



July 13, 2007

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

Serial No. 07-0440
MPS/WDB Rev. 1
Docket Nos. 50-336
50-423
License Nos. DPR-65
NPF-49

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNITS 2 AND 3
APPLICATION FOR TECHNICAL SPECIFICATION IMPROVEMENT
REGARDING CONTROL ROOM HABITABILITY (CLIP)
LBD CR 07-MP2-013 and 07-MP3-033

In accordance with the provisions of 10 CFR 50.90 Dominion Nuclear Connecticut, Inc. (DNC) is submitting a request for an amendment to the Technical Specifications (TS) for Millstone Power Station Units 2 and 3 (MPS2 and MPS3).

The proposed amendment would revise the TS requirements related to control room envelope habitability. The change is consistent with the intent of NRC-approved Revision 3 to Technical Specification Task Force (TSTF) Standard Technical Specification Change Traveler, TSTF-448, "Control Room Habitability." The availability of this TS improvement was announced in the Federal Register on January 17, 2007 (72 FR 2022) as part of the consolidated line item improvement process (CLIP). The proposed amendment would align MPS2 and MPS3 TS with NUREG 1432, Rev. 3, "Standard Technical Specifications for Combustion Engineering Plants," and NUREG 1431, Rev. 3, "Standard Technical Specifications for Westinghouse Plants," respectively. Due to the MPS2 and MPS3 TS being custom TS, there are minor differences, primarily specification numbers, between the proposed wording in TSTF-448, Revision 3, and the proposed wording in this request.

Attachment 1 contains the description and justification for MPS2 and MPS3. Attachments 2 and 3 contain the associated marked up TS pages. The associated marked up Bases changes are provided in Attachment 4 for information only and will be implemented in accordance with the Technical Specification Bases Control Program.

The proposed amendment does not involve a Significant Hazards Consideration pursuant to the provisions of 10 CFR 50.92. The Site Operations Review Committee has reviewed and concurred with the determination.

Upon approval, DNC will implement the amendment within 180 days.

cc: U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406-1415

Mr. J. D. Hughey
NRC Project Manager, Millstone Units 2 and 3
U.S. Nuclear Regulatory Commission, Mail Stop 8B3
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

NRC Senior Resident Inspector
Millstone Power Station

Director
Bureau of Air Management
Monitoring and Radiation Division
Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

ATTACHMENT 1

APPLICATION FOR TECHNICAL SPECIFICATION IMPROVEMENT
REGARDING CONTROL ROOM HABITABILITY (CLIIP)
EVALUATION OF PROPOSED LICENSE AMENDMENT

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNITS 2 AND 3

APPLICATION FOR TECHNICAL SPECIFICATION IMPROVEMENT
REGARDING CONTROL ROOM HABITABILITY (CLIIP)
EVALUATION OF PROPOSED LICENSE AMENDMENT

1.0 Description

The proposed amendment modifies the Millstone Power Station Units 2 and 3 (MPS2 and MPS3) Technical Specification (TS) requirements related to control room envelope (CRE) habitability. The changes are consistent with Nuclear Regulatory Commission (NRC) approved Technical Specification Task Force (TSTF) change TSTF-448, Revision 3. The availability of this TS improvement was published in the Federal Register on January 17, 2007 as part of the consolidated line item improvement process (CLIIP).

Upon approval, DNC will implement the amendment within 180 days.

2.0 Assessment

2.1 Applicability of Published Safety Evaluation

DNC has reviewed the safety evaluation dated January 17, 2007 as part of the CLIIP. This review encompassed both the NRC staff's evaluation, as well as the supporting information provided to support TSTF-448. DNC has concluded that the justifications presented in the TSTF proposal and the safety evaluation prepared by the NRC staff are applicable to MPS2 and 3 and justify this amendment for the incorporation of the changes to the MPS2 and 3 TS.

2.2 Optional Changes and Variations

DNC is not proposing any significant variations or deviations from the TS changes described in the TSTF-448, Revision 3, or the applicable parts of the NRC staff's model safety evaluation dated January 17, 2007. The parts of Section 3.0 of the model safety evaluation that are applicable for each unit are stated below. Additionally, a plant specific listing of any differences is provided below. These differences reflect adjustments, as needed, to account for plant-specific design, current licensing basis, or differences due to plant-specific non-STS wording or format.

MPS2

The following proposed changes to the MPS2 TS are consistent with TSTF-448 and the evaluations from the TSTF-448, Revision 3, Model Safety Evaluation, Sections 3.2, 3.3, and 3.4.

1. DNC proposes to modify the applicability of TS 3.7.6.1 for consistency with TSTF-448 and Standard TS. The current phrase “irradiated fuel movement within containment or the spent fuel pool” has been changed to “movement of recently irradiated fuel assemblies.” The associated TS Basis revision includes the following discussion: “ACTIONS a., b., and c. of this specification are applicable at all times during plant operation in MODES 1, 2, 3, and 4. ACTIONS d. and e. are applicable in MODES 5 and 6, or whenever recently irradiated fuel assemblies are being moved. The control room emergency ventilation system is required to be OPERABLE during fuel handling involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within a time frame established by analysis), due to radioactive decay. The term “recently” is defined as all irradiated fuel assemblies, until analysis is performed to determine a specific time.” Therefore, revising the phrase indicated above, together with the revision of the TS Bases, does not change the way irradiated fuel assemblies are currently handled at MPS2. Similar modifications are proposed to other references to movement of fuel elsewhere in the TS. (Model Safety Evaluation – Section 3.2)
2. DNC proposes to establish new action requirements for an inoperable CRE boundary. The existing TS 3.7.6.1 Control Room Emergency Ventilation System (CREVS) actions are more restrictive than would be appropriate in situations for which CRE occupant’s implementation of compensatory measures or mitigating actions would temporarily afford adequate CRE occupant protection from postulated airborne hazards. To account for such situations in Operational MODES 1, 2, 3, and 4, DNC proposes to modify TS 3.7.6.1 ACTION c. to apply when one or more Control Room Emergency Ventilation Trains are inoperable due to an inoperable CRE boundary. The revised ACTION c. would allow 90 days to restore the CRE boundary to operable status, provided the mitigating actions are immediately implemented (ACTION c.1) and within 24 hours are verified to ensure, that in the event of a DBA, CRE occupant radiological exposures will not exceed the calculated dose of the licensing basis analyses of DBA consequences, and that CRE occupants are protected from hazardous chemicals and smoke (ACTION c.2). (Model Safety Evaluation – Section 3.3 Evaluation 2)
3. To distinguish the revised TS 3.7.6.1 Action c. from the existing ACTIONS for the CREVS inoperable, DNC is proposing that TS 3.7.6.1 ACTION a, in Operational MODES 1, 2, 3, and 4, be revised to state, “With one Control Room Emergency Ventilation Train inoperable except as specified in ACTION c.” (Model Safety Evaluation - Section 3.3 Evaluation 2)
4. DNC proposes to modify TS 3.7.6.1 ACTION e. to also apply when one or more Control Room Emergency Ventilation Trains are inoperable due to an inoperable CRE boundary. This modification to TS 3.7.6.1 ACTION e. is needed because the proposed modification to TS 3.7.6.1 ACTION c. requirements will only apply in MODES 1, 2, 3, and 4. The modification of TS 3.7.6.1 ACTION e. will ensure that

an ACTION is specified for an inoperable CRE boundary during all MODES of applicability. (Model Safety Evaluation - Section 3.3 Evaluation 4)

5. DNC proposes to delete TS SR 4.7.6.1.e.3 that requires verification that control room air leakage is less than 130 SCFM with the CREVS operating in the recirculation/filtration mode. Specifically, DNC proposes to replace the existing control room air leakage surveillance with an leakage measurement Surveillance Requirement and CRE Habitability Program (see below), in accordance with the approved version of TSTF-448, Revision 3. (Model Safety Evaluation – Section 3.3 Evaluation 6)
6. In place of the control room air leakage testing Surveillance Requirement, DNC proposes to add a new Surveillance Requirement 4.7.6.1.h that will require performance of CRE unfiltered air leakage testing in accordance with the Control Room Envelope Habitability Program, proposed TS 6.27 (described below). The performance of unfiltered air leakage testing past the CRE boundary into the CRE will be in accordance with the testing methods and at the frequencies specified in the CRE Habitability Program. (Model Safety Evaluation – Section 3.3 Evaluation 6)
7. DNC proposes a new administrative controls program TS consistent with the model program TS in TSTF-448, Revision 3. This new program is described in TS 6.27, "Control Room Envelope Habitability Program." In combination with the revised TS SR 4.7.6.1.h, this program is intended to ensure the operability of the CRE boundary, which as part of an operable CREVS will ensure that the CRE habitability is maintained such that CRE occupants can control the reactor safely under normal conditions and maintain it in a safe condition following a radiological event, hazardous chemical release, or a smoke challenge. The program will ensure that adequate radiation protection is provided to permit access and occupancy of the CRE under DBA conditions without personnel receiving radiation exposures in excess of 5 rem Total Effective Dose Equivalent (TEDE) for the duration of the accident. The MPS2 CRE Habitability Program contains the required elements identified in TSTF-448, Revision 3. This guidance references ASTM E741 as an acceptable method for ascertaining the unfiltered leakage into the CRE. DNC proposes to follow this method. (Model Safety Evaluation - Section 3.4)

MPS3

The following proposed changes to the MPS3 TS are consistent with TSTF-448 and the evaluations supporting TSTF-448, Revision 3, Model Safety Evaluation, Sections 3.2, 3.3, and 3.4.

1. DNC proposes to modify the applicability of TS 3.7.7 for consistency with TSTF-448 and Standard TS. The current phrase "fuel movement within containment or the spent fuel pool" has been changed to "movement of recently irradiated fuel

assemblies.” The associated TS Bases revision includes the following discussion: “The control room emergency ventilation system is required to be OPERABLE during fuel handling involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within a time frame established by analysis), due to radioactive decay. The term “recently” is defined as all fuel assemblies, until analysis is performed to determine a specific time.” Therefore, revising the phrase indicated above, together with the revision of the TS Bases, does not change the way fuel assemblies are handled at MPS3. Similar modifications are proposed to other references to movement of fuel elsewhere in the TS. (Model Safety Evaluation - Section 3.2)

2. DNC proposes to establish new action requirements for an inoperable CRE boundary. The existing TS 3.7.7 Control Room Emergency Ventilation System (CREVS) actions are more restrictive than would be appropriate in situations for which CRE occupant implementation of compensatory measures or mitigating actions would temporarily afford adequate CRE occupant protection from postulated airborne hazards. To account for such situations in MODES 1, 2, 3, and 4, DNC proposes to modify TS 3.7.7 ACTION c, to apply when one or more Control Room Emergency Air Filtration Systems are inoperable due to an inoperable CRE boundary. The revised ACTION c would allow 90 days to restore the CRE boundary to operable status, provided the mitigating actions are immediately implemented (ACTION c.1) and within 24 hours are verified to ensure, that in the event of a Design Bases Accident (DBA), CRE occupant radiological exposures will not exceed the calculated dose of the licensing basis analyses of DBA consequences, and that CRE occupants are protected from hazardous chemicals and smoke (ACTION c.2). (Model Safety Evaluation - Section 3.3 Evaluation 2)
3. To distinguish the revised TS 3.7.7 ACTION c from the existing ACTIONS for a Control Room Emergency Air Filtration System inoperable, DNC is proposing that TS 3.7.7 ACTION a, in MODES 1, 2, 3, and 4, be revised to state, “With one Control Room Emergency Air Filtration System inoperable, except as specified in ACTION c.” (Model Safety Evaluation - Section 3.3 Evaluation 2)
4. DNC proposes to modify TS 3.7.7 ACTION e. to also apply when one or more Control Room Emergency Air Filtration Systems are inoperable due to an inoperable CRE boundary. This modification to TS 3.7.7 ACTION e is needed because the proposed modification to TS 3.7.7 ACTION c requirements will only apply in MODES 1, 2, 3, and 4. The modification of TS 3.7.7 ACTION e will ensure that an ACTION is specified for an inoperable CRE boundary during all MODES of applicability. (Model Safety Evaluation - Section 3.3 Evaluation 4)
5. DNC proposes to delete the MPS3 CRE pressurization Surveillance Requirement (SR) 4.7.7.e.2 that requires verification that the system can maintain a positive pressure of at least 1/8 inches water gauge relative to the adjacent areas during the filtered pressurization mode of operation at a pressurization flow rate of ≤ 230 cfm.

