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Detroit Edison



A DTE Energy Company

10CFR50.90

August 24, 2001
NRC-01-0050

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

Reference: Fermi 2
NRC Docket No. 50-341
NRC License No. NPF-43

Subject: Proposed License Amendment to Revise Technical Specifications
for the Control Room Emergency Filtration (CREF) System

Pursuant to 10CFR50.90, Detroit Edison hereby proposes to amend the Fermi 2 Plant Operating License NPF-43, Appendix A, Technical Specification (TS) Limiting Condition for Operation (LCO) 3.7.3, Control Room Emergency Filtration (CREF) System and the associated Bases to address control room pressure boundary degradation. The changes are based on Industry/Technical Specification Task Force (TSTF) Standard Technical Specification (STS) Change Traveler TSTF-287, Revision 5, "Ventilation System Envelope Allowed Outage Times," which was approved by the NRC in a letter dated March 16, 2000. The changes approved with TSTF-287, Revision 5, revise the STS to allow the pressure boundaries of ventilation systems (such as the CREF) to be opened intermittently under administrative control. A new Condition is also added that would allow 24 hours to restore the control room pressure boundary before requiring the unit to perform an orderly shutdown. There are currently no Conditions, Required Actions, or Completion Times associated with a degraded control room pressure boundary; and therefore, entry into LCO 3.0.3 is required if the control room pressure boundary is determined to be degraded.

Acc 1

A description and evaluation of the proposed changes is provided in Enclosure 1. An evaluation demonstrating that the proposed changes do not involve a significant hazard as defined in 10 CFR 50.92 is provided in Enclosure 2. Marked-up TS and Bases pages, as well as the resultant clean-typed pages are provided in Enclosure 3.

Detroit Edison has reviewed the proposed TS 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. These changes also do not 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 10 CFR 51.22(c) (9) for a categorical exclusion from the requirements for an Environmental Impact Statement or an Environmental Assessment.

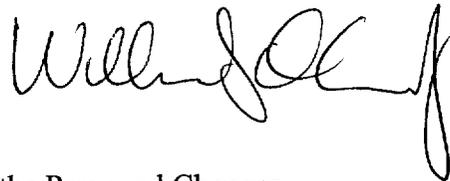
The following commitments are being made in this letter:

Compensatory measures to address the breach of the control room pressure boundary at Fermi 2 will be implemented via administrative controls. When the control room pressure boundary is opened intermittently under administrative control for other than normal entry through doors, a dedicated individual will be stationed in the area. This individual will establish communications with the control room and will be able to rapidly restore the pressure boundary if needed. If the pressure boundary is inoperable, requiring entry into proposed new Condition B for LCO 3.7.3, compensatory measures such as operating one CREF subsystem and/or use of the self-contained breathing apparatus equipment will be implemented via administrative controls. Administrative controls will be devised to prohibit movement of irradiated fuel assemblies when the control room pressure boundary is not intact for other than normal ingress and egress. The measures necessary to ensure physical security will also be addressed.

Detroit Edison requests approval of the proposed changes by September 1, 2002, 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,

A handwritten signature in black ink, appearing to read "William J. O'Connell". The signature is fluid and cursive, with a long, sweeping tail on the final letter.

Enclosure 1: Description and Evaluation of the Proposed Changes
Enclosure 2: No Significant Hazards Consideration Evaluation
Enclosure 3: Marked-up and Clean-Typed TS and Bases Pages

cc: T. J. Kim
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.
Vice President - Nuclear Generation

On this 24th day of August, 2001 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 1 TO
NRC-01-0050**

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

REQUEST TO REVISE TECHNICAL SPECIFICATIONS:

**REQUEST TO REVISE TECHNICAL SPECIFICATION LIMITING CONDITION FOR
OPERATION 3.7.3, CONTROL ROOM EMERGENCY FILTRATION (CREF)
SYSTEM**

**DESCRIPTION AND EVALUATION
OF THE PROPOSED CHANGES**

DESCRIPTION AND EVALUATION OF THE PROPOSED CHANGES

DESCRIPTION:

The proposed changes would revise the Fermi 2 Technical Specification (TS) Limiting Condition for Operation (LCO) 3.7.3, Control Room Emergency Filtration System (CREF) and associated Bases to address a degraded CREF pressure boundary. The proposed changes are as follows:

