



**Northeast
Nuclear Energy**

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The Northeast Utilities System

FEB 22 2000

Docket Nos. 50-336
50-423
B17959

Re: 10 CFR 50.90

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

**Millstone Nuclear Power Station, Unit Nos. 2 and 3
Proposed Revision to Technical Specifications
Radiological Effluent Technical Specifications**

Introduction

Pursuant to 10 CFR 50.90, Northeast Nuclear Energy Company (NNECO) hereby proposes to amend Operating Licenses DPR-65 and NFP-49 by incorporating the attached proposed changes into the Technical Specifications of Millstone Unit Nos. 2 and 3. The proposed changes will relocate selected Technical Specifications related to Radiological Effluent and the associated Bases to the Millstone Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODCM). These Technical Specifications do not fulfill any one or more of the requirements of 10 CFR 50.36c(2)(ii) on items for which Technical Specifications must be established. Therefore, these Technical Specifications can be relocated verbatim to the REMODCM. The proposed relocation of selected Technical Specifications to the REMODCM is in accordance with the Nuclear Regulatory Commission's (NRC) Generic Letter (GL) 89-01⁽¹⁾. The relocation of these Technical Specifications and the associated Bases to the REMODCM will improve the process of changing these specifications. Relocating requirements to NNECO-controlled documents will reduce costs by allowing NNECO to change the requirements without necessarily amending the license. Similar changes related to relocation of the Radiological Effluent Technical Specifications and the associated Bases to the REMODCM have already been approved by the NRC for

⁽¹⁾ NRC Generic Letter 89-01, "Implementation Of Programmatic Controls For Radiological Effluent Technical Specifications In The Administrative Controls Section Of The Technical Specifications And The Relocation Of Procedural Details Of RETS To The Offsite Dose Calculation Manual Or To The Process Control Program," dated January 31, 1989.

AOO1

Millstone Unit No. 1.⁽²⁾ The proposed changes will also add two Technical Specifications to each of the Administrative Controls sections of Unit Nos. 2 and 3 Technical Specifications. The changes will affect the following:

Technical Specifications Definitions

Unit No. 2:

- 1.31, "Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODCM);" and
- 1.33, "Radioactive Waste Treatment Systems;"

Unit No. 3:

- 1.25, "Radioactive Waste Treatment Systems;" and
- 1.26, "Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODCM)."

Technical Specifications

Unit Nos. 2 and 3:

- 3.3.3.9, "Instrumentation - Radioactive Liquid Effluent Monitoring Instrumentation;"
- 3.3.3.10, "Instrumentation - Radioactive Gaseous Effluent Monitoring Instrumentation;"
- 3.11.1.1, "Radioactive Effluents - Liquid Effluents Concentration;"
- 3.11.1.2, "Radioactive Effluents - Dose, Liquids;"
- 3.11.2.1, "Radioactive Effluents - Gaseous Effluents Dose Rate;"
- 3.11.2.2, "Radioactive Effluents - Dose, Noble Gases;"
- 3.11.2.3, "Radioactive Effluents - Dose, Radioiodines, Radioactive Material in Particulate Form, and Radionuclides Other Than Noble Gases;" and
- 3.11.3, "Radioactive Effluents - Total Dose."

Unit No. 2

- 3.10.2, "Special Test Exceptions - Group Height and Insertion Limits;"
- 3.10.5, "Special Test Exceptions - Center CEA Misalignment;"
- 6.8, "Administrative Controls - Procedures;"
- 6.9, "Administrative Controls - Reporting Requirements;"
- 6.15, "Administrative Controls - Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODCM);" and
- 6.18, "Administrative Controls - PASS/Sampling and Analysis of Plant Effluents."

⁽²⁾ Louis L. Wheeler, Letter to NNECO, "Millstone Nuclear Power Station, Unit No. 1- Issuance of Amendment Re: Permanently Defueled Technical Specifications," dated November 9, 1999, (DPR-21, Docket 50-245).

Unit No. 3:

- 6.9, "Administrative Controls - Reporting Requirements;" and
- 6.13, "Administrative Controls - Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODCM)."

NNECO is also proposing to add the following Technical Specifications:

Unit No. 2:

- 6.20, "Radioactive Effluent Control Program;" and
- 6.21, "Radioactive Environmental Monitoring Program."

Unit No. 3:

- 6.15, "Radioactive Effluent Control Program;" and
- 6.16, "Radioactive Environmental Monitoring Program."

The Index and the Bases of the associated Technical Specifications will be modified as necessary to address the proposed changes.

Attachment 1 provides a discussion of the proposed changes and the Safety Summary. Attachment 2 provides the Significant Hazards Consideration. Attachments 3 and 4 provide the marked-up version of the appropriate pages of the current Technical Specifications for Unit Nos. 2 and 3 respectively. Attachments 5 and 6 provide the retyped pages of the Technical Specifications for Unit Nos. 2 and 3 respectively.

Environmental Considerations

NNECO has reviewed the proposed License Amendment Request against the criteria of 10 CFR 51.22 for environmental considerations. The proposed Technical Specifications changes will relocate selected Technical Specifications related to Radiological Effluent and the associated Bases to the Millstone REMODCM, and will add two Technical Specifications to each of the Administrative Controls sections of the Technical Specifications for Unit Nos. 2 and 3. These changes will not significantly increase the type and amounts of effluents that may be released off site. In addition, this amendment request will not significantly increase individual or cumulative occupational radiation exposures. Therefore, NNECO has determined the proposed changes will not have a significant effect on the quality of the human environment.

Conclusions

The proposed changes do not involve a significant impact on public health and safety (see the Safety Summary provided in Attachment 1) and do not involve a Significant Hazards Consideration pursuant to the provisions of 10 CFR 50.92 (see the Significant Hazards Consideration provided in Attachment 2).

Plant Operations Review Committee and Nuclear Safety Assessment Board

The Plant Operations Review Committee and Nuclear Safety Assessment Board have reviewed and concurred with the determinations.

Schedule

We request issuance by August 31, 2000, with the amendment to be implemented within 60 days of issuance. The approval of this amendment is needed by this date to support the ongoing effort to eliminate Millstone Unit Nos. 2 and 3 dependence on the Millstone Unit No. 1 Stack Gas High Range Radiation Monitor.

State Notification

In accordance with 10 CFR 50.91(b), a copy of this License Amendment Request is being provided to the State of Connecticut.

There are no regulatory commitments contained within this letter.

If you should have any questions on the above, please contact Mr. Ravi Joshi at (860) 440-2080.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



Raymond P. Necci

Vice President - Nuclear Technical Services

Sworn to and subscribed before me

this 22 day of February, 2000

Donna Lynne Williams
Notary Public

My Commission expires Nov. 30, 2001

cc: See next page

Attachments (6)

cc: H. J. Miller, Region I Administrator
D. P. Beaulieu, Senior Resident Inspector, Millstone Unit No. 2
J. I. Zimmerman, NRC Project Manager, Millstone Unit No. 2
V. Nerses, NRC Senior Project Manager, Millstone Unit No. 3
A. C. Cerne, Senior Resident Inspector, Millstone Unit No. 3

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

Docket Nos. 50-336
50-423
B17959

Attachment 1

Millstone Nuclear Power Station, Unit Nos. 2 and 3

**Proposed Revision to Technical Specifications
Radiological Effluent Technical Specifications
Discussion of Proposed Changes and Safety Summary**

February 2000

**Proposed Revision to Technical Specifications
Radiological Effluent Technical Specifications
Discussion of Proposed Changes and Safety Summary**

Introduction

Northeast Nuclear Energy Company (NNECO) hereby proposes to amend Operating Licenses DPR-65 and NFP-49 by incorporating the attached proposed changes into the Technical Specifications of Millstone Unit Nos. 2 and 3. The proposed changes will relocate selected Technical Specifications related to Radiological Effluent and the associated Bases to the Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODOCM). These Technical Specifications do not fulfill any one or more of the requirements of 10 CFR 50.36c(2)(ii) on items for which Technical Specifications must be established. Therefore, these Technical Specifications can be relocated verbatim to the REMODOCM. The proposed relocation of selected Technical Specifications to the REMODOCM is in accordance with the Nuclear Regulatory Commission's (NRC) Generic Letter (GL) 89-01.⁽¹⁾ The relocation of these Technical Specifications and the associated Bases to the REMODOCM will improve the process of changing these specifications. Relocating requirements to NNECO-controlled documents will reduce costs by allowing NNECO to change the requirements without necessarily amending the license. Relocation of Technical Specifications related to Radiological Effluent and the associated Bases to the REMODOCM has already been approved by the NRC for Millstone Unit No. 1.⁽²⁾ The proposed changes will add two Technical Specifications to each of the Administrative Controls sections of the Technical Specifications of unit Nos. 2 and 3. The changes will affect the following:

Technical Specifications Definitions

Unit No. 2:

- 1.31, "Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODOCM);" and
- 1.33, "Radioactive Waste Treatment Systems."

Unit No. 3:

- 1.25, "Radioactive Waste Treatment Systems;" and
- 1.26, "Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODOCM)."

⁽¹⁾ NRC Generic Letter 89-01, "Implementation Of Programmatic Controls For Radiological Effluent Technical Specifications In The Administrative Controls Section Of The Technical Specifications And The Relocation Of Procedural Details Of Rets To The Offsite Dose Calculation Manual Or To The Process Control Program," dated January 31, 1989.

⁽²⁾ Louis L. Wheeler, Letter to NNECO, "Millstone Nuclear Power Station, Unit 1- Issuance of 1999, (DPR-21, Docket 50-245).

Technical Specifications

Unit Nos. 2 and 3:

- 3.3.3.9, "Instrumentation - Radioactive Liquid Effluent Monitoring Instrumentation;"
- 3.3.3.10, "Instrumentation - Radioactive Gaseous Effluent Monitoring Instrumentation;"
- 3.11.1.1, "Radioactive Effluents - Liquid Effluents Concentration;"
- 3.11.1.2, "Radioactive Effluents - Dose, Liquids;"
- 3.11.2.1, "Radioactive Effluents - Gaseous Effluents Dose Rate;"
- 3.11.2.2, "Radioactive Effluents - Dose, Noble Gases;"
- 3.11.2.3, "Radioactive Effluents - Dose, Radioiodines, Radioactive Material in Particulate Form, and Radionuclides Other Than Noble Gases;" and
- 3.11.3, "Radioactive Effluents - Total Dose."

Unit No. 2

- 3.10.2, "Special Test Exceptions - Group Height and Insertion Limits;"
- 3.10.5, "Special Test Exceptions - Center CEA Misalignment;"
- 6.8, "Administrative Controls - Procedures;"
- 6.9, "Administrative Controls - Reporting Requirements;"
- 6.15, "Administrative Controls - Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMOTCM);" and
- 6.18, "Administrative Controls - PASS/Sampling and Analysis of Plant Effluents."

Unit No. 3:

- 6.9, "Administrative Controls - Reporting Requirements;" and
- 6.13, "Administrative Controls - Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMOTCM)."

NNECO is also proposing to add the following Technical Specifications:

Unit No. 2:

- 6.20, "Radioactive Effluent Control Program;" and
- 6.21, "Radioactive Environmental Monitoring Program."

Unit No. 3:

- 6.15, "Radioactive Effluent Control Program;" and
- 6.16, "Radioactive Environmental Monitoring Program."

The Index and the Bases of the associated Technical Specifications will be modified as necessary to address the proposed changes.

Discussion of Technical Specifications Changes

Generic Letter 89-01⁽¹⁾ provides guidance to relocate the Radiological Effluent Technical Specifications (RETS) from the Millstone Unit Nos. 2 and 3 Technical Specifications to the REMOTCM. Each proposed change associated with the

relocation of the RETS to the REMODCM is discussed below.

1. Index

Index Pages II, V, X, XIV, and XVII of Unit No. 2 Technical Specifications and Index pages i, vi, vii, xii, xvi, and xix of Unit No. 3 Technical Specifications will be revised to reflect the proposed changes to relocate the RETS to the REMODCM. These are administrative changes only.

2. Definitions

a. Definitions 1.31 and 1.26, "Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODCM)," of Unit Nos. 2 and 3 respectively will be deleted. As a result of the relocation of the RETS to the REMODCM, there are no Technical Specifications remaining that use these definitions. The REMODCM is still described in Section 6 of the Millstone Unit Nos. 2 and 3 Technical Specifications. However, it is not used in the context of a defined term. The removal of this defined term is consistent with NUREG - 1432⁽³⁾ and NUREG - 1431.⁽⁴⁾

b. Definitions 1.33 and 1.25, "Radioactive Waste Treatment Systems," of Unit Nos. 2 and 3 respectively will be deleted. The guidelines and procedures addressing the use of radioactive waste treatment systems will still be covered by Specifications 6.15 and 6.13 of unit Nos. 2 and 3 respectively, which describes the REMODCM. In addition, there are no Technical Specifications that use this phrase in the context of a defined term. The removal of this defined term is consistent with NUREG - 1432 and NUREG - 1431.

3. Technical Specifications and associated Surveillance Requirements that will be relocated from Unit Nos. 2 and 3 Technical Specifications to the REMODCM are:

a. 3.3.3.9, "Radioactive Liquid Effluent Monitoring Instrumentation."

b. 3.3.3.10, "Radioactive Gaseous Effluent Monitoring Instrumentation."

c. 3.11.1.1, "Liquid Effluents Concentration."

d. 3.11.1.2, "Dose, Liquids."

e. 3.11.2.1, "Gaseous Effluents Dose Rate."

⁽³⁾ NUREG - 1432, "Standard Technical Specifications Combustion Engineering Plants," Revision 1, dated April 1995.

⁽⁴⁾ NUREG - 1431, "Standard Technical Specifications, Westinghouse Plants," Revision 1, dated April 1995.

- f. 3.11.2.2, "Dose, Noble Gases."
- g. 3.11.2.3, "Dose, Radioiodines, Radioactive Material in Particulate Form, and Radionuclides Other Than Noble Gases."
- h. 3.11.3, "Total Dose."

Background:

The criteria set forth in the final Commission Policy Statement, which was used to develop the Standard Technical Specifications (STS), have been codified in NRC Regulation 10 CFR 50.36(c)(2)(ii). These criteria were developed for licenses authorizing operation and focused on instrumentation to detect degradation of the reactor coolant system pressure boundary and on equipment or process variables that affect the integrity of the fission products barriers during design basis accidents or transients. The fourth criterion refers to the use of operating experience and probabilistic risk assessment to identify and include in the Technical Specifications structures, systems, and components (SSCs) shown to be significant to public health and safety. A general discussion of these considerations is provided below.

10 CFR 50.36(c)(2)(ii)(A) Criterion 1 states that Technical Specification limiting conditions for operation must be established for "installed instrumentation used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary."

10 CFR 50.36(c)(2)(ii)(B) Criterion 2 states that Technical Specification limiting conditions for operation must be established for "process variables that are initial conditions of a design basis accident (DBA) or transient analysis that assume the failure of or present a challenge to the integrity of a fission product barrier." The purpose of this criterion is to capture those process variables that have initial values assumed in the DBA and transient analyses, and which are monitored and controlled during power operation.

10 CFR 50.36(c)(2)(ii)(C) Criterion 3 states that Technical Specification limiting conditions for operation must be established for SSCs that are part of the primary success path and which function or actuate to mitigate a DBA or transient that either assumes the failure of, or presents a challenge to, the integrity of a fission product barrier. The intent of this criterion is to capture into Technical Specifications only those SSCs that are part of the primary success path of a safety analysis sequence. Also captured in this criterion are those support and actuation systems that are necessary for items in the primary success path to successfully function. The primary success path of a safety analysis sequence consists of the combination and sequences of equipment needed to operate (including consideration for single failure), so that the plant response to DBAs and transients limits the consequences of the events to within

the appropriate acceptance criteria.

10 CFR 50.36(c)(2)(ii)(D) Criterion 4 states that Technical Specification limiting conditions for operation must be established for SSCs which operating experience or probabilistic risk assessment has shown to be significant to the public health and safety. The intent of this criterion is that risk insights and operating experience be factored into the establishment of Technical Specifications limiting conditions for operation. This criterion was developed to cover those insights not fully recognized in the safety analysis report DBA or transient analyses. These insights are used to verify that none of the Limiting Conditions for Operation to be relocated or eliminated from Technical Specifications contain constraints of prime importance in limiting the likelihood or severity of the accident sequences that are commonly found to dominate risk.

Discussion:

- a. Technical Specification 3.3.3.9, "Radioactive Liquid Effluent Monitoring Instrumentation."

The purpose of the Radioactive Liquid Effluent Monitoring Instrumentation is to monitor routine radioactive releases. This instrumentation provides a surveillance of potential release points and initiates automatic alarm and trip functions which will terminate the release prior to exceeding the limits of 10 CFR Part 20. The alarm and trip functions are set in accordance with the requirements of REMODCM.

Criterion 1

This Technical Specification does not cover installed instrumentation that is used to detect, and indicate in the control room, a significant degradation of the reactor coolant pressure boundary. This specification does not satisfy criterion 1.

Criterion 2

This Technical Specification does not cover a process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. This specification does not satisfy criterion 2.

Criterion 3

This Technical Specification does not cover a structure, system, or component that is part of the primary success path which functions or actuates to mitigate a design basis accident or transient that either assumes

the failure of or presents a challenge to the integrity of a fission product barrier. This specification does not satisfy criterion 3.

Criterion 4

The equipment which is covered by this Technical Specification has not been shown to be risk significant to public health and safety by either operating experience or probabilistic safety assessment. This Technical Specification does not cover a SSC requiring risk review/unavailability monitoring as stated in station On-Line Maintenance procedure.⁽⁵⁾ This specification does not satisfy criterion 4.

Conclusion

This Technical Specification does not fulfill any one or more of the 10 CFR 50.36c(2)(ii) criteria on items for which Technical Specifications must be established. Therefore, this Technical Specification can be relocated verbatim to the REMODCM.

- b. Technical Specification 3.3.3.10, "Radioactive Gaseous Effluent Monitoring Instrumentation."

The purpose of the Radioactive Gaseous Effluent Monitoring Instrumentation is to monitor routine radioactive releases. This instrumentation provides a surveillance of potential release points and initiates automatic alarm and trip functions which will terminate the release prior to exceeding the limits of 10 CFR Part 20. The alarm and trip functions are set in accordance with the requirements of the REMODCM.

Criterion 1

This Technical Specification does not cover installed instrumentation that is used to detect, and indicate in the control room, a significant degradation of the reactor coolant pressure boundary. This specification does not satisfy criterion 1.

Criterion 2

This Technical Specification does not cover a process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. This specification does not satisfy criterion 2.

⁽⁵⁾ Millstone Station, Functional Administrative Procedure, "Conduct of On-Line Maintenance," MP-20-WM-FAP02.1, Rev. 0.

Criterion 3

This Technical Specification does not cover a structure, system, or component that is part of the primary success path which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. This specification does not satisfy criterion 3.

Criterion 4

The equipment which is covered by this Technical Specification has not been shown to be risk significant to public health and safety by either operating experience or probabilistic safety assessment. This Technical Specification does not cover a SSC requiring risk review/unavailability monitoring as stated in station On-Line Maintenance procedure.⁽⁵⁾ This specification does not satisfy criterion 4.

Conclusion

This Technical Specification does not fulfill any one or more of the 10 CFR 50.36c(2)(ii) criteria on items for which Technical Specifications must be established. Therefore, this Technical Specification can be relocated verbatim to the REMODCM.

- c. Technical Specifications 3.11.1.1, "Liquid Effluents Concentration," and 3.11.1.2, "Dose, Liquids."

Technical Specification 3.11.1.1 ensure the concentration of radioactive materials released in liquid waste effluents from the site will be less than the concentration levels specified in 10 CFR Part 20 (1993 version), Appendix B, Table II. Technical Specification 3.11.1.2 ensures the dose or dose commitment from radioactive materials released in liquid waste effluents will not exceed the requirements of Sections II.A, III.A and IV.A of Appendix I, 10 CFR Part 50.

Criterion 1

These Technical Specifications do not cover installed instrumentation that is used to detect, and indicate in the control room, a significant degradation of the reactor coolant pressure boundary. These specifications do not satisfy criterion 1.

Criterion 2

These Technical Specifications do not cover a process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. These specifications do not satisfy criterion 2.

Criterion 3

These Technical Specifications do not cover a structure, system, or component that is part of the primary success path which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. These specifications do not satisfy criterion 3.

Criterion 4

The limitations which are covered by these Technical Specifications have not been shown to be risk significant to public health and safety by either operating experience or probabilistic safety assessment. These Technical Specifications do not cover a SSC requiring risk review/unavailability monitoring as stated in station On-Line Maintenance procedure.⁽⁵⁾ These specifications do not satisfy criterion 4.