The deletion of this SR is proposed because measurements of unfiltered air leakage into the CRE at numerous reactor facilities has demonstrated that a basic assumption of this SR, an essentially leak-tight CRE boundary, was incorrect for most facilities. Therefore, meeting this SR by achieving the required CRE pressure is not necessarily a conclusive indication of CRE boundary leak tightness (i.e., CRE boundary operability). DNC proposes to replace the existing TS control room pressurization surveillance, TS SR 4.7.7.e.2, with an leakage measurement SR and CRE Habitability Program in TS (described below), in accordance with the approved version of TSTF-448, Revision 3. (Model Safety Evaluation - Section 3.3 Evaluation 6)

6. In place of the pressurization SR, DNC proposes to add a new SR 4.7.7.h that will require performance of CRE unfiltered air leakage testing in accordance with the Control Room Envelope Habitability Program, proposed TS 6.8.4.h (described below). The performance of unfiltered air leakage testing past the CRE boundary into the CRE will be in accordance with the testing methods and at the frequencies specified in the CRE Habitability Program. (Model Safety Evaluation – Section 3.3 Evaluation 6)
7. DNC proposes a new administrative controls program TS consistent with the model program TS in TSTF-448, Revision 3. This new program is described in TS 6.8.4.h, "Control Room Envelope Habitability Program." In combination with the revised TS SR 4.7.7.h, this program is intended to ensure the operability of the CRE boundary, which as part of an operable CREVS will ensure that the CRE habitability is maintained such that CRE occupants can control the reactor safely under normal conditions and maintain it in a safe condition following a radiological event, hazardous chemical release, or a smoke challenge. The program will ensure that adequate radiation protection is provided to permit access and occupancy of the CRE under DBA conditions without personnel receiving radiation exposures in excess of 5 rem TEDE for the duration of the accident. The MPS3 CRE Habitability Program contains the required elements identified in TSTF-448, Revision 3. (Model Safety Evaluation - Section 3.4)

For the Control Room Envelope Habitability Program description of the measurement frequency for CRE pressure relative to external areas adjacent to the CRE boundary during the pressurization mode of operation given in new TS 6.8.4.h, the stated frequency will be "48 months on a STAGGERED TEST BASIS" versus the TSTF value of [18] months. This variance is due to the difference between the MPS3 TS definition of STAGGERED TEST BASIS and the definition used by Standard Technical Specifications (STS), as well as the existing MPS3 24-month surveillance interval. The MPS3 definition of STAGGERED TEST BASIS is:

"A STAGGERED TEST BASIS shall consist of a test schedule for (n) systems, subsystems, trains, or other designated components obtained by dividing the specified test interval into (n) equal subintervals. The testing of one system,

subsystem, train, or other designated component at the beginning of each subinterval."

The STS definition is:

"A STAGGERED TEST BASIS shall consist of the testing of one of the systems, subsystems, channels, or other designated components during the interval specified by the Surveillance Frequency, so that all systems, subsystems, channels, or other designated components are tested during n Surveillance Frequency intervals, where n is the total number of systems, subsystems, channels, or other designated components in the associated function."

Therefore, in order to prescribe testing one of the subsystems every 24 months as stated in TSTF-448, the frequency must be stated as "48 months on a STAGGERED TEST BASIS," for MPS3.

Plant Specific Discussion

MPS2

A listing of MPS2 minor differences relative to Section 2.0 of the model safety evaluation is provided below. These differences reflect adjustments, as needed, to account for plant-specific design, current licensing basis, or differences due to plant-specific non-STS wording or format.

1. The MPS2 CREVS does not have heaters or demisters. Accordingly, the reference to heaters and demisters in model safety evaluation - Section 2.2 is not applicable to MPS 2.
2. Unfiltered air leakage testing is conducted at MPS2 per ASTM E741-83, rather than ASTM E741-00, as referenced in Model Safety Evaluation - Section 2.3. This version of the standard reflects the current procedure and licensing basis for conducting unfiltered air leakage testing at MPS2 and is acceptable based on the experience gained through the performance of tracer gas testing of the MPS2 control room using this standard for many years.

MPS2 and MPS3

To account for MPS2 and MPS3 specific control room habitability design, current licensing basis, or differences due to plant specific non-Standard Technical Specification wording or format, the following adjustments have been incorporated into the proposed TS markups:

1. MPS2 and 3 have not adopted the Standardized Technical Specification Format. TSTF-448 has been incorporated into existing sections with new sections being added as applicable.
2. TSTF-448, Rev. 3, TS 3.7.10 (NUREG 1432 STS) and TS 3.7.11 (NUREG 1431 STS), Required Action 'B.2' in reference to ensuring exposure to smoke hazards will not exceed limits, was reworded in proposed MPS2 and 3 TS ACTION c.2 to state "mitigating actions are taken for exposure to smoke hazards" as the limit is qualitative not quantitative.

TS Bases

With the exceptions identified above, TS Bases changes have been prepared to reflect applicable Bases statements from TSTF-448, Revision 3. These changes will be processed in accordance with the requirements of TS 6.23 (MPS2) and TS 6.18 (MPS3), "Technical Specifications (TS) Bases Control Program," which provides assurance that DNC has established and will maintain the adequacy of the Bases.

Exceptions

TSTF-448 allows exceptions to the testing methods and frequencies described in Regulatory Guide 1.197, Regulatory Positions C.1 and C.2. DNC proposes the following exceptions:

1. Appropriate application of ASTM E741 shall include the ability to take minor exceptions to the test methodology. These exceptions shall be documented in the test report.

This exception is necessary because the required testing methodology, ASTM E741, was not originally intended for nuclear power plant control room envelope testing. Some minor exceptions from the standard are necessary and are usually determined by the test vendor. NEI 99-03, Revision 1, Appendix EE discusses exceptions typically taken by ASTM E741 test vendors. While not an all-inclusive list, the exceptions listed in Appendix EE provide examples of the type of exceptions that will be allowed by the proposed Control Room Envelope Habitability Program. Any exceptions to the test methodology will be documented in the individual test report to ensure that the testing performed is in accordance with the Control Room Envelope Habitability Program requirements of proposed Technical Specifications 6.27 (MPS2) and TS 6.8.4.h (MPS3).

2. Vulnerability assessments for radiological, hazardous chemical and smoke, and emergency ventilation system testing were completed as documented in the UFSAR and other licensing basis documents. The exceptions to the Regulatory Guides (RG) referenced in RG 1.196 (i.e., RG 1.52, RG 1.78, and RG 1.183), which were

considered in completing the vulnerability assessments, are documented in the UFSAR/current licensing basis. Compliance with these RGs is consistent with the current licensing basis as described in the UFSAR and other licensing basis documents.

This general exception does not affect the periodic testing and evaluation of the CRE boundary. Periodic testing and evaluation of the CRE boundary will be performed consistent with the regulatory positions described in Sections C.1 and C.2 of RG 1.197. This exception identifies how the MPS2 and 3 control room habitability licensing bases were developed, which are consistent with the intent of RG 1.196 and the regulatory guides referenced therein, but are not in verbatim compliance with the regulatory positions established in each RG. The MPS2 and 3 commitment to the following regulatory guides is described in following licensing basis documents:

MPS2

- RG 1.52, Rev. 2, 1978 – TS 4.6.5.1
- RG 1.78, Rev. 0, 1974 – Technical Evaluation MG-EV-04-001, Rev. 0
- RG 1.95, Rev. 1, 1977 - Technical Evaluation MG-EV-04-001, Rev. 0
- RG 1.183, July 2000 - UFSAR Section 14

MPS3

- RG 1.52, Rev. 2, 1978 - UFSAR 1.8 and 6.5.1.2
- RG 1.78, Rev. 0, 1974 - UFSAR 1.8 and 6.4.4.2
- RG 1.95, Rev. 1, 1977 - UFSAR 1.8 and 6.4.4.2
- RG 1.183, July 2000 - UFSAR 1.8 and 15

2.3 License Condition Regarding Initial Performance of New Surveillance and Assessment Requirements

DNC proposes the following as a license condition to support implementation of the proposed TS changes. These license conditions are in accordance with TSTF-448, Revision 3, with no deviations.

MPS2

Upon implementation of Amendment No. xxx adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 4.7.6.1.h, in accordance with TS 6.27.c.(i), the assessment of CRE habitability as required by TS 6.27.c.(ii), and the measurement of CRE pressure as required by TS 6.27.d, shall be considered met. Following implementation:

- (a) The first performance of SR 4.7.6.1.h, in accordance with TS 6.27.c.(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 4.0.2, as measured from November 2, 2006, the date of the most recent successful tracer gas test, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.
- (b) The first performance of the periodic assessment of CRE habitability, TS 6.27.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 4.0.2, as measured from November 2, 2006, the date of the most recent successful tracer gas test, or within the next 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.
- (c) Not applicable due to neutral pressure CRE.

MPS3

Upon implementation of Amendment No. xxx adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 4.7.7.h, in accordance with TS 6.8.4.h.c.(i), the assessment of CRE habitability as required by TS 6.8.4.h.c.(ii), and the measurement of CRE pressure as required by TS 6.8.4.h.d, shall be considered met. Following implementation:

- (a) The first performance of SR 4.7.7.h, in accordance with TS 6.8.4.h.c.(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 4.0.2, as measured from June 16, 2004, the date of the most recent successful tracer gas test, as identified in the report referenced in the August 31, 2004 letter response to Generic Letter 2003-01, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.
- (b) The first performance of the periodic assessment of CRE habitability, TS 6.8.4.h.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 4.0.2, as measured from June 16, 2004, the date of the most recent successful tracer gas test, as identified in the report referenced in the August 31, 2004 letter response to Generic Letter 2003-01, or within the next 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.
- (c) The first performance of the periodic measurement of CRE pressure, TS 6.8.4.h.d, shall be within 24 months, plus the 180 days allowed by SR 4.0.2, as measured from March 23, 2007, the date of the most recent successful pressure measurement test, or within 180 days if not performed previously.

3.0 Regulatory Analysis

3.1 No Significant Hazards Consideration

DNC has reviewed the proposed no significant hazards consideration determination (NSHCD) published in the Federal Register as part of the CLIIP. DNC has concluded that the proposed NSHCD presented in the Federal Register notice is applicable to MPS2 and MPS3 and is hereby incorporated by reference to satisfy the requirements of 10 CFR 50.91(a).

4.0 Environmental Consideration

DNC has reviewed the environmental evaluation included in the model safety evaluation dated January 17, 2007 as part of the CLIIP. DNC has concluded that the staff's findings presented in that evaluation are applicable to MPS2 and MPS3 and the evaluation is hereby incorporated by reference for this application.

5.0 References

1. NRC Generic Letter 2003-01, "Control Room Habitability," dated June 12, 2003.
2. Letter from Anthony R. Pietrangelo, NEI, to Dr. William Beckner, NRC, dated December 30, 2002, "Forwarding of TSTF."
3. Letter from Dr. William Beckner, NRC, to Anthony R. Pietrangelo, NEI, dated July 1, 2003.
4. Letter from the Technical Specifications Task Force to Dr. William Beckner, NRC, dated August 19, 2003, "TSTF-448, Revision 1," (TSTF-03-03).
5. Letter from Thomas Boyce, NRC, to the Technical Specifications Task Force dated December 16, 2003.
6. Letter from the Technical Specifications Task Force to Dr. William Beckner, NRC, dated March 8, 2004, "Response to NRC Request for Additional Information Regarding TSTF-448, Revision 1, 'Control Room Habitability'," (TSTF-04-02).
7. Regulatory Guide 1.196, "Control Room Habitability at Light-Water Nuclear Power Reactors," dated May 2003.
8. Letter from Patrick Hiland, NRC, to the Technical Specifications Task Force, dated January 24, 2005.
9. Letter from C. Craig Harbuck, NRC, to Alex Marion, NEI, dated June 23, 2005, "Summary of Meeting Held May 26, 2005 Between NRC Staff and Industry on TSTF-448, Control Room Habitability, Revision 1."