- A Note would be added to the LCO that would allow the CREF pressure boundary to be opened under administrative control. The associated Bases would be revised to explain that, for entry and exit through doors, the person entering or exiting the area provides the administrative control. This is consistent with the manner in which ingress and egress through doors is handled today under current TS requirements. However, for other openings, a dedicated individual who is in continuous communication with the control room would be stationed at the opening. This person would have a means of rapidly closing the opening if a need for the affected ventilation system would arise.
- LCO 3.7.3 would be revised to add a new Condition (B) for two CREF subsystems inoperable due to an inoperable control room pressure boundary. The associated Required Action would be to restore the control room pressure boundary to operable status, and the Completion Time would be 24 hours. Associated Bases would be added for the new Condition and Required Action. These Bases would explain that the Completion Time of 24 hours is based on the low probability of a design basis accident (requiring the CREF system function) occurring during the 24-hour period, and the use of compensatory measures.
- The phrase, “for reasons other than Condition B” would be added to the Condition requiring entry into LCO 3.0.3 for two CREF subsystems or a non-redundant component or portion of the CREF system inoperable in MODE 1, 2, or 3.
- The remaining existing Conditions and Required Actions of LCO 3.7.3 would be renumbered, as required.

EVALUATION:

By letter dated March 16, 2000, the NRC staff approved Industry/Technical Specification Task Force (TSTF) Standard Technical Specification Change Traveler TSTF-287, Revision 5. This traveler revises the STS to provide specific Conditions and Required Actions for room/barrier degradation (as opposed to ventilation train degradation). The STS contain Surveillance Requirements (SRs) that test the integrity of the room/barrier by requiring a positive or negative pressure limit to be satisfied in the area with one required ventilation subsystem operating.

While other SRs in the same specification test the operability of the ventilation subsystem, these barrier surveillances ensure the envelope leak tightness is adequate to meet the design assumptions. However, prior to TSTF-287, Revision 5, there were no corresponding Conditions, Required Actions, or Completion Times associated with failure to meet these barrier surveillances. Therefore, failure to meet the requirements for a leak tight boundary would render all affected ventilation subsystems inoperable, and entry into LCO 3.0.3 would be required. The changes approved with TSTF-287, Revision 5, allow 24 hours (during Modes 1, 2, and 3) to restore the capability to maintain proper pressure before requiring the unit to perform an orderly shutdown. In addition, the changes allow for intermittent opening of barriers under administrative control. The general basis for the changes approved with TSTF-287, Revision 5, is that requiring the plant to enter LCO 3.0.3 when the ventilation envelope is not intact is excessive and, in some cases, may not be appropriate. Because of the low probability of a Design Basis Accident (DBA) occurring during the 24-hour period that the boundary may not be leak tight, and reliance on compensatory measures, the changes were determined to be acceptable.

The Fermi 2 Control Room Emergency Filtration System (CREF) provides a radiologically controlled environment from which the unit can be safely operated following a DBA. The CREF System is a single system that performs its safety function with redundant active components and non-redundant passive components. During emergency operation, two emergency filter trains are automatically placed into operation. The emergency makeup filter train consists of a mist eliminator, redundant divisional electric heater, a high efficiency particulate air (HEPA) filter, a two inch deep charcoal adsorber, and a second HEPA filter. The emergency recirculation filter train consists of a prefilter, a HEPA filter, a four inch deep charcoal adsorber, and a second HEPA filter. The mist eliminator removes water droplets from the airstream. Prefilters and HEPA filters remove particulate matter, which may be radioactive. The charcoal adsorbers provide a holdup period for gaseous iodine, allowing time for decay. Air is drawn through these emergency filters by one of two redundant divisional emergency recirculation air fans. Redundant air operated dampers are provided to direct the air to the proper components.

The CREF System normal mode supplies outside air to mix with recirculated air, bypassing the emergency filters, during normal unit operations to maintain the control room environment. Upon receipt of the initiation signal(s) (indicative of conditions that could result in radiation exposure to control room personnel), the CREF System automatically switches to the recirculation mode of operation to prevent infiltration of contaminated air into the control room. A part of the recirculated air is routed through the emergency recirculation filter train. Outside air is taken in at one of two emergency outside air ventilation intakes and is passed through the emergency makeup filter train before being mixed with recirculated air. The air mixture is then returned to the control room.

