Appendix A, Technical Specifications (TS) by revising the requirements of surveillance SR 3.7.3.6 associated with the verification of Control Room Emergency Filtration (CREF) system duct work unfiltered inleakage. Specifically, Reference 2 proposed adding a note to SR 3.7.3.6 to allow crediting the performance of an integrated Tracer Gas test of the Control Room Envelope (CRE) while in the recirculation mode to satisfy the requirements of the surveillance.

As a result of comments discussed in telephone conversations between Detroit Edison and NRC staff on January 8 and March 12, 2003, Detroit Edison has revised the proposed amendment in Reference 2 to incorporate NRC comments. This revised submittal replaces the one in Reference 2 in its entirety. This revision adds a new Condition and associated Required Actions to TS 3.7.3 to address the potential failure of SR 3.7.3.6 to meet control room envelope unfiltered inleakage limits. The Actions require the initiation of immediate compensatory measures and restoring the unfiltered inleakage to within limits within 18 months.

A001

A list of enclosures to this letter is provided below:

- Enclosure 1 provides a description and an evaluation of the proposed changes,
- Enclosure 2 provides an analysis of the issue of significant hazards consideration using the standards of 10 CFR 50.92,
- Enclosure 3 provides 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,
- Enclosure 4 provides marked up pages of the existing TS Bases showing the proposed changes (for information only).

Detroit Edison has reviewed the proposed changes against the criteria of 10 CFR 51.22 for environmental considerations. The proposed changes do not involve a significant hazards consideration, nor do they significantly change the types or significantly increase the amounts of effluents that may be released offsite. The proposed changes do not significantly increase individual or cumulative occupational radiation exposures. Based on the foregoing, Detroit Edison concludes that the proposed changes meet the criteria provided in 10 CFR 51.22 (c) (9) for a categorical exclusion from the requirements for an Environmental Impact Statement or an Environmental Assessment.

Detroit Edison requests that NRC approval of this proposed license amendment be coordinated with the approval of the license amendment requested in Reference 3 for implementing the Alternative Source Term (AST) methodology. The approval of this license amendment is requested concurrent with or shortly after the approval of the AST license amendment. Detroit Edison will implement this license amendment 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 J. O'Connor

Enclosures

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

On this 31st day of March, 2003 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.

NK Peterson
Notary Public

NORMAN K. PETERSON
NOTARY PUBLIC MONROE CO., LA
MY COMMISSION EXPIRES Jul 24, 2005



**NRC-03-0016
ENCLOSURE 1**

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

**RESUBMITTAL OF PROPOSED LICENSE AMENDMENT TO REVISE
CONTROL ROOM EMERGENCY FILTRATION SYSTEM TECHNICAL
SPECIFICATION SURVEILLANCE REQUIREMENTS REGARDING
UNFILTERED INLEAKAGE**

**DESCRIPTION AND EVALUATION
OF THE PROPOSED CHANGE**

DESCRIPTION AND EVALUATION OF THE PROPOSED CHANGES

DESCRIPTION:

Fermi 2 Technical Specification (TS) 3.7.3, "Control Room Emergency Filtration (CREF) System," includes surveillance SR 3.7.3.6 which requires verifying that unfiltered inleakage from CREF system duct work outside the Control Room Envelope (CRE), that is at negative pressure during accident conditions, is within limits.

This surveillance verifies that the accident analysis assumptions concerning unfiltered inleakage through the CREF system duct work outside the CRE, that would be under negative pressure during accident conditions, are maintained. The CREF system provides a radiologically controlled environment from which the plant can be safely operated following a radiological accident. Upon sensing conditions that could result in radiation exposure to control room personnel, the system automatically switches to the recirculation mode of operation to prevent infiltration of contaminated air into the control room.