Conclusion

These Technical Specifications do not fulfill any one or more of the 10 CFR 50.36c(2)(ii) criteria on items for which Technical Specifications must be established. Therefore, these Technical Specifications can be relocated verbatim to the REMODCM.

- d. Technical Specifications 3.11.2.1, "Gaseous Effluents Dose Rate," 3.11.2.2, "Dose, Noble Gases," 3.11.2.3, "Dose, Radioiodines, Radioactive Material in Particulate Form, and Radionuclides Other Than Noble Gases," and 3.11.3, "Total Dose."

Technical Specification 3.11.2.1 ensures the dose rate from gaseous effluents released from all units on site will be less than dose limits specified in 10 CFR Part 20 (1993 version), Appendix B, Table II. Technical Specification 3.11.2.2 ensures the dose from noble gases released in gaseous effluents will not exceed the requirements of Sections II.B, III.A and IV.A of Appendix I, 10 CFR Part 50. Technical Specification 3.11.2.3 implements the requirements of Sections II.C, III.A and IV.A of Appendix I, 10 CFR Part 50. Technical Specification 3.11.3 ensures the reporting requirements of 40 CFR 190 are met.

Criterion 1

These Technical Specifications do not cover installed instrumentation that is used to detect, and indicate in the control room, a significant degradation of the reactor coolant pressure boundary. These specifications do not satisfy criterion 1.

Criterion 2

These Technical Specifications do not cover a process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. These specifications do not satisfy criterion 2.

Criterion 3

These Technical Specifications do not cover a structure, system, or component that is part of the primary success path which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. These specifications do not satisfy criterion 3.

Criterion 4

The limitations which are covered by these Technical Specifications have not been shown to be risk significant to public health and safety by either operating experience or probabilistic safety assessment. These Technical Specifications do not cover a SSC requiring risk review/unavailability monitoring as stated in station On-Line Maintenance procedure.⁽⁵⁾ These specifications do not satisfy criterion 4.

Conclusion

These Technical Specifications do not fulfill any one or more of the 10 CFR 50.36c(2)(ii) criteria on items for which Technical Specifications must be established. Therefore, these Technical Specifications can be relocated verbatim to the REMODCM.

4. Technical Specification 6.9.1.6 of Millstone Unit No. 2 will be replaced with Technical Specifications 6.9.1.6a and 6.9.1.6b. Technical Specification 6.9.1.6 calls for submitting an Annual Radioactive Effluent Report. This will be replaced, in accordance with the guidance of GL 89-01, with an Annual Radiological Environmental Operating Report and a Radioactive Effluent Release Report. Technical Specifications 6.9.1.3 and 6.9.1.4 of Millstone Unit No. 3 will be revised. Technical Specifications 6.9.1.6a and 6.9.1.6b and the

revised Technical Specifications 6.9.1.3 and 6.9.1.4 provide descriptions which satisfy the requirements of parts 10 CFR 50.36a and 10 CFR 50, Appendix I, Sections IV.B.1, IV.B.2, IV.B.3, and IV.C. This is consistent with NUREG - 1432 and NUREG - 1431.

5. The description of the REMODCM contained in Technical Specifications 6.15 and 6.13 of Millstone Unit Nos. 2 and 3 respectively will be modified to be consistent with the guidance of GL 89-01, and with NUREG - 1432 and NUREG - 1431. Additional minor changes have been made to be consistent with the proposed changes to Technical Specification 6.9.1.6 of Millstone Unit No. 2 and Technical Specifications 6.9.1.3 and 6.9.1.4 of Millstone Unit No. 3.
6. Technical Specifications 6.20 and 6.15, Radioactive Effluent Controls Program, of Millstone Unit Nos. 2 and 3 respectively, and 6.21 and 6.16, Radiological Environmental Monitoring Program, of Millstone Unit Nos. 2 and 3 respectively will be added. The addition of these programs is consistent with the guidance contained in Generic Letter 89-01 for the relocation of the Radioactive Effluents Technical Specifications. These changes are also consistent with NUREG - 1432 and NUREG - 1431. Additional minor changes have been made to clarify the particular version of 10 CFR 20, Appendix B, Table II, Column 1 which is being used by Millstone Unit Nos. 2 and 3, namely the 1993 version. The use of the 1993 version is part of Millstone Unit Nos. 2 and 3 licensing bases as described in the Final Safety Analysis Reports.
7. Bases

The Bases for Technical Specifications 3/4.3.3.3.9, Radioactive Liquid Effluent Instrumentation, 3/4.3.3.3.10, Radioactive Gaseous Effluent Instrumentation, 3/4.11.1, Liquid Effluent, 3/4.11.2, Gaseous Effluent, and 3/4.11.3, Total Dose, will be relocated to the REMODCM. The corresponding Technical Specifications are proposed to be relocated to the REMODCM as described in criterion 3.

Miscellaneous Millstone Unit No. 2 Technical Specifications Changes:

Additional changes to the Millstone Unit No. 2 Technical Specifications are necessary to resolve issues not related to transferring the RETS to the REMODCM. Each of these additional changes is described below.

1. A reference to Specification 6.19, "Containment Leakage Rate Testing Program," will be added to the Index Page XVII. This specification was added by License Amendment No. 203.⁽⁶⁾ This is an administrative change only.
2. The reference to Technical Specification 3.3.3.2, "Instrumentation - Incore

⁽⁶⁾ D. G. McDonald, Jr., letter to NNECO, "Issuance of Amendment Relating to Performance-Based Testing - Millstone Nuclear Power Station, Unit No. 2 (TAC NO. M94507)," dated September 20, 1996.

Detectors," will be removed from the specifications listed below. The NRC has approved the relocation of Technical Specification 3.3.3.2 to the Millstone Unit No. 2 TRM on July 13, 1999.⁽⁷⁾

- a. Technical Specification 3.10.2, "Group Height and Insertion Limits."
 - b. Technical Specification 3.10.5, "Center CEA Misalignment."
3. Technical Specification 6.8.3.a will be modified by adding the word "the." This is an administrative change only.
4. Technical Specification 6.9.2 will be modified as follows:
- a. The NRC has approved the relocation of Technical Specification 3.3.3.3, Seismic Instrumentation, to the Millstone Unit No. 2 TRM on July 13, 1999.⁽⁷⁾ A reference to Specification 3.3.3.3 is no longer required.
 - b. The NRC has approved the relocation of Technical Specification 3.3.3.4, Meteorological Instrumentation, to the Millstone Unit No. 2 TRM on July 13, 1999.⁽⁷⁾ A reference to Specification 3.3.3.4 is no longer required.
 - c. Technical Specification 3.4.10, Structural Integrity, was modified by License Amendment No. 70.⁽⁸⁾ This License Amendment replaced most of the surveillance requirements originally contained in this specification with the requirements contained in Technical Specification 4.0.5. A reference to Specification 4.4.10.1 is no longer required.
 - d. The Radioactive Effluents Technical Specifications 3.11.1.2, 3.11.2.2, 3.11.2.3, and 3.11.4 are proposed to be removed by this submittal. A reference to Specifications 3.11.1.2, 3.11.2.2, 3.11.2.3, and 3.11.4 is no longer required.
6. Technical Specification 6.18(iii) will be modified by changing "anlysis" with "analysis equipment." This is a non-technical change.

Safety Summary

The following proposed changes are administrative in nature. Therefore, these changes will have no adverse effect on plant safety.

- Revise Index Pages of Unit Nos. 2 and 3 Technical Specifications to reflect the

⁽⁷⁾ R. B. Eaton, letter to NNECO, "Millstone Nuclear Power Station, Unit No. 2- Issuance of Amendment Re: Relocating Specifications to Technical Requirements Manual, Amendment No. 237," dated July 13, 1999.

⁽⁸⁾ R. A. Clark, letter to NNECO, "Millstone Nuclear Power Station, Unit No. 2- Issuance of License Amendment No. 70," dated July 1, 1981.

proposed changes to relocate the RETS to the REMODCM.

- Address additional changes to the Millstone Unit No. 2 Technical Specifications to resolve issues not related to transferring the RETS to the REMODCM (see above detailed description of the proposed changes).

The safety summary will address the remaining proposed changes. These proposed changes will:

- Relocate the following Technical Specifications, associated surveillance requirements and Bases from Unit Nos. 2 and 3 Technical Specifications to the REMODCM.
 - a. 3.3.3.9, "Radioactive Liquid Effluent Monitoring Instrumentation."
 - b. 3.3.3.10, "Radioactive Gaseous Effluent Monitoring Instrumentation."
 - c. 3.11.1.1, "Liquid Effluents Concentration."
 - d. 3.11.1.2, "Dose, Liquids."
 - e. 3.11.2.1, "Gaseous Effluents Dose Rate."
 - f. 3.11.2.2, "Dose, Noble Gases."
 - g. 3.11.2.3, "Dose, Radioiodines, Radioactive Material in Particulate Form, and Radionuclides Other Than Noble Gases."
 - h. 3.11.3, "Total Dose."
- Delete definitions 1.31 and 1.26, "Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODCM)," of unit Nos. 2 and 3 respectively;
- Delete definitions 1.33 and 1.25, "Radioactive Waste Treatment Systems," of unit Nos. 2 and 3 respectively ;
- Replaced Technical Specification 6.9.1.6 of Millstone Unit No. 2 with Technical Specifications 6.9.1.6a and 6.9.1.6b;
- Revise Technical Specifications 6.9.1.3 and 6.9.1.4 of Millstone Unit No. 3;
- Modify the description of the REMODCM contained in Technical Specifications 6.15 and 6.13 of Millstone Unit Nos. 2 and 3 respectively;
- Add Technical Specifications 6.20 and 6.15, Radiological Effluent Controls Program, of Millstone Unit Nos. 2 and 3 respectively, and 6.21 and 6.16, Radiological Environmental Monitoring Program, of Millstone Unit Nos. 2 and 3 respectively.

The purpose of the Radiological Liquid and Gaseous Effluent Monitoring Instrumentation is to monitor routine radioactive releases. These instrumentation provide a surveillance of potential release points and initiates automatic alarm and trip functions which will terminate the release prior to exceeding the limits of 10 CFR

Part 20 (1993 version). Technical Specification 3.3.3.9, "Radioactive Liquid Effluent Monitoring Instrumentation," and Technical Specification 3.3.3.10, "Radioactive Gaseous Effluent Monitoring Instrumentation," do not:

- cover installed instrumentation that is used to detect, and indicate in the control room, a significant degradation of the reactor coolant pressure boundary,
- cover a process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier,
- cover a Structure, System, or Component (SSC) that is part of the primary success path which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier,
- cover a SSC requiring risk review/unavailability monitoring as stated in station On-Line Maintenance procedure.⁽⁹⁾

Therefore, Radiological Liquid and Gaseous Effluent Monitoring Instrumentation are not an active design feature needed to preclude analyzed accidents or transients. Relocation of Technical Specifications 3.3.3.9 and 3.3.3.10 to the REMODCM do not imply any reduction in its importance in monitoring routine radioactive releases. Future changes, after relocation to the REMODCM, will be controlled in accordance with Specifications 6.15 and 6.13 of unit Nos. 2 and 3 respectively and 10CFR 50.59. Therefore, the proposed changes will have no adverse effect on plant safety.

Technical Specification 3.11.1.1 ensures the concentration of radioactive materials released in liquid waste effluents from the site will be less than the concentration levels specified in 10 CFR Part 20 (1993 version), Appendix B, Table II. Technical Specification 3.11.1.2 ensures the dose or dose commitment from radioactive materials released in liquid waste effluents will not exceed the requirements of Sections II.A, III.A and IV.A of Appendix I, 10 CFR Part 50. Technical Specification 3.11.2.1 ensures the dose rate from gaseous effluents released from all units on site will be less than dose limits specified in 10 CFR Part 20 (1993 version), Appendix B, Table II. Technical Specification 3.11.2.2 ensures the dose from noble gases released in gaseous effluents will not exceed the requirements of Sections II.B, III.A and IV.A of Appendix I, 10 CFR Part 50. Technical Specification 3.11.2.3 implements the requirements of Sections II.C, III.A and IV.A of Appendix I, 10 CFR Part 50. Technical Specification 3.11.3 ensures the reporting requirements of 40 CFR 190 are met. Technical Specifications 3.11.1.1, 3.11.1.2, 3.11.2.1, 3.11.2.2, 3.11.2.3, and 3.11.3 do not:

- cover installed instrumentation that is used to detect, and indicate in the control

⁽⁹⁾ Millstone Station, Functional Administrative Procedure, "Conduct of On-Line Maintenance," MP-20-WM-FAP02.1, Rev. 0.

room, a significant degradation of the reactor coolant pressure boundary,

- cover a process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier,
- cover a SSC that is part of the primary success path which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier,
- cover a SSC requiring risk review/unavailability monitoring as stated in station On-Line Maintenance procedure.⁽⁹⁾

Therefore, these limitations are not active design features needed to preclude analyzed accidents or transients. Relocation of Technical Specifications 3.11.1.1, 3.11.1.2, 3.11.2.1, 3.11.2.2, 3.11.2.3, and 3.11.3 to the REMODCM do not imply any reduction in its importance in ensuring that the regulatory limits are met. Future changes, after relocation to the REMODCM, will be controlled in accordance with Specifications 6.15 and 6.13 of unit Nos. 2 and 3 respectively and 10CFR 50.59. Therefore, the proposed changes will have no adverse effect on plant safety.

As a result of the relocation of the RETS to the REMODCM, there are no Technical Specifications remaining that use definitions 1.31 and 1.26, "Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODCM)," of unit Nos. 2 and 3 respectively. The REMODCM is still described in Section 6 of the Millstone Unit Nos. 2 and 3 Technical Specifications. However, it is not used in the context of a defined term. The removal of this defined term is consistent with NUREG - 1432⁽¹⁰⁾ and NUREG - 1431.⁽¹¹⁾ The guidelines and procedures addressing the use of radioactive waste treatment systems will still be covered by Specifications 6.15 and 6.13 of unit Nos. 2 and 3 respectively, which describe the REMODCM. Therefore, definitions 1.33 and 1.25, "Radioactive Waste Treatment Systems," of unit Nos. 2 and 3 respectively are no longer needed. In addition, there are no Specifications that use this phrase in the context of a defined term. The removal of this defined term is consistent with NUREG - 1432 and NUREG - 1431. Therefore, the proposed changes will have no adverse effect on plant safety.

Technical Specification 6.9.1.6 of Millstone Unit No. 2 will be replaced with Technical Specifications 6.9.1.6a and 6.9.1.6b. Technical Specifications 6.9.1.3 and 6.9.1.4 of Millstone Unit No. 3 will be revised. Technical specifications 6.9.1.6a and 6.9.1.6b and the revised Technical Specifications 6.9.1.3 and 6.9.1.4 provide descriptions which satisfy the requirements of parts 10 CFR 50.36a and 10 CFR 50, Appendix I, Sections

⁽¹⁰⁾ NUREG - 1432, "Standard Technical Specifications Combustion Engineering Plants," Revision 1, dated April 1995.

⁽¹¹⁾ NUREG - 1431, "Standard Technical Specifications, Westinghouse Plants," Revision 1, dated April 1995.

IV.B.1, IV.B.2, IV.B.3, and IV.C. These changes are consistent with NUREG - 1432 and NUREG - 1431. Therefore, the proposed changes will have no adverse effect on plant safety.

The description of the REMODCM contained in Technical Specifications 6.15 and 6.13 of Millstone Unit Nos. 2 and 3 respectively will be modified to be consistent with the guidance of GL 89-01, and with NUREG - 1432 and NUREG - 1431. Additional minor changes have been made to be consistent with the proposed changes to Technical Specification 6.9.1.6 of Millstone Unit No. 2 and Technical Specifications 6.9.1.3 and 6.9.1.4 of Millstone Unit No. 3. Therefore, the proposed changes will have no adverse effect on plant safety.

Adding Technical Specifications 6.20 and 6.15, "Radiological Effluent Controls Program," to Millstone Unit Nos. 2 and 3 respectively, and 6.21 and 6.16, "Radiological Environmental Monitoring Program," to Millstone Unit Nos. 2 and 3 respectively is consistent with the guidance contained in Generic Letter 89-01 for the relocation of the Radiological Effluents Technical Specifications and with NUREG - 1432 and NUREG - 1431. Therefore, the proposed changes will have no adverse effect on plant safety.

Docket Nos. 50-336
50-423
B17959

Attachment 2

Millstone Nuclear Power Station, Unit Nos. 2 and 3

**Proposed Revision to Technical Specifications
Radiological Effluent Technical Specifications
Significant Hazards Consideration**

February 2000

**Millstone Nuclear Power Station, Unit Nos. 2 and 3
Proposed Revision to Technical Specifications
Radiological Effluent Technical Specifications
Significant Hazards Consideration**

Significant Hazards Consideration

In accordance with 10CFR 50.92, NNECO has reviewed the proposed changes and has concluded that they do not involve a Significant Hazards Consideration (SHC). The basis for this conclusion is that the three criteria of 10CFR 50.92(c) are not compromised. The proposed changes do not involve an SHC because the changes would not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated.

The purpose of the Radiological Liquid and Gaseous Effluent Monitoring Instrumentation is to monitor routine radioactive releases. These instrumentation provide a surveillance of potential release points and initiates automatic alarm and trip functions which will terminate the release prior to exceeding the limits of 10 CFR Part 20 (1993 version). Relocation of Technical Specification 3.3.3.9, "Radioactive Liquid Effluent Monitoring Instrumentation," and Technical Specification 3.3.3.10, "Radioactive Gaseous Effluent Monitoring Instrumentation," to the Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODOCM) does not imply any reduction in its importance in monitoring routine radioactive releases. These instruments are neither used for, nor capable of, detecting a significant abnormal degradation of the reactor coolant pressure boundary before a design basis accident, nor do they function as a primary success path to mitigate events which assume a failure of or a challenge to the integrity of fission product barriers. These monitors are not an active design feature needed to preclude analyzed accidents or transients. Therefore, this change will not significantly increase the probability or consequences of an accident previously evaluated.

Technical Specification 3.11.1.1 ensure the concentration of radioactive materials released in liquid waste effluents from the site will be less than the concentration levels specified in 10 CFR Part 20 (1993 version), Appendix B, Table II. Technical Specification 3.11.1.2 ensures the dose or dose commitment from radioactive materials released in liquid waste effluents will not exceed the requirements of Sections II.A, III.A and IV.A of Appendix I, 10 CFR Part 50. Technical Specification 3.11.2.1 ensures the dose rate from gaseous effluents released from all units on site will be less than dose limits specified in 10 CFR Part 20 (1993 version), Appendix B, Table II. Technical Specification 3.11.2.2 ensures the dose from noble gases released in gaseous effluents will not exceed the requirements of Sections II.B, III.A and IV.A of Appendix I, 10 CFR Part 50.

Technical Specification 3.11.2.3 implements the requirements of Sections II.C, III.A and IV.A of Appendix I, 10 CFR Part 50. Technical Specification 3.11.3 ensures the reporting requirements of 40 CFR 190 are met. Relocation of these Technical Specifications to REMODCM does not imply any reduction in its importance in ensuring that the regulatory limits are met. The instrumentation covered by these Technical Specifications are neither used for, nor capable of, detecting a significant abnormal degradation of the reactor coolant pressure boundary before a design basis accident, nor do they function as a primary success path to mitigate events which assume a failure of or a challenge to the integrity of fission product barriers. These instrumentation are not an active design feature needed to preclude analyzed accidents or transients. Therefore, this change will not significantly increase the probability or consequences of an accident previously evaluated.

As a result of the relocation of the Radiological Effluent Technical Specifications (RETS) to the REMODCM, there are no Technical Specifications remaining that use definitions 1.31 and 1.26, "Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODCM)," of unit Nos. 2 and 3 respectively. The guidelines and procedures addressing the use of radioactive waste treatment systems are covered by Specifications 6.15 and 6.13 of unit Nos. 2 and 3 respectively, which describes the REMODCM. Therefore, definitions 1.33 and 1.25, "Radioactive Waste Treatment Systems," of unit Nos. 2 and 3 respectively are no longer needed. In addition, there are no Specifications that use this phrase in the context of a defined term. These changes do not impact the assumptions used in any accident analysis, affect plant equipment, plant configuration, or the way the plant is operated. Therefore, this change will not significantly increase the probability or consequences of an accident previously evaluated.

Replacing Technical Specification 6.9.1.6 of Millstone Unit No. 2 with Technical Specifications 6.9.1.6a and 6.9.1.6b and revising Technical Specifications 6.9.1.3 and 6.9.1.4 of Millstone Unit No.3 will provide descriptions which satisfy the requirements of parts 10 CFR 50.36a and 10 CFR 50, Appendix I, Sections IV.B.1, IV.B.2, IV.B.3, and IV.C. These changes are consistent with NUREG - 1432 and NUREG - 1431. These changes do not impact the assumptions used in any accident analysis, affect plant equipment, plant configuration, or the way the plant is operated. Therefore, this change will not significantly increase the probability or consequences of an accident previously evaluated.