The CREF System is designed to maintain the control room environment for a 30 day continuous occupancy following a DBA without exceeding 5 rem whole body dose or its equivalent to any

part of the body. The CREF System in the recirculation mode will pressurize the control room to about 0.250 ± 0.125 inches water gauge to prevent infiltration of air from surrounding buildings.

The requirements of LCO 3.7.3 are based on a detailed evaluation of the different scenarios that could require control room isolation. Therefore, if the control room pressure boundary is not intact, such that the required positive pressure (≥ 0.125 inches water gauge relative to the outside atmosphere, SR 3.7.3.5) cannot be maintained, then the CREF System is considered inoperable. The current requirement to immediately enter LCO 3.0.3 however, when the control room pressure boundary is not intact, is excessive and does not provide time to perform required repairs or corrective maintenance.

The probability of an accident requiring control room isolation during a 24-hour period of control room pressure boundary degradation is small. For the purpose of demonstrating compliance with 10 CFR 50, Appendix A, General Design Criterion (GDC) 19, the limiting DBA source term used for calculating control room dose is based on 100 percent core damage. For Fermi 2, the probability of an accident involving core damage (based on internal events) during a 24-hour period is approximately $2E-08$. Based on a review of the UFSAR Chapter 15 safety analyses, those events which could result in control room doses that exceed GDC 19 without filtration are the control rod drop accident, the loss of coolant accident (LOCA), the fuel handling accident, and the main steam line break (MSLB). The probability of a LOCA occurring during a 24-hour period is approximately $2E-06$, and the probability of an MSLB is approximately $1E-06$. In the history of the industry, there has never been a reported occurrence of a control rod drop accident. Based solely on several thousand reactor years operating experience worldwide, a very conservative estimate of the probability of such an event would be on the order of $1E-04$ per year. For a 24-hour period, this would equate to a probability of less than $1E-06$. Therefore, the probability of a control rod drop accident during a 24-hour period is negligible. Finally, consideration of a fuel handling accident will be precluded by the application of administrative controls that will prohibit the movement of irradiated fuel assemblies when the control room pressure boundary is not intact.

If any of these events were to occur during a period when the control room pressure boundary was inoperable, operating the CREF System could still help mitigate the consequences. With the pressure boundary intact, a single train is sufficient to maintain the required positive pressure (≥ 0.125 inches water gauge). Even with a breach in the control room pressure boundary, in-leakage would be expected to be minimal or non-existent with one CREF subsystem operating. In addition, the control room area is equipped with self-contained breathing apparatus equipment, the use of which would be sufficient to mitigate the radiological dose consequences due to iodine intake.

Compensatory measures to address the breach of the control room pressure boundary at Fermi 2 will be implemented via administrative controls. When the control room pressure boundary is opened intermittently under administrative control for other than normal entry through doors, a

dedicated individual will be stationed in the area. This individual will establish communications with the control room and will be able to rapidly restore the pressure boundary if needed. If the pressure boundary is inoperable, requiring entry into proposed new Condition B for LCO 3.7.3, compensatory measures involving operating one CREF subsystem and/or use of the self-contained breathing apparatus equipment will be implemented via administrative controls. The measures necessary to ensure physical security will also be addressed.

**ENCLOSURE 2 TO
NRC-01-0050**

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

REQUEST TO REVISE TECHNICAL SPECIFICATIONS:

10CFR50.92 SIGNIFICANT HAZARDS CONSIDERATION EVALUATION

BASIS FOR SIGNIFICANT HAZARDS DETERMINATION

10CFR50.92 SIGNIFICANT HAZARDS CONSIDERATION

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) change described above does not involve a significant hazards 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.