Section 3.7.2 of the Technical Requirements Manual (TRM) includes additional details regarding the requirement of TS SR 3.7.3.6. TRM Table TR 3.7.2-2 specifies four sections of control room duct work outside the CRE that are required to be tested under this surveillance. The Table further provides the acceptance criteria for the cumulative total inleakage for all four ducts under two scenarios correlating to the limiting design basis accident analysis. The first scenario is for testing under maximum negative pressure expected for each specific duct during operation in the recirculation mode with no damper failure and the second scenario assumes a single damper failure. The acceptance criteria provided for the two test scenarios are 11 Standard Cubic Feet per Minute (SCFM) and 34 SCFM, respectively. The 11 and 34 SCFM values are derived from the unfiltered inleakage assumed in the current control room dose analysis to demonstrate compliance with 10 CFR 50, Appendix A, General Design Criterion (GDC)-19 following a Loss of Coolant Accident (LOCA). The specified test method is in accordance with the American Society of Mechanical Engineers (ASME) standard N510-1989.

Appendix 15A of the current Updated Final Safety Analysis Report (UFSAR) "Dose Calculation Models and Specific Calculational Values" includes an evaluation of control room operator dose following a LOCA. Section 15A.2.2, "Control Room Model" indicates that control room unfiltered inleakage is assumed to be 35 SCFM for the first 30 minutes of the accident and 12 SCFM thereafter for the remaining duration of the accident. The higher inleakage rate during the first 30 minutes is associated with a postulated damper failure (single failure) per ASME N510. The design basis assumes that operators would detect the damper failure and shift to the other division of the CREF system within the first 30 minutes of the accident. The current acceptance criteria in Section TR 3.7.2 of the TRM described above was established by assuming a 1.0 SCFM average control room inleakage from the doors due to normal ingress and egress activity. The Fermi 2 control room has vestibules installed in the doorways which are used for normal

ingress and egress. Although other doors penetrate the CRE, they would not normally be used under accident conditions.

In Reference 3, Detroit Edison submitted a proposed license amendment for the implementation of Alternative Source Term (AST) methodology. The proposed changes in Reference 3 include a revision to CRE design basis assumptions to increase the unfiltered inleakage limit into the CRE to 900 SCFM. Upon NRC approval of the proposed amendment in Reference 3, the CRE unfiltered inleakage limits will be increased to 900 SCFM.

This proposed License Amendment requests NRC approval of a change to the surveillance requirements of SR 3.7.3.6. Specifically, this proposed change would add a note to SR 3.7.3.6 stating that the requirements of this surveillance would be met by performing Tracer Gas testing of the CRE using test methods described in American Society for Testing and Materials (ASTM) standard E741 while operating in the recirculation mode.

Additionally, a new Condition is proposed to be added to TS 3.7.3. The new Condition C will address the potential failure of SR 3.7.3.6 to meet the CRE unfiltered inleakage limits. If the measurement of unfiltered inleakage exceeds the limits assumed in the design basis accident analysis, the initiation of compensatory measures would be immediately required to ensure compliance with 10 CFR 50.67. Compensatory measures will be required until restoration of CRE unfiltered inleakage to a value within the design basis limits has been completed, but for no longer than 18 months. Compensatory measures involve the use of potassium iodine (KI) tablets or other equivalent respiratory protection to reduce the dose to control room operators. If the Required Actions for the proposed Condition C cannot be met, then Condition D must be entered and a plant shutdown would be required to minimize risk associated with not meeting the required TS actions. Condition C is conservatively proposed to apply at all times the CREF System is required to be Operable.

Since approval of the AST license amendment in Reference 3 is required concurrent with or before the approval of this proposed license amendment, control room dose compliance with 10 CFR 50.67 is used in this license amendment to reference the regulatory radiation exposure limit. Pending NRC approval, Detroit Edison will implement the AST amendment concurrent with or before the implementation of this license amendment.

SR 3.7.3.6 was last performed on April 27, 2000; therefore, based on the 36-month required frequency, it would normally become due on April 27, 2003. However, when the provisions of SR 3.0.2 are used, the surveillance requirements would be met if performed no later than January 27, 2004. Tracer Gas testing does not require the plant to be in cold shutdown or refueling mode and may be performed during normal plant operation. Detroit Edison is planning to perform the Tracer Gas test in the Fall of 2003 contingent on NRC approval of the AST license amendment in Reference 3 and the revision of CRE unfiltered inleakage limit to 900 SCFM.