The description of the REMODCM contained in Technical Specifications 6.15 and 6.13 of Millstone Unit Nos. 2 and 3 respectively will be modified to be consistent with the guidance of GL 89-01, and with NUREG - 1432 and NUREG - 1431. Additional minor changes have been made to be consistent with the proposed changes to Technical Specification 6.9.1.6 of Millstone Unit No. 2 and Technical Specifications 6.9.1.3 and 6.9.1.4 of Millstone Unit No. 3. These

changes do not impact the assumptions used in any accident analysis, affect plant equipment, plant configuration, or the way the plant is operated. Therefore, this change will not significantly increase the probability or consequences of an accident previously evaluated.

Adding Technical Specifications 6.20 and 6.15, Radiological Effluent Controls Program, to Millstone Unit Nos. 2 and 3 respectively, and 6.21 and 6.16, Radiological Environmental Monitoring Program, to Millstone Unit Nos. 2 and 3 respectively is consistent with the guidance contained in Generic Letter 89-01 for the relocation of the Radiological Effluents Technical Specifications and with NUREG - 1432 and NUREG - 1431. Additional minor changes have been made to be consistent with the version of 10 CFR 20, Appendix B, Table II, Column 1 which is being used by Millstone Unit Nos. 2 and 3, namely the 1993 version. These changes do not impact the assumptions used in any accident analysis, affect plant equipment, plant configuration, or the way the plant is operated. Therefore, this change will not significantly increase the probability or consequences of an accident previously evaluated.

The following proposed changes are administrative in nature. Therefore, these changes will not significantly increase the probability or consequences of an accident previously evaluated.

- Revise Index Pages of Unit Nos. 2 and 3 Technical Specifications to reflect the proposed changes to relocate the RETS to the REMODCM.
- Address additional changes to the Millstone Unit No. 2 Technical Specifications to resolve issues not related to transferring the RETS to the REMODCM.
- Relocate to the associated Bases sections.

The proposed changes do not alter how any structure, system, or component functions. There will be no effect on equipment important to safety. The proposed changes have no effect on any of the design basis accidents previously evaluated. Therefore, this License Amendment Request does not impact the probability of an accident previously evaluated, nor does it involve a significant increase in the consequences of an accident previously evaluated.

2. Create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed changes do not alter the plant configuration (no new or different type of equipment will be installed) or require any new or unusual operator actions. They do not alter the way any structure, system, or component functions and do not alter the manner in which the plant is operated. The

proposed changes do not introduce any new failure modes. Therefore, the proposed changes will not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Involve a significant reduction in a margin of safety.

Relocation of Technical Specifications 3.3.3.9, 3.3.3.10, 3.11.1.1, 3.11.1.2, 3.11.2.1, 3.11.2.2, 3.11.2.3, and 3.11.3 to REMODCM does not imply any reduction in its importance in monitoring and ensuring that the regulatory limits are met. As a result of the relocation of the RETS to the REMODCM, there are no Technical Specifications remaining that use definitions 1.31 and 1.26. Additionally, the guidelines and procedures addressing the use of radioactive waste treatment systems which are covered by Specifications 6.15 and 6.13 remove the need for definitions 1.33 and 1.25 of unit Nos. 2 and 3 respectively. Replacing Technical Specification 6.9.1.6 of Millstone Unit No. 2 with Technical Specifications 6.9.1.6a and 6.9.1.6b and revising Technical Specifications 6.9.1.3 and 6.9.1.4 of Millstone Unit No.3 will provide descriptions which satisfy the requirements of parts 10 CFR 50.36a and 10 CFR 50, Appendix I, Sections IV.B.1, IV.B.2, IV.B.3, and IV.C. Modifying the description of the REMODCM contained in Technical Specifications 6.15 and 6.13 of Millstone Unit Nos. 2 and 3 respectively and adding Technical Specifications 6.20, 6.21 and 6.15, 6.16 to Millstone Unit Nos. 2 and 3 respectively is consistent with the guidance contained in Generic Letter 89-01 for the relocation of the Radiological Effluents Technical Specifications and with NUREG - 1432 and NUREG - 1431.

The proposed changes do not affect any of the assumptions used in the accident analysis, nor do they affect any operability requirements for equipment important to plant safety. Therefore, the proposed changes will not result in a significant reduction in the margin of safety as defined in the Bases for Technical Specifications covered in this License Amendment Request.

As described above, this License Amendment Request does not involve a significant increase in the probability of an accident previously evaluated, does not involve a significant increase in the consequences of an accident previously evaluated, does not create the possibility of a new or different kind of accident from any accident previously evaluated, and does not result in a significant reduction in a margin of safety. Therefore, NNECO has concluded that the proposed changes do not involve an SHC.

Docket Nos. 50-336
50-423
B17959

Attachment 3

Millstone Nuclear Power Station, Unit No. 2

**Proposed Revision to Technical Specifications
Radiological Effluent Technical Specifications
Marked Up Pages**

February 2000

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DEFINITIONS

March 11, 1999

ENGINEERED SAFETY FEATURE RESPONSE TIME (Continued)

performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays where applicable.

PHYSICS TESTS

1.28 PHYSICS TESTS shall be those tests performed to measure the fundamental nuclear characteristics of the reactor core and related instrumentation and 1) described in Chapter 13.0 of the FSAR, 2) authorized under the provisions of 10 CFR 50.59, or 3) otherwise approved by the Commission.

TOTAL UNRODDED INTEGRATED RADIAL PEAKING FACTOR - F_r^T

1.29 The TOTAL UNRODDED INTEGRATED RADIAL PEAKING FACTOR is the ratio of the peak pin power to the average pin power in an unrodded core. This value includes the effect of AZIMUTHAL POWER TILT.

SOURCE CHECK

1.30 A SOURCE CHECK shall be the qualitative assessment of channel response when the channel sensor is exposed to radiation.

RADIOLOGICAL EFFLUENT MONITORING AND OFFSITE DOSE CALCULATION MANUAL (REMDCM)

1.31 A RADIOLOGICAL EFFLUENT MONITORING MANUAL shall be a manual containing the site and environmental sampling and analysis programs for measurements of radiation and radioactive materials in those exposure pathways and for those radionuclides which lead to the highest potential radiation exposures to individuals from station operation. An OFFSITE DOSE CALCULATION MANUAL shall be a manual containing the methodology and parameters to be used in the calculation of offsite doses due to radioactive gaseous and liquid effluents and in the calculation of gaseous and liquid effluent monitoring instrumentation alarm/trip setpoints. Requirements of the REMDCM are provided in Specification 6.15.

RADIOACTIVE WASTE TREATMENT SYSTEMS

1.33 RADIOACTIVE WASTE TREATMENT SYSTEMS are those liquid, gaseous and solid waste systems which are required to maintain control over radioactive material in order to meet the LCOs set forth in these specifications.

PURGE - PURGING

1.34 PURGE or PURGING is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is required to purify the containment.

INSTRUMENTATION

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.9 The radioactive liquid effluent monitoring instrumentation channels shown in Table 3.3-12 shall be OPERABLE with applicable alarm/trip setpoints set to ensure that the limits of Specification 3.11.1.1 are not exceeded. The setpoints shall be determined in accordance with methods and parameters as described in the ODCM.

APPLICABILITY: As shown in Table 3.3-12.

ACTION:

- a. With a radioactive liquid effluent monitoring instrumentation channel alarm/trip setpoint less conservative than required by the above specification, without delay suspend the release of radioactive liquid effluents monitored by the affected channel, or declare the channel inoperable, or change the setpoint so it is acceptably conservative.
- b. With the number of channels less than the minimum channels operable requirement, take the ACTION shown in Table 3.3-12. Exert best efforts to restore the inoperable monitor to OPERABLE status within 30 days and, if unsuccessful, explain in the next Annual Effluent Report why the inoperability was not corrected in a timely manner. Releases need not be terminated after 30 days provided the specified actions are continued.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.9 Each radioactive liquid effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION, and CHANNEL FUNCTIONAL TEST operations at the frequencies shown in Table 4.3-12.

Replace with

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TABLE 3.3-12

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM # OPERABLE</u>	<u>ALARM SETPOINT REQUIRED</u>	<u>APPLICABILITY</u>	<u>ACTION</u>
1. Gross Radioactivity Monitors Providing Automatic Termination of Release				
a. Clean Liquid Radwaste Effluent Line	1	Yes	*	1
b. Aerated Liquid Radwaste Effluent Line	1	Yes	*	1
c. Steam Generator Blowdown Monitor	1	Yes	****	2
d. Condensate Polishing Facility Waste Neut Sump	1	Yes	***	1
2. Gross Radioactivity Monitors Not Providing Automatic Termination of Release				
a. Reactor Building Closed Cooling Water Monitor#	1	Yes	*	3
3. Flow Rate Measurements				
a. Clean Liquid Radwaste Effluent Line	1	No	*	4
b. Aerated Liquid Radwaste Effluent Line	1	No	*	4
c. Condensate Polishing Facility Waste Neut Sump Discharge Line	1	No	*	4
d. Dilution Water Flow	##	No	*	NA
e. Steam Generator Blowdown Line	###	No	*	NA

Replace with

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TABLE 3.3-12 (Continued)

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

Table Notes

- * - At all times - which means that channels shall be OPERABLE and in service on a continuous, uninterrupted basis, except that outages are permitted, for a maximum of 12 hours, for the purpose of maintenance and performance of required tests, checks, calibrations, or sampling.
- ** - Deleted.
- *** - Modes 1-6 when pathway is being used except that outages are permitted for a maximum of 12 hours for the purpose of maintenance and performance of required tests, checks, calibrations, or sampling.
- **** - Modes 1-4, except that outages are permitted for a maximum of 12 hours for the purpose of maintenance and performance of required tests, checks, calibrations, or sampling.
- # - Since the only source of service water contamination is the reactor building closed cooling water, monitoring of the closed cooling water and conservative leakage assumptions will provide adequate control of service water effluents.
- ## - The dilution water is determined by the use of condenser cooling water and service water pump status. Only those pumps actually discharging to the quarry at the time of release are included. Pump status is only reviewed for purposes of determining flows.
- ### - Determined by the use of valve curves and/or make up flow rates for the purpose of determining flows only.
- NA - Not applicable.

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TABLE 3.3-12
(Continued)

ACTION STATEMENTS

ACTION 1: With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirements, effluent releases may continue provided that best efforts are made to repair the instrument and that prior to initiating a release:

1. At least two independent samples are analyzed in accordance with Specification 4.11.1.1.1; and
2. The original release rate calculations and discharge valving are independently verified by a second individual.

ACTION 2: With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, either:

1. Suspend all effluent releases via this pathway, or
2. Make best efforts to repair the instrument and obtain grab samples and analyze for gross radioactivity (beta or gamma) at a lower limit of detection of at least 3×10^{-7} $\mu\text{Ci/ml}$;
 - a. Once per 12 hours when the specific activity of the secondary coolant is $> 0.01 \mu\text{Ci/gm DOSE EQUIVALENT I-131}$.
 - b. Once per 24 hours when the specific activity of the secondary coolant is $\leq 0.01 \mu\text{Ci/gm DOSE EQUIVALENT I-131}$.

ACTION 3: With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this Pathway may continue provided that best efforts are made to repair the instrument and that once per 12 hours grab samples of the service water effluent are collected and analyzed for gross radioactivity (beta or gamma) at a lower limit of detection of at least 3×10^{-7} $\mu\text{Ci/ml}$.

ACTION 4: With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue provided that best efforts are made to repair the instrument and that the flow rate is estimated once per 4 hours during actual releases. Pump performance curves may be used to estimate flow.

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March 27, 1995 ⁹

TABLE 4.3-12

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>SOURCE CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>
1. GROSS RADIOACTIVITY MONITORS PROVIDING ALARM AUTOMATIC TERMINATION OF RELEASE				
a. Clean Liquid Radwaste Effluent Line	D*	P	R(1)	Q(2)
b. Aerated Liquid Radwaste Effluent Line	D*	P	R(1)	Q(2)
c. Steam Generator Blowdown Monitor	D*	M	R(1)	Q(2)
d. Deleted				
e. Condensate Polishing Facility - Waste Neut Sump	D*	P	R(1)	Q(2)
2. GROSS RADIOACTIVITY MONITORS PROVIDING ALARM BUT NOT PROVIDING AUTOMATIC TERMINATION OF RELEASE				
a. Reactor Building Closed Cooling Water	D*	M	R(1)	Q(2)
3. FLOW RATE MEASUREMENT DEVICES				
a. Clean Liquid Radwaste Line	D*	NA	R	Q
b. Aerated Liquid Radwaste Line	D*	NA	R	Q
c. Condensate Polishing Facility - Waste Neut Sump Line	D*	NA	R	Q
d. Dilution Water Flow	D(4)	NA	NA	NA
e. Steam Generator Blowdown Line	D(4)	NA	NA	NA

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March 27, 1995

TABLE 4.3-12
(Continued)

TABLE NOTATIONS

- * - During releases via this pathway and when the monitor is required OPERABLE per Table 3.3-12. The CHANNEL CHECK should be done when the discharge is in progress.
- NA - Not Applicable.
- (1) - Calibration shall include the use of a known radioactive liquid or solid source which is traceable to an NBS source.
- (2) - The CHANNEL FUNCTIONAL TEST shall also demonstrate that control room alarm annunciation occurs if any of the following exist:
 - a. Instrument indicates measured levels above the alarm/trip setpoint.
 - b. Instrument indicates a downscale or circuit failure.
 - Automatic isolation of the discharge stream shall also be demonstrated for this case for each monitor except the reactor building closed cooling water monitor.
- (3) - Deleted.
- (4) - Pump or valve status, as appropriate, shall be checked daily for the purposes of determining flow rates.

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NOV 23 1993

INSTRUMENTATION

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.10 The radioactive gaseous effluent monitoring instrumentation channels shown in Table 3.3-13 shall be OPERABLE with applicable alarm/trip setpoints set to ensure that the limits of Specification 3.11.2.1 are not exceeded. The setpoints shall be determined in accordance with methods and parameters as described in the ODCM.

APPLICABILITY: As shown in Table 3.3-13.

ACTION:

- a. With a radioactive gaseous effluent monitoring instrumentation channel alarm/trip setpoint less conservative than required by the above specification, without delay suspend the release of radioactive gaseous effluents monitored by the affected channel, or declare the channel inoperable, or change the setpoint so it is acceptably conservative.
- b. With the number of channels less than the minimum channels (OPERABLE requirement, take the ACTION shown in Table 3.3-13. Exert best efforts to restore the inoperable monitor to OPERABLE status within 30 days and, if unsuccessful, explain in the next Annual Effluent Report why the inoperability was not corrected in a timely manner. Releases need not be terminated after 30 days provided the specified actions are continued.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.10 Each radioactive gaseous effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION, and CHANNEL FUNCTIONAL TEST operations at the frequencies shown in Table 4.3-13.

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February 23, 1988

TABLE 3.3-13

RADIOACTIVE GASEOUS EFFLUENT INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>ALARM SETPOINTS REQUIRED</u>	<u>APPLICABILITY</u>	<u>ACTION</u>
1. MP2 STACK				
a. Noble Gas Activity Monitor	1	Yes***	**	1
b. Iodine Sampler	1	No	**	2
c. Particulate Sampler	1	No	**	2
d. Stack Flow Rate Monitor	1	No	**	3
e. Sampler Flow Rate Monitor	1	No	**	3
2. MP1 MAIN STACK				
a. Noble Gas Activity Monitor	1	Yes***	**	5
b. Iodine Sample	1	No	**	2
c. Particulate Sampler	1	No	**	2
d. Stack Flow Rate Monitor	1	No	**	3
e. Sampler Flow Rate Monitor	1	No	**	3
3. WASTE GAS HOLDUP SYSTEM - NOBLE GAS MONITOR PROVIDING AUTOMATIC TERMINATION OF RELEASE	1	Yes	*	4

* - During waste gas holdup system discharge.

** - At all times which means that channels shall be OPERABLE and in service on a continuous, uninterrupted basis, except that outages are permitted for a maximum of 12 hours for the purpose of maintenance and performance of required tests, checks, calibrations, or sampling.

*** - No automatic isolation features.

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February 23, 1988

TABLE 3.3-13
(Continued)

ACTION STATEMENTS

ACTION 1: With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirements, effluent releases via this pathway may continue provided that best efforts are made to repair the instrument and that grab samples are taken once per 12 hours and these samples are analyzed for gross activity within 24 hours.

ACTION 2: With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirements, effluent releases via this pathway may continue provided that best efforts are made to repair the instrument and that samples are continuously collected with auxiliary sampling equipment for periods of seven (7) days and analyzed for principle gamma emitters with half lives greater than 8 days within 48 hours after the end of the sampling period. Auxiliary sampling must be initiated within 12 hours of initiation of this ACTION statement.

ACTION 3: With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue provided that the best efforts are made to repair the instrument and that the flow rate is estimated once per 4 hours.

ACTION 4: With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement:

Releases from the Millstone Unit 2 waste gas system may continue provided that best efforts are made to repair the instrument and that prior to initiating the release:

- (a) At least two independent samples of the tank's contents are analyzed; and
- (b) The original release rate calculations and discharge valve lineups are independently verified by a second individual.

Otherwise, suspend releases from the waste gas holdup system.

ACTION 5: With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, Millstone Unit 2 releases via the Millstone Unit 1 stack may continue provided that best efforts are made to repair the instrument and that grab samples are taken once per 12 hours and these samples are analyzed for gross radioactivity within 24 hours.

MILLSTONE - UNIT 2

3/4 3-58

Amendment No. 194, 128

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TABLE 4.3-13

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>SOURCE CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>
1. MP2 STACK				
a. Noble Gas Activity Monitor	D	M	R(1)	Q(2)
b. Iodine Sampler	W	NA	NA	NA
c. Particulate Sampler	W	NA	NA	NA
d. Stack Flow Rate Monitor	D	NA	R	Q
e. Sampler Flow Rate Monitor	D	NA	R	NA
2. MP1 MAIN STACK				
a. Noble Gas Activity Monitor	D	M	R(1)	Q(2)
b. Iodine Sampler	W	NA	NA	NA
c. Particulate Sampler	W	NA	NA	NA
d. Stack Flow Rate Monitor	D	NA	R	Q(2)
e. Sampler Flow Rate Monitor	D	NA	R	NA
3. WASTE GAS SYSTEM NOBLE GAS MONITOR	D*	P	R(1)	Q(2)

NA = Not Applicable.

* - During releases via this pathway and when the monitor is required OPERABLE per Table 3.3-13. The CHANNEL CHECK should be performed when the discharge is in progress.

Replace with

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TABLE 4.3-13
(Continued)

TABLE NOTATION

- (1) Calibration shall include the use of a known source whose strength is determined by a detector which has been calibrated to an NBS source. These sources shall be in a known, reproducible geometry.
- (2) The CHANNEL FUNCTIONAL TEST shall also demonstrate that control room alarm annunciation* occurs if any of the following conditions exist:
 - a. Instrument indicates measured levels above the alarm/trip setpoint.
 - b. Instrument indicates a downscale failure.

* Also demonstrate automatic isolation for the waste gas system noble gas monitor.

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SPECIAL TEST EXCEPTIONSGROUP HEIGHT AND INSERTION LIMITSLIMITING CONDITION FOR OPERATION

3.10.2 The requirements of Specifications 3.1.1.4, 3.1.3.1, 3.1.3.5, 3.1.3.6, 3.2.3 and 3.2.4 may be suspended during the performance of PHYSICS TESTS provided:

- a. The THERMAL POWER is restricted to the test power plateau which shall not exceed 85% of RATED THERMAL POWER, and
- b. The limits of Specification 3.2.1 are maintained and determined as specified in Specification 4.10.2 below.

APPLICABILITY: MODES 1 and 2.

ACTION:

With any of the limits of Specification 3.2.1 being exceeded while the requirements of Specifications 3.1.1.4, 3.1.3.1, 3.1.3.5, 3.1.3.6, 3.2.3 and 3.2.4 are suspended, immediately:

- a. Reduce THERMAL POWER sufficiently to satisfy the requirements of Specification 3.2.1 or
- b. Be in HOT STANDBY within 2 hours.

SURVEILLANCE REQUIREMENT

4.10.2.1 The THERMAL POWER shall be determined at least once per hour during PHYSICS TESTS in which the requirements of Specifications 3.1.1.4, 3.1.3.1, 3.1.3.5, 3.1.3.6, 3.2.3 or 3.2.4 are suspended and shall be verified to be within the test power plateau.