10. Letter from Technical Specifications Task Force to U.S. NRC, "TSTF-448, Revision 2, 'Control Room Habitability'," dated August 18, 2005.
11. Letter from Thomas H. Boyce (NRC) to Technical Specifications Task Force dated December 28, 2005.
12. Letter from Thomas H. Boyce (NRC) to Technical Specifications Task Force dated March 10, 2006.
13. Letter from Timothy J. Kobetz (NRC) to Technical Specifications Task Force dated May 12, 2006.
14. NEI 99-03, Revision 0, "Control Room Habitability Assessment Guidance," dated June 2001.
15. Regulatory Guide 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," Revision 0, May 2003.

ATTACHMENT 2

APPLICATION FOR TECHNICAL SPECIFICATION IMPROVEMENT
REGARDING CONTROL ROOM HABITABILITY (CLIIP)
MARKED UP MPS2 TECHNICAL SPECIFICATION PAGES

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 2

- (9) DNC shall take all necessary steps to ensure that the decommissioning trust is maintained in accordance with the application for approval of the transfer of the MPS Unit No. 2 license and the requirements of the Order approving the transfer, and consistent with the safety evaluation supporting the Order.
- (10) The Final Safety Analysis Report (FSAR) supplement, as revised, submitted pursuant to 10 CFR 54.21(d), shall be included in the next scheduled update to the FSAR required by 10 CFR 50.71(e)(4) following the issuance of this renewed operating license. Until that update is complete, DNC may make changes to the programs and activities described in the supplement without prior Commission approval, provided that DNC evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.
- (11) The FSAR supplement, as revised, describes certain future activities to be completed prior to the period of extended operation. DNC shall complete these activities no later than July 31, 2015, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.
- (12) All capsules in the reactor vessel that are removed and tested must meet the test procedures and reporting requirements of American Society for Testing and Materials (ASTM) E 185-82 to the extent practicable for the configuration of the specimens in the capsule. Any changes to the capsule withdrawal schedule, including spare capsules, must be approved by the NRC prior to implementation. All capsules placed in storage must be maintained for future insertion. Any changes to storage requirements must be approved by the NRC, as required by 10 CFR Part 50, Appendix H.

Insert A

- D. This renewed operating license is effective as of its date of issuance and shall expire at midnight July 31, 2035.

FOR THE NUCLEAR REGULATORY COMMISSION

J. E. Dyer, Director

Office of Nuclear Reactor Regulation

Attachment:

- 1. Appendix A - Technical Specifications

Date of Issuance: November 28, 2005

Millstone Power Station Unit 2
Operating License
Page 6

Insert A

- (13) Upon implementation of Amendment No. xxx adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air leakage as required by SR 4.7.6.1.h, in accordance with TS 6.27.c.(i), the assessment of CRE habitability as required by TS 6.27.c.(ii), and the measurement of CRE pressure as required by TS 6.27.d, shall be considered met. Following implementation:
- (a) The first performance of SR 4.7.6.1.h, in accordance with TS 6.27.c.(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 4.0.2, as measured from November 2, 2006, the date of the most recent successful tracer gas test, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.
 - (b) The first performance of the periodic assessment of CRE habitability, TS 6.27.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 4.0.2, as measured from November 2, 2006, the date of the most recent successful tracer gas test, or within the next 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.
 - (c) Not applicable due to neutral pressure CRE.

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6.27 CONTROL ROOM ENVELOPE HABITABILITY PROGRAM6-31

PLANT SYSTEMS

3/4.7.6 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.6.1 Two independent Control Room Emergency Ventilation Trains shall be OPERABLE.*

APPLICABILITY: MODES 1, 2, 3, 4, 5 and 6.

movement of recently

assemblies

During irradiated fuel movement within containment or the spent fuel pool.

ACTION:

MODES 1, 2, 3, and 4:

except as specified in ACTION c.,

a. With one Control Room Emergency Ventilation Train inoperable, restore the inoperable train to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With both Control Room Emergency Ventilation Trains inoperable, except as specified in ACTION c., immediately suspend the movement of irradiated fuel assemblies within the spent fuel pool. Restore at least one inoperable train to OPERABLE status within 1 hour, or be in HOT STANDBY within the next 6 hours, and COLD SHUTDOWN within the following 30 hours.

c. ^{one or more} With both Control Room Emergency Ventilation Trains inoperable due to an inoperable ^{Envelope (CRE)} Control Room boundary, immediately suspend the movement of irradiated fuel assemblies within the spent fuel pool. Restore the Control Room boundary to OPERABLE status within 24 hours or be in HOT STANDBY within the next 6 hours, and COLD SHUTDOWN within the following 30 hours.

Insert B

Envelope (CRE)

* The Control Room boundary may be opened intermittently under administrative control.

Millstone Power Station Unit 2
Technical Specification 3.7.6
Control Room Emergency Ventilation System
Page 3/4 7-16

Insert B

CRE boundary perform the following:

1. Immediately initiate action to implement mitigating actions, and
2. Verify, within 24 hours, mitigating actions ensure CRE occupant exposures to radiological and chemical hazards will not exceed limits, and mitigating actions are taken for exposure to smoke hazards, and
3. Restore CRE boundary to OPERABLE status within 90 days.

Otherwise,

PLANT SYSTEMS

3/4.7.6 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

ACTION (continued)

MODES 5 and 6, or during irradiated fuel ^{movement of recently} ~~movement within containment or the spent fuel pool:~~ ^{assemblies} ~~**~~ ^{except due to an inoperable CRE boundary,} ①

- d. With one Control Room Emergency Ventilation Train inoperable, restore the inoperable train to OPERABLE status within 7 days. After 7 days, either initiate and maintain operation of the remaining OPERABLE Control Room Emergency Ventilation Train in the recirculation mode of operation, or immediately suspend ~~CORE ALTERATIONS~~, and the movement of irradiated fuel assemblies.
- e. With both ^{recently} Control Room Emergency Ventilation Trains inoperable, or with the OPERABLE Control Room Emergency Ventilation Train required to be in the recirculation mode by ACTION d. not capable of being powered by an OPERABLE normal and emergency power source, immediately suspend ~~CORE ALTERATIONS~~, and the movement of irradiated fuel assemblies.

^{recently}

or with one or more Control Room Emergency Ventilation Trains inoperable due to an inoperable CRE boundary,

** In MODES 5 and 6, when a Control Room Emergency Ventilation Train is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of 3.7.6.1 Limiting Condition for Operation, provided: (1) its corresponding normal or emergency power source is OPERABLE; and (2) all of its redundant system (s), subsystem (s), train (s), component (s) and device(s) are OPERABLE, or likewise satisfy the requirements of the specification. Unless both conditions (1) and (2) are satisfied within 2 hours, then ACTION 3.7.6.1.d or 3.7.6.1.e shall be invoked as applicable.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

Deleted → 3. Verifying that control room air in-leakage is less than 200 SCFM with the Control Room Emergency Ventilation System operating in the recirculation/filtration mode. ①

f. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the train at a flow rate of 2500 cfm ± 10%.

g. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove greater than or equal to 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the train at a flow rate of 2500 cfm ± 10%.

h. By performance of CRE unfiltered air leakage testing in accordance with the CRE Habitability Program at a frequency in accordance with the CRE Habitability Program.

June 28, 2006

ELECTRICAL POWER SYSTEMS

A.C. DISTRIBUTION - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.2.2 As a minimum, the following A.C. electrical busses shall be OPERABLE and energized from sources of power other than a diesel generator but aligned to an OPERABLE diesel generator:

- 1 - 4160 volt Emergency Bus
- 1 - 480 volt Emergency Load Center
- 2 - 120 volt A.C. Vital Busses

APPLICABILITY: MODES 5 and 6.

ACTION:

With less than the above complement of A.C. busses OPERABLE and energized, suspend all operations involving CORE ALTERATIONS and positive reactivity additions that could result in loss of required SDM or boron concentration, and movement of irradiated fuel assemblies.

recently

SURVEILLANCE REQUIREMENTS

4.8.2.2 The specified A.C. busses shall be determined OPERABLE and energized from normal A.C. sources at least once per 7 days by verifying correct breaker alignment and indicated power availability.

June 28, 2006

ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.2.4 One 125 - volt D.C. bus train electrical power subsystem shall be OPERABLE:

APPLICABILITY: MODES 5 and 6.

ACTION:

With no 125-volt D.C. bus trains OPERABLE, suspend all operations involving CORE ALTERATIONS and positive reactivity additions that could result in loss of required SDM or boron concentration, and movement of irradiated fuel assemblies.

recently

SURVEILLANCE REQUIREMENTS

4.8.2.4.1 The above required 125-volt D.C. bus train shall be determined OPERABLE at least once per 7 days by verifying correct breaker alignment and indicated power availability.

4.8.2.4.2 The above required 125-volt D.C. bus train battery bank and charger shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.3.2.

ADMINISTRATIVE CONTROLS

6.26 STEAM GENERATOR (SG) PROGRAM (Continued)

- c. Provisions for SG tube repair criteria: Tubes found by inservice inspection to contain flaws with a depth equal to or exceeding 40% of the nominal tube wall thickness shall be plugged.
- d. Provisions for SG tube inspections: Periodic SG tube inspections shall be performed. The number and portions of the tubes inspected and methods of inspection shall be performed with the objective of detecting flaws of any type (e.g., volumetric flaws, axial and circumferential cracks) that may be present along the length of the tube, from the tube-to-tubesheet weld at the tube inlet to the tube-to-tubesheet weld at the tube outlet, and that may satisfy the applicable tube repair criteria. The tube-to-tubesheet weld is not part of the tube. In addition to meeting the requirements of d.1., d.2, and d.3 below, the inspection scope, inspection methods, and inspection intervals shall be such as to ensure that SG tube integrity is maintained until the next SG inspection. An assessment of degradation shall be performed to determine the type and location of flaws to which the tubes may be susceptible and, based on this assessment, to determine which inspection methods need to be employed and at what locations.
1. Inspect 100% of the tubes in each SG during the first refueling outage following SG replacement.
 2. Inspect 100% of the tubes at sequential periods of 144, 108, 72, and, thereafter, 60 effective full power months. The first sequential period shall be considered to begin after the first inservice inspection of the SGs. In addition, inspect 50% of the tubes by the refueling outage nearest the midpoint of the period and the remaining 50% by the refueling outage nearest the end of the period. No SG shall operate for more than 72 effective full power months or three refueling outages (whichever is less) without being inspected.
 3. If crack indications are found in any SG tube, then the next inspection for each SG for the degradation mechanism that caused the crack indication shall not exceed 24 effective full power months or one refueling outage (whichever is less). If definitive information, such as from examination of a pulled tube, diagnostic non-destructive testing, or engineering evaluation indicates that a crack-like indication is not associated with a crack(s), then the indication need not be treated as a crack.
- e. Provisions for monitoring operational primary to secondary LEAKAGE.

Insert C →

Millstone Power Station Unit 2
Technical Specification Section 6
Administrative Controls
Page 6-31

Insert C

6.27 Control Room Envelope Habitability Program

A Control Room Envelope (CRE) Habitability Program shall be established and implemented to ensure that CRE habitability is maintained such that, with an OPERABLE Control Room Emergency Ventilation System (CREVS), CRE occupants can control the reactor safely under normal conditions and maintain it in a safe condition following a radiological event, hazardous chemical release, or a smoke challenge. The program shall ensure that adequate radiation protection is provided to permit access and occupancy of the CRE under design basis accident (DBA) conditions without personnel receiving radiation exposures in excess of 5 rem total effective dose equivalent (TEDE) for the duration of the accident. The program shall include the following elements:

- a. The definition of the CRE and the CRE boundary.
- b. Requirements for maintaining the CRE boundary in its design condition including configuration control and preventive maintenance.
- c. Requirements for (i) determining the unfiltered air inleakage past the CRE boundary into the CRE in accordance with the testing methods and at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," Revision 0, May 2003, and (ii) assessing CRE habitability at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, Revision 0.