EVALUATION OF THE PROPOSED CHANGE:

The provision for control room duct inleakage testing (SR 3.7.3.6) was introduced into the TS by license amendment No. 88, issued on October 15, 1992. This amendment also deleted license condition 2.C.(7) which was included in the Fermi 2 operating license during the original licensing of the plant. This license condition resulted from NRC concerns regarding the use of silicone sealant material as part of the joints on the CREF duct work outside the control room. A periodic visual inspection of silicone sealant on accessible portions of CREF system ductwork outside the control room that are at negative pressure during accident conditions (SR 3.7.3.3) was also added by amendment No. 88. In addition to the two surveillances described above (3.7.3.3 and 3.7.3.6), SR 3.7.3.5 requires verifying that each CREF subsystem can maintain a positive pressure of greater or equal 0.125 inches water gauge relative to the outside atmosphere during the recirculation mode of operation at a makeup flow rate of less or equal to 1800 CFM.

The required frequency for performing surveillance SR 3.7.3.6 is 36 months. Since the test requires both divisions of CREF to be out of service, it is normally conducted during refueling or other plant outages when the plant is in Mode 4 or 5. Since this surveillance was last performed during the seventh refueling outage in April 2000, it would normally be performed during the upcoming ninth refueling outage, RFO9, scheduled to start on March 28, 2003. The results of the previous two tests are tabulated below:

Test Date or Acceptance Criteria	Leak Rate (SCFM) No Damper Failure	Leak Rate (SCFM) Single Damper Failure
October 1997	6.49	13.56
April 2000	5.82	13.43
<i>Acceptance Criteria</i>	<i>11.00</i>	<i>34.00</i>

Since 1998, NRC and the industry have been working to develop guidance to address Control Room Habitability (CRH) concerns including testing methods used to demonstrate the ability of control room designs to meet GDC-19. The NRC developed draft regulatory guides to provide guidance on control room envelope habitability (DG-1114), testing (DG-1115), atmospheric dispersion (DG-1111), and radiological dose (DG-1113). The staff has also developed a proposed Generic Letter (GL) on CRH, which was released to the public for comment on May 9, 2002.

In issuing these documents for comment, NRC has indicated its position that positive pressure testing (such as Fermi 2 SR 3.7.3.5) is not sufficient to demonstrate operability of the CRE. NRC further indicated that Tracer Gas testing, using test methods described in ASTM standard E741, is able to account for leakage into the CRE via negative pressure ducting outside the CRE.

The Tracer Gas testing proposed as an alternative to performing the negative pressure duct testing provides an opportunity to demonstrate the CRE integrity using a methodology that has been accepted by both the NRC and the industry. Tracer Gas testing would provide a measurement of the CRE inleakage from all potential sources and not just the four sections of

ducting tested per SR 3.7.3.6. It is expected that a long term position regarding SR 3.7.3.6 would be developed before the next time SR 3.7.3.6 becomes due. The NRC and industry are currently in the process of finalizing a resolution plan for CRH concerns. However, it would be premature to predict the ultimate resolution of some of the critical issues involved such as TS requirements; therefore, Detroit Edison is proposing this alternate testing option to meet the requirements of SR 3.7.3.6 while allowing Fermi 2 to better address NRC generic CRH concerns. It is anticipated that once the NRC has published the final guidance on the resolution of CRH concerns, other TS changes may be warranted.

In Reference 3, Detroit Edison submitted a proposed license amendment for the implementation of Alternative Source Term (AST) methodology. In light of recent industry experience with Tracer Gas testing, the analysis supporting AST includes revised assumptions providing an increase in margin for CRE unfiltered leakage. The revised AST analysis demonstrates compliance with 10 CFR 50.67 assuming CRE unfiltered leakage of up to 900 SCFM. NRC approval of the AST methodology for Fermi 2 would permit revising the acceptance criteria for CRE unfiltered leakage to 900 SCFM. The base line Tracer Gas testing at Fermi 2 would be performed after the NRC has approved the AST license amendment and the acceptance criteria for CRE unfiltered leakage has been changed to 900 SCFM.

A failure of SR 3.7.3.6 to meet CRE unfiltered leakage limits will require the initiation of immediate compensatory measures. Compensatory measures involve the use of potassium iodine (KI) tablets or other equivalent respiratory protection to ensure compliance with 10 CFR 50.67.