4.10.2.2 The linear heat rate shall be determined to be within the limits of Specification 3.2.1 by monitoring it continuously with the Incore Detector Monitoring System pursuant to the requirements of Specifications 4.2.1.3 and 3.3.3.2 during PHYSICS TESTS above 5% of RATED THERMAL POWER in which the requirements of Specifications 3.1.1.4, 3.1.3.1, 3.1.3.5, 3.1.3.6, 3.2.3 or 3.2.4 are suspended.

October 17, 1975

SPECIAL TEST EXCEPTIONS

CENTER CEA MISALIGNMENT

LIMITING CONDITION FOR OPERATION

3.10.5 The requirements of Specifications 3.1.3.1 and 3.1.3.6 may be suspended during the performance of PHYSICS TESTS to determine the isothermal temperature coefficient and power coefficient provided:

- a. Only the center CEA (CEA #1) is misaligned, and
- b. The limits of Specification 3.2.1 are maintained and determined as specified in Specification 4.10.5 below.

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APPLICABILITY: MODES 1 and 2.

ACTION:

With any of the limits of Specification 3.2.1 being exceeded while the requirements of Specifications 3.1.3.1 and 3.1.3.6 are suspended, immediately:

- a. Reduce THERMAL POWER sufficiently to satisfy the requirements of Specification 3.2.1, or
- b. Be in HOT STANDBY within 2 hours.

SURVEILLANCE REQUIREMENTS

4.10.5.1 The THERMAL POWER shall be determined at least once per hour during PHYSICS TESTS in which the requirements of Specifications 3.1.3.1 and/or 3.1.3.6 are suspended and shall be verified to be within the test power plateau.

4.10.5.2 The linear heat rate shall be determined to be within the limits of Specification 3.2.1 by monitoring it continuously with the Incore Detector Monitoring System pursuant to the requirements of Specifications 4.2.1.3 and ~~3.3.3.2~~ during PHYSICS TESTS above 5% of RATED THERMAL POWER in which the requirements of Specifications 3.1.3.1 and/or 3.1.3.6 are suspended.

15

January 1, 1986

3/4.11 RADIOACTIVE EFFLUENTS

3/4.11.1 LIQUID EFFLUENTS

CONCENTRATION

LIMITING CONDITION FOR OPERATION

3.11.1.1 The concentration of radioactive material released from the site (see Figure 5.1-1) shall not exceed the concentrations specified in 10 CFR Part 20, Appendix B, Table II, Column 2, for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall not exceed 2×10^{-4} uCi/ml total activity.

APPLICABILITY: At all times.

ACTION:

With the concentration of radioactive material released from the site exceeding the above limits, restore the concentration to within the above limits within 15 minutes.

SURVEILLANCE REQUIREMENTS

4.11.1.1.1 Radioactive liquid wastes shall be sampled and analyzed in accordance with the sampling and analysis program specified in Section I of the REMODCM.

4.11.1.1.2 The results of radioactive analysis shall be used in accordance with the methods of Section II of the REMODCM to assure that concentrations at the point of release are maintained within the limits of Specification 3.11.1.1.

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February 26, 1991^e

RADIOACTIVE EFFLUENTS

DOSE, LIQUIDS

LIMITING CONDITION FOR OPERATION

3.11.1.2 The dose or dose commitment to any REAL MEMBER OF THE PUBLIC from radioactive materials in liquid effluents from Unit 2 released from the site (see Figure 5.1-1) shall be limited:

- a. During any calendar quarter to ≤ 1.5 mrem to the total body and to ≤ 5 mrem to any organ, and
- b. During any calendar year to ≤ 3 mrem to the total body and to ≤ 10 mrem to any organ.

APPLICABILITY: At all times.

ACTION:

- a. With the calculated dose from the release of radioactive materials in liquid effluents exceeding any of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the cause(s) for exceeding the limit(s) and defines the corrective actions to be taken to reduce the releases of radioactive materials in liquid effluents during the remainder of the current calendar quarter and during the remainder of the calendar year so that the cumulative dose or dose commitment to any REAL MEMBER OF THE PUBLIC from such releases during the calendar year is within 3 mrem to the total body and 10 mrem to any organ.
- b. The provisions of Specification 3.0.3 are not applicable.

MONITORING REQUIREMENTS

11.1.2.1 Dose Calculations. Cumulative dose contributions from liquid effluents shall be determined in accordance with Section II of the REMODCM.

11.1.2.2 Relative accuracy of conservatism of the calculations shall be confirmed by performance of the Radiological Environmental Monitoring Program as detailed in the REMODCM.

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January 1, 1986

RADIOACTIVE EFFLUENTS3/4.11.2 GASEOUS EFFLUENTSDOSE RATELIMITING CONDITION FOR OPERATION

3.11.2.1 The dose rate, at any time, offsite (see Figure 5.1-1) due to radioactive materials released in gaseous effluents from the site shall be limited to the following values:

- a. The dose rate limit for noble gases shall be ≤ 500 mrem/yr to the total body and ≤ 3000 mrem/yr to the skin, and
- b. The dose rate limit due to inhalation for iodine-131, iodine-133, tritium and for all radioactive materials in particulate form with half lives greater than 8 days shall be ≤ 1500 mrem/yr to any organ.

APPLICABILITY: At all times.

ACTION:

With the dose rate(s) exceeding the above limits, decrease the release rate within 15 minutes to comply with the limit(s) given in Specification 3.11.2.1.

SURVEILLANCE REQUIREMENTS

4.11.2.1.1 The release rate, at any time, of noble gases in gaseous effluents shall be controlled by the offsite dose rate as established above in Specification 3.11.2.1. The corresponding release rate shall be determined in accordance with the methodology of Section II of the REMODCM.

4.11.2.1.2 The noble gas effluent monitors of Specification 3.3.3.10 shall be used to control release rates to limit offsite doses within the values established in Specification 3.11.2.1.

4.11.2.1.3 The release rate of radioactive materials in gaseous effluents shall be determined by obtaining representative samples and performing analyses in accordance with the sampling and analysis program, specified in Section I of the REMODCM. The corresponding dose rate shall be determined using the methodology given in Section II of the REMODCM.

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February 26, 1991

RADIOACTIVE EFFLUENTS

DOSE, NOBLE GASES

SURVEILLANCE REQUIREMENTS

3.11.2.2 The air dose offsite (see Figure 5.1-1) due to noble gases released from Unit 2 in gaseous effluents shall be limited to the following:

- a. During any calendar quarter, to ≤ 5 mrad for gamma radiation and ≤ 10 mrad for beta radiation;
- b. During any calendar year, to ≤ 10 mrad for gamma radiation and ≤ 20 mrad for beta radiation.

APPLICABILITY: At all times.

ACTION:

- a. With the calculated air dose from radioactive noble gases in gaseous effluents exceeding any of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the cause(s) for exceeding the limit(s) and defines the corrective actions to be taken to reduce the releases of radioactive noble gases in gaseous effluents during the remainder of the current calendar quarter and during the remainder of the current calendar year so that the cumulative dose during the calendar year is within 10 mrad for gamma radiation and 20 mrad for beta radiation.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

.11.2.2.1 Dose Calculations. Cumulative dose contributions for the current calendar quarter and current calendar year shall be determined in accordance with Section II of the REMODCM once every 31 days.

.11.2.2.2 Relative accuracy or conservatism of the calculations shall be confirmed by performance of the Radiological Environmental Monitoring Program as detailed in Section I of the REMODCM.

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February 26, 1991

RADIOACTIVE EFFLUENTS

DOSE, RADIOIODINES, RADIOACTIVE MATERIAL IN PARTICULATE FORM, AND RADIONUCLIDES OTHER THAN NOBLE GASES

LIMITING CONDITION FOR OPERATION

3.11.2.3 The dose to any REAL MEMBER OF THE PUBLIC from iodine-131, iodine-133, tritium and radioactive materials in particulate form with half lives greater than 8 days in gaseous effluents from Unit 2 released offsite (see Figure 5.1-1) shall be limited to the following:

- a. During any calendar quarter to ≤ 7.5 mrem to any organ;
- b. During any calendar year to ≤ 15 mrem to any organ.

APPLICABILITY: At all times.

ACTION:

- a. With the calculated dose from the release of radioiodines, radioactive materials in particulate form, or radionuclides other than noble gases in gaseous effluents exceeding any of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the cause(s) for exceeding the limit and defines the corrective actions to be taken to reduce the releases during the remainder of the current calendar quarter and during the remainder of the calendar year so that the cumulative dose or dose commitment to any REAL MEMBER OF THE PUBLIC from such releases during the calendar year is within 15 mrem to any organ.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.3.1 Dose Calculations. Cumulative dose contributions for the current calendar quarter and current calendar year shall be determined in accordance with Section II of the REMODCM once every 31 days.

4.11.2.3.2 Relative accuracy or conservatism of the calculations shall be confirmed by performance of the Radiological Environmental Monitoring Program as detailed in Section I of the REMODCM.

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February 26, 1991

RADIOACTIVE EFFLUENTS

3/4 11.3 TOTAL DOSE

LIMITING CONDITION FOR OPERATION

3.11.3 The dose of dose commitment to a REAL MEMBER OF THE PUBLIC from the Millstone Site is limited to ≤ 25 mrem to the total body or any organ (except the thyroid, which is limited to ≤ 75 mrem) over a period of 12 consecutive months.

APPLICABILITY: At all times.

ACTION:

- a. With the calculated dose from the release of radioactive materials in liquid or gaseous effluents exceeding twice the limits of Specifications 3.11.1.2, 3.11.2.2, or 3.11.2.3, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 and limit the subsequent releases such that the dose or dose commitment to any REAL MEMBER OF THE PUBLIC from the Millstone Site is limited to ≤ 25 mrem to the total body or any organ (except thyroid, which is limited to ≤ 75 mrem) over 12 consecutive months. This Special Report shall include an analysis which demonstrates that radiation exposures to any REAL MEMBER OF THE PUBLIC from the Millstone Site (including all effluent pathways and direct radiation) are less than the 40 CFR Part 190 Standard. If the estimated doses exceed the above limits, the special report shall include a request for a variance in accordance with the provisions of 40 CFR 190. Submittal of the report is considered a timely request and a variance is granted until staff action on the request is complete.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.3 Dose Calculations. Cumulative dose contributions from liquid and gaseous effluents and direct radiation from the Millstone Site shall be determined in Specifications 4.11.1.2.1, 4.11.2.2.1 and 4.11.2.3.1 and in accordance with Section II of the REMODCM once per 31 days.

Replace with

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For Information Only

No Change

2-2-00

ADMINISTRATIVE CONTROLS

August 13, 1999

6.6 Deleted.

6.7 Deleted.

6.8 PROCEDURES

6.8.1 Written procedures shall be established, implemented and maintained covering the activities referenced below:

- a. The applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, February, 1978.
- b. Refueling operations.
- c. Surveillance activities of safety related equipment.
- d. Not used.
- e. Not used.

- f. Fire Protection Program implementation.
 - g. Quality Control for effluent monitoring using the guidance in Regulatory Guide 1.21 Rev. 1, June 1974.
 - h. Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODCM) implementation, except for Section I.E., Radiological Environmental Monitoring.
- 6.8.2
- a. The designated manager or designated officer or designated senior officer may designate specific procedures and programs, or classes of procedures and programs to be reviewed in accordance with the Quality Assurance Program Topical Report.
 - b. Procedures and programs listed in Specification 6.8.1, and changes thereto, shall be approved by the designated manager or designated officer or by cognizant Manager or Directors who are designated as the Approval Authority by the designated manager or designated officer, as specified in administrative procedures. The Approval Authority for each procedure and program or class of procedure and program shall be specified in administrative procedures.
 - c. Each procedure of Specification 6.8.1, and changes thereto, shall be reviewed and approved in accordance with the Quality Assurance Program Topical Report, prior to implementation. Each procedure of Specification 6.8.1 shall be reviewed periodically as set forth in administrative procedures.
- 6.8.3
- Temporary changes to procedures of 6.8.1 above may be made provided:
- a. The intent of ^{the} original procedure is not altered.
 - b. The change is approved by two members of the plant management staff, at least one of whom holds a Senior Reactor Operator's License on the unit affected.
 - c. The change is documented, reviewed and approved in accordance with the Quality Assurance Program Topical Report within 14 days of implementation.
- 6.8.4
- Written procedures shall be established, implemented and maintained covering Section I.E, Radiological Environmental Monitoring, of the REMODCM.

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For Information Only, no Change

ADMINISTRATIVE CONTROLS

6.8.5 All procedures and procedure changes required for the Radiological Environmental Monitoring Program of 6.8.4 above shall be reviewed by an individual (other than the author) from the Radiological Assessment Branch or the Production Operation Services Laboratory (POSL) 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 Radiological Assessment Branch or the POSL, 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 plant.

6.9.1.2 The startup report shall address each of the tests identified in the FSAR 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 additional specific details required in license conditions based on other commitments shall be included in this report.

6.9.1.3 Startup reports shall be submitted within (1) 90 days following completion of the startup test program, (2) 90 days following resumption or commencement of commercial power operation, or (3) 9 months following initial criticality, whichever is earliest. If the Startup Report does not cover all three events (i.e., initial criticality, completion of startup test program, and resumption or commencement of commercial power operation), supplementary reports shall be submitted at least every three months until all three events have been completed.

ADMINISTRATIVE CONTROLS

ANNUAL REPORTS¹

- 6.9.1.4 Annual reports covering the activities of the unit as described below for the previous calendar year shall be submitted prior to March 1 of each year. The initial report shall be submitted prior to March 1 of the year following initial criticality.
- 6.9.1.5 Reports required on an annual basis shall include:
- a. A tabulation, on an annual basis of the number of station, utility and other personnel (including contractors) receiving exposures greater than 100 mrem/yr and their associated man-rem exposure according to work and job functions,² e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing and refueling. The dose assignment to various duty functions may be estimates based on pocket dosimeter, TLD or film badge measurements. Small exposures totalling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole body dose received from external sources shall be assigned to specific major work functions.
 - b. The complete results of steam generator tube inservice inspections performed during the report period (reference Specification 4.4.5.5.b).
 - c. The results of specific activity analysis in which the primary coolant exceeded the limits of Specification 3.4.8. The following information shall be included: (1) Reactor power history starting 48 hours prior to the first sample in which the limit was exceeded; (2) Results of the last isotopic analysis for radioiodine performed prior to exceeding the limit, results of analysis while limit was exceeded and results of one analysis after the radioiodine activity was reduced to less than the limit. Each result should include date and time of sampling and the radioiodine concentrations; (3) Clean-up system flow history starting 48 hours prior to the first sample in which the limit was exceeded; (4) Graph of the I-131 concentration and one other radioiodine isotope concentration in microcuries per gram as a function of time for the duration of the specific activity above the steady-state level; and (5) The time duration when the specific activity of the primary coolant exceeded the radioiodine limit.

¹ A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station.

² This tabulation supplements the requirements of 20.407 of 10 CFR Part 20.

- d. Documentation of all failures (inability to lift or reclose within the tolerances allowed by the design basis) and challenges to the (pressurizer PORVs or safety valves.

~~ANNUAL RADIOACTIVE EFFLUENT REPORT~~ ^{replace with} Annual Radioisotopic Reports Insert A

6.9.1.6 A routine Annual Radioactive Effluent Report covering the operation of the unit during the previous calendar year of operation shall be submitted by May 1 of each year.

The report shall include that information delineated in the REMODCM.

Any changes to the REMODCM shall be submitted in the Annual Radioactive Effluent Report.

MONTHLY OPERATING REPORT

- 6.9.1.7 Routine reports of operating statistics and shutdown experience shall be submitted on a monthly basis 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, no later than the 15th of each month following the calendar month covered by the report.

CORE OPERATING LIMITS REPORT

- 6.9.1.8 a. Core operating limits shall be established and documented in the CORE OPERATING LIMITS REPORT before each reload cycle or any remaining part of a reload cycle.

- 3/4.1.1.1 SHUTDOWN MARGIN - $T_{avg} > 200^{\circ}F$
- 3/4.1.1.2 SHUTDOWN MARGIN - $T_{avg} \leq 200^{\circ}F$
- 3/4.1.1.4 Moderator Temperature Coefficient
- 3/4.1.3.6 Regulating CEA Insertion Limits
- 3/4.2.1 Linear Heat Rate
- 3/4.2.3 Total Integrated Radial Peaking Factor - F_r^T
- 3/4.2.6 DNB Margin

- b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, specifically those described in the following documents:

- 1) XN-75-27(A) and Supplements 1 through 5, "Exxon Nuclear Neutronics Design Methods for Pressurized Water Reactors," Exxon Nuclear Company, Report and Supplement 1 dated April 1977, Supplement 2 dated December 1980, Supplement 3 dated September 1981 (P), Supplement 4 dated December 1986 (P), and Supplement 5 dated February 1987 (P).
- 2) ANF-84-73 Revision 5 Appendix B (P)(A), "Advanced Nuclear Fuels Methodology for Pressurized Water Reactors: Analysis of Chapter 15 Events," Advanced Nuclear Fuels, July 1990.

6.9.1.6a ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

----- NOTE -----

A single submittal may be made for a multiple unit station. The submittal shall combine sections common to all units at the station.

The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted by May 1 of each year. The report shall include summaries, interpretations, and analyses of trends of the results of the Radiological Environmental Monitoring Program for the reporting period. The material provided shall be consistent with the objectives outlined in the Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODOCM), and in 10 CFR Part 50, Appendix I, Sections IV.B.2, IV.B.3, and IV.C.

The Annual Radiological Environmental Operating Report shall include the results of analyses of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the REMODOCM, as well as summarized and tabulated results of these analyses and measurements. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted in the next annual report.

6.9.1.6b RADIOACTIVE EFFLUENT RELEASE REPORT

----- NOTE -----

A single submittal may be made for a multiple unit station. The submittal shall combine sections common to all units at the station; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material from each unit.

The Radioactive Effluent Release Report covering the operation of the unit in the previous year shall be submitted prior to May 1 of each year in accordance with 10 CFR 50.36a. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit. The material provided shall be consistent with the objectives outlined in the REMODOCM and in conformance with 10 CFR 50.36a and 10 CFR Part 50, Appendix I, Section IV.B.1.

CORE OPERATING LIMITS REPORT (CONT.)

- 9) XN-NF-78-44(NP)(A), "A Generic Analysis of the Control Rod Ejection Transient for Pressurized water reactors," Exxon Nuclear Company, October 1983.
- 10) XN-NF-621(P)(A) Revision 1, "Exxon Nuclear DNB Correlation for PWR Fuel Designs," Exxon Nuclear Company, September 1983.
- 11) XN-NF-82-06(P)(A) Revision 1 and Supplements 2, 4, and 5, "Qualification of Exxon Nuclear Fuel for Extended Burnup," Exxon Nuclear Company, October 1986.
- 12) ANF-88-133(P)(A) and Supplement 1, "Qualification of Advanced Nuclear Fuels PWR Design Methodology for Rod Burnups of 62 GWd/MTU," Advanced Nuclear Fuels Corporation, December 1991.
- 13) XN-NF-85-92(P)(A), "Exxon Nuclear Uranium Dioxide/Gadolinia Irradiation Examination and Thermal Conductivity Results," Exxon Nuclear Company, November 1988.
- 14) ANF-89-151(P)(A), "ANF-RELAP Methodology for Pressurized Water Reactors: Analysis of Non-LOCA Chapter 15 Events," Advanced Nuclear Fuels Corporation, May 1992.
- 15) XN-NF-507(P)(A) Supplements 1 and 2, "ENC Setpoint Methodology for C.E. Reactors: Statistical Setpoint Methodology," Exxon Nuclear Company, September 1986.

- c. The core operating limits shall be determined so that all applicable limits (e.g., fuel thermal-mechanical limits, core thermal-hydraulic limits, ECCS limits, nuclear limits such as shutdown margin, and transient and accident analysis limits) of the safety analysis are met.
- d. The CORE OPERATING LIMITS REPORT, including any mid-cycle revisions or supplements thereto, shall be provided upon issuance, for each reload cycle, to the NRC Document Control Desk with copies to the Regional Administrator and Resident Inspector.

SPECIAL REPORTS

6.9.2

Special 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 within the time period specified for each report. These reports shall be submitted covering the activities identified below pursuant to the requirements of the applicable reference specification:

- a. ~~Inoperable Seismic Monitoring Instrumentation, Specification 3.3.3.3.~~

Deleted

ADMINISTRATIVE CONTROLS

August 13, 1999

SPECIAL REPORTS (CONT.)

- b. ~~Inoperable Meteorological Monitoring Instrumentation, Specification 3.3.3.4.~~
- c. ~~Safety Class 1 Inservice Inspection Program Review, Specification 4.4.10.1.~~
- d. ECCS Actuation, Specifications 3.5.2 and 3.5.3.
- e. Deleted
- f. Deleted
- g. RCS Overpressure Mitigation, Specification 3.4.9.3.
- h. Radiological Effluent Reports required by Specifications 3.11.1.2, 3.11.2.2, 3.11.2.3 and 3.11.4
- i. Degradation of containment structure, Specification 4.6.1.6.4.
- j. Steam Generator Tube Inspection, Specification 4.4.5.1.5.
- k. Accident Monitoring Instrumentation, Specification 3.3.3.8.
- l. Radiation Monitoring Instrumentation, Specification 3.3.3.1.
- m. Reactor Coolant System Vents, Specification 3.4.11.