The following are exceptions to Sections C.1 and C.2 of Regulatory Guide 1.197, Revision 0:

1. Appropriate application of ASTM E741 shall include the ability to take minor exceptions to the test methodology. These exceptions shall be documented in the test report, and
2. Vulnerability assessments for radiological, hazardous chemical and smoke, and emergency ventilation system testing were completed as documented in the UFSAR and other licensing

basis documents. The exceptions to the Regulatory Guides (RG) referenced in RG 1.196 (i.e., RG 1.52, RG 1.78, and RG 1.183), which were considered in completing the vulnerability assessments, are documented in the UFSAR/current licensing basis. Compliance with these RGs is consistent with the current licensing basis as described in the UFSAR and other licensing basis documents.

- d. Not applicable due to neutral pressure CRE.
- e. The quantitative limits on unfiltered air leakage into the CRE. These limits shall be stated in a manner to allow direct comparison to the unfiltered air leakage measured by the testing described in paragraph c. The unfiltered air leakage limit for radiological challenges is the leakage flow rate assumed in the licensing basis analyses of DBA consequences. Unfiltered air leakage limits for hazardous chemicals must ensure that exposure of CRE occupants to these hazards will be within the assumptions in the licensing basis.
- f. The provisions of Surveillance Requirement 4.0.2 are applicable to the frequencies for assessing CRE habitability and determining CRE unfiltered leakage as required by paragraph c.

ATTACHMENT 3

**APPLICATION FOR TECHNICAL SPECIFICATION IMPROVEMENT
REGARDING CONTROL ROOM HABITABILITY**

MARKED UP MPS3 TECHNICAL SPECIFICATION PAGES

**DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 3**

- (e) The appropriate section of the decommissioning trust agreement shall state that the trustee, investment advisor, or anyone else directing the investments made in the trusts shall adhere to a "prudent investor" standard, as specified in 18 CFR 35.32(a)(3) of the Federal Energy Regulatory Commission's regulations.
- (6) DNC shall take all necessary steps to ensure that the decommissioning trust is maintained in accordance with the application for approval of the transfer of the MPS Unit No. 3 license and the requirements of the Order approving the transfer, and consistent with the safety evaluation supporting the Order.
- (7) The Final Safety Analysis Report (FSAR) supplement, as revised, submitted pursuant to 10 CFR 54.21(d), shall be included in the next scheduled update to the FSAR required by 10 CFR 50.71(e)(4) following the issuance of this renewed operating license. Until that update is complete, DNC may make changes to the programs and activities described in the supplement without prior Commission approval, provided that DNC evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.
- (8) The FSAR supplement, as revised, describes certain future activities to be completed prior to the period of extended operation. DNC shall complete these activities no later than November 25, 2025, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.
- (9) All capsules in the reactor vessel that are removed and tested must meet the test procedures and reporting requirements of American Society for Testing and Materials (ASTM) E 185-82 to the extent practicable for the configuration of the specimens in the capsule. Any changes to the capsule withdrawal schedule, including spare capsules, must be approved by the NRC prior to implementation. All capsules placed in storage must be maintained for future insertion. Any changes to storage requirements must be approved by the NRC, as required by 10 CFR Part 50, Appendix H.

Insert D



- D. Exemptions from certain requirements of Appendix J to 10 CFR Part 50 (Section 6.2.6, SSER 4) and from a portion of the requirements of General Design Criterion 4 (Section 3.9.3.1, SSER 4) of Appendix A to 10 CFR Part 50 have previously been granted. See Safety Evaluation Report Supplement 4, November 1985. With these exemptions the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.
- E. The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training, and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements

Millstone Power Station Unit 3
Operating License
Page 5

Insert D

- (10) Upon implementation of Amendment No. xxx adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air leakage as required by SR 4.7.7.h, in accordance with TS 6.8.4.h.c.(i), the assessment of CRE habitability as required by TS 6.8.4.h.c.(ii), and the measurement of CRE pressure as required by TS 6.8.4.h.d, shall be considered met. Following implementation:
- (a) The first performance of SR 4.7.7.h, in accordance with TS 6.8.4.h.c.(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 4.0.2, as measured from June 16, 2004, the date of the most recent successful tracer gas test, as identified in the report referenced in the August 31, 2004 letter response to Generic Letter 2003-01, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.
 - (b) The first performance of the periodic assessment of CRE habitability, TS 6.8.4.h.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 4.0.2, as measured from June 16, 2004, the date of the most recent successful tracer gas test, as identified in the report referenced in the August 31, 2004 letter response to Generic Letter 2003-01, or within the next 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.
 - (c) The first performance of the periodic measurement of CRE pressure, TS 6.8.4.h.d, shall be within 24 months, plus the 180 days allowed by SR 4.0.2, as measured from March 23, 2007, the date of the most recent successful pressure measurement test, or within 180 days if not performed previously.

TABLE 3.3-3 (Continued)

TABLE NOTATIONS

The Steamline Isolation Logic and Safety Injection Logic for this trip function may be blocked in this MODE below the P-11 (Pressurizer Pressure Interlock) Setpoint.

* MODES 1, 2, 3, 4, 5 and 6.

During fuel movement within containment or the spent fuel pool.

movement of recently irradiated assemblies

**** Trip function automatically blocked above P-11 and may be blocked below P-11 when Safety Injection on low steam line pressure is not blocked.

ACTION STATEMENTS

ACTION 14 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 6 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1, provided the other channel is OPERABLE.

ACTION 15 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 12 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1, provided the other channel is OPERABLE.

ACTION 16 - With the number of OPERABLE channels one less than the Total Number of Channels, operation may proceed until performance of the next required ANALOG CHANNEL OPERATIONAL TEST provided the inoperable channel is placed in the tripped condition within 1 hour.

ACTION 17 - With the number of OPERABLE channels one less than the Total Number of Channels, operation may proceed provided the inoperable channel is placed in the bypassed condition and the Minimum Channels OPERABLE requirement is met. One additional channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1.

ACTION 18 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 7 days. After 7 days, or if no channels are OPERABLE, immediately suspend fuel movement, if applicable, and be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION 19 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

TABLE 4.3-2 (Continued)

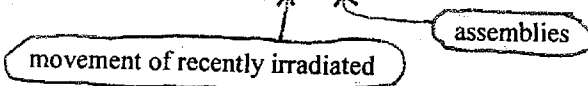
TABLE NOTATION

- 1. Each train shall be tested at least every 62 days on a STAGGERED TEST BASIS.
- 2. This surveillance may be performed continuously by the emergency generator load sequencer auto test system as long as the EGLS auto test system is demonstrated OPERABLE by the performance of an ACTUATION LOGIC TEST at least once per 92 days.
- 3. On a monthly basis, a loss of voltage condition will be initiated at each undervoltage monitoring relay to verify individual relay operation. Setpoint verification and actuation of the associated logic and alarm relays will be performed as part of the CHANNEL CALIBRATION required once per 18 months.
- 4. For Engineered Safety Features Actuation System functional units with only Potter & Brumfield MDR series relays used in a clean, environmentally controlled cabinet, as discussed in Westinghouse Owners Group Report WCAP- 13900, the surveillance interval for slave relay testing is R.

①

①

* MODES 1, 2, 3, 4, 5 and 6.
 During fuel ~~movement within containment or the spent fuel pool.~~



March 16, 2006

TABLE 3.3-6 (Continued)

TABLE NOTATIONS

* With fuel in the fuel storage pool areas.

ACTION STATEMENTS

recently irradiated

assembly

ACTION 28 - With less than the Minimum Channels OPERABLE requirement, fuel movement may continue for up to 30 days provided an appropriate portable continuous monitor with the same Alarm Setpoint is provided in the fuel storage pool area. Restore the inoperable monitors to OPERABLE status within 30 days or suspend all operations involving fuel movement in the fuel storage pool areas.

movement of recently irradiated

assemblies

ACTION 29 - With the number of OPERABLE Channels less than the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.4.6.1.

PLANT SYSTEMS

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.7 Two independent Control Room Emergency Air Filtration Systems shall be OPERABLE.#

APPLICABILITY: MODES 1, 2, 3, 4, 5 and 6.

During fuel movement within containment or the spent fuel pool.

movement of recently irradiated

assemblies

ACTION:

MODES 1, 2, 3 and 4:

except as specified in ACTION c.,

a. With one Control Room Emergency Air Filtration System inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With both Control Room Emergency Air Filtration Systems inoperable, except as specified in ACTION c., immediately suspend the movement of fuel within the spent fuel pool. Restore at least one inoperable system to OPERABLE status within 1 hour or be in HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

c. With both Control Room Emergency Air Filtration Systems inoperable due to an inoperable Control Room boundary, immediately suspend the movement of fuel within the spent fuel pool and restore the Control Room boundary to OPERABLE status within 24 hours or be in HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

one or more

Insert E

or during movement of recently irradiated fuel assemblies

MODES 5 and 6, and during fuel movement within containment or the spent fuel pool:

d. With one Control Room Emergency Air Filtration System inoperable, restore the inoperable system to OPERABLE status within 7 days. After 7 days, either initiate and maintain operation of the remaining OPERABLE Control Room Emergency Air Filtration System in the recirculation mode of operation, or immediately suspend the movement of fuel.

recently irradiated

assemblies

emergency

e. With both Control Room Emergency Air Filtration Systems inoperable, or with the OPERABLE Control Room Emergency Air Filtration System required to be in the recirculation mode by ACTION d. not capable of being powered by an OPERABLE emergency power source, immediately suspend the movement of fuel.

emergency

recently irradiated

assemblies

Envelope (CRE)

or with one or more Control Room Emergency Air Filtration System Trains inoperable due to an inoperable CRE boundary,

The Control Room boundary may be opened intermittently under administrative control.

Millstone Power Station Unit 3
Technical Specification 3.7.7
Control Room Emergency Ventilation System
Page 3/4 7-15

Insert E

CRE boundary, perform the following:

1. Immediately initiate action to implement mitigating actions, and
2. Verify, within 24 hours, mitigating actions ensure CRE occupant exposures to radiological and chemical hazards will not exceed limits, and mitigating actions are taken for exposure to smoke hazards, and
3. Restore CRE boundary to OPERABLE status within 90 days.

Otherwise,

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

Deleted

(2) Verifying that the system maintains the control room at a positive pressure of greater than or equal to 1/8 inch Water Gauge at less than or equal to a pressurization flow of 230 cfm relative to adjacent areas and outside atmosphere during the filtered pressurization mode of operation; and

(3) Verifying that the heaters dissipate 9.4 ± 1 kW when tested in accordance with ANSI N510-1980.

f. After each complete or partial replacement of a HEPA filter bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 for a DOP test aerosol while operating the system at a flow rate of 1120 cfm $\pm 20\%$; and

g. After each complete or partial replacement of a charcoal adsorber bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of 1120 cfm $\pm 20\%$.

h. By performance of CRE unfiltered air inleakage testing in accordance with the CRE Habitability Program at a frequency in accordance with the CRE Habitability Program.

* ANSI N510-1980 shall be used in place of ANSI N510-1975 referenced in Regulatory Guide 1.52, Revision 2, March 1978.

ELECTRICAL POWER SYSTEMS

D. C. SOURCES

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.2.2 As a minimum, one train (A or B) of batteries and their associated full capacity chargers shall be OPERABLE:

- a. Train - "A" consisting of:
 - 1) Battery Bank 301A-1 and a full capacity battery charger, and
 - 2) Battery Bank 301A-2 and a full capacity battery charger.

OR

- b. Train - "B" consisting of:
 - 1) Battery Bank 301B-1 and a full capacity battery charger, and
 - 2) Battery Bank 301B-2 and a full capacity battery charger.

APPLICABILITY: MODES 5 and 6.