In summary, the proposed TS change is acceptable because it will permit testing of CRE integrity using a test approach that has been accepted by both the NRC and industry. The proposed Tracer Gas test as an alternate to the current component testing will provide a measurement of the overall CRE leakage which would include the total leakage from the four specific sections of control room ducting tested per SR 3.7.3.6. The addition of Condition C to TS 3.7.3 would ensure compliance with 10 CFR 50.67 and GDC-19 if the measured leakage exceeds the design basis limits. The Required Actions would also limit the time for using compensatory measures to no more than 18 months. If any of these Actions cannot be completed within the specified duration, then a plant shutdown would be conservatively required to minimize risk to the public.

**NRC-03-0016
ENCLOSURE 2**

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

**RESUBMITTAL OF PROPOSED LICENSE AMENDMENT TO REVISE
CONTROL ROOM EMERGENCY FILTRATION SYSTEM TECHNICAL
SPECIFICATION SURVEILLANCE REQUIREMENTS REGARDING
UNFILTERED INLEAKAGE**

10CFR50.92 SIGNIFICANT HAZARDS CONSIDERATION

10CFR50.92 SIGNIFICANT HAZARDS CONSIDERATION

In accordance with 10CFR50.92, Detroit Edison has made a determination that the proposed amendment involves no significant hazards consideration. The proposed revision to allow the use of Tracer Gas testing to demonstrate the requirements of Control Room Emergency Filtration (CREF) system surveillance SR 3.7.3.6 for verifying unfiltered inleakage; and the addition of a new Condition to Technical Specification (TS) 3.7.3 to address the failure of the test to meet the acceptance criteria, do not involve a significant hazards consideration for the following reasons:

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

This license amendment proposes an alternative test for performing the CREF system surveillance associated with measuring the Control Room Envelope (CRE) unfiltered inleakage. The CREF system provides a configuration for mitigating radiological consequences of accidents; however, it does not involve the initiation of any previously analyzed accident. Similarly, the implementation of compensatory measures to address the failure of the surveillance to meet the design basis unfiltered in leakage limits is required to mitigate the consequences of a radiological release. Therefore, the proposed changes cannot increase the probability of any previously evaluated accident.

The CREF system provides a radiologically controlled environment from which the plant can be safely operated following a radiological accident. Design basis accident analyses conclude that radiological consequences are within the regulatory acceptance criteria. The current TS surveillance (SR 3.7.3.6) measures inleakage from four sections of CREF system duct work outside the CRE that are at negative pressure during accident conditions. The proposed Tracer Gas test provides a measurement of CRE inleakage from all potential sources including the four sections of duct work. Measuring the CRE inleakage using Tracer Gas testing has no effect on the CREF system function. The results of Tracer Gas testing will be evaluated against the assumptions in the approved Alternative Source Term (AST) design basis accident analyses and compensatory measures will be implemented, as necessary, to ensure compliance with 10 CFR 50.67. If compliance with 10 CFR 50.67 cannot be demonstrated or if compensatory measures have been in place for more than 18 months, a conservative plant shutdown will be required to minimize risk. Therefore, the proposed changes do not significantly increase the radiological consequences of any previously evaluated accident.

Based on the above, the proposed changes do not significantly increase the probability or consequences of any accident previously evaluated.

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

The proposed changes do not alter the design function or operation of the system involved. The CREF system will still provide protection to control room occupants in case of a significant radioactive release. The revised TS surveillance requirements provide an alternative test method that has been widely accepted for the measurement of CRE unfiltered inleakage. The proposed changes do not introduce any new modes of plant or CREF system operation. Therefore, the proposed changes do not create the potential for a new or different kind of accident from any accident previously evaluated.

3. The changes do not involve a significant reduction in the margin of safety.

The proposed changes to the Fermi 2 TS surveillance requirements do not affect the radiological release from a design basis accident nor the postulated dose to the control room occupants as a result of the accident. The alternate surveillance test requirements provide an acceptable approach for the measurement of CRE inleakage. Safety margins and analytical conservatisms are included in the analyses to ensure that all postulated event scenarios are bounded. The proposed TS requirements continue to ensure that the radiological consequences at the control room are below the corresponding regulatory guidelines and that compliance with 10 CFR 50.67 and GDC-19 is not affected. Therefore, the proposed changes will not result in a significant reduction in the margin of safety.