Deleted

6.10 Deleted.

ADMINISTRATIVE CONTROLS

August 13, 1999

6.15 RADIOLGICAL EFFLUENT MONITORING AND OFFSITE DOSE CALCULATION MANUAL (REMDCM)

with ^{replace} Insert B

Section I, Radiological Effluents Monitoring Manual (REMM), shall outline the sampling and analysis programs to determine the concentration of radioactive materials released offsite as well as dose commitments to individuals in those exposure pathways and for those radionuclides released as a result of station operation. It shall also specify operating guidelines for radioactive waste treatment systems and report content.

Section II, the Offsite Dose Calculation Manual (ODCM), shall describe the methodology and parameters to be used in the calculation of offsite doses due to radioactive gaseous and liquid effluents and in the calculations of gaseous and liquid effluent monitoring instrumentation Alarm/Trip Setpoints consistent with the applicable LCO's contained in these Technical Specifications.

Changes to the REMDCM:

- a. Shall be documented and records of reviews performed shall be retained as required by the Quality Assurance Program Topical Report. This documentation shall contain:
 - 1) Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s), and
 - 2) A determination that the change will maintain the level of radioactive effluent control required by 10 CFR 20.106, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50 and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations.
- b. Shall become effective after review and acceptance in accordance with the Quality Assurance Program Topical Report.
- c. Shall be submitted to the Commission in the form of a complete, legible copy of the entire REMM or ODCM, as appropriate, as a part of or concurrent with the Annual Radioactive Effluent Report for the period of the report in which any change was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (e.g., month/year) the change was implemented.

Insert B, Page 6-24

- a. The REMODCM shall contain the methodology and parameters used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm and trip setpoints, and in the conduct of the radiological environmental monitoring program; and
- b. The REMODCM shall also contain the radioactive effluent controls and radiological environmental monitoring activities and descriptions of the information that should be included in the Annual Radiological Environmental Operating, and Radioactive Effluent Release, reports required by Specification 6.9.1.6a and Specification 6.9.1.6b.

Licensee initiated changes to the REMODCM:

- a. Shall be documented and records of reviews performed shall be retained. This documentation shall contain:
 - 1) sufficient information to support the change(s) together with the appropriate analyses or evaluations justifying the change(s), and
 - 2) a determination that the change(s) will maintain the level of radioactive effluent control required by 10 CFR 20.1302, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR 50, and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations;
- b. Shall become effective after review and acceptance by SORC and the approval of the designated officer; and
- c. Shall be submitted to the Commission in the form of a complete, legible copy of the entire REMODCM as a part of or concurrent with the Radioactive Effluent Release Report for the period of the report in which any change in the REMODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (i.e., month and year) the change was implemented.

6.16 RADIOACTIVE WASTE TREATMENT

Procedures for liquid and gaseous radioactive effluent discharges from the Unit shall be prepared, approved, maintained, and adhered to for all operations involving offsite releases of radioactive effluents. These procedures shall specify the use of appropriate* waste treatment utilizing the guidance provided in the REMODCM.

6.17 SECONDARY WATER CHEMISTRY

A program shall be maintained for monitoring of secondary water chemistry to inhibit steam generator tube degradation. This program shall include:

1. Identification of a sampling schedule for the critical variables and control points for these variables.
2. Identification of the procedures used to measure the values of the critical variables,
3. Identification of process sampling points, which shall include monitoring the discharge of the condensate pumps for evidence of condenser in-leakage.
4. Procedures for the recording and management of data,
5. Procedures defining corrective actions for all off-control point chemistry conditions, and
6. A procedure identifying: (a) the authority responsible for the interpretation of the data, and (b) the sequence and timing of administrative events required to initiate corrective action.

6.18 PASS/Sampling and Analysis of Plant Effluents

A program shall be established, implemented and maintained which will ensure the capability to obtain and analyze reactor coolant, radioactive iodines and particulates in plant gaseous effluents, and containment atmosphere samples under accident conditions. The program shall include the following:

- (i) Training of personnel,
- (ii) Procedures for sampling and analysis,
- (iii) Provisions for maintenance of sampling & analysis.

analysis equipment

*The Solid Radioactive Waste Treatment System shall be operated in accordance with the Process Control Program to process wet radioactive wastes to meet shipping and burial ground requirements.

6.19 CONTAINMENT LEAKAGE RATE TESTING PROGRAM

A program shall be established to implement the leakage rate testing of the primary containment as required by 10CFR50.54(o) and 10CFR50, Appendix J, Option B as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program," dated September 1995.

The peak calculated primary Containment internal pressure for the design basis loss of coolant accident is P_0 .

The maximum allowable primary containment leakage rate, L_0 , at P_0 is 0.5% of primary containment air weight per day.

Leakage rate acceptance criteria are:

- a. Primary containment overall leakage rate acceptance criterion is $< 1.0 L_0$. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $< 0.60 L_0$ for the combined Type B and Type C tests, and $< 0.75 L_0$ for Type A tests;
- b. Air lock testing acceptance criteria are:
 1. Overall air lock leakage rate is $\leq 0.05 L_0$ when tested at $\geq P_0$.
 2. For each door, pressure decay is ≤ 0.1 psig when pressurized to ≥ 25 psig for at least 15 minutes.

The provisions of SR 4.0.2 do not apply for test frequencies specified in the Primary Containment Leakage Rate Testing Program.

The provisions of SR 4.0.3 are applicable to the Primary Containment Leakage Rate Testing Program.

← Insert C

6.20 RADIOACTIVE EFFLUENT CONTROLS PROGRAM

This program conforms to 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to members of the public from radioactive effluents as low as reasonably achievable. The program shall be contained in the REMODCM, shall be implemented by procedures, and shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

- a. Limitations on the functional capability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the REMODCM;
- b. Limitations on the concentrations of radioactive material released in liquid effluents to unrestricted areas, conforming to 10 CFR 20, Appendix B, Table II, Column 2 (1993 version);
- c. Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the REMODCM;
- d. Limitations on the annual and quarterly doses or dose commitment to a member of the public from radioactive materials in liquid effluents released from each unit to unrestricted areas, conforming to 10 CFR 50, Appendix I;
- e. Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the REMODCM at least every 31 days;
- f. Limitations on the functional capability and use of the liquid and gaseous effluent treatment systems to ensure that appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a period of 31 days would exceed 2% of the guidelines for the annual dose or dose commitment, conforming to 10 CFR 50, Appendix I;
- g. Limitations on the dose rate at any time resulting from radioactive material released in gaseous effluents to areas beyond the site boundary to a dose rate which, if the release were to occur for a full year, would cause a dose of 500 mrem. This conforms to the dose associated with the 1993 version of 10 CFR 20, Appendix B, Table II, Column 1;

- h. Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I;
- i. Limitations on the annual and quarterly doses to a member of the public from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half lives > 8 days in gaseous effluents released from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I; and
- j. Limitations on the annual dose or dose commitment to any member of the public due to releases of radioactivity and to radiation from uranium fuel cycle sources, conforming to 40 CFR 190.

6.21 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

A program shall be provided to monitor the radiation and radionuclides in the environs of the plant. The program shall provide (1) representative measurements of radioactivity in the highest potential exposure pathways, and (2) verification of the accuracy of the effluent monitoring program and modeling of environmental exposure pathways. The program shall (1) be contained in the REMODCM, (2) conform to the guidance of Appendix I to 10 CFR Part 50, and (3) include the following:

- a. Monitoring, sampling, analysis, and reporting of radiation and radionuclides in the environment in accordance with the methodology and parameters in the REMODCM,
- b. A Land Use Census to ensure that changes in the use of areas at and beyond the SITE BOUNDARY are identified and that modifications to the monitoring program are made if required by the results of this census, and
- c. Participation in a Interlaboratory Comparison Program to ensure that independent checks on the precision and accuracy of the measurements of radioactive materials in environmental sample matrices are performed as part of the quality assurance program for environmental monitoring.

BASES3/4.3.3.9 Radioactive Liquid Effluent InstrumentationDeleted

The radioactive liquid effluent instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in liquid effluents during actual or potential releases. The alarm/trip setpoints for these instruments shall be calculated in accordance with approved methods in the ODCM to ensure that the alarm/trip will occur prior to exceeding the limits of 10 CFR Part 20. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63 and 64 of Appendix A to 10 CFR Part 50. Monitoring of the turbine building sumps and condensate polishing facility floor drains is not required due to relatively low concentrations of radioactivity possible.

3/4.3.3.10 Radioactive Gaseous Effluent InstrumentationDeleted

The radioactive gaseous effluent instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in gaseous effluents during actual or potential releases. The alarm/trip setpoints for these instruments shall be calculated in accordance with approved methods in the ODCM to ensure that the alarm/trip will occur prior to exceeding the limits of 10 CFR Part 20. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63 and 64 of Appendix A to CFR Part 50.

Two types of radioactive gaseous effluent monitoring instrumentation, monitors and samplers, are being used at MP2 stack and MP1 main stack. Monitors have alarm/trip setpoints and are demonstrated operable by performing one or more of the following operations: CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION, and CHANNEL FUNCTIONAL TEST. Samplers are strictly collection devices made of canisters and filters. The CHANNEL CHECK surveillance requirements are met through (1) documented observation of the in-service rad monitor sample flow prior to filter replacement; (2) documented replacement of in-line iodine and particulate filters; and (3) documented observation of sample flow following the sampler return to service. The flow indicator is the only indication available for comparison. These observations adequately provide assurance that the sampler is operating and is capable of performing its design function.

There are a number of gaseous release points which could exhibit very low concentrations of radioactivity. For all of these release paths, dose consequences would be insignificant due to the intermittent nature of the release and/or the extremely low concentrations of radioactivity. Since it is not cost-beneficial (nor in many cases practical due to the nature of the release (steam) or the impossibility of detecting such low levels), to monitor these pathways, it has been determined that these release paths require no monitoring nor sampling.

January 1, 1986

3/4.11 RADIOACTIVE EFFLUENTS ← DELETED

BASES

3/4.11.1 LIQUID EFFLUENTS ← DELETED

3/4.11.1.1 CONCENTRATION ←

This specification is provided to ensure that the concentration of radioactive materials released in liquid waste effluents from the site will be less than the concentration levels specified in 10 CFR Part 20, Appendix B, Table II. This limitation provides additional assurance that the levels of radioactive materials in bodies of water outside the site will result in exposures within (1) the Section II.A design objectives of Appendix I, 10 CFR Part 50, to an individual and (2) the limits of 10 CFR Part 20.106(e) to the population. The concentration limit for noble gases is based upon the assumption that Xe-135 is the controlling radioisotope and its MPC in air (submersion) was converted to an equivalent concentration in water using the methods described in International Commission on Radiological Protection (ICRP) Publication 2.

3/4.11.1.2 DOSE ← DELETED

This specification is provided to implement the requirements of Sections II.A, III.A and IV.A of Appendix I, 10 CFR Part 50. The Limiting Condition for Operation implements the guides set forth in Section II.A of Appendix I. The ACTION statements provide the required operating flexibility and at the same time implement the guides set forth in Section IV.A of Appendix I to assure that the releases of radioactive material in liquid effluents will be kept "as low as is reasonably achievable". The dose calculations in the ODCM implement the requirements in Section III.A of Appendix I that conform with the guides of Appendix I is to be shown by calculational procedures based on models and data such that the actual exposure of an individual through appropriate pathways is unlikely to be substantially underestimated. The equations specified in the ODCM for calculating the doses due to the actual release rates of radioactive material in liquid effluents will be consistent with the methodology provided in Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I," Revision 1, October 1977, and Regulatory Guide 1.113, "Estimating Aquatic Dispersion of Effluents from Accidental and Routine Reactor Releases for the Purpose of Implementing Appendix I," April 1978.

BASES

~~3.4.11.2 GASEOUS EFFLUENTS~~ ← DELETED~~3/4.11.2.1 DOSE RATE~~ ←

This specification is provided to ensure that the dose rate at anytime from gaseous effluents from all units on the site will be within the annual dose limits of 10 CFR Part 20 for all areas offsite. The annual dose limits are the doses associated with the concentrations of 10 CFR Part 20, Appendix B, Table II. These limits provide reasonable assurance that radioactive material discharged in gaseous effluents will not result in the exposure of an individual offsite to annual average concentrations exceeding the limits specified in Appendix B, Table II of 10 CFR Part 20 (10 CFR Part 20.106(b)). For individuals who may at times be within the site boundary, the occupancy of the individual will be sufficiently low to compensate for any increase in the atmospheric diffusion factor above background to an individual at or beyond the site boundary to ≤ 500 mrem/year to the total body or to ≤ 3000 mrem/year to the skin. These release rate limits also restrict, at all times, the corresponding thyroid or any other organ dose rate above background to a child via the inhalation pathway to ≤ 1500 mrem/year.

~~3/4.11.2.2 DOSE, NOBLE GASES~~ DELETED

This specification is provided to implement the requirements of Sections II.B, III.A and IV.A of Appendix I, 10 CFR Part 50. The Limiting Condition for Operation implements the guides set forth in Section II.B of Appendix I. The ACTION statements provide the required operating flexibility and at the same time implement the guides set forth in Section IV.A of Appendix I to assure that the releases of radioactive material in gaseous effluents will be kept "as low as reasonably achievable." The Surveillance Requirements implement the requirements in Section III.A of Appendix I that conform with the guides of Appendix I to be shown by calculational procedures based on models and data such that the actual exposure of an individual through the dose calculations established in the ODCM for calculating the doses due to the actual release rates of radioactive noble gases in gaseous effluents will be consistent with the methodology provided in Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I," Revision 1, October 1977 and Regulatory Guide 1.111, "Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled-Reactors," Revision 1, July 1977.

The ODCM equations provided for determining the air doses at the site boundary are based upon utilizing successively more realistic dose calculational methodologies. More realistic dose calculational methods are

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used whenever simplified calculations indicate a dose approaching a substantial portion of the regulatory limits. The methods used, in order, are previously determined air dose per released activity ratio, historical meteorological data and actual radionuclide mix released, or real time meteorological and actual radionuclides released.

3/4.11.2.3 DOSE, RADIOIODINES, RADIOACTIVE MATERIAL IN PARTICULATE FORM AND RADIONUCLIDES OTHER THAN NOBLE GASES ~~DELETED~~

This specification is provided to implement the requirements of Sections II.C, III.A and IV.A of Appendix I, 10 CFR Part 50. The Limiting Conditions for Operation are the guides set forth in Section II.C. of Appendix I. The ACTION statements provide the required operating flexibility and at the same time implement the guides set forth in Section IV.A of Appendix I to assure that the releases of radioactive materials in gaseous effluents will be kept "as low as is reasonably achievable." The ODCM calculational methods specified in the surveillance requirements implement the requirements in Section III.A of Appendix I that conformance with the guides of Appendix I be shown by calculational procedures based on models and data such that the actual exposure of an individual through appropriate pathways is unlikely to be substantially underestimated. The ODCM calculational methods for calculating the doses due to the actual release rates of the subject materials will be consistent with the methodology provided in Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I," Revision 1, October 1977 and Regulatory Guide 1.111, "Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled Reactors," Revision 1, July 1977. The release rate specifications for radioiodines, radioactive material in particulate form and radionuclides other than noble gases are dependent on the existing radionuclide pathways to man. The pathways which are examined in the development of these calculations are: 1) individual inhalation of airborne radionuclides, 2) deposition of radionuclides onto green leafy vegetation with subsequent consumption by man, 3) deposition onto grassy areas where milk animals and meat producing animals graze with consumption of the milk and meat by man, and 4) deposition on the ground with subsequent exposure of man.

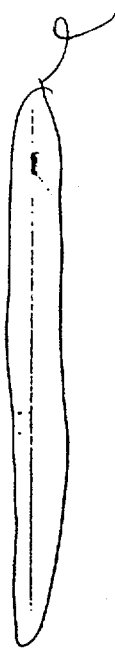
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3/4.11.3 ~~TOTAL DOSE~~ DELETED

This specification is provided to meet the reporting requirements of 40 CFR 190. For the purpose of the Special Report, it may be assumed that the dose commitment to any REAL MEMBER OF THE PUBLIC from other fuel cycle sources is negligible, with the exception that dose contributions from other nuclear fuel cycle facilities at the same site or within a radius of 5 miles must be considered.



Docket Nos. 50-336
50-423
B17959

Attachment 4

Millstone Nuclear Power Station, Unit No. 3

**Proposed Revision to Technical Specifications
Radiological Effluent Technical Specifications
Marked Up Pages**

February 2000

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DEFINITIONSQUADRANT POWER TILT RATIO

1.24 QUADRANT POWER TILT RATIO shall be the ratio of the maximum upper excore detector calibrated output to the average of the upper excore detector calibrated outputs, or the ratio of the maximum lower excore detector calibrated output to the average of the lower excore detector calibrated outputs, whichever is greater. With one excore detector inoperable, the remaining three detectors shall be used for computing the average.

RADIOACTIVE WASTE TREATMENT SYSTEMS

1.25 RADIOACTIVE WASTE TREATMENT SYSTEMS are those liquid, gaseous and solid waste systems which are required to maintain control over radioactive material in order to meet the Limiting Conditions for Operation (LCOs) set forth in these specifications. 

RADIOLOGICAL EFFLUENT MONITORING AND OFFSITE DOSE CALCULATION MANUAL (REMDCM)

1.26 A RADIOLOGICAL EFFLUENT MONITORING MANUAL shall be a manual containing the site and environmental sampling and analysis programs for measurements of radiation and radioactive materials in those exposure pathways and for those radionuclides which lead to the highest potential radiation exposures to individuals from station operation. An OFFSITE DOSE CALCULATION MANUAL shall be a manual containing the methodology and parameters to be used in the calculation of offsite doses due to radioactive gaseous and liquid effluents and in the calculation of gaseous and liquid effluent monitoring instrumentation alarm/trip setpoints. Requirements of the REMDCM are provided in Specification 6.13. 

RATED THERMAL POWER

1.27 RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant of 3411 MWt.

REACTOR TRIP SYSTEM RESPONSE TIME

1.28 The REACTOR TRIP SYSTEM RESPONSE TIME shall be the time interval from when the monitored parameter exceeds its Trip Setpoint at the channel sensor until loss of stationary gripper coil voltage.

REPORTABLE EVENT

1.29 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 of 10 CFR Part 50.

SHUTDOWN MARGIN

1.30 SHUTDOWN MARGIN shall be the instantaneous amount of reactivity by which the reactor is subcritical or would be subcritical from its present condition assuming all full-length rod cluster assemblies (shutdown and control) are fully inserted except for the single rod cluster assembly of highest reactivity worth which is assumed to be fully withdrawn.

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INSTRUMENTATION

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.9 The radioactive liquid effluent monitoring instrumentation channels shown in Table 3.3-12 shall be OPERABLE with their Alarm/Trip Setpoints set to ensure that the limits of Specification 3.11.1.1 are not exceeded. The Alarm/Trip Setpoints of these channels shall be determined in accordance with the methodology and parameters as described in the REMODCM.

APPLICABILITY: As shown in Table 3.3-12

ACTION:

- a. With a radioactive liquid effluent monitoring instrumentation channel Alarm/Trip Setpoint less conservative than required by the above specification, without delay suspend the release of radioactive liquid effluents monitored by the affected channel, or declare the channel inoperable, or change the setpoint so it is acceptably conservative.
- b. With less than the minimum number of radioactive liquid effluent monitoring instrumentation channels OPERABLE, take the ACTION shown in Table 3.3-12. Exert best efforts to restore the inoperable instrumentation to OPERABLE status within 30 days and, if unsuccessful, explain in the next Annual Radioactive Effluent Report why the inoperability was not corrected in a timely manner. Releases need not be terminated after 30 days provided the specified actions are continued.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.9 Each radioactive liquid effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION, and ANALOG CHANNEL OPERATIONAL TEST at the frequencies shown in Table 4.3-8.

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TABLE 3.3-12

September 9, 1988

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABILITY</u>	<u>ACTION</u>
1. Radioactivity Monitors Providing Alarm and Automatic Termination of Release			
a. Waste Neutralization Sump Monitor-Condensate Polishing Facility	1	##	31
b. Turbine Building Floor Drains	1	#	32***
c. Liquid Waste Monitor	1	#	31
d. Regenerate Evaporator Monitor-Condensate Polishing Facility	1*	##	32
e. Steam Generator Blowdown Monitor	1	##	32
2. Flow Rate Measurement Devices-No Alarm Setpoint Requirements			
a. Waste Neutralization Sump Effluents	1	#	33
b. Turbine Building Floor Drains	**	#	N.A.
c. Liquid Waste Effluent Line	1	#	33
d. Regenerate Evaporator Effluent Line	1*	#	33
e. Steam Generator Blowdown Effluent Line	1	#	33
f. Dilution Water Flow	**	#	N.A.