ACTION:

recently assemblies

With the required train inoperable, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity additions that could result in loss of required SDM or boron concentration, movement of irradiated fuel; crane operation with loads over the fuel storage pool, or operation with a potential for draining the reactor vessel; initiate corrective action to restore the required train to OPERABLE status as soon as possible.

SURVEILLANCE REQUIREMENTS

4.8.2.2 The above required train shall be demonstrated OPERABLE in accordance with Specification 4.8.2.1.

ELECTRICAL POWER SYSTEMSONSITE POWER DISTRIBUTIONSHUTDOWNLIMITING CONDITION FOR OPERATION (Continued)

- 4) Two 125 volt DC Busses consisting of:
- a) Bus #301B-1 energized from Battery Bank #301B-1, and
 - b) Bus #301B-2 energized from Battery Bank #301B-2.

APPLICABILITY: MODES 5 and 6.

ACTION:

With any of the above required electrical busses not energized in the required manner, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity additions that could result in loss of required SDM or boron concentration, movement of irradiated fuel, crane operation with loads over the fuel storage pool, or operations with a potential for draining the reactor vessel, initiate corrective action to energize the required electrical busses in the specified manner as soon as possible.

SURVEILLANCE REQUIREMENTS

4.8.3.2 The specified busses shall be determined energized in the required manner at least once per 7 days by verifying correct breaker alignment and indicated voltage on the busses.

ADMINISTRATIVE CONTROLS

PROCEDURES AND PROGRAMS (Continued)

evaluation indicates that a crack-like indication is not associated with a crack(s), then the indication need not be treated as a crack.

Insert F

- e. Provisions for monitoring operational primary to secondary LEAKAGE.

6.8.5 Written procedures shall be established, implemented and maintained covering Section I.E, Radiological Environmental Monitoring, of the REMODCM.

6.8.6 All procedures and procedure changes required for the Radiological Environmental Monitoring Program (REMP) of Specification 6.8.5 above shall be reviewed by an individual (other than the author) from the organization responsible for the REMP and approved by appropriate supervision.

Temporary changes may be made provided the intent of the original procedure is not altered and the change is documented and reviewed by an individual (other than the author) from the organization responsible for the REMP, within 14 days of implementation.

6.9 REPORTING REQUIREMENTS

ROUTINE REPORTS

6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following reports shall be submitted to the U.S. Nuclear Regulatory Commission, Document Control Desk, Washington, D.C. 20555, one copy to the Regional Administrator, Region I, and one copy to the NRC Resident Inspector, unless otherwise noted.

STARTUP REPORT

6.9.1.1 A summary report of plant startup and power escalation testing shall be submitted following: (1) receipt of an Operating License, (2) amendment to the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the unit.

The Startup Report shall address each of the tests identified in the Final Safety Analysis Report and shall include a description of the measured values of the operating conditions or characteristics obtained during the test program and a comparison of these values with design predictions and specifications. Any corrective actions that were required to obtain satisfactory operation shall also be described. Any additional specific details required in license conditions based on other commitments shall be included in this report.

Millstone Power Station Unit 3
Technical Specification Section 6
Administrative controls
Page 6-17c

Insert F

6.8.4.h Control Room Envelope Habitability Program

A Control Room Envelope (CRE) Habitability Program shall be established and implemented to ensure that CRE habitability is maintained such that, with an OPERABLE Control Room Emergency Ventilation System (CREVS), CRE occupants can control the reactor safely under normal conditions and maintain it in a safe condition following a radiological event, hazardous chemical release, or a smoke challenge. The program shall ensure that adequate radiation protection is provided to permit access and occupancy of the CRE under design basis accident (DBA) conditions without personnel receiving radiation exposures in excess of 5 rem total effective dose equivalent (TEDE) for the duration of the accident. The program shall include the following elements:

- a. The definition of the CRE and the CRE boundary.
- b. Requirements for maintaining the CRE boundary in its design condition including configuration control and preventive maintenance.
- c. Requirements for (i) determining the unfiltered air inleakage past the CRE boundary into the CRE in accordance with the testing methods and at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," Revision 0, May 2003, and (ii) assessing CRE habitability at the Frequencies specified in Sections C.1 and C.2 of Regulatory Guide 1.197, Revision 0.

The following are exceptions to Sections C.1 and C.2 of Regulatory Guide 1.197, Revision 0:

1. Appropriate application of ASTM E741 shall include the ability to take minor exceptions to the test methodology. These exceptions shall be documented in the test report, and
2. Vulnerability assessments for radiological, hazardous chemical and smoke, and emergency ventilation system testing were completed as documented in the UFSAR and other licensing basis documents. The exceptions to the Regulatory Guides (RG) referenced in RG

1.196 (i.e., RG 1.52, RG 1.78, and RG 1.183), which were considered in completing the vulnerability assessments, are documented in the UFSAR/current licensing basis. Compliance with these RGs is consistent with the current licensing basis as described in the UFSAR and other licensing basis documents.

- d. Measurement, at designated locations, of the CRE pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of operation by one train of the CREVS, operating at the flow rate required by the Surveillance Requirements, at a Frequency of 48 months on a STAGGERED TEST BASIS. The results shall be trended and used as part of the 24 month assessment of the CRE boundary.
- e. The quantitative limits on unfiltered air leakage into the CRE. These limits shall be stated in a manner to allow direct comparison to the unfiltered air leakage measured by the testing described in paragraph c. The unfiltered air leakage limit for radiological challenges is the leakage flow rate assumed in the licensing basis analyses of DBA consequences. Unfiltered air leakage limits for hazardous chemicals must ensure that exposure of CRE occupants to these hazards will be within the assumptions in the licensing basis.

The provisions of Surveillance Requirement 4.0.2 are applicable to the Frequencies for assessing CRE habitability, determining CRE unfiltered leakage, and measuring CRE pressure and assessing the CRE boundary as required by paragraphs c. and d., respectively.

Serial No. 07-0440
Docket No. 50-336
50-423

ATTACHMENT 4

**APPLICATION FOR TECHNICAL SPECIFICATION IMPROVEMENT
REGARDING CONTROL ROOM HABITABILITY**

MARKED UP BASES PAGES (INFORMATION ONLY)

**DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNITS 2 AND 3**

PLANT SYSTEMS

BASES

3/4.7.4 SERVICE WATER SYSTEM (Continued)

determined to be inoperable should be the loop that results in the most adverse plant configuration with respect to the availability of accident mitigation equipment. Restoration of loop independence within the time constraints of the allowed outage time is required, or a plant shutdown is necessary.

It is acceptable to operate with the SW header supply valves to sodium hypochlorite (2-SW-84A and 2-SW-84B) and the SW header supply valves to the north and south filters (2-SW-298 and 2-SW-299) open. The flow restricting orifices in these lines ensure that safety related loads continue to receive minimum required flow during a LOCA (in which the lines remain intact) or during a seismic event (when the lines break). Therefore, operation with these valves open does not affect OPERABILITY of the SW loops.

Surveillance Requirement 4.7.4.1.a verifies the correct alignment for manual, power operated, and automatic valves in the Service Water (SW) System flow paths to provide assurance that the proper flow paths exist for SW operation. This surveillance does not apply to valves that are locked, sealed, or otherwise secured in position, since these valves were verified to be in the correct position prior to locking, sealing, or securing. A valve that receives an actuation signal is allowed to be in a nonaccident position provided the valve automatically repositions within the proper stroke time. This surveillance does not require any testing or valve manipulation. Rather, it involves verification that those valves capable of being mispositioned are in the correct position. The 31 day frequency is appropriate because the valves are operated under procedural control and an improper valve position would only affect a single train. This frequency has been shown to be acceptable through operating experience.

Surveillance Requirements 4.7.4.1.b and 4.7.4.1.c demonstrate that each automatic SW valve actuates to the required position on an actual or simulated actuation signal and that each SW pump starts on receipt of an actual or simulated actuation signal. This surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The 18 month frequency is based on the need to perform these surveillances under the conditions that apply during a plant outage and the potential for unplanned transients if the surveillances were performed with the reactor at power. The 18 month frequency is also acceptable based on consideration of the design reliability (and confirming operating experience) of the equipment. The actuation logic is tested as part of the Engineered Safety Feature Actuation System (ESFAS) testing, and equipment performance is monitored as part of the Inservice Testing Program.

3/4.7.5 DELETED

3/4.7.6 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

The OPERABILITY of the Control Room Emergency Ventilation System ensures that 1) the ambient air temperature does not exceed the allowable temperature for continuous duty rating for the equipment and instrumentation cooled by this system and 2) the control room will remain habitable for operations personnel during and following all credible accident conditions.

MILLSTONE - UNIT 2

B 3/4 7-4

Amendment No. 223, 236, 272, 273,
~~Acknowledged by NRC letter dated 4/12/06~~

envelope (CRE)

PLANT SYSTEMS

BASES

3/4.7.6 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)

The OPERABILITY of this system in conjunction with control room design provisions is based on limiting the radiation exposure to personnel occupying the control room. For all postulated design basis accidents, the radiation exposure to personnel occupying the control room shall be 5 rem TEDE or less consistent with the requirements of 10 CFR 50.67

Insert G

The LCO is modified by a footnote 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 constant 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.

Insert H

The LCO is applicable in MODES 1, 2, 3, 4, 5 and 6. it is also applicable during irradiated fuel movement within containment or the spent fuel pool irrespective of any plant MODE.

The control room radiological dose calculations use the conservative minimum acceptable flow of 2250 cfm based on the flowrate surveillance requirement of 2500 cfm \pm 10%.

Millstone Power Station Unit 2
Technical Specification Bases 3.7.6
Control Room Emergency Ventilation System
Page B3/4 7-4a

Insert G

The Control Room Envelope (CRE) is the area within the confines of the CRE boundary that contains the spaces that control room occupants inhabit to control the unit during normal and accident conditions. This area encompasses the control room, and other non-critical areas including adjacent support offices, and utility rooms. The CRE is protected during normal operation, natural events, and accident conditions. The CRE boundary is the combination of walls, floor, ceiling, ducting, valves, doors, penetrations and equipment that physically form the CRE. The OPERABILITY of the CRE boundary must be maintained to ensure that the inleakage of unfiltered air into the CRE will not exceed the inleakage assumed in the licensing basis analysis of design basis accident (DBA) consequences to CRE occupants. The CRE and its boundary are defined in the Control Room Envelope Habitability Program.

In order for the control room emergency ventilation systems to be considered OPERABLE, the CRE boundary must be maintained such that the CRE occupant dose from a large radioactive release does not exceed the calculated dose in the licensing basis consequence analyses for DBAs, and that CRE occupants are protected from hazardous chemicals and smoke.

TS LCO 3.7.6.1 is modified by a footnote allowing the CRE boundary to be opened intermittently under administrative controls. This footnote only applies to openings in the CRE boundary that can be rapidly restored to the design condition, such as doors, hatches, floor plugs, and access panels. 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 should be proceduralized and consist of stationing a dedicated individual at the opening who is in continuous communication with the operators in the CRE. This individual will have a method to rapidly close the opening and to restore the CRE boundary to a condition equivalent to the design condition when a need for CRE isolation is indicated.

Millstone Power Station Unit 2
Technical Specification Bases 3.7.6
Control Room Emergency Ventilation System
Page B3/4 7-4a

Insert H

ACTIONS a., b., and c. of this specification are applicable at all times during plant operation in MODES 1, 2, 3, and 4. ACTIONS d. and e. are applicable in MODES 5 and 6, or when recently irradiated fuel assemblies are being moved. The control room emergency ventilation system is required to be OPERABLE during fuel handling involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within a time frame established by analysis), due to radioactive decay. The term "recently" is defined as all irradiated fuel assemblies, until analysis is performed to determine a specific time.