Based on the above, Detroit Edison has determined that the proposed license amendment does not involve a significant hazards consideration.

**NRC-03-0016
ENCLOSURE 3**

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

**RESUBMITTAL OF PROPOSED LICENSE AMENDMENT TO REVISE
CONTROL ROOM EMERGENCY FILTRATION SYSTEM TECHNICAL
SPECIFICATION SURVEILLANCE REQUIREMENTS REGARDING
UNFILTERED INLEAKAGE**

**Attached are marked-up pages of the existing TS indicating the proposed changes (Part 1)
and a typed version incorporating the proposed changes (Part 2)**

**NRC-03-0016
ENCLOSURE 3
PART 1**

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

PROPOSED TS MARKED UP PAGES

INCLUDED PAGES:

**3.7-6
3.7-7
3.7-8
3.7-10**

TS 3.7.3 Insert:

Insert 1

C. Two CREF subsystems inoperable due to failure to meet SR 3.7.3.6.	C.1 Initiate compensatory measures. <u>AND</u> -----NOTE----- LCO 3.0.4 is not applicable. -----	Immediately
	C.2 Restore unfiltered inleakage to within limits.	18 months

3.7 PLANT SYSTEMS

3.7.3 Control Room Emergency Filtration (CREF) System

LCO 3.7.3 The CREF System shall be OPERABLE.

-----NOTE-----
The control room boundary may be opened intermittently under administrative control.

APPLICABILITY: MODES 1, 2, and 3;
During movement of recently irradiated fuel assemblies in the secondary containment,

During operations with a potential for draining the reactor vessel (OPDRVs).

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CREF subsystem inoperable.	A.1 Restore CREF subsystem to OPERABLE status.	7 days
B. Two CREF subsystems inoperable due to inoperable control room boundary in MODE 1, 2, or 3.	B.1 Restore control room boundary to OPERABLE status.	24 hours
<p><i>INSERT 1</i> →</p> <p><i>D</i> Required Action and associated Completion Time of Condition A <i>or</i> <i>B, or C</i> not met in MODE 1, 2, or 3.</p>	<i>D</i> 1 Be in MODE 3.	12 hours
	<i>D</i> 2 Be in MODE 4.	36 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p><u>E</u> <u>Ø.</u> Required Action and associated Completion Time of Condition A not met during movement of recently irradiated fuel assemblies in the secondary containment, or during OPDRVs.</p>	<p>-----NOTE----- LCO 3.0.3 is not applicable. -----</p>	
	<p><u>E</u> <u>Ø.1</u> Place OPERABLE CREF subsystem in recirculation mode.</p>	Immediately
	<p>OR <u>E</u> <u>Ø.2.1</u> Initiate action to suspend OPDRVs.</p>	Immediately
	<p><u>AND</u> -----NOTE----- Not required for a CREF System or subsystem inoperable for performance of SR 3.7.3.6 due to failure to provide the required filtration efficiency, or due to replacement of charcoal filtration media. -----</p>	
	<p><u>E</u> <u>Ø.2.2</u> Suspend movement of recently irradiated fuel assemblies in the secondary containment.</p>	Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>F/E. Two CREF subsystems or a non-redundant component or portion of the CREF System inoperable in MODE 1, 2, or 3 for reasons other than Condition B: or C</p>	<p>F/E.1 Enter LCO 3.0.3.</p>	<p>Immediately</p>
<p>G/F. Two CREF subsystems or a non-redundant component or portion of the CREF System inoperable during movement of recently irradiated fuel assemblies in the secondary containment, or during OPDRVs.</p> <p>for reasons other than Condition C</p>	<p>-----NOTE----- LCO 3.0.3 is not applicable. -----</p> <p>G/F.1 Initiate action to suspend OPDRVs.</p> <p><u>AND</u></p> <p>-----NOTE----- Not required for a CREF System or subsystem inoperable for performance of SR 3.7.3.6 due to failure to provide the required filtration efficiency, or due to replacement of charcoal filtration media. -----</p> <p>G/F.2 Suspend movement of recently irradiated fuel assemblies in the secondary containment.</p>	<p>Immediately</p> <p>Immediately</p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.7.3.5 Verify each CREF subsystem can maintain a positive pressure of ≥ 0.125 inches water gauge relative to the outside atmosphere during the recirculation mode of operation at a makeup flow rate of ≤ 1800 cfm.	18 months on a STAGGERED TEST BASIS
SR 3.7.3.6 Verify that unfiltered inleakage from CREF system duct work outside the Control Room envelope that is at negative pressure during accident conditions is within limits.	36 months