*N.A. if the Condensate Polishing Facility Regenerate Evaporator is not in service.

**Flow will be determined by pump status.

***N.A. if the Turbine Building sump is less than MDA.

#At all times - which means that channels shall be OPERABLE and in service on a continuous, uninterrupted basis, except that outages are permitted for a maximum of 12 hours for the purpose of maintenance and performance of required tests, checks, calibrations or sampling.

##Modes 1-5, and Mode 6 when pathway is being used, except that outages are permitted for a maximum of 12 hours for the purpose of maintenance and performance of required tests, checks, calibrations or sampling.

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TABLE 3.3-12 (Continued)

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ACTION STATEMENTS

- ACTION 31 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue provided that best efforts are made to repair the instrument and that prior to initiating a release:
- At least two independent samples are analyzed in accordance with Specification 4.11.1.1.1, and
 - The original release rate calculations and discharge line valving are independently verified by a second individual.
- ACTION 32 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue provided best efforts are made to repair the instrument and that grab samples are analyzed for gross radioactivity (beta or gamma) at a lower limit of detection of no more than 3×10^{-7} microCurie/ml:
- At least once per 12 hours when the specific activity of the secondary coolant is greater than 0.01 microCurie/gram DOSE EQUIVALENT I-131, or
 - At least once per 24 hours when the specific activity of the secondary coolant is less than or equal to 0.01 microCurie/gram DOSE EQUIVALENT I-131.
- ACTION 33 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue provided that best efforts are made to repair the instrument and that the flow rate is estimated at least once per 4 hours during actual releases. Pump performance curves may be used to estimate flow.

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TABLE 4.3-8

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

MILLSTONE - UNIT 3

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<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>SOURCE CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>
1. Radioactivity Monitors Providing Alarm and Automatic Termination of Releases				
a. Waste Neutralization Sump Monitor-Condensate Polishing Facility	D	P	R(2)	Q(1)
b. Turbine Building Floor Drains	D	M	R(2)	Q(1)
c. Liquid Waste Monitor	D	P	R(2)	Q(1)
d. Regenerate Evaporator Monitor-Condensate Polishing Facility (5)	D	M	R(2)	Q(1)
e. Steam Generator Blowdown Monitor	D	M	R(2)	Q(1)
2. Flow Rate Measurement Devices				
a. Waste Neutralization Sump Effluents	D(3)	NA	R	Q
b. Turbine Building Floor Drains	D(4)	NA	NA	NA
c. Liquid Waste Effluent Line	D(3)	NA	R	Q
d. Regenerate Evaporator Effluent Line (5)	D(3)	NA	R	Q
e. Steam Generator Blowdown Effluent Line	D(3)	NA	R	Q
f. Dilution Water Flow	D(4)	NA	NA	NA

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TABLE 4.3-8 (Continued)

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TABLE NOTATIONS

- (1) The ANALOG CHANNEL OPERATIONAL TEST shall also demonstrate that automatic isolation of this pathway and control room alarm annunciation occur if any of the following conditions exists:
 - a. Instrument indicates measured levels above the Alarm/Trip Setpoint, or
 - b. Circuit failure (Alarm only), or
 - c. Instrument indicates a downscale failure (Alarm only).
- (2) The initial CHANNEL CALIBRATION shall be performed using one or more of the reference standards certified by the National Bureau of Standards (NBS) or using standards that have been obtained from suppliers that participate in measurement assurance activities with NBS. These standards shall permit calibrating the system over its intended range of energy and measurement range. For subsequent CHANNEL CALIBRATION, sources that have been related to the initial calibration shall be used.
- (3) CHANNEL CHECK shall consist of verifying indication of flow during periods of release. CHANNEL CHECK shall be made at least once per 24 hours on days on which continuous, periodic, or batch releases are made.
- (4) Pump status shall be checked daily for the purpose of determining flowrate.
- (5) Surveillance is required only if the monitor is required to be OPERABLE by Table 3.3-12.

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INSTRUMENTATION

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.10 The radioactive gaseous effluent monitoring instrumentation channels shown in Table 3.3-13 shall be OPERABLE with their Alarm/Trip Setpoints set to ensure that the limits of Specifications 3.11.2.1 are not exceeded. The Alarm/Trip Setpoints of these channels shall be determined in accordance with the methodology and parameters in the REMODCM.

APPLICABILITY: As shown in Table 3.3-13

ACTION:

- a. With a radioactive gaseous effluent monitoring instrumentation channel Alarm/Trip Setpoint less conservative than required by the above specification, without delay suspend the release of radioactive gaseous effluents monitored by the affected channel, or declare the channel inoperable, or change the setpoint so it is acceptably conservative.
- b. With the number of OPERABLE radioactive gaseous effluent monitoring instrumentation channels less than the Minimum Channels OPERABLE, take the ACTION shown in Table 3.3-13. Exert best efforts to restore the inoperable instrumentation to OPERABLE status within 30 days and, if unsuccessful, explain in the next Annual Radioactive Effluent Report why the inoperability was not corrected in a timely manner. Releases need not be terminated after 30 days provided the specified actions are continued.
- c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.10 Each radioactive gaseous effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION and ANALOG CHANNEL OPERATIONAL TEST at the frequencies shown in Table 4.3-9.

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TABLE 3.3-13

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABILITY</u>	<u>ACTION</u>
1. Millstone Unit 3 Ventilation Vent Stack (Turbine Building)			
a. Noble Gas Activity Monitor - Providing Alarm	1	*	34
b. Iodine Sampler	1	*	35
c. Particulate Sampler	1	*	35
d. Stack Flow Rate Monitor	1	*	36
e. Sampler Flow Rate Monitor	1	*	36
2. Millstone Unit 1 Main Stack			
a. Noble Gas Activity Monitor - Providing Alarm	1	*	37
b. Iodine Sampler	1	*	35
c. Particulate Sampler	1	*	35
d. Stack Flow Rate Monitor	1	*	36
e. Sampler Flow Rate Monitor	1	*	36

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TABLE 3.3-13 (Continued)

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABILITY</u>	<u>ACTION</u>
3. Engineered Safeguards Building Monitor			
a. Noble Gas Activity Monitor- Providing Alarm	1	*	34
b. Iodine Sampler	1	*	35
c. Particulate Sampler	1	*	35
d. Discharge Flow Rate Monitor	1	*	36
e. Sampler Flow Rate Monitor	1	*	36
4. Warehouse No. 5 Vent			
a. Noble Gas Monitor	1(1)	**	34
b. Iodine Sampler	1(1)	**	34
c. Particulate Sampler	1(1)	**	34

MILLSTONE - UNIT 3

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TABLE 3.3-13 (Continued)

TABLE NOTATIONS

* At all times - which means that channels shall be OPERABLE and in service on a continuous, uninterrupted basis except that outages are permitted for a maximum of 12 hours for the purpose of maintenance and performance of required tests, checks, calibrations or sampling.

**When the gross activity of the regenerated waste is greater than 1×10^{-4} microCuries/ml.

(1) This minimum channel requirement may be met with a portable continuous air monitor (Eberline PING-3 or equivalent).

ACTION STATEMENTS

ACTION 34 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue provided that best efforts are made to repair the instrument and that grab samples are taken at least once per 12 hours and these samples are analyzed for radioactivity within 24 hours.

ACTION 35 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue provided that best efforts are made to repair the instrument and that samples are continuously collected with auxiliary sampling equipment for periods of seven (7) days and analyzed for principal gamma emitters with half lives greater than 8 days within 48 hours after the end of the sampling period. Auxiliary sampling must be initiated within 12 hours after initiation of this ACTION Statement.

ACTION 36 - With the number of channels OPERABLE less than required by the Minimum channels OPERABLE requirement, effluent releases via this pathway may continue provided that best efforts are made to repair the instrument and that the flow rate is estimated at least once per 4 hours.

ACTION 37 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, Millstone Unit 3 releases via the Millstone Unit 1 stack may continue provided that best efforts are made to repair the instrument and that grab samples are taken at least once per 12 hours and analyzed for gross radioactivity within 24 hours.

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TABLE 4-3-9

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>SOURCE CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
1. Millstone Unit 3 Ventilation Vent Stack (Turbine Building)					
a. Noble Gas Activity Monitor	D	M	R(1)	Q(2)	*
b. Iodine Sampler	W	N.A.	N.A.	N.A.	*
c. Particulate Sampler	W	N.A.	N.A.	N.A.	*
d. Stack Flow Rate Monitor	D	N.A.	R	Q	*
e. Sampler Flow Rate Monitor	D	N.A.	R	Q	*
2. Millstone Unit 1 Main Stack					
a. Noble Gas Activity Monitor	D	M	R(3)	Q(2)	*
b. Iodine Sampler	W	N.A.	N.A.	N.A.	*
c. Particulate Sampler	W	N.A.	N.A.	N.A.	*
d. Stack Flow Rate Monitor	D	N.A.	R	Q	*
e. Sampler Flow Rate Monitor	D	N.A.	R	Q	*

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MILLSTONE - UNIT 3

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TABLE 4.3-9 (Continued)

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

MILSTONE - UNIT 3

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<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>SOURCE CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
3. Engineered Safeguards Building Monitor					
a. Noble Gas Activity Monitor	D	M	R(1)	Q(2)	*
b. Iodine Sampler	W	N.A.	N.A.	N.A.	*
c. Particulate Sampler	W	N.A.	N.A.	N.A.	*
d. Discharge Flow Rate Monitor	D	N.A.	R	Q	*
e. Sampler Flow Rate Monitor	D	N.A.	R	Q	*
4. Warehouse No. 5 Vent					
a. Noble Gas Monitor	D	N.A.	R(3)	N.A.	**
b. Iodine Sampler	D	N.A.	R(3)	N.A.	**
c. Particulate Sampler	D	N.A.	R(3)	N.A.	**

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TABLE 4.3-9 (Continued)

JAN 31 1988

TABLE NOTATIONS

- * At all times except when the vent path is isolated.
- ** When the gross activity of the regenerated waste is greater than 1×10^{-4} microCuries/ml.
- (1) The initial CHANNEL CALIBRATION shall be performed using one or more of the reference standards certified by the National Bureau of Standards (NBS) or using standards that have been obtained from suppliers that participate in measurement assurance activities with NBS. These standards shall permit calibrating the system over its intended range of energy and measurement range. For subsequent CHANNEL CALIBRATION, sources that have been related to the initial calibration shall be used.
- (2) The ANALOG CHANNEL OPERATIONAL TEST shall also demonstrate that control room alarm annunciation occurs if any of the following conditions exists:
- Instrument indicates measured levels above the Alarm Setpoint, or
 - Circuit failure (not applicable to Unit 1 Stack Monitor), or
 - Instrument indicates a downscale failure.
- (3) The CHANNEL CALIBRATION shall include the use of a known source whose strength is determined by a detector which has been calibrated to an NBS source. These sources shall be in a known, reproducible geometry.

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3/4.11 RADIOACTIVE EFFLUENTS

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3/4.11.1 LIQUID EFFLUENTS

CONCENTRATION

LIMITING CONDITION FOR OPERATION

3.11.1.1 The concentration of radioactive material released from the site (see Figure 5-1-3) shall be limited to the concentrations specified in 10 CFR Part 20, Appendix B, Table II, Column 2 for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall be limited to 2×10^{-4} microCurie/ml total activity.

APPLICABILITY: At all times.

ACTION:

With the concentration of radioactive material released from the site exceeding the above limits, restore the concentration to within the above limits within 15 minutes.

SURVEILLANCE REQUIREMENTS

4.11.1.1.1 Radioactive liquid wastes shall be sampled and analyzed according to the sampling and analysis program specified in Section I of the REMODCM.

4.11.1.1.2 The results of radioactive analyses shall be used in accordance with the methods of Section II of the REMODCM to assure that the concentrations at the point of release are maintained within the limits of Specification 3.11.1.1.

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RADIOACTIVE EFFLUENTS

DOSE - LIQUIDS

LIMITING CONDITION FOR OPERATION

3.11.1.2 The dose or dose commitment to any REAL MEMBER OF THE PUBLIC from radioactive materials in liquid effluents from Unit 3 released from the site (see Figure 5.1-3) shall be limited:

- a. During any calendar quarter to less than or equal to 1.5 mrems to the whole body and to less than or equal to 5 mrems to any organ, and
- b. During any calendar year to less than or equal to 3 mrems to the whole body and to less than or equal to 10 mrems to any organ.

APPLICABILITY: At all times.

ACTION:

- a. With the calculated dose from the release of radioactive materials in liquid effluents exceeding any of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report that identifies the cause(s) for exceeding the limit(s) and defines the corrective actions to be taken to reduce the releases of radioactive materials in liquid effluents during the remainder of the current calendar quarter and during the remainder of the calendar year so that the cumulative dose or dose commitment to any REAL MEMBER OF THE PUBLIC from such releases during the calendar year is within 3 mrem to the whole body and 10 mrem to any organ.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.1.2.1 Dose Calculations. Cumulative dose contributions from liquid effluents shall be determined in accordance with Section II of the REMODCM.

4.11.1.2.2 Relative accuracy or conservatism of the calculations shall be confirmed by performance of the Radiological Environmental Monitoring Program as detailed in the REMODCM.

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RADIOACTIVE EFFLUENTS3/4.11.2 GASEOUS EFFLUENTSDOSE RATELIMITING CONDITION FOR OPERATION

3.11.2.1 The dose rate, at any time, offsite (see Figure 5.1-3) due to radioactive materials released in gaseous effluents from the site shall be limited to the following values:

- a. The dose rate limit for noble gases shall be less than or equal to 500 mrems/yr to the whole body and less than or equal to 3000 mrems/yr to the skin, and
- b. The dose rate limit due to inhalation for Iodine-131, Iodine-133, tritium, and for all radioactive materials in particulate form with half-lives greater than 8 days shall be less than or equal to 1500 mrems/yr to any organ.

APPLICABILITY: At all times.

ACTION:

With the dose rate(s) exceeding the above limits, decrease the release rate within 15 minutes to comply with the limit(s) given in Specification 3.11.2.1.

SURVEILLANCE REQUIREMENTS

4.11.2.1.1 The release rate, at any time, of noble gases in gaseous effluents shall be controlled by the offsite dose rate as established above in Specification 3.11.2.1. The corresponding release rate shall be determined in accordance with the methodology of Section II of the REMODCM.

4.11.2.1.2 The noble gas effluent monitors of Specification 3.3.3.10 shall be used to control release rates to limit offsite doses within the values established in Specification 3.11.2.1.

4.11.2.1.3 The release rate of radioactive materials in gaseous effluents shall be determined by obtaining representative samples and performing analyses in accordance with the sampling and analysis program, specified in Section I of the REMODCM. The corresponding dose rate shall be determined using the methodology given in Section II of the REMODCM.

Replace with

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RADIOACTIVE EFFLUENTS

DOSE - NOBLE GASES

LIMITING CONDITION FOR OPERATION

3.11.2.2 The air dose offsite (see Figure 5.1-3) due to noble gases released from Unit 3 in gaseous effluents shall be limited to the following:

- a. During any calendar quarter: Less than or equal to 5 mrad for gamma radiation and less than or equal to 10 mrad for beta radiation, and
- b. During any calendar year: Less than or equal to 10 mrad for gamma radiation and less than or equal to 20 mrad for beta radiation.

APPLICABILITY: At all times.

ACTION

- a. With the calculated air dose from radioactive noble gases in gaseous effluents exceeding any of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report that identifies the cause(s) for exceeding the limit(s) and defines the corrective actions to be taken to reduce the releases of radioactive noble gases in gaseous effluents during the remainder of the current calendar quarter and during the remainder of the calendar year so that the cumulative dose during the calendar year is within 10 mrad for gamma radiation and 20 mrad for beta radiation.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.2.1 Dose Calculations. Cumulative dose contributions for the current calendar quarter and current calendar year shall be determined in accordance with Section II of the REMODCM once every 31 days.

4.11.2.2.2 Relative accuracy or conservatism of the calculations shall be confirmed by performance of the Radiological Environmental Monitoring Program as detailed in Section I of the REMODCM.

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October 25, 1990

RADIOACTIVE EFFLUENTSDOSE - RADIOIODINES, RADIOACTIVE MATERIAL IN PARTICULATE FORM
AND RADIONUCLIDES OTHER THAN NOBLE GASESLIMITING CONDITION FOR OPERATION

3.11.2.3 The dose to any REAL MEMBER OF THE PUBLIC from Iodine-131, Iodine-133, tritium, and radioactive materials in particulate form with half-lives greater than 8 days in gaseous effluents from Unit 3 released offsite (see Figure 5.1-3) shall be limited to the following:

- a. During any calendar quarter: Less than or equal to 7.5 mrems to any organ and,
- b. During any calendar year: Less than or equal to 15 mrems to any organ.

APPLICABILITY: At all times.

ACTION:

- a. With the calculated dose from the release of radioiodines, radioactive materials in particulate form, or radionuclides other than noble gases in gaseous effluents exceeding any of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report that identifies the cause(s) for exceeding the limit(s) and defines the corrective actions to be taken to reduce the releases during the remainder of the current calendar quarter and during the remainder of the calendar year so that the cumulative dose or dose commitment to any REAL MEMBER OF THE PUBLIC from such releases during the calendar year is within 15 mrem to any organ.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.3.1 Dose Calculations. Cumulative dose contributions for the current calendar quarter and current calendar year shall be determined in accordance with Section II of the REMODCM once every 31 days.

4.11.2.3.2 Relative accuracy or conservatism of the calculations shall be confirmed by performance of the Radiological Environmental Monitoring Program as detailed in Section I of the REMODCM.

Replace with

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RADIOACTIVE EFFLUENTS

3/4.11.3 TOTAL DOSE

LIMITING CONDITION FOR OPERATION

3.11.3 The dose or dose commitment to a REAL MEMBER OF THE PUBLIC from the Millstone site shall be limited to less than or equal to 25 mrems to the whole body or any organ (except the thyroid, which shall be limited to less than or equal to 75 mrems) over a period of 12 consecutive months.

APPLICABILITY: At all times.

ACTION:

- a. With the calculated doses from the release of radioactive materials in liquid or gaseous effluents exceeding twice the limits of Specification 3.11.1.2, 3.11.2.2, or 3.11.2.3, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 and limit the subsequent releases so that the dose or dose commitment to any REAL MEMBER OF THE PUBLIC from the Millstone site is limited to 25 mrem to the whole body or any organ (except thyroid, which is limited to 75 mrem) over 12 consecutive months. This Special Report shall include an analysis demonstrating that the radiation exposures to any REAL MEMBER OF THE PUBLIC from the Millstone site (including all effluent pathways and direct radiation) are less than 40 CFR Part 190 Standard. If the estimated dose(s) exceeds the above limits, the Special Report shall include a request for a variance in accordance with the provisions of 40 CFR Part 190. Submittal of the report is considered a timely request, and a variance is granted until staff action on the request is complete.
- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.3 Dose Calculations. Cumulative dose contributions from liquid and gaseous effluents and direct radiation from the Millstone site shall be determined in accordance with Specifications 4.11.1.2.1, 4.11.2.2.1, and 4.11.2.3.1, and in accordance with Section II of the REMODCM once per 31 days.

Replace with

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BASES3/4.3.3.8 LOOSE-PART DETECTION SYSTEM

The OPERABILITY of the Loose-Part Detection System ensures that sufficient capability is available to detect loose metallic parts in the Reactor System and avoid or mitigate damage to Reactor System components. The allowable out-of-service times and surveillance requirements are consistent with the recommendations of Regulatory Guide 1.133, "Loose-Part Detection Program for the Primary System of Light-Water-Cooled Reactors," May 1981.

3/4.3.3.9 RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

The radioactive liquid effluent instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in liquid effluents during actual or potential releases of liquid effluents. The Alarm/Trip Setpoints for these instruments shall be calculated and adjusted in accordance with the methodology and parameters in the REMODCM to ensure that the alarm/trip will occur prior to exceeding the limits of 10 CFR Part 20. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63, and 64 of Appendix A to 10 CFR Part 50. The purpose of tank level indicating devices is to assure the detection and control of leaks that if not controlled could potentially result in the transport of radioactive materials to UNRESTRICTED AREAS.