No. The Control Room Emergency Filtration (CREF) System is not assumed to be an initiator of any analyzed accident. Therefore, the proposed change does not affect the probability of any accident previously evaluated. The proposed change to the CREF Technical Specifications would permit the control room pressure boundary to be opened intermittently under administrative control. Based on the proposed compensatory measures in the form of a dedicated individual who is in communication with the control room, and his ability to rapidly restore the pressure boundary, the capability to mitigate a design basis accident will be maintained. In addition, the proposed change adds a new Condition that would allow up to 24 hours to restore an inoperable control room pressure boundary to operable status and would modify existing Conditions to accommodate the new Condition (so as to maintain the requirements of the existing Conditions). The proposed change does not involve a significant increase in the consequences of an accident previously evaluated based on the availability of self-contained breathing apparatus equipment to minimize radiological dose due to iodine, and the ability to operate at least one CREF subsystem to maintain positive pressure or to at least minimize any inflow of air from outside of the control room.

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

No. The proposed change would permit the control room pressure boundary to be opened intermittently under administrative control. In addition, the proposed change would add a new Condition that would permit a 24-hour period to take action to restore an inoperable control room pressure boundary to operable status. The proposed change does not alter the operation of the plant or any of its equipment, introduce any new equipment, or result in any new failure mechanisms or single failures. Therefore, this change does not create the possibility of a new accident, and does not change the way that an analyzed accident will progress.

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

No. The proposed change would permit the control room pressure boundary to be opened intermittently under administrative control. In addition, the proposed change would add a new Condition that would permit a 24-hour period to take action to restore an inoperable control room pressure boundary to operable status. The proposed change does not adversely affect the ability of the fission product barriers to perform their functions. The only safety-related equipment affected by the proposed change is the CREF System. Adequate compensatory measures are available to mitigate a breach in the CREF control room pressure boundary. The probability of a design basis accident that would place demands on the CREF System occurring during a period that the control room pressure boundary would be allowed to be inoperable have been shown to be negligible for this limited period of time. In addition, the proposed change would avoid the potential for placing the unit in TS Limiting Condition for Operation (LCO) 3.0.3, due solely to a breach in the control room pressure boundary. Therefore, this change does not involve a significant reduction in the margin of safety.

Based on the above evaluation, the proposed changes do not involve a significant hazard as defined in 10 CFR 50.92.

**ENCLOSURE 3 TO
NRC-01-0050**

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

REQUEST TO REVISE TECHNICAL SPECIFICATIONS

CONTROL ROOM EMERGENCY FILTRATION SYSTEM PRESSURE BOUNDARY

Attached is a mark-up of the existing Technical Specifications (TSs), indicating the proposed changes (Part 1) and a clean-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 PAGES

INCLUDED PAGE(S):

3.7.6

3.7.7

3.7.8

B3.7.3-3

B3.7.3-4

B3.7.3-5

B3.7.3-6

3.7 PLANT SYSTEMS

3.7.3 Control Room Emergency Filtration (CREF) System

LCO 3.7.3 The CREF System shall be OPERABLE.

Insert LCO NOTE

APPLICABILITY: MODES 1, 2, and 3.
During movement of irradiated fuel assemblies in the secondary containment.
During CORE ALTERATIONS.
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
<input checked="" type="checkbox"/> B <input checked="" type="checkbox"/> C Required Action and associated Completion Time of Condition A not met in MODE 1, 2, or 3.	<input checked="" type="checkbox"/> A.1 Be in MODE 3.	12 hours
	AND <input checked="" type="checkbox"/> A.2 Be in MODE 4.	36 hours

(continued)

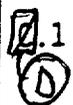
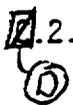
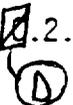
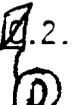
B. Two CREF subsystems inoperable due to inoperable control room boundary in MODES 1, 2, and 3.
 B.1 Restore control room boundary to OPERABLE status. 24 hours

Insert

LCO Note (LCO 3.7.3, CREF System)

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

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>  Required Action and associated Completion Time of Condition A not met during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs. </p>	<p> -----NOTE----- LCO 3.0.3 is not applicable. ----- </p> <p>  1 Place OPERABLE CREF subsystem in recirculation mode. </p> <p> <u>OR</u> </p> <p>  2.1 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>  2.2 Suspend movement of irradiated fuel assemblies in the secondary containment. </p> <p> <u>AND</u> </p> <p>  2.3 Suspend CORE ALTERATIONS. </p>	<p>Immediately</p> <p>Immediately</p> <p>Immediately</p> <p>Immediately</p>