----- NOTE -----

Credit may be taken for performing an integrated Tracer Gas test of the Control Room envelope while in the recirculation mode using test methods described in ASTM E741 to satisfy this SR.

**NRC-03-0016
ENCLOSURE 3
PART 2**

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

PROPOSED TS REVISED PAGES

INCLUDED PAGES:

**3.7-6
3.7-7
3.7-8
3.7-10**

3.7 PLANT SYSTEMS

3.7.3 Control Room Emergency Filtration (CREF) System

LCO 3.7.3 The CREF System shall be OPERABLE.

-----NOTE-----
The control room boundary may be opened intermittently under administrative control.

APPLICABILITY: MODES 1, 2, and 3.
During movement of recently irradiated fuel assemblies in the secondary containment,

During operations with a potential for draining the reactor vessel (OPDRVs).

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CREF subsystem inoperable.	A.1 Restore CREF subsystem to OPERABLE status.	7 days
B. Two CREF subsystems inoperable due to inoperable control room boundary in MODE 1, 2, or 3.	B.1 Restore control room boundary to OPERABLE status.	24 hours
C. Two CREF subsystems inoperable due to failure to meet SR 3.7.3.6.	C.1 Initiate compensatory measures. <u>AND</u> -----NOTE----- LCO 3.0.4 is not applicable. ----- C.2 Restore unfiltered inleakage to within limits.	Immediately 18 months

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. Required Action and associated Completion Time of Condition A, B, or C not met in MODE 1, 2, or 3.</p>	<p>D.1 Be in MODE 3. <u>AND</u> D.2 Be in MODE 4.</p>	<p>12 hours 36 hours</p>
<p>E. Required Action and associated Completion Time of Condition A not met during movement of recently irradiated fuel assemblies in the secondary containment, or during OPDRVs.</p>	<p>-----NOTE----- LCO 3.0.3 is not applicable. ----- E.1 Place OPERABLE CREF subsystem in recirculation mode. <u>OR</u> E.2.1 Initiate action to suspend OPDRVs. <u>AND</u> -----NOTE----- Not required for a CREF System or subsystem inoperable for performance of SR 3.7.3.6 due to failure to provide the required filtration efficiency, or due to replacement of charcoal filtration media. ----- E.2.2 Suspend movement of recently irradiated fuel assemblies in the secondary containment.</p>	<p>Immediately Immediately Immediately</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.7.3.5 Verify each CREF subsystem can maintain a positive pressure of ≥ 0.125 inches water gauge relative to the outside atmosphere during the recirculation mode of operation at a makeup flow rate of ≤ 1800 cfm.</p>	<p>18 months on a STAGGERED TEST BASIS</p>
<p>SR 3.7.3.6 NOTE..... Credit may be taken for performing an integrated Tracer Gas test of the Control Room envelope while in the recirculation mode using test methods described in ASTM E741 to satisfy this SR. Verify that unfiltered inleakage from CREF system duct work outside the Control Room envelope that is at negative pressure during accident conditions is within limits.</p>	<p>36 months</p>

**NRC-03-0016
ENCLOSURE 4**

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

**RESUBMITTAL OF PROPOSED LICENSE AMENDMENT TO REVISE
CONTROL ROOM EMERGENCY FILTRATION SYSTEM TECHNICAL
SPECIFICATION SURVEILLANCE REQUIREMENTS REGARDING
UNFILTERED INLEAKAGE**

**Attached are marked-up pages of the existing TS Bases indicating the proposed changes
(For Information Only)**

INCLUDED PAGES:

**B 3.7.3-5
B 3.7.3-6
B 3.7.3-6a
B 3.7.3-9**

TS Bases B 3.7.3 Inserts:

Insert 1

C.1 and C.2

If measurement of the control room envelope unfiltered inleakage in accordance with SR 3.7.3.6 exceeds the limits specified in the Technical Requirements Manual, compensatory measures must be immediately initiated to comply with 10 CFR 50.67 (Reference 6). Compensatory measures involve the use of potassium iodine (KI) tablets or other equivalent respiratory protection to reduce the dose to control room operators. If the surveillance is performed during a period when CREF is not required to be OPERABLE, then compensatory measures must be implemented before entering a MODE in which CREF OPERABILITY is required.

The Required Action C.2 is modified by a Note indicating that LCO 3.0.4 does not apply. If CREF inoperability is due to failure to meet SR 3.7.3.6 and compensatory measures to comply with 10 CFR 50.67 are in place, then entry into Modes 1, 2 or 3 is allowed. Dose calculations have shown that compliance with 10 CFR 50.67 will be maintained provided proper compensatory measures are implemented; therefore, no Mode entry restriction is required. The implementation of compensatory measures must continue until the control room envelope unfiltered inleakage has been restored to a value within the required limits. Additionally, unfiltered inleakage must be restored to within the required limits within 18 months.

Insert 2

Additionally, if SR 3.7.3.6 fails to meet the unfiltered inleakage limits assumed in the design basis analysis, and compensatory measures to comply with 10 CFR 50.67 are not immediately implemented, or if the required compensatory measures have been in place for 18 months, the unit must also be placed in a MODE that minimizes risk.

Insert 3

A Note has been added to this SR defining an alternate approach for meeting the requirements of the surveillance. The Note allows credit for the performance of an integrated Tracer Gas test using methods described in Reference 5. Tracer Gas testing of the control room envelope is performed with the CREF system in the emergency recirculation mode to simulate accident mitigation conditions. Tracer Gas testing has been widely accepted by the industry and NRC as a comprehensive method for measuring control room envelope inleakage.

TS Bases B 3.7.3 Inserts (continued):

Insert 4

If the measured unfiltered inleakage exceeds the limits assumed in the design basis accident analyses, compensatory measures must be implemented as described in Required Action C.1 to demonstrate compliance with 10 CFR 50.67 (Reference 6).

Insert 5

5. ASTM E741-00, "Standard Test Method for Determining Air Change in a Single Zone by Means of a Tracer Gas Dilution," American Society for Testing and Materials, 2000.
6. 10 CFR 50.67.

BASES

ACTIONS (Continued)

B.1

If the control room boundary is inoperable in MODE 1, 2, or 3, the CREF system cannot perform its intended function. Actions must be taken to restore an OPERABLE control room boundary within 24 hours. During the period that the control room boundary is inoperable, appropriate compensatory measures (consistent with the intent of GDC 19) should be utilized to protect control room operators from potential hazards such as radioactive contamination, toxic chemicals, smoke, temperature and relative humidity, and physical security. Preplanned measures should be available to address these concerns for intentional and unintentional entry into the condition. The 24-hour Completion Time is reasonable based on the low probability of a DBA occurring during this time period, and the use of compensatory measures. The 24-hour Completion Time is a typically reasonable time to diagnose, plan and possibly repair, and test most problems with the control room boundary.

INSERT 1

^D
D ~~3.1~~ and ~~3.2~~

In MODE 1, 2, or 3, if the inoperable CREF subsystem or control room boundary cannot be restored to OPERABLE status within the associated Completion Time, the unit must be placed in a MODE that minimizes risk. To achieve this status, the unit must be placed in at least MODE 3 within 12 hours and in MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

INSERT 2

^E
E ~~3.1~~, ~~3.2.1~~ and ~~3.2.2~~

^E

The Required Actions of Condition ^E are modified by a Note indicating that LCO 3.0.3 does not apply. If moving recently irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, inability to suspend movement of recently irradiated fuel assemblies is not sufficient reason to require a reactor shutdown.