PLANT SYSTEMS

BASES

3/4.7.6 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)

Currently there are some situations where the CREV System may not automatically start on an accident signal, without operator action. Under most situations, the emergency filtration fans will start and the CREV System will be in the accident lineup. However, a failure of a supply fan (F21A or B) or an exhaust fan (F31A or B), operator action will be required to return to a full train lineup. Also, if a single emergency bus does not power up for one train of the CREV System, the opposite train filter fan will automatically start, but the required supply and exhaust fans will not automatically start. Therefore, operator action is required to establish the whole train lineup. This action is specified in the Emergency Operating Procedures. The radiological dose calculations do not take credit for CREV System cleanup action until 1 hour into the accident to allow for operator action.

is will require operator action

When the CREV System is checked to shift to the recirculation mode of operation, this will be performed from the normal mode of operation, and from the smoke purge mode of operation.

Insert I

With both control room emergency ventilation trains inoperable due to an inoperable control room boundary, the movement of irradiated fuel assemblies within the spent fuel pool must be immediately suspended. The control room boundary must be restored to OPERABLE status within 24 hours, or the unit must be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

If the control room boundary is inoperable in MODES 1, 2, 3, and 4, the control room emergency ventilation trains cannot perform their intended functions. 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 this condition. The 24 hour allowed outage 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 allowed outage time is a typically reasonable time to diagnose, plan, and possibly repair, and test most problems with the control room boundary.

Surveillance Requirement 4.7.6.1.c.1 dictates the test frequency, methods and acceptance criteria for the Control Room Emergency ventilation System trains (cleanup trains). These criteria all originate in the Regulatory Position sections of Regulatory Guide 1.52, Rev. 2, March 1978 as discussed below.

Ventilation

Section C.5.a requires a visual inspection of the cleanup system be made before the following tests, in accordance with the provisions of section 5 of ANSI N510-1975:

- in-place air flow distribution test
- DOP test
- activated carbon adsorber section leak test

Millstone Power Station Unit 2
Technical Specification Bases 3/4.7.6.1
Control Room Emergency Ventilation System
Page B3/4 7-4b

Insert I

If the unfiltered inleakage of potentially contaminated air past the CRE boundary and into the CRE can result in CRE occupant radiological dose greater than the calculated dose of the licensing basis analyses of DBA consequences (allowed to be up to 5 rem TEDE), or inadequate protection of CRE occupants from hazardous chemicals or smoke, the CRE boundary is inoperable. Actions must be taken to restore an OPERABLE CRE boundary within 90 days.

During the period that the CRE boundary is considered inoperable, action must be initiated to implement mitigating actions to lessen the effect on CRE occupants from the potential hazards of a radiological or chemical event or a challenge from smoke. Actions must be taken within 24 hours to verify that in the event of a DBA, the mitigating actions will ensure that CRE occupant radiological exposures will not exceed the calculated dose of the licensing basis analyses of DBA consequences, and that CRE occupants are protected from hazardous chemicals and smoke. These mitigating actions (i.e., actions that are taken to offset the consequences of the inoperable CRE boundary) should be preplanned for implementation upon entry into the condition, regardless of whether entry is intentional or unintentional. The 24 hour allowed outage time is reasonable based on the low probability of a DBA occurring during this time period, and the use of mitigating actions. The 90 day allowed outage time is reasonable based on the determination that the mitigating actions will ensure protection of CRE occupants within analyzed limits while limiting the probability that CRE occupants will have to implement protective measures that may adversely affect their ability to control the reactor and maintain it in a safe shutdown condition in the event of a DBA. In addition, the 90 day allowed outage time is a reasonable time to diagnose, plan and possibly repair, and test most problems with the CRE boundary.

Immediate action(s), in accordance with the LCO Action Statements, means that the required action should be pursued without delay and in a controlled manner.

PLANT SYSTEMSBASES3/4.7.6 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)

Section C.5.c requires the in-place Dioctyl phthalate (DOP) test for HEPA filters to conform to section 10 of ANSI N510-1975. The HEPA filters should be tested in place (1) initially, (2) at least once per 18 months thereafter, and (3) following painting, fire, or chemical release in any ventilation zone communicating with the system. The testing is to confirm a penetration of less than 0.05%* at rated flow. A filtration system satisfying this criteria can be considered to warrant a 99% removal efficiency for particulates.

Section C.5.d requires the charcoal adsorber section to be leak tested with a gaseous halogenated hydrocarbon refrigerant, in accordance with section 12 of ANSI N510-1975 to ensure that bypass leakage through the adsorber section is less than 0.05%.** Adsorber leak testing should be conducted (1) initially, (2) at least once per 18 months thereafter, (3) following removal of an adsorber sample for laboratory testing if the integrity of the adsorber section is affected, and (4) following painting, fire, or chemical release in any ventilation zone communicating with the system.

The ACTION requirements to immediately suspend various activities (CORE ALTERATIONS, irradiated fuel movement, etc.) do not preclude completion of the movement of a component to a safe position.

Technical Specification 3.7.6.1 provides the OPERABILITY requirements for the Control Room Emergency Ventilation Trains. If a Control Room Emergency Ventilation Train emergency power source or normal power source becomes inoperable in MODES 1, 2, 3, or 4 the requirements of Technical Specification 3.0.5 apply in determining the OPERABILITY of the affected Control Room Emergency Ventilation Train. If a Control Room Emergency Ventilation Train emergency power source or normal power source becomes inoperable in MODES 5 or 6 the guidance provided by Note "***" of this specification applies in determining the OPERABILITY of the affected Control Room Emergency Ventilation Train. If a Control Room Emergency Ventilation Train emergency power source or normal power source becomes inoperable while not in MODES 1, 2, 3, 4, 5, or 6 the requirements of Technical Specification 3.0.5 apply in determining the OPERABILITY of the affected Control Room Emergency Ventilation Train.

Insert J →

* Means that the HEPA filter will allow passage of less than 0.05% of the test concentration injection at the filter inlet from a standard DOP concentration injection.

** Means that the charcoal adsorber sections will allow passage of less than 0.05% of the injected test concentration around the charcoal adsorber section.

Millstone Power Station Unit 2
Technical Specification Bases 3/4.7.6
Control Room Emergency Ventilation System
Page B3/4 7-4c

Insert J

Surveillance Requirement 4.7.6.1.e.3 verifies the OPERABILITY of the CRE boundary by testing for unfiltered air leakage past the CRE boundary and into the CRE. The details of the testing are specified in the Control Room Envelope Habitability Program.

The CRE is considered habitable when the radiological dose to CRE occupants calculated in the licensing basis analyses of DBA consequences is no more than 5 rem TEDE and the CRE occupants are protected from hazardous chemicals and smoke. This SR verifies that the unfiltered air leakage into the CRE is no greater than the flow rate assumed in the licensing basis analyses of DBA consequences. When unfiltered air leakage is greater than the assumed flow rate, ACTION c. must be entered. ACTION c. allows time to restore the CRE boundary to OPERABLE status provided mitigating actions can ensure that the CRE remains within the licensing basis habitability limits for the occupants following an accident. Compensatory measures are discussed in Regulatory Guide 1.196, which endorses, with exceptions, NEI 99-03. These compensatory measures may also be used as mitigating actions as required by ACTION c. Temporary analytical methods may also be used as compensatory measures to restore OPERABILITY. Options for restoring the CRE boundary to OPERABLE status include changing the licensing basis DBA consequence analysis, repairing the CRE boundary, or a combination of these actions. Depending upon the nature of the problem and the corrective action, a full scope leakage test may not be necessary to establish that the CRE boundary has been restored to OPERABLE status.

3/4.8 ELECTRICAL POWER SYSTEMS

BASES

The OPERABILITY of the minimum specified A.C. and D.C. power sources and associated distribution systems during shutdown and refueling ensures that 1) the facility can be maintained in the shutdown or REFUELING condition for extended time periods and 2) sufficient instrumentation and control capability is available for monitoring and maintaining the facility status. If the required power sources or distribution systems are not OPERABLE in MODES 5 and 6, operations involving CORE ALTERATIONS, positive reactivity additions, or movement of irradiated fuel assemblies are required to be suspended. Suspending positive reactivity additions that could result in failure to meet the minimum SDM or boron concentration limit is required to assure continued safe operation. Introduction of coolant inventory must be from sources that have a boron concentration greater than that what would be required in the RCS for minimum SDM or refueling boron concentration. This may result in an overall reduction in RCS boron concentration, but provides acceptable margin to maintaining subcritical operation. Introduction of temperature changes including temperature increases when operating with a positive MTC must also be evaluated to ensure they do not result in a loss of required SDM.

recently

Insert R

Suspension of these activities does not preclude completion of actions to establish a safe conservative condition. These actions minimize the probability of the occurrence of postulated events. It is further required to immediately initiate action to restore the required AC and DC electrical power source or distribution subsystems and to continue this action until restoration is accomplished in order to provide the necessary power to the unit safety systems.

Each 125-volt D.C. bus train consists of its associated 125-volt D.C. bus, a 125-volt D.C. battery bank, and a battery charger with at least 400 ampere charging capacity. To demonstrate OPERABILITY of a 125-volt D.C. bus train, these components must be energized and capable of performing their required safety functions. Additionally, in MODES 1 through 4 at least one tie breaker between the 125-volt D.C. bus trains must be open for a 125-volt D.C. bus train to be considered OPERABLE.

For MODES 5 and 6, each battery is sized to supply the total connected vital loads (one battery connected to both buses) for one hour without charger support. Therefore, in MODES 5 and 6 with at least one 125-volt D.C. bus train OPERABLE and the 125-volt D.C. buses cross-tied, the 125-volt D.C. support system operability requirements for both buses are satisfied.

Footnote (a) to Technical Specification Tables 4.8-1 and 4.8-2 permits the electrolyte level to be above the specified maximum level for the Category A limits during equalizing charge, provided it is not overflowing. Because of the internal gas generation during the performance of an equalizing charge, specific gravity gradients and artificially elevated electrolyte levels are produced which may exist for several days following completion of the equalizing charge. These limits ensure that the plates suffer no physical damage, and that adequate electron transfer capability is maintained in the event of transient conditions. In accordance with the recommendations of IEEE 450-1980, electrolyte level readings should be taken only after the battery has been at float charge for at least 72 hours.

Millstone Power Station Unit 2
Technical Specification Bases 3/4.8.2
Electrical Power Systems
Page B3/4 8-17

Insert R

The movement of recently irradiated fuel assemblies (i.e., fuel that has occupied part of a critical reactor core within a time frame established by analysis), due to radioactive decay is also required to be suspended. The term "recently" is defined as all irradiated fuel assemblies, until analysis is performed to determine a specific time.

INSTRUMENTATIONBASES3/4.3.1 and 3/4.3.2 REACTOR TRIP SYSTEM INSTRUMENTATION and ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION (Continued)

The methodology, as defined in WCAP-10991 to derive the Nominal Trip Setpoints, is based upon combining all of the uncertainties in the channels. Inherent in the determination of the Nominal Trip Setpoints are the magnitudes of these channel uncertainties. Sensors and other instrumentation utilized in these channels should be capable of operating within the allowances of these uncertainty magnitudes. Occasional drift in excess of the allowance may be determined to be acceptable based on the other device performance characteristics. Device drift in excess of the allowance that is more than occasional, may be indicative of more serious problems and would warrant further investigation.

The above Bases does not apply to the Control Building Inlet Ventilation radiation monitors ESF Table (Item 7E). For these radiation monitors the allowable values are essentially nominal values. Due to the uncertainties involved in radiological parameters, the methodologies of WCAP-10991 were not applied. Actual trip setpoints will be reestablished below the allowable value based on calibration accuracies and good practices.

The OPERABILITY requirements for Table 3.3-3, Functional Units 7.a, "Control Building Isolation, Manual Actuation," and 7.e, "Control Building Isolation, Control Building Inlet Ventilation Radiation," are defined by table notation "*". These functional units are required to be OPERABLE at all times during plant operation in MODES 1, 2, 3, and 4. These functional units are also required to be OPERABLE during movement of recently irradiated fuel assemblies ~~fuel movement within containment or the spent fuel pool~~, as specified by table notation "*". This table notation is also applicable during fuel movement within containment or the spent fuel pool. The fuel handling accident analyses assume that during a fuel handling accident some of the fuel that is dropped and some of the fuel impacted upon is damaged. Therefore, the movement of either new or irradiated fuel (assemblies or individual fuel rods) can cause a fuel handling accident, and functional units 7.a and 7.e are required to be OPERABLE whenever new or irradiated fuel is moved within the containment or the storage pool. Table notation "*" of Table 4.3-2 has the same applicability. Insert S

The verification of response time at the specified frequencies provides assurance that the reactor trip and the engineered safety features actuation associated with each channel is completed within the time limit assumed in the safety analysis. No credit is taken in the analysis for those channels with response times indicated as not applicable (i.e., N.A.).