3/4.3.3.10 RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

The radioactive gaseous effluent instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in gaseous effluents during actual or potential releases of gaseous effluents. The Alarm/Trip Setpoints for these instruments shall be calculated and adjusted in accordance with the methodology and parameters in the REMODCM to ensure that the alarm/trip will occur prior to exceeding the limits of 10 CFR Part 20. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63, and 64 of Appendix A to 10 CFR Part 50. The sensitivity of any noble gas activity monitors used to show compliance with the gaseous effluent release requirements of Specification 3.11.2.2 shall be such that concentrations as low as 1×10^{-6} $\mu\text{Ci/cc}$ are measurable.

3/4.3.4 TURBINE OVERSPEED PROTECTION

This specification is provided to ensure that the turbine overspeed protection instrumentation and the turbine speed control valves are OPERABLE and will protect the turbine from excessive overspeed. Protection from turbine excessive overspeed is required since excessive overspeed of the turbine could generate potentially damaging missiles which could impact and damage safety-related components, equipment, or structures.

ANNUAL REPORTS (Continued)

duration of the specific activity above the steady-state level; and
(5) The time duration when the specific activity of the reactor coolant exceeded the radioiodine limit.

- c. Documentation of all challenges to the pressurizer power-operated relief valves (PORVs) and safety valves; and

Replace with

Insert A

ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT*

6.9.1.3 Routine Annual Radiological Environmental Operating Reports covering the operation of the unit during the previous calendar year shall be submitted prior to May 1 of each year.

The Annual Radiological Environmental Operating Reports shall include that information delineated in the REMODCM.

ANNUAL RADIOACTIVE EFFLUENT REPORT**

6.9.1.4 A routine Annual Radioactive Effluent Report covering the operation of the unit during the previous calendar year of operation shall be submitted by May 1 of each year.

The report shall include that information delineated in the REMODCM.

Any changes to the REMODCM shall be submitted in the Annual Radioactive Effluent Report.

MONTHLY OPERATING REPORTS

6.9.1.5 Routine reports of operating statistics and shutdown experience shall be submitted on a monthly basis 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, no later than the 15th of each month following the calendar month covered by the report.

CORE OPERATING LIMITS REPORT

6.9.1.6.a Core operating limits shall be established and documented in the CORE OPERATING LIMITS REPORT before each reload cycle or any remaining part of a reload cycle for the following:

- 1. Moderator Temperature Coefficient BOL and EOL limits and 300 ppm surveillance limit for Specification 3/4.1.1.3,

* A single submittal may be made for a multiple unit station.
 ** A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material from each unit.

ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

----- NOTE -----

A single submittal may be made for a multiple unit station. The submittal shall combine sections common to all units at the station.

- 6.9.1.3 The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted by May 1 of each year. The report shall include summaries, interpretations, and analyses of trends of the results of the Radiological Environmental Monitoring Program for the reporting period. The material provided shall be consistent with the objectives outlined in the Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODOCM), and in 10 CFR Part 50, Appendix I, Sections IV.B.2, IV.B.3, and IV.C.

The Annual Radiological Environmental Operating Report shall include the results of analyses of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the REMODOCM, as well as summarized and tabulated results of these analyses and measurements. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted in the next annual report.

RADIOACTIVE EFFLUENT RELEASE REPORT

----- NOTE -----

A single submittal may be made for a multiple unit station. The submittal shall combine sections common to all units at the station; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material from each unit.

- 6.9.1.4 The Radioactive Effluent Release Report covering the operation of the unit in the previous year shall be submitted prior to May 1 of each year in accordance with 10 CFR 50.36a. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit. The material provided shall be consistent with the objectives outlined in the REMODOCM and in conformance with 10 CFR 50.36a and 10 CFR Part 50, Appendix I, Section IV.B.1.

6.13 RADIOLOGICAL EFFLUENT MONITORING AND OFFSITE DOSE CALCULATION MANUAL (REMDCM)

Section I, Radiological Effluent Monitoring Manual (REMM), shall outline the sampling and analysis programs to determine the concentration of radioactive materials released offsite as well as dose commitments to individuals in those exposure pathways and for those radionuclides released as a result of station operation. It shall also specify operating guidelines for radioactive waste treatment systems and report content.

Section II, the Offsite Dose Calculation Manual (ODCM), shall describe the methodology and parameters to be used in the calculation of offsite doses due to radioactive gaseous and liquid effluents and in the calculations of gaseous and liquid effluent monitoring instrumentation alarm/trip setpoints consistent with the applicable LCOs contained in these technical specifications.

Changes to the REMDCM:

- a. Shall be documented and records of reviews performed shall be retained as required by the Quality Assurance Program Topical Report. This documentation shall contain:
 - 1) Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s), and
 - 2) A determination that the change will maintain the level of radioactive effluent control required by 10 CFR 20.106, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50 and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations.
- b. Shall become effective after review and acceptance in accordance with the Quality Assurance Program Topical Report.
- c. Shall be submitted to the Commission in the form of a complete, legible copy of the entire REMM or ODCM, as appropriate, as a part of or concurrent with the Annual Radioactive Effluent Report for the period of the report in which any change was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (e.g., month/year) the change was implemented.

6.14 RADIOACTIVE WASTE TREATMENT

Procedures for liquid and gaseous radioactive effluent discharges from the Unit shall be prepared, approved, maintained and adhered to for all operations involving offsite releases of radioactive effluents. These procedures shall specify the use of appropriate waste treatment systems utilizing the guidance provided in the REMDCM.

The Solid Radioactive Waste Treatment System shall be operated in accordance with the Process Control Program to process wet radioactive wastes to meet shipping and burial ground requirements.

Insert B

Replace with

Insert C

Insert B, Page 6-24

- a. The REMODCM shall contain the methodology and parameters used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm and trip setpoints, and in the conduct of the radiological environmental monitoring program; and
- b. The REMODCM shall also contain the radioactive effluent controls and radiological environmental monitoring activities and descriptions of the information that should be included in the Annual Radiological Environmental Operating, and Radioactive Effluent Release, reports required by Specification 6.9.1.3 and Specification 6.9.1.4.

Licensee initiated changes to the REMODCM:

- a. Shall be documented and records of reviews performed shall be retained. This documentation shall contain:
 - 1) sufficient information to support the change(s) together with the appropriate analyses or evaluations justifying the change(s), and
 - 2) a determination that the change(s) will maintain the level of radioactive effluent control required by 10 CFR 20.1302, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR 50, and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations;
- b. Shall become effective after review and acceptance by SORC and the approval of the designated officer; and
- c. Shall be submitted to the Commission in the form of a complete, legible copy of the entire REMODCM as a part of or concurrent with the Radioactive Effluent Release Report for the period of the report in which any change in the REMODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (i.e., month and year) the change was implemented.

6.15 RADIOACTIVE EFFLUENT CONTROLS PROGRAM

This program conforms to 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to members of the public from radioactive effluents as low as reasonably achievable. The program shall be contained in the REMODCM, shall be implemented by procedures, and shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

- a. Limitations on the functional capability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the REMODCM;
- b. Limitations on the concentrations of radioactive material released in liquid effluents to unrestricted areas, conforming to 10 CFR 20, Appendix B, Table II, Column 2 (1993 version);
- c. Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the REMODCM;
- d. Limitations on the annual and quarterly doses or dose commitment to a member of the public from radioactive materials in liquid effluents released from each unit to unrestricted areas, conforming to 10 CFR 50, Appendix I;
- e. Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the REMODCM at least every 31 days;
- f. Limitations on the functional capability and use of the liquid and gaseous effluent treatment systems to ensure that appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a period of 31 days would exceed 2% of the guidelines for the annual dose or dose commitment, conforming to 10 CFR 50, Appendix I;
- g. Limitations on the dose rate at any time resulting from radioactive material released in gaseous effluents to areas beyond the site boundary to a dose rate which, if the release were to occur for a full year, would cause a dose of 500 mrem. This conforms to the dose associated with the 1993 version of 10 CFR 20, Appendix B, Table II, Column 1;

- h. Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I;
- i. Limitations on the annual and quarterly doses to a member of the public from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half lives > 8 days in gaseous effluents released from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I; and
- j. Limitations on the annual dose or dose commitment to any member of the public due to releases of radioactivity and to radiation from uranium fuel cycle sources, conforming to 40 CFR 190.

6.16 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

A program shall be provided to monitor the radiation and radionuclides in the environs of the plant. The program shall provide (1) representative measurements of radioactivity in the highest potential exposure pathways, and (2) verification of the accuracy of the effluent monitoring program and modeling of environmental exposure pathways. The program shall (1) be contained in the REMODCM, (2) conform to the guidance of Appendix I to 10 CFR Part 50, and (3) include the following:

- a. Monitoring, sampling, analysis, and reporting of radiation and radionuclides in the environment in accordance with the methodology and parameters in the REMODCM,
- b. A Land Use Census to ensure that changes in the use of areas at and beyond the SITE BOUNDARY are identified and that modifications to the monitoring program are made if required by the results of this census, and
- c. Participation in a Interlaboratory Comparison Program to ensure that independent checks on the precision and accuracy of the measurements of radioactive materials in environmental sample matrices are performed as part of the quality assurance program for environmental monitoring.

3/4.11 RADIOACTIVE EFFLUENTS ← DELETED

BASES

3/4.11.1 LIQUID EFFLUENTS ← DELETED

3/4.11.1.1 CONCENTRATION ←

This specification is provided to ensure that the concentration of radioactive materials released in liquid waste effluents from the site will be less than the concentration levels specified in 10 CFR Part 20, Appendix B, Table II. This limitation provides additional assurance that the levels of radioactive materials in bodies of water outside the site will result in exposures within: (1) the Section II.A design objectives of Appendix I, 10 CFR Part 50, to an individual and (2) the limits of 10 CFR Part 20.106(e) to the population. The concentration limit for noble gases is based upon the assumption that Xe-135 is the controlling radioisotope and its MPC in air (submersion) was converted to an equivalent concentration in water using the methods described in International Commission on Radiological Protection (ICRP) Publication 2.

3/4.11.1.2 DOSE ← DELETED

This specification is provided to implement the requirements of Sections II.A, III.A and IV.A of Appendix I, 10 CFR Part 50. The Limiting Condition for Operation implements the guides set forth in Section II.A of Appendix I. The ACTION statements provide the required operating flexibility and at the same time implement the guides set forth in Section IV.A of Appendix I to assure that the releases of radioactive material in liquid effluents will be kept "as low as is reasonably achievable." The dose calculation methodology and parameters in the REMODCM implement the requirements in Section III.A of Appendix I that conformance with the guides of Appendix I is to be shown by calculational procedures based on models and data, such that the actual exposure of an individual through appropriate pathways is unlikely to be substantially underestimated. The equations specified in the REMODCM for calculating the doses due to the actual release rates of radioactive materials in liquid effluents will be consistent with the methodology provided in Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I" Revision 1, October 1977 and Regulatory Guide 1.113, "Estimating Aquatic Dispersion of Effluents from Accidental and Routine Reactor Releases for the Purpose of Implementing Appendix I," April 1977.

3/4.11.2 GASEOUS EFFLUENTS ← DELETED

3/4.11.2.1 DOSE RATE ←

This specification is provided to ensure that the dose at any time from gaseous effluents from all units on the site will be within the annual dose limits of 10 CFR Part 20 for all areas offsite. The annual dose limits are the doses associated with the concentrations of 10 CFR Part 20, Appendix B, Table II. These limits provide reasonable assurance that radioactive material discharged in gaseous effluents will not result in the exposure of an individual offsite to annual average concentrations exceeding the limits specified in Appendix B, Table II of 10 CFR Part 20 (10 CFR 20.106(b)). For individuals who may at times be within the SITE BOUNDARY, the occupancy of that individual will usually be

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November 1, 1995
PTSCR #3-10-95

RADIOACTIVE EFFLUENT

BASES

DOSE RATE (Continued)

sufficiently low to compensate for any increase in the atmospheric diffusion factor above that for the SITE BOUNDARY. The specified release rate limits restrict, at all times, the corresponding gamma and beta dose rates above background to an individual at or beyond the SITE BOUNDARY to less than or equal to 500 mrems/year to the whole body or to less than or equal to 3000 mrems/year to the skin. These release rate limits also restrict, at all times, the corresponding thyroid or any other organ dose rate above background to a child via the inhalation pathway to less than or equal to 1500 mrems/year.

3/4.11.2.2 DOSE - NOBLE GASES DELETED

This specification is provided to implement the requirements of Sections II.B, III.A and IV.A of Appendix I, 10 CFR Part 50. The Limiting Condition for Operation implements the guides set forth in Section II.B of Appendix I. The ACTION statements provide the required operating flexibility and at the same time implement the guides set forth in Section IV.A of Appendix I to assure that the releases of radioactive material in gaseous effluent will be kept "as low as is reasonably achievable." The Surveillance Requirements implement the requirements in Section III.A of Appendix I that conform with the guides of Appendix I be shown by calculational procedures based on models and data such that the actual exposure of an individual through appropriate pathways is unlikely to be substantially underestimated. The dose calculation established in the REMODCM for calculating the doses due to the actual release rates of radioactive noble gases in gaseous effluent will be consistent with the methodology provided in Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluent for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I" Revision 1, October 1977 and Regulatory Guide 1.111, "Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluent in Routine Releases from Light-Water Cooled Reactors," Revision 1," July 1977.

The REMODCM equations provided for determining the air doses at the site boundary are based on utilizing successively more realistic dose calculational methodologies. More realistic dose calculational methods are used whenever simplified calculations indicate a dose approaching a substantial portion of the regulatory limits. The methods used, in order, are previously determined air dose per released activity ratio, historical meteorological data and actual radionuclide mix released, or real time meteorological and actual radionuclides released.

3/4.11.2.3 DOSE - RADIOTODINES, RADIOACTIVE MATERIAL IN PARTICULATE FORM AND RADIONUCLIDES OTHER THAN NOBLE GASES DELETED

This specification is provided to implement the requirements of Sections II.C, III.A and IV.A of Appendix I, 10 CFR Part 50. The Limiting Conditions for Operation are the guides set forth in Section II.C of Appendix I. The ACTION statements provide the required operating flexibility and at the same time implement the guides set forth in Section IV.A of Appendix I to assure

RADIOACTIVE EFFLUENTS

BASES

DOSE - RADIOIODINES, RADIOACTIVE MATERIAL IN PARTICULATE FORM AND RADIONUCLIDES OTHER THAN NOBLE GASES (Continued)

that the releases of radioactive materials in gaseous effluents will be kept "as low as is reasonably achievable." The REMODCM calculational methods specified in the Surveillance Requirements implement the requirements in Section III.A of Appendix I that conformance with the guides of Appendix I be shown by calculational procedures based on models and data such that the actual exposure of an individual through appropriate pathways is unlikely to be substantially underestimated. The REMODCM calculational methodology and parameters for calculating the doses due to the actual release rates of the subject materials are consistent with the methodology provided in Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I," Revision 1, October 1977 and Regulatory Guide 1.111, "Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled Reactors," Revision 1, July 1977. The release rate specifications for radioiodines and radionuclides in particulate form and radionuclides other than noble gases are dependent upon the existing radionuclide pathways to man. The pathways that are examined in the development of these calculations are: (1) individual inhalation of airborne radionuclides, (2) deposition of radionuclides onto green leafy vegetation with subsequent consumption by man, (3) deposition onto grassy areas where milk animals and meat producing animals graze with consumption of the milk and meat by man, and (4) deposition on the ground with subsequent exposure to man.

3/4.11.3 ~~TOTAL DOSE DELETED~~

This specification is provided to meet the dose limitations of 40 CFR Part 190. For the purposes of the Special Report, it may be assumed that the dose commitment to any REAL MEMBER OF THE PUBLIC from other uranium fuel cycle sources is negligible, with the exception that dose contributions from other nuclear fuel cycle facilities at the same site or within a radius of 5 miles must be considered.

Docket Nos. 50-336
50-423
B17959

Attachment 5

Millstone Nuclear Power Station, Unit No. 2

**Proposed Revision to Technical Specifications
Radiological Effluent Technical Specifications
Retyped Pages**

February 2000

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DEFINITIONS

ENGINEERED SAFETY FEATURE RESPONSE TIME (Continued)

performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays where applicable.

PHYSICS TESTS

1.28 PHYSICS TESTS shall be those tests performed to measure the fundamental nuclear characteristics of the reactor core and related instrumentation and 1) described in Chapter 13.0 of the FSAR, 2) authorized under the provisions of 10 CFR 50.59, or 3) otherwise approved by the Commission.

TOTAL UNRODDED INTEGRATED RADIAL PEAKING FACTOR - F_r^T

1.29 The TOTAL UNRODDED INTEGRATED RADIAL PEAKING FACTOR is the ratio of the peak pin power to the average pin power in an unrodded core. This value includes the effect of AZIMUTHAL POWER TILT.

SOURCE CHECK

1.30 A SOURCE CHECK shall be the qualitative assessment of channel response when the channel sensor is exposed to radiation.

PURGE - PURGING

1.34 PURGE or PURGING is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is required to purify the containment.

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SPECIAL TEST EXCEPTIONS

GROUP HEIGHT AND INSERTION LIMITS

LIMITING CONDITION FOR OPERATION

3.10.2 The requirements of Specifications 3.1.1.4, 3.1.3.1, 3.1.3.5, 3.1.3.6, 3.2.3 and 3.2.4 may be suspended during the performance of PHYSICS TESTS provided:

- a. The THERMAL POWER is restricted to the test power plateau which shall not exceed 85% of RATED THERMAL POWER, and
- b. The limits of Specification 3.2.1 are maintained and determined as specified in Specification 4.10.2 below.

APPLICABILITY: MODES 1 and 2.

ACTION:

With any of the limits of Specification 3.2.1 being exceeded while the requirements of Specifications 3.1.1.4, 3.1.3.1, 3.1.3.5, 3.1.3.6, 3.2.3 and 3.2.4 are suspended, immediately:

- a. Reduce THERMAL POWER sufficiently to satisfy the requirements of Specification 3.2.1 or
- b. Be in HOT STANDBY within 2 hours.

SURVEILLANCE REQUIREMENTS

4.10.2.1 The THERMAL POWER shall be determined at least once per hour during PHYSICS TESTS in which the requirements of Specifications 3.1.1.4, 3.1.3.1, 3.1.3.5, 3.1.3.6, 3.2.3 or 3.2.4 are suspended and shall be verified to be within the test power plateau.

4.10.2.2 The linear heat rate shall be determined to be within the limits of Specification 3.2.1 by monitoring it continuously with the Incore Detector Monitoring System pursuant to the requirements of Specification 4.2.1.3 during PHYSICS TESTS above 5% of RATED THERMAL POWER in which the requirements of Specifications 3.1.1.4, 3.1.3.1, 3.1.3.5, 3.1.3.6, 3.2.3 or 3.2.4 are suspended.

SPECIAL TEST EXCEPTIONS

CENTER CEA MISALIGNMENT

LIMITING CONDITION FOR OPERATION

3.10.5 The requirements of Specifications 3.1.3.1 and 3.1.3.6 may be suspended during the performance of PHYSICS TESTS to determine the isothermal temperature coefficient and power coefficient provided:

- a. Only the center CEA (CEA #1) is misaligned, and
- b. The limits of Specification 3.2.1 are maintained and determined as specified in Specification 4.10.5 below.

APPLICABILITY: MODES 1 and 2.

ACTION:

With any of the limits of Specification 3.2.1 being exceeded while the requirements of Specification 3.1.3.1 and 3.1.3.6 are suspended, immediately:

- a. Reduce THERMAL POWER sufficiently to satisfy the requirements of Specification 3.2.1, or
- b. Be in HOT STANDBY within 2 hours.

SURVEILLANCE REQUIREMENTS

4.10.5.1 The THERMAL POWER shall be determined at least once per hour during PHYSICS TESTS in which the requirements of Specifications 3.1.3.1 and/or 3.1.3.6 are suspended and shall be verified to be within the test power plateau.

4.10.5.2 The linear heat rate shall be determined to be within the limits of Specification 3.2.1 by monitoring it continuously with the Incore Detector Monitoring System pursuant to the requirements of Specification 4.2.1.3 during PHYSICS TESTS above 5% of RATED THERMAL POWER in which the requirements of Specifications 3.1.3.1 and/or 3.1.3.6 are suspended.

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ADMINISTRATIVE CONTROLS

- f. Fire Protection Program implementation.
 - g. Quality Control for effluent monitoring using the guidance in Regulatory Guide 1.21 Rev. 1, June 1974.
 - h. Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMDCM) implementation, except for Section I.E., Radiological Environmental Monitoring.
- 6.8.2
- a. The designated manager or designated officer or designated senior officer may designate specific procedures and programs, or classes of procedures and programs to be reviewed in accordance with the Quality Assurance Program Topical Report.
 - b. Procedures and programs listed in Specification 6.8.1, and changes thereto, shall be approved by the designated manager or designated officer or by cognizant Manager or Directors who are designated as the Approval Authority by the designated manager or designated officer, as specified in administrative procedures. The Approval Authority for each procedure and program or class of procedure and program shall be specified in administrative procedures.
 - c. Each procedure of Specification 6.8.1, and changes thereto, shall be reviewed and approved in accordance with the Quality Assurance Program Topical Report, prior to implementation. Each procedure of Specification 6.8.1 shall be reviewed periodically as set forth in administrative procedures.
- 6.8.3
- Temporary changes to procedures of 6.8.1 above may be made provided:
- a. The intent of the original procedure is not altered.
 - b. The change is approved by two members of the plant management staff, at least one of whom holds a Senior Reactor Operator's License on the unit affected.
 - c. The change is documented, reviewed and approved in accordance with the Quality Assurance Program Topical Report within 14 days of implementation.
- 6.8.4
- Written procedures shall be established, implemented and maintained covering Section I.E, Radiological Environmental Monitoring, of the REMDCM.