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p><input checked="" type="checkbox"/> <i>E</i> Two CREF subsystems or a non-redundant component or portion of the CREF System inoperable in MODE 1, 2, or 3. <i>for reasons other than Condition 3</i></p>	<p><input checked="" type="checkbox"/> <i>E</i> 1.1 Enter LCO 3.0.3.</p>	<p>Immediately</p>
<p><input checked="" type="checkbox"/> <i>F</i> Two CREF subsystems or a non-redundant component or portion of the CREF System inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.</p>	<p>-----NOTE----- LCO 3.0.3 is not applicable. -----</p> <p><input checked="" type="checkbox"/> <i>F</i> 1.1 Initiate action to suspend OPDRVs. <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><input checked="" type="checkbox"/> <i>F</i> 1.2 Suspend movement of irradiated fuel assemblies in the secondary containment. <u>AND</u></p> <p><input checked="" type="checkbox"/> <i>F</i> 1.3 Suspend CORE ALTERATIONS.</p>	<p>Immediately</p> <p>Immediately</p>

BASES

LCO (continued)

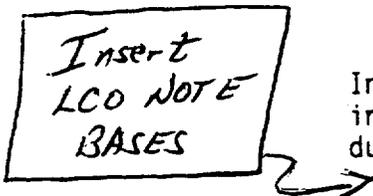
Redundant components, of which both divisions must be OPERABLE, include:

- a. Emergency inlet air heater;
- b. Emergency recirculation fans;
- c. Return fans;
- d. Supply fans;
- e. Emergency air intakes; and
- f. Air handling dampers needed to support the system operation.

Non-redundant components required to be OPERABLE include:

- a. Emergency recirculation air filter train;
- b. Emergency makeup air filter train; and
- c. Ductwork and other system structures needed to form the necessary air flow paths.

*Insert
LCO NOTE
BASES*



In addition, the control room boundary must be maintained, including the integrity of the walls, floors, ceilings, ductwork, and access doors.

APPLICABILITY

In MODES 1, 2, and 3, the CREF System must be OPERABLE to control operator exposure during and following a DBA, since the DBA could lead to a fission product release.

In MODES 4 and 5, the probability and consequences of a DBA are reduced because of the pressure and temperature limitations in these MODES. Therefore, maintaining the CREF System OPERABLE is not required in MODE 4 or 5, except for the following situations under which significant radioactive releases can be postulated:

- a. During operations with potential for draining the reactor vessel (OPDRVs);
- b. During CORE ALTERATIONS; and
- c. During movement of irradiated fuel assemblies in the secondary containment.

Insert

LCO Note Bases 3.7.3, CREF System

The LCO is modified by a note allowing the control room boundary to be opened intermittently under administrative controls. For entry and exit through doors, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for control room isolation is indicated.

BASES

ACTIONS

A.1

With one CREF subsystem inoperable, the inoperable CREF subsystem must be restored to OPERABLE status within 7 days. With the unit in this condition, the remaining OPERABLE CREF subsystem is adequate to perform control room radiation protection. However, the overall reliability is reduced because a single failure in the OPERABLE subsystem could result in reduced CREF System capability. The 7 day Completion Time is based on the low probability of a DBA occurring during this time period, and that the remaining subsystem can provide the required capabilities.

Insert 1

A.1 and A.2

or control room boundary

(C)

(C)

In MODE 1, 2, or 3, if the inoperable CREF subsystem 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.

A.1, A.2.1, A.2.2, and A.2.3

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

During movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, 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.

Insert 1

B.1

If the control room boundary is inoperable in MODES 1, 2, and 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.

BASES

ACTIONS (continued)

An alternative to Required Action ^D2.1 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, CORE ALTERATIONS and movement of 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 Actions ^D2.2.2 and ^D2.2.3. 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.

^E2.1

If both CREF subsystems or a non-redundant component or portion of the CREF System are inoperable in MODE 1, 2, or 3, 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.

for reasons other than an inoperable control room boundary (i.e., Condition B)

BASES

ACTIONS (continued)

^(F) ~~A.1.~~, ^(F) ~~A.2.~~, and ^(F) ~~A.3~~

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

During movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, 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, CORE ALTERATIONS and movement of 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.

A Note is applied to Required Actions ^(F) ~~A.2~~ and ^(F) ~~A.3~~. 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.