Required ACTION 4. of Table 3.3-1 is modified by a Note to indicate that normal plant control operations that individually add limited positive reactivity (e.g., temperature or boron fluctuations associated with RCS inventory management or temperature control) are not precluded by this ACTION provided they are accounted for in the calculated SDM. The proposed change permits operations introducing positive reactivity additions but prohibits the temperature change or overall boron concentration from decreasing below that required to maintain the specified SDM or required boron concentration.

Millstone Power Station Unit 3
Technical Specification Bases 3/4.3.2
Emergency Safety Features Actuation System
Page B3/4 3-2

Insert S

The Control Building Isolation Manual Actuation and Control Building Inlet Ventilation Radiation are required to be OPERABLE during movement of recently irradiated fuel assemblies (i.e., fuel that has occupied part of a critical reactor core within a time frame established by analysis), due to radioactive decay. The term "recently" is defined as all fuel assemblies, including new fuel assemblies, until analysis is performed to determine a specific time.

March 17, 2004

INSTRUMENTATION

BASES

3/4.3.1 and 3/4.3.2 REACTOR TRIP SYSTEM INSTRUMENTATION and ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION (Continued)

- P-11 On increasing pressurizer pressure, P-11 automatically reinstates Safety Injection actuation on low pressurizer pressure and low steam line pressure. On decreasing pressure, P-11 allows the manual block of Safety Injection actuation on low pressurizer pressure and low steam line pressure.
- P-12 On increasing reactor coolant loop temperature, P-12 automatically provides an arming signal to the Steam Dump System. On decreasing reactor coolant loop temperature, P-12 automatically removes the arming signal from the Steam Dump System.
- P-14 On increasing steam generator water level, P-14 automatically trips all feedwater isolation valves, main feed pumps and main turbine, and inhibits feedwater control valve modulation.

3/4.3.3 MONITORING INSTRUMENTATION

3/4.3.3.1 RADIATION MONITORING FOR PLANT OPERATIONS

The OPERABILITY of the radiation monitoring instrumentation for plant operations ensures that: (1) the associated action will be initiated when the radiation level monitored by each channel or combination thereof reaches its Setpoint, (2) the specified coincidence logic is maintained, and (3) sufficient redundancy is maintained to permit a channel to be out-of-service for testing or maintenance. The radiation monitors for plant operations senses radiation levels in selected plant systems and locations and determines whether or not predetermined limits are being exceeded. If they are, the signals are combined into logic matrices sensitive to combinations indicative of various accidents and abnormal conditions. Once the required logic combination is completed, the system sends actuation signals to initiate alarms.

Insert T →

3/4.3.3.2 DELETED

3/4.3.3.3 DELETED

3/4.3.3.4 DELETED

Millstone Power Station Unit 3
Technical Specification Bases 3/4.3.3.1
Radiation Monitoring
Page B3/4 3-4

Insert T

The Fuel Storage Pool Area Monitor is required to be OPERABLE during movement of recently irradiated fuel assemblies (i.e., fuel that has occupied part of a critical reactor core within a time frame established by analysis), due to radioactive decay. The term "recently" is defined as all fuel assemblies, including new fuel assemblies, until analysis is performed to determine a specific time.

PLANT SYSTEMS

BASES

SURVEILLANCE REQUIREMENTS

For the surveillance requirements, the UHS temperature is measured at the locations described in the LCO write-up provided in this section.

Surveillance Requirement 4.7.5.a verifies that the UHS is capable of providing a 30-day cooling water supply to safety-related equipment without exceeding its design basis temperature. The 24-hour frequency is based on operating experience related to trending of the parameter variations during the applicable MODES. This surveillance requirement verifies that the average water temperature of the UHS is less than or equal to 75°F.

Surveillance Requirement 4.7.5.b requires that the UHS temperature be monitored on an increased frequency whenever the UHS temperature is greater than 70°F during the applicable MODES. The intent of this Surveillance Requirement is to increase the awareness of plant personnel regarding UHS temperature trends above 70°F. The frequency is based on operating experience related to trending of the parameter variations during the applicable MODES.

3/4.7.6 DELETED

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

BACKGROUND

, hazardous chemicals, or smoke

The control room emergency ventilation system provides a protected environment from which operators can control the unit following an uncontrolled release of radioactivity. Additionally, the system provides temperature control for the control room during normal and post-accident operations.

The control room emergency ventilation system is comprised of the control room emergency air filtration system and a temperature control system.

air in the envelope (CRE) and a CRE boundary that limits the leakage of unfiltered air

The control room emergency air filtration system consists of two redundant systems that recirculate and filter the control room air. Each control room emergency air filtration system consists of a moisture separator, electric heater, prefilter, upstream high efficiency particulate air (HEPA) filter, charcoal adsorber, downstream HEPA filter, and fan. Additionally, ductwork, valves or dampers, and instrumentation form part of the system.

Insert K →

Normal Operation

A portion of the control room emergency ventilation system is required to operate during normal operations to ensure the temperature of the control room is maintained at or below 95°F.

Millstone Power Station Unit 3
Technical Specification Bases 3/4.7.7
Control Room Emergency Ventilation System
Page B3/4 7-10

Insert K

The CRE is the area within the confines of the CRE boundary that contains the spaces that control room occupants inhabit to control the unit during normal and accident conditions. This area encompasses the control room, and other non-critical areas including adjacent support offices, toilet and utility rooms. The CRE is protected during normal operation, natural events, and accident conditions. The CRE boundary is the combination of walls, floor, ceiling, ducting, valves, doors, penetrations and equipment that physically form the CRE. The OPERABILITY of the CRE boundary must be maintained to ensure that the inleakage of unfiltered air into the CRE will not exceed the inleakage assumed in the licensing basis analysis of design basis accident (DBA) consequences to CRE occupants. The CRE and its boundary are defined in the Control Room Envelope Habitability Program and UFSAR Section 6.4.2.1.

PLANT SYSTEMS

BASES

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)

BACKGROUND (Continued)

Post Accident Operation

The control room emergency ventilation system is required to operate during post-accident operations to ensure the temperature of the ~~control room~~ is maintained and to ensure the ~~control room~~ will remain habitable during and following accident conditions.

CRE

The following sequence of events occurs upon receipt of a control building isolation (CBI) signal or a signal indicating high radiation in the air supply duct to the ~~control room envelope~~.

1. The ~~control room~~ boundary is isolated to prevent outside air from entering the ~~control room~~ to prevent the operators from being exposed to the radiological conditions that may exist outside the ~~control room~~. The analysis for a loss of coolant accident assumes that the highest releases occur in the first hour after a loss of coolant accident.
2. After one hour, the control room emergency ventilation system will be placed in service in the ~~filtered pressurization~~ mode (outside air is diverted through the filters to the ~~control room envelope~~ to maintain a positive pressure). To run the control room emergency air filtration system in the ~~filtered pressurization~~ mode, the air supply line must be manually opened.

CRE

occupants

emergency

CRE

emergency

APPLICABLE SAFETY ANALYSIS

The OPERABILITY of the Control Room Emergency Ventilation System ensures that: (1) the ambient air temperature does not exceed the allowable temperature for continuous-duty rating for the equipment and instrumentation cooled by this system, and (2) the ~~control room~~ will remain habitable for ~~operations personnel~~ during and following all credible accident conditions. The OPERABILITY of this system in conjunction with control room design provisions is based on limiting the radiation exposure to ~~personnel occupying the control room~~. For all postulated design basis accidents, the radiation exposure to ~~personnel occupying the control room~~ shall be 5 rem TEDE or less, consistent with the requirements of 10 CFR 50.67. This limitation is consistent with the requirements of General Design Criterion 19 of Appendix A, 10 CFR Part 50.

occupants

CRE

CRE occupants

PLANT SYSTEMS

BASES

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)

LIMITING CONDITION FOR OPERATION

Insert L

Two independent control room emergency air filtration systems are required to be OPERABLE to ensure that at least one is available in the event the other system is disabled.

A control room emergency air filtration system is OPERABLE when the associated:

- a. Fan is OPERABLE;
- b. HEPA filters and charcoal adsorbers are not excessively restricting flow and are capable of performing their filtration functions; and
- c. moisture separator, heater, ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained.

Insert M

The integrity of the control room habitability boundary (i.e., walls, floors, ceilings, ductwork, and access doors) must be maintained such that the control building habitability zone can be maintained at its design positive pressure if required to be aligned in the filtration pressurization mode. However, the LCO is modified by a footnote 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 constant 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, 3, 4, 5, and 6.

movement of recently irradiated fuel assemblies

During ~~fuel movement within containment or the spent fuel pool.~~

or during movement of recently irradiated fuel assemblies

ACTIONS a., b., and c. of this specification are applicable at all times during plant operation in MODES 1, 2, 3, and 4. ACTIONS d. and e. are applicable in MODES 5 and 6, ~~and whenever fuel is being moved within containment or the spent fuel pool.~~ The fuel

Insert N

handling accident analyses assume that during a fuel handling accident some of the fuel that is dropped and some of the fuel impacted upon is damaged. Therefore, the movement of either new or irradiated fuel (assemblies or individual fuel rods) can cause a fuel handling accident, and this specification is applicable whenever new or irradiated fuel is moved within the containment or the storage pool.

Millstone Power Station Unit 3
Technical Specification Bases 3/4.7.7
Control Room Emergency Ventilation System
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Insert L

Total system failure, such as from a loss of both ventilation trains or from an inoperable CRE boundary, could result in exceeding a dose of 5 rem TEDE to the CRE occupants in the event of a large radioactive release.

Millstone Power Station Unit 3
Technical Specification Bases 3/4.7.7
Control Room Emergency Ventilation System
Page B3/4 7-12

Insert M

In order for the CREVS to be considered OPERABLE, the CRE boundary must be maintained such that the CRE occupant dose from a large radioactive release does not exceed the calculated dose in the licensing basis consequence analyses for DBAs, and that CRE occupants are protected from hazardous chemicals and smoke.

TS LCO 3.7.7 is modified by a footnote allowing the CRE boundary to be opened intermittently under administrative controls. This footnote only applies to openings in the CRE boundary that can be rapidly restored to the design condition, such as doors, hatches, floor plugs, and access panels. 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 should be proceduralized and consist of stationing a dedicated individual at the opening who is in continuous communication with the operators in the CRE. This individual will have a method to rapidly close the opening and to restore the CRE boundary to a condition equivalent to the design condition when a need for CRE isolation is indicated.

Millstone Power Station Unit 3
Technical Specification Bases 3/4.7.7
Control Room Emergency Ventilation System
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Insert N

The CREVS is required to be OPERABLE during fuel handling involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within a time frame established by analysis), due to radioactive decay. The term "recently" is defined as all fuel assemblies, including new fuel assemblies, until analysis is performed to determine a specific time.

PLANT SYSTEMSBASES3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)ACTIONSMODES 1, 2, 3, and 4

for reasons other than an inoperable CRE boundary

- a. With one control room emergency air filtration system inoperable, action must be taken to restore the inoperable system to an OPERABLE status within 7 days. In this condition, the remaining control room emergency air filtration system is adequate to perform the control room protection function. However, the overall reliability is reduced because a single failure in the OPERABLE train could result in a loss of the control room emergency air filtration system function. The 7-day completion time is based on the low probability of a DBA occurring during this time period, and the ability of the remaining train to provide the required capability.

CRE occupant

If the inoperable train cannot be restored to an OPERABLE status within 7 days, the unit must be placed in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. These completion times are reasonable, based on operating experience, to reach the required unit condition from full power conditions in an orderly manner and without challenging unit systems.