BASES

ACTIONS (continued)

During movement of recently irradiated fuel assemblies in the secondary containment or during OPDRVs, if the inoperable CREF subsystem cannot be restored to OPERABLE status within the required Completion Time, the OPERABLE CREF subsystem may be placed in the recirculation mode. This action ensures that this remaining subsystem is OPERABLE, that no failures that would prevent automatic actuation will occur, and that any active failure will be readily detected.

An alternative to Required Action E.1 is to immediately suspend activities that present a potential for releasing radioactivity that might require isolation of the control room. This places the unit in a condition that minimizes risk.

If applicable, movement of recently irradiated fuel assemblies in the secondary containment must be suspended immediately. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, actions must be initiated immediately to suspend OPDRVs to minimize the probability of a vessel draindown and the subsequent potential for fission product release. Actions must continue until the OPDRVs are suspended.

A Note is applied to Required Action E.2.2. This Note allows these Required Actions to not be required when the inoperability is due to CREF system duct work testing required by SR 3.7.3.6 or when the system charcoal filter train filter media cannot provide the required efficiency or is being replaced. Dose calculations have shown that the CREF system is not needed during the activities that would otherwise be suspended by these Required Actions.

E.1

If both CREF subsystems or a non-redundant component or portion of the CREF System are inoperable in MODE 1, 2, or 3 for reasons other than an inoperable control room boundary (i.e., Condition B), the CREF System may not be capable of performing the intended function and the unit is in a condition outside the accident analyses. Therefore, LCO 3.0.3 must be entered immediately.

or failure to meet SR 3.7.3.6 (i.e., Condition C)

BASES

ACTIONS (continued)

G ~~F.1 and F.2~~ *G*

G

The Required Actions of Condition ~~F~~ are modified by a Note indicating that LCO 3.0.3 does not apply. If moving recently irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Therefore, inability to suspend movement of recently irradiated fuel assemblies is not sufficient reason to require a reactor shutdown.

for reasons other than failure to meet SR 3.7.3.6 (i.e., Condition C)

During movement of recently irradiated fuel assemblies in the secondary containment or during OPDRVs, with two CREF subsystems or a non-redundant component or portion of the CREF System inoperable, action must be taken immediately to suspend activities that present a potential for releasing radioactivity that might require isolation of the control room. This places the unit in a condition that minimizes risk.

If applicable, movement of recently irradiated fuel assemblies in the secondary containment must be suspended immediately. Suspension of these activities shall not preclude completion of movement of a component to a safe position. If applicable, actions must be initiated immediately to suspend OPDRVs to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until the OPDRVs are suspended.

G

A Note is applied to Required Action ~~F.2~~. This Note allows these Required Actions to not be required when the inoperability is due to CREF system duct work testing required by SR 3.7.3.6 or when the system charcoal filter train filter media cannot provide the required efficiency or is being replaced. Dose calculations have shown that the CREF system is not needed during the activities that would otherwise be suspended by these Required Actions.

BASES

SURVEILLANCE REQUIREMENTS (continued)

outside of the control room to prevent unfiltered inleakage. The CREF System is designed to maintain this positive pressure with a makeup flow rate of ≤ 1800 cfm to the control room in the recirculation mode. The Frequency of 18 months on a STAGGERED TEST BASIS is consistent with industry practice and other filtration systems SRs.

INSERT 3

SR 3.7.3.6

This SR verifies that the accident analysis assumptions concerning leakage in through CREF system duct work outside the control room envelope that would be under negative pressure (less than atmospheric) during accident conditions and where any inleakage would not be filtered are maintained. This test is needed since the CREF system duct work seams have had silicone sealant applied. Since the underlying welds have not been leak tested without silicone sealant and the qualities of the silicone sealant have not been demonstrated over time, a periodic program of verifying the integrity of these sections of duct is required.

Since the accident analyses assume a single damper failure, the test pressures must account for the worst case negative pressure in each duct of concern.

INSERT 4

The SR Frequency is based upon the long-term nature of the concern and the additional assurance that the condition of the silicone is not changing provided by the annual inspection of the accessible duct work required by SR 3.7.3.3.

REFERENCES

1. UFSAR, Chapter 6.
2. UFSAR, Chapter 9.
3. UFSAR, Chapter 15.
4. Regulatory Guide 1.52, Revision 2, March 1978.

INSERT 5