ENCLOSURE 3 - PART 2

PROPOSED TECHNICAL SPECIFICATION REVISED PAGES

INCLUDED PAGE(S):

3.7.6

3.7.7

3.7.8

B3.7.3-3

B3.7.3-4

B3.7.3-5

B3.7.3-6

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 irradiated fuel assemblies in the secondary containment,
During CORE ALTERATIONS,
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 MODES 1, 2, and 3.	B.1 Restore control room boundary to OPERABLE status.	24 hours
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, or 3.	C.1 Be in MODE 3.	12 hours
	<u>AND</u> C.2 Be in MODE 4.	36 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. Required Action and associated Completion Time of Condition A not met during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.</p>	<p>-----NOTE----- LCO 3.0.3 is not applicable. -----</p>	
	<p>D.1 Place OPERABLE CREF subsystem in recirculation mode.</p>	<p>Immediately</p>
	<p><u>OR</u></p>	
	<p>D.2.1 Initiate action to suspend OPDRVs.</p> <p><u>AND</u></p>	<p>Immediately</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>D.2.2 Suspend movement of irradiated fuel assemblies in the secondary containment.</p> <p><u>AND</u></p>	<p>Immediately</p>	
<p>D.2.3 Suspend CORE ALTERATIONS.</p>	<p>Immediately</p>	

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>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.</p>	<p>E.1 Enter LCO 3.0.3.</p>	<p>Immediately</p>
<p>F. Two CREF subsystems or a non-redundant component or portion of the CREF System inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.</p>	<p>-----NOTE----- LCO 3.0.3 is not applicable. -----</p> <p>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>F.2 Suspend movement of irradiated fuel assemblies in the secondary containment.</p> <p><u>AND</u></p> <p>F.3 Suspend CORE ALTERATIONS.</p>	<p>Immediately</p> <p>Immediately</p> <p>Immediately</p>

BASES

LCO (continued)

Redundant components, of which both divisions must be OPERABLE, include:

- a. Emergency inlet air heater;
- b. Emergency recirculation fans;
- c. Return fans;
- d. Supply fans;
- e. Emergency air intakes; and
- f. Air handling dampers needed to support the system operation.

Non-redundant components required to be OPERABLE include:

- a. Emergency recirculation air filter train;
- b. Emergency makeup air filter train; and
- c. Ductwork and other system structures needed to form the necessary air flow paths.

In addition, the control room boundary must be maintained, including the integrity of the walls, floors, ceilings, ductwork, and access doors.

The LCO is modified by a note allowing the control room boundary to be opened intermittently under administrative controls. For entry and exit through doors, the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for control room isolation is indicated.

APPLICABILITY

In MODES 1, 2, and 3, the CREF System must be OPERABLE to control operator exposure during and following a DBA, since the DBA could lead to a fission product release.

In MODES 4 and 5, the probability and consequences of a DBA are reduced because of the pressure and temperature limitations in these MODES. Therefore, maintaining the CREF System OPERABLE is not required in MODE 4 or 5, except for the following situations under which significant radioactive releases can be postulated:

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

BASES

APPLICABILITY (continued)

- b. During CORE ALTERATIONS; and
- c. During movement of irradiated fuel assemblies in the secondary containment.

ACTIONS

A.1

With one CREF subsystem inoperable, the inoperable CREF subsystem must be restored to OPERABLE status within 7 days. With the unit in this condition, the remaining OPERABLE CREF subsystem is adequate to perform control room radiation protection. However, the overall reliability is reduced because a single failure in the OPERABLE subsystem could result in reduced CREF System capability. The 7 day Completion Time is based on the low probability of a DBA occurring during this time period, and that the remaining subsystem can provide the required capabilities.

B.1

If the control room boundary is inoperable in MODES 1, 2, and 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.

C.1 and C.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

BASES

ACTIONS (continued)

experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

D.1, D.2.1, D.2.2, and D.2.3

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

During movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, 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 D.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, CORE ALTERATIONS and movement of 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 Actions D.2.2 and D.2.3. 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

ACTIONS (continued)

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.

F.1, F.2, and F.3

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

During movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, 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, CORE ALTERATIONS and movement of 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.

A Note is applied to Required Actions F.2 and F.3. 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.