- b. With both control room emergency air filtration systems inoperable, except due to an inoperable control room boundary, the movement of fuel within the spent fuel pool must be immediately suspended. At least one control room emergency air filtration system must be restored to OPERABLE status within 1 hour, or the unit must be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. These 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.

CRE

- c. With both control room emergency air filtration systems inoperable due to an inoperable control room boundary, the movement of fuel within the spent fuel pool must be immediately suspended. The control room boundary must be restored to OPERABLE status within 24 hours, or the unit must be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

one or more

Insert O

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If the control room boundary is inoperable in MODES 1, 2, 3, and 4, the control room emergency air filtration systems cannot perform their intended functions. 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

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Control Room Emergency Ventilation System
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CRE boundary, (1) action must be immediately initiated to implement mitigating actions; (2) action must be taken within 24 hours to verify mitigating actions ensure CRE occupant exposures to radiological and chemical hazards will not exceed limits, and mitigating actions are taken for exposure to smoke hazards; and (3) the CRE boundary must be restored to OPERABLE status within 90 days. Otherwise,

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If the unfiltered inleakage of potentially contaminated air past the CRE boundary and into the CRE can result in CRE occupant radiological dose greater than the calculated dose of the licensing basis analyses of DBA consequences (allowed to be up to 5 rem TEDE), or inadequate protection of CRE occupants from hazardous chemicals or smoke, the CRE boundary is inoperable. Actions must be taken to restore an OPERABLE CRE boundary within 90 days.

During the period that the CRE boundary is considered inoperable, action must be initiated to implement mitigating actions to lessen the effect on CRE occupants from the potential hazards of a radiological or chemical event or a challenge from smoke. Actions must be taken within 24 hours to verify that in the event of a DBA, the mitigating actions will ensure that CRE occupant radiological exposures will not exceed the calculated dose of the licensing basis analyses of DBA consequences, and that CRE occupants are protected from hazardous chemicals and smoke. These mitigating actions (i.e., actions that are taken to offset the consequences of the inoperable CRE boundary) should be preplanned for implementation upon entry into the condition, regardless of whether entry is intentional or unintentional. The 24 hour Completion Time is reasonable based on the low probability of a DBA occurring during this time period, and the use of mitigating actions. The 90 day Completion Time is reasonable based on the determination that the mitigating actions will ensure protection of CRE occupants within analyzed limits while limiting the probability that CRE occupants will have to implement protective measures that may adversely affect their ability to control the reactor and maintain it in a safe shutdown condition in the event of a DBA. In addition, the 90 day Completion Time is a reasonable time to diagnose, plan and possibly repair, and test most problems with the CRE boundary.

Immediate action(s), in accordance with the LCO ACTION Statements, means that the required action should be pursued without delay and in a controlled manner.

PLANT SYSTEMS

BASES

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)

ACTIONS (Continued)

available to address these concerns for intentional and unintentional entry in to this condition. The 24 hour allowed outage 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 allowed outage time is a typically reasonable time to diagnose, plan, and possibly repair, and test most problems with the control room boundary.

~~MODES 5 and 6, and fuel movement within containment or the spent fuel pool~~
or during movement of recently irradiated fuel assemblies

d. With one control room emergency air filtration system inoperable, action must be taken to restore the inoperable system to an OPERABLE status within 7 days. After 7 days, either initiate and maintain operation of the remaining OPERABLE control room emergency air filtration system in the recirculation mode or suspend the movement of fuel. Initiating and maintaining operation of the OPERABLE train in the recirculation mode ensures: (i) OPERABILITY of the train will not be compromised by a failure of the automatic actuation logic; and (ii) active failures will be readily detected.

e. With both control room emergency air filtration systems inoperable, or with the train required by ACTION 'd' not capable of being powered by an OPERABLE emergency power source, actions must be taken to suspend all operations involving the movement of fuel. This action places the unit in a condition that minimizes risk. This action does not preclude the movement of fuel to a safe position.

SURVEILLANCE REQUIREMENTS

4.7.7.a

The control room environment should be checked periodically to ensure that the control room temperature control system is functioning properly. Verifying that the control room air temperature is less than or equal to 95°F at least once per 12 hours is sufficient. It is not necessary to cycle the control room ventilation chillers. The control room is manned during operations covered by the technical specifications. Typically, temperature aberrations will be readily apparent.

4.7.7.b

Standby systems should be checked periodically to ensure that they function properly. As the environment and normal operating conditions on this system are not too severe, testing the trains once every 31 days on a STAGGERED TEST BASIS provides an adequate check of this system. This surveillance requirement verifies a system flow rate of 1,120 cfm ± 20%. Additionally, the system is required to operate for at least 10 continuous hours with the heaters energized. These operations are sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters due to the humidity in the ambient air.

PLANT SYSTEMS

BASES

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)

SURVEILLANCE REQUIREMENTS (Continued)

4.7.7.d

After 720 hours of charcoal adsorber operation, a representative carbon sample must be obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, and a laboratory analysis must verify that the representative carbon sample meets the laboratory testing criteria of ASTM D3803-89 and Millstone Unit 3 specific parameters.

The laboratory analysis is required to be performed within 31 days after removal of the sample. ANSI N510-1980 is used in lieu of ANSI N510-1975 referenced in Revision 2 of Regulatory Guide 1.52.

The maximum surveillance interval is 900 hours, per Surveillance Requirement 4.0.2. The 720 hours of operation requirement originates from Nuclear Regulatory Guide 1.52, Table 2, Note C. This testing ensures that the charcoal adsorbency capacity has not degraded below acceptable limits as well as providing trending data.

4.7.7.e.1

This surveillance verifies that the pressure drop across the combined HEPA filters and charcoal adsorbers banks at less than 6.75 inches water gauge when the system is operated at a flow rate of 1,120 cfm \pm 20%. The frequency is at least once per 24 months.

4.7.7.e.2

Insert Q

This surveillance verifies that the system maintains the control room at a positive pressure of greater than or equal to 1/8 inch water gauge at less than or equal to a pressurization flow of 230 cfm relative to adjacent areas and outside atmosphere during positive pressure system operation. The frequency is at least once per 24 months.

The intent of this surveillance is to verify the ability of the control room emergency air filtration system to maintain a positive pressure while running in the filtered pressurization mode.

A CBI signal will automatically align an operating filtration system into the recirculation mode of operation due to the isolation of the air supply line to the filter.

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Control Room Emergency Ventilation System
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Insert Q

This Surveillance verifies the OPERABILITY of the CRE boundary by testing for unfiltered air leakage past the CRE boundary and into the CRE. The details of the testing are specified in the Control Room Envelope Habitability Program.

The CRE is considered habitable when the radiological dose to CRE occupants calculated in the licensing basis analyses of DBA consequences is no more than 5 rem TEDE and the CRE occupants are protected from hazardous chemicals and smoke. This SR verifies that the unfiltered air leakage into the CRE is no greater than the flow rate assumed in the licensing basis analyses of DBA consequences. When unfiltered air leakage is greater than the assumed flow rate, ACTION c. must be entered. ACTION c. allows time to restore the CRE boundary to OPERABLE status provided mitigating actions can ensure that the CRE remains within the licensing basis habitability limits for the occupants following an accident. Compensatory measures are discussed in Regulatory Guide 1.196, which endorses, with exceptions, NEI 99-03. These compensatory measures may also be used as mitigating actions as required by ACTION c. Temporary analytical methods may also be used as compensatory measures to restore OPERABILITY. Options for restoring the CRE boundary to OPERABLE status include changing the licensing basis DBA consequence analysis, repairing the CRE boundary, or a combination of these actions. Depending upon the nature of the problem and the corrective action, a full scope leakage test may not be necessary to establish that the CRE boundary has been restored to OPERABLE status.

PLANT SYSTEMS

BASES

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)

SURVEILLANCE REQUIREMENTS (Continued)

After the first hour of an event with the potential for a radiological release, the control room emergency ventilation system will be aligned in the filtered pressurization mode (outside air is diverted through the filters to the control room envelope to maintain a positive pressure). Alignment to the filtered pressurization mode requires manual operator action to open the air supply line.

4.7.7.e.3

This surveillance verifies that the heaters can dissipate 9.4 ± 1 kW at 480V when tested in accordance with ANSI N510-1980. The frequency is at least once per 24 months. The heater kW measured must be corrected to its nameplate rating. Variations in system voltage can lead to measurements of kW which cannot be compared to the nameplate rating because the output kW is proportional to the square of the voltage.

4.7.7.f

Following the complete or partial replacement of a HEPA filter bank, the OPERABILITY of the cleanup system should be confirmed. This is accomplished by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criterion of less than 0.05% in accordance with ANSI N510-1980 for a DOP test aerosol while operating the system at a flow rate of $1,120 \text{ cfm} \pm 20\%$.

4.7.7.g

Following the complete or partial replacement of a charcoal adsorber bank, the OPERABILITY of the cleanup system should be confirmed. This is accomplished by verifying that the cleanup system satisfied the in-place penetration and bypass leakage testing acceptance criterion of less than 0.05% in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow of $1,120 \text{ cfm} \pm 20\%$.

References:

- (1) Nuclear Regulatory Guide 1.52, Revision 2
- (2) MP3 UFSAR, Table 1.8-1, NRC Regulatory Guide 1.52
- (3) NRC Generic Letter 91-04
- (4) Condition Report (CR) #M3-99-0271

BASESA.C. SOURCES, D.C. SOURCES, and ONSITE POWER DISTRIBUTION (Continued)

The Surveillance Requirement for demonstrating the OPERABILITY of the station batteries are based on the recommendations of Regulatory Guide 1.129, "Maintenance Testing and Replacement of Large Lead Storage Batteries for Nuclear Power Plants," February 1978, and IEEE Std 450-1975 & 1980, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations." Sections 5 and 6 of IEEE Std 450-1980 replaced Sections 4 and 5 of IEEE Std 450-1975, otherwise the balance of IEEE Std 450-1975 applies.

Verifying average electrolyte temperature above the minimum for which the battery was sized, total battery terminal voltage on float charge, connection resistance values, and the performance of battery service and discharge tests ensures the effectiveness of the charging system, the ability to handle high discharge rates, and compares the battery capacity at that time with the rated capacity.

Table 4.8-2a specifies the normal limits for each designated pilot cell and each connected cell for electrolyte level, float voltage, and specific gravity. The limits for the designated pilot cells float voltage and specific gravity, greater than 2.13 volts and 0.015 below the manufacturer's full charge specific gravity or a battery charger current that had stabilized at a low value, is characteristic of a charged cell with adequate capacity. The normal limits for each connected cell for float voltage and specific gravity, greater than 2.13 volts and not more than 0.020 below the manufacturer's full charge specific gravity with an average specific gravity of all the connected cells not more than 0.010 below the manufacturer's full charge specific gravity, ensures the OPERABILITY and capability of the battery.

Operation with a battery cell's parameter outside the normal limit but within the allowable value specified in Table 4.8-2a is permitted for up to 7 days. During this 7-day period: (1) the allowable values for electrolyte level ensures no physical damage to the plates with an adequate electron transfer capability; (2) the allowable value for the average specific gravity of all the cells, not more than 0.020 below the manufacturer's recommended full charge specific gravity, ensures that the decrease in rating will be less than the safety margin provided in sizing; (3) the allowable value for an individual cell's specific gravity, ensures that an individual cell's specific gravity will not be more than 0.040 below the manufacturer's full charge specific gravity and that the overall capability of the battery will be maintained within an acceptable limit; and (4) the allowable value for an individual cell's float voltage, greater than 2.07 volts, ensures the battery's capability to perform its design function.

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If the required power sources or distribution systems are not OPERABLE in MODES 5 and 6, operations involving CORE ALTERATIONS, positive reactivity changes, movement of recently irradiated fuel assemblies (i.e., fuel that has occupied part of a critical reactor core within a time frame established by analysis), crane operation with loads over the fuel storage pool, or operations with a potential for draining the reactor vessel are required to be suspended. The term "recently" is defined as all irradiated fuel assemblies, including new fuel assemblies, until analysis is performed to determine a specific time.