ADMINISTRATIVE CONTROLS

- d. Documentation of all failures (inability to lift or reclose within the tolerances allowed by the design basis) and challenges to the pressurizer PORVs or safety valves.

ANNUAL RADIOLOGICAL REPORTS

6.9.1.6a ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

-----NOTE-----

A single submittal may be made for a multiple unit station. The submittal shall combine sections common to all units at the station.

The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted by May 1 of each year. The report shall include summaries, interpretations, and analyses of trends of the results of the Radiological Environmental Monitoring Program for the reporting period. The material provided shall be consistent with the objectives outlined in the Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODOCM), and in 10 CFR Part 50, Appendix I, Sections IV.B.2, IV.B.3, and IV.C.

The Annual Radiological Environmental Operating Report shall include the results of analyses of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the REMODOCM, as well as summarized and tabulated results of these analyses and measurements. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted in the next annual report.

6.9.1.6b RADIOACTIVE EFFLUENT RELEASE REPORT

-----NOTE-----

A single submittal may be made for a multiple unit station. The submittal shall combine sections common to all units at the station; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material from each unit.

The Radioactive Effluent Release Report covering the operation of the unit in the previous year shall be submitted prior to May 1 of each year in accordance with 10 CFR 50.36a. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit. The material provided shall be consistent with the objectives outlined in the REMODOCM and in conformance with 10 CFR 50.36a and 10 CFR Part 50, Appendix I, Section IV.B.1.

ADMINISTRATIVE CONTROLS

MONTHLY OPERATING REPORT

6.9.1.7 Routine reports of operating statistics and shutdown experience shall be submitted on a monthly basis 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, no later than the 15th of each month following the calendar month covered by the report.

CORE OPERATING LIMITS REPORT

6.9.1.8 a. Core operating limits shall be established and documented in the CORE OPERATING LIMITS REPORT before each reload cycle or any remaining part of a reload cycle.

- 3/4.1.1.1 SHUTDOWN MARGIN - $T_{avg} > 200^{\circ}\text{F}$
- 3/4.1.1.2 SHUTDOWN MARGIN - $T_{avg} \leq 200^{\circ}\text{F}$
- 3/4.1.1.4 Moderator Temperature Coefficient
- 3/4.1.3.6 Regulating CEA Insertion Limits
- 3/4.2.1 Linear Heat Rate
- 3/4.2.3 Total Integrated Radial Peaking Factor - F_r^T
- 3/4.2.6 DNB Margin

b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, specifically those described in the following documents:

- 1) XN-75-27(A) and Supplements 1 through 5, "Exxon Nuclear Neutronics Design Methods for Pressurized Water Reactors," Exxon Nuclear Company, Report and Supplement 1 dated April 1977, Supplement 2 dated December 1980, Supplement 3 dated September 1981 (P), Supplement 4 dated December 1986 (P), and Supplement 5 dated February 1987 (P).
- 2) ANF-84-73 Revision 5 Appendix B (P)(A), "Advanced Nuclear Fuels Methodology for Pressurized Water Reactors: Analysis of Chapter 15 Events," Advanced Nuclear Fuels, July 1990.
- 3) XN-NF-82-21(P)(A) Revision 1, "Application of Exxon Nuclear Company PWR Thermal Margin Methodology to Mixed Core Configurations," Exxon Nuclear Company, September 1983.
- 4) EMF-84-93(P) Revision 1, "Steamline Break Methodology for PWRs," Siemens Power Corporation, June 1998.
- 5) XN-75-32(P)(A) Supplements 1 through 4, "Computational Procedure for Evaluating Fuel Rod Bowing," Exxon Nuclear Company, October 1983.
- 6) XN-NF-82-49(P)(A) Revision 1, "EXXON Nuclear Company Evaluation Model EXEM PWR Small Break Model," Advanced Nuclear Fuels Corporation, April 1989.

ADMINISTRATIVE CONTROLS

CORE OPERATING LIMITS REPORT (CONT.)

- 7) XN-NF-82-49(P)(A) Revision 1 Supplement 1, "Exxon Nuclear Company Evaluation Model Revised EXEM PWR Small Break Model," Siemens Power Corporation, December 1994.
- 8) EXEM PWR Large Break LOCA Evaluation Model as defined by:
 - XN-NF-82-20(P)(A) Revision 1 Supplement 2, "Exxon Nuclear Company Evaluation Model EXEM/PWR ECCS Model Updates," Exxon Nuclear Company, February 1985.
 - XN-NF-82-20(P)(A) Revision 1 and Supplement 1, 3, and 4, "Exxon Nuclear Company Evaluation Model EXEM/PWR ECCS Model Updates," Advanced Nuclear Fuels Corporation January 1990.
 - XN-NF-82-07(P)(A) Revision 1, "Exxon Nuclear Company ECCS Cladding Swelling and Rupture Model," Exxon Nuclear Company, November 1982.
 - XN-NF-81-58(P)(A) Revision 2 and Supplements 1 and 2, "RODEX2 Fuel Rod Thermal-Mechanical Response Evaluation Model," Exxon Nuclear Company, March 1984.
 - ANF-81-58(P)(A) Revision 2 Supplements 3 and 4, "RODEX2 Fuel Rod Thermal Mechanical Response Evaluation Model," Advanced Nuclear Fuels Corporation, June 1990.
 - XN-NF-85-16(P)(A) Volume 1 and Supplements 1, 2, and 3; Volume 2, Revision 1 and Supplement 1, "PWR 17 x 17 Fuel Cooling Test Program," Advanced Nuclear Fuels Corporation, February 1990.
 - XN-NF-85-105(P)(A) and Supplement 1, "Scaling of FCTF Based Reflood Heat Transfer Correlation for Other Bundle Designs," Advanced Nuclear Fuels Corporation, January 1990.

ADMINISTRATIVE CONTROLS

CORE OPERATING LIMITS REPORT (CONT.)

- 9) XN-NF-78-44(NP)(A), "A Generic Analysis of the Control Rod Ejection Transient for Pressurized water reactors," Exxon Nuclear Company, October 1983.
 - 10) XN-NF-621(P)(A) Revision 1, "Exxon Nuclear DNB Correlation for PWR Fuel Designs," Exxon Nuclear Company, September 1983.
 - 11) XN-NF-82-06(P)(A) Revision 1 and Supplements 2, 4, and 5, "Qualification of Exxon Nuclear Fuel for Extended Burnup," Exxon Nuclear Company, October 1986.
 - 12) ANF-88-133(P)(A) and Supplement 1, "Qualification of Advanced Nuclear Fuels PWR Design Methodology for Rod Burnups of 62 Gw/MTU," Advanced Nuclear Fuels Corporation, December 1991.
 - 13) XN-NF-85-92(P)(A), "Exxon Nuclear Uranium Dioxide/Gadolinia Irradiation Examination and Thermal Conductivity Results," Exxon Nuclear Company, November 1988.
 - 14) ANF-89-151(P)(A), "ANF-RELAP Methodology for Pressurized Water Reactors: Analysis of Non-LOCA Chapter 15 Events," Advanced Nuclear Fuels Corporation, May 1992.
 - 15) XN-NF-507(P)(A) Supplements 1 and 2, "ENC Setpoint Methodology for C.E. Reactors: Statistical Setpoint Methodology," Exxon Nuclear Company, September 1986.
- c. The core operating limits shall be determined so that all applicable limits (e.g., fuel thermal-mechanical limits, core thermal-hydraulic limits, ECCS limits, nuclear limits such as shutdown margin, and transient and accident analysis limits) of the safety analysis are met.
- d. The CORE OPERATING LIMITS REPORT, including any mid-cycle revisions or supplements thereto, shall be provided upon issuance, for each reload cycle, to the NRC Document Control Desk with copies to the Regional Administrator and Resident Inspector.

SPECIAL REPORTS

6.9.2 Special 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 within the time period specified for each report. These reports shall be submitted covering the activities identified below pursuant to the requirements of the applicable reference specification:

- a. Deleted

ADMINISTRATIVE CONTROLS

SPECIAL REPORTS (CONT.)

- b. Deleted
- c. Deleted
- d. ECCS Actuation, Specifications 3.5.2 and 3.5.3.
- e. Deleted
- f. Deleted
- g. RCS Overpressure Mitigation, Specification 3.4.9.3.
- h. Deleted
- i. Degradation of containment structure, Specification 4.6.1.6.4.
- j. Steam Generator Tube Inspection, Specification 4.4.5.1.5.
- k. Accident Monitoring Instrumentation, Specification 3.3.3.8.
- l. Radiation Monitoring Instrumentation, Specification 3.3.3.1.
- m. Reactor Coolant System Vents, Specification 3.4.11.

6.10 Deleted.

ADMINISTRATIVE CONTROLS

6.15 RADIOLOGICAL EFFLUENT MONITORING AND OFFSITE DOSE CALCULATION MANUAL (REMODCM)

- a. The REMODCM shall contain the methodology and parameters used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm and trip setpoints, and in the conduct of the radiological environmental program; and
- b. The REMODCM shall also contain the radioactive effluent controls and radiological environmental monitoring activities and descriptions of the information that should be included in the Annual Radiological Environmental Operating, and Radioactive Effluent Release, reports required by Specification 6.9.1.6a and Specification 6.9.1.6b.

Licensee initiated changes to the REMODCM:

- a. Shall be documented and records of reviews performed shall be retained. This documentation shall contain:
 - 1) sufficient information to support the change(s) together with the appropriate analyses or evaluations justifying the change(s), and
 - 2) a determination that the change(s) will maintain the level of radioactive effluent control required by 10 CFR 20.1302, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I of 10 CFR 50, and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations;
- b. Shall become effective after review and acceptance by SORC and the approval of the designated officer; and
- c. Shall be submitted to the Commission in the form of a complete, legible copy of the entire REMODCM as a part of or concurrent with the Radioactive Effluent Release Report for the period of the report in which any change in the REMODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (i.e., month and year) the change was implemented.

ADMINISTRATIVE CONTROLS

6.16 RADIOACTIVE WASTE TREATMENT

Procedures for liquid and gaseous radioactive effluent discharges from the Unit shall be prepared, approved, maintained, and adhered to for all operations involving offsite releases of radioactive effluents. These procedures shall specify the use of appropriate* waste treatment utilizing the guidance provided in the REMODCM.

6.17 SECONDARY WATER CHEMISTRY

A program shall be maintained for monitoring of secondary water chemistry to inhibit steam generator tube degradation. This program shall include:

1. Identification of a sampling schedule for the critical variables and control points for these variables.
2. Identification of the procedures used to measure the values of the critical variables,
3. Identification of process sampling points, which shall include monitoring the discharge of the condensate pumps for evidence of condenser in-leakage.
4. Procedures for the recording and management of data.
5. Procedures defining corrective actions for all off-control point chemistry conditions, and
6. A procedure identifying: (a) the authority responsible for the interpretation of the data, and (b) the sequence and timing of administrative events required to initiate corrective action.

6.18 PASS/Sampling and Analysis of Plant Effluents

A program shall be established, implemented and maintained which will ensure the capability to obtain and analyze reactor coolant, radioactive iodines and particulates in plant gaseous effluents, and containment atmosphere samples under accident conditions. The program shall include the following:

- (i) Training of personnel,
- (ii) Procedures for sampling and analysis,
- (iii) Provisions for maintenance of sampling & analysis equipment.

*The Solid Radioactive Waste Treatment System shall be operated in accordance with the Process Control Program to process wet radioactive wastes to meet shipping and burial ground requirements.

ADMINISTRATIVE CONTROLS

6.19 CONTAINMENT LEAKAGE RATE TESTING PROGRAM

A program shall be established to implement the leakage rate testing of the primary containment as required by 10CFR50.54(o) and 10CFR50, Appendix J, Option B as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program," dated September 1995.

The peak calculated primary Containment internal pressure for the design basis loss of coolant accident is P_a .

The maximum allowable primary containment leakage rate, L_a , at P_a , is 0.5% of primary containment air weight per day.

Leakage rate acceptance criteria are:

- a. Primary containment overall leakage rate acceptance criterion is $< 1.0 L_a$. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $< 0.60 L_a$ for the combined Type B and Type C tests, and $< 0.75 L_a$ for Type A tests;
- b. Air lock testing acceptance criteria are:
 1. Overall air lock leakage rate is $\leq 0.05 L_a$ when tested at $\geq P_a$.
 2. For each door, pressure decay is ≤ 0.1 psig when pressurized to ≥ 25 psig for at least 15 minutes.

The provisions of SR 4.0.2 do not apply for test frequencies specified in the Primary Containment Leakage Rate Testing Program.

The provisions of SR 4.0.3 are applicable to the Primary Containment Leakage Rate Testing Program.

6.20 RADIOACTIVE EFFLUENT CONTROLS PROGRAM

This program conforms to 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to members of the public from radioactive effluents as low as reasonably achievable. The program shall be contained in the REMODCM, shall be implemented by procedures, and shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

- a. Limitations on the functional capability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the REMODCM;
- b. Limitations on the concentrations of radioactive material released in liquid effluents to unrestricted areas, conforming to 10 CFR 20, Appendix B, Table II, Column 2 (1993 version);

ADMINISTRATIVE CONTROLS

- c. Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the REMODCM;
- d. Limitations on the annual and quarterly doses or dose commitment to a member of the public from radioactive materials in liquid effluents released from each unit to unrestricted areas, conforming to 10 CFR 50, Appendix I;
- e. Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the REMODCM at least every 31 days;
- f. Limitations on the functional capability and use of the liquid and gaseous effluent treatment systems to ensure that appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a period of 31 days would exceed 2% of the guidelines for the annual dose or dose commitment, conforming to 10 CFR 50, Appendix I;
- g. Limitations on the dose rate resulting from radioactive material released in gaseous effluents to areas beyond the site boundary to a dose rate which, if the release were to occur for a full year, would cause a dose of 500 mrem. This conforms to the dose associated with the 1993 version of 10 CFR 20, Appendix B, Table II, Column I;
- h. Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I;
- i. Limitations on the annual and quarterly doses to a member of the public from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half lives > 8 days in gaseous effluents released from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I; and
- j. Limitations on the annual dose or dose commitment to any member of the public due to releases of radioactivity and to radiation from uranium fuel cycle sources, conforming to 40 CFR 190.

6.21 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

A program shall be provided to monitor the radiation and radionuclides in the environs of the plant. The program shall provided (1) representative measurements of radioactivity in the highest potential exposure pathways, and (2) verification of the accuracy of the effluent monitoring program and modeling of environmental exposure pathways. The program shall (1) be contained in the REMODCM, (2) conform to that guidance of Appendix I to 10 CFR Part 50, and (3) include the following:

- a. Monitoring, sampling, analysis, and reporting of radiation and radionuclides in the environment in accordance with the methodology and parameters in the REMODCM.

ADMINISTRATIVE CONTROLS

- b. A Land Use Census to ensure that changes in the use of areas at and beyond the SITE BOUNDARY are identified and that modifications to the monitoring program are made if required by the results of this census, and
- c. Participation in a Interlaboratory Comparison Program to ensure that independent checks on the precision and accuracy of the measurements of radioactive materials in environmental sample matrices are performed as part of the quality assurance program for environmental monitoring.

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Docket Nos. 50-336
50-423
B17959

Attachment 6

Millstone Nuclear Power Station, Unit No. 3

**Proposed Revision to Technical Specifications
Radiological Effluent Technical Specifications
Retyped Pages**

February 2000

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DEFINITIONS

QUADRANT POWER TILT RATIO

1.24 QUADRANT POWER TILT RATIO shall be the ratio of the maximum upper excore detector calibrated output to the average of the upper excore detector calibrated outputs, or the ratio of the maximum lower excore detector calibrated output to the average of the lower excore detector calibrated outputs, whichever is greater. With one excore detector inoperable, the remaining three detectors shall be used for computing the average.

RATED THERMAL POWER

1.27 RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant of 3411 MWt.

REACTOR TRIP SYSTEM RESPONSE TIME

1.28 The REACTOR TRIP SYSTEM RESPONSE TIME shall be the time interval from when the monitored parameter exceeds its Trip Setpoint at the channel sensor until loss of stationary gripper coil voltage.

REPORTABLE EVENT

1.29 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 of 10 CFR Part 50.

SHUTDOWN MARGIN

1.30 SHUTDOWN MARGIN shall be the instantaneous amount of reactivity by which the reactor is subcritical or would be subcritical from its present condition assuming all full-length rod cluster assemblies (shutdown and control) are fully inserted except for the single rod cluster assembly of highest reactivity worth which is assumed to be fully withdrawn.

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INSTRUMENTATION

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3/4.3.3.8 LOOSE-PART DETECTION SYSTEM

The OPERABILITY of the Loose-Part Detection System ensures that sufficient capability is available to detect loose metallic parts in the Reactor System and avoid or mitigate damage to Reactor System components. The allowable out-of-service times and surveillance requirements are consistent with the recommendations of Regulatory Guide 1.133, "Loose-Part Detection Program for the Primary System of Light-Water-Cooled Reactors," May 1981.

3/4.3.3.9 DELETED

3/4.3.3.10 DELETED

3/4.3.4 TURBINE OVERSPEED PROTECTION

This specification is provided to ensure that the turbine overspeed protection instrumentation and the turbine speed control valves are OPERABLE and will protect the turbine from excessive overspeed. Protection from turbine excessive overspeed is required since excessive overspeed of the turbine could generate potentially damaging missiles which could impact and damage safety-related components, equipment, or structures.

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duration of the specific activity above the steady-state level; and
(5) The time duration when the specific activity of the reactor coolant exceeded the radioiodine limit.

- c. Documentation of all challenges to the pressurizer power-operated relief valves (PORVs) and safety valves; and

ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

-----NOTE-----

A single submittal may be made for a multiple unit station. The submittal shall combine sections common to all units at the station.

- 6.9.1.3 The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted by May 1 of each year. The report shall include summaries, interpretations, and analyses of trends of the results of the Radiological Environmental Monitoring Program for the reporting period. The material provided shall be consistent with the objectives outlined in the Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMDCM), and in 10 CFR Part 50, Appendix I, Sections IV.B.2, IV.B.3, and IV.C.

The Annual Radiological Environmental Operating Report shall include the results of analyses of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the REMDCM, as well as summarized and tabulated results of these analyses and measurements. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted in the next annual report.

RADIOACTIVE EFFLUENT RELEASE REPORT

-----NOTE-----

A single submittal may be made for a multiple unit station. The submittal shall combine sections common to all units at the station; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material from each unit.

- 6.9.1.4 The Radioactive Effluent Release Report covering the operation of the unit in the previous year shall be submitted prior to May 1 of each year in accordance with 10 CFR 50.36a. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit. The material provided shall be consistent with the objectives outlined in the REMDCM and in conformance with 10 CFR 50.36a and 10 CFR Part 50, Appendix I, Section IV.B.1.

ADMINISTRATIVE CONTROLS

MONTHLY OPERATING REPORTS

6.9.1.5 Routine reports of operating statistics and shutdown experience shall be submitted on a monthly basis 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, no later than the 15th of each month following the calendar month covered by the report.

CORE OPERATING LIMITS REPORT

6.9.1.6.a Core operating limits shall be established and documented in the CORE OPERATING LIMITS REPORT before each reload cycle or any remaining part of a reload cycle for the following:

1. Moderator Temperature Coefficient BOL and EOL limits and 300 ppm surveillance limit for Specification 3/4.1.1.3,

ADMINISTRATIVE CONTROLS

6.13 RADIOLOGICAL EFFLUENT MONITORING AND OFFSITE DOSE CALCULATION MANUAL (REMODCM)

- a. The REMODCM shall contain the methodology and parameters used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm and trip setpoints, and in the conduct of the radiological environmental program; and
- b. The REMODCM shall also contain the radioactive effluent controls and radiological environmental monitoring activities and descriptions of the information that should be included in the Annual Radiological Environmental Operating, and Radioactive Effluent Release, reports required by Specification 6.9.1.3 and Specification 6.9.1.4.

Licensee initiated changes to the REMODCM:

- a. Shall be documented and records of reviews performed shall be retained. This documentation shall contain:
 - 1) sufficient information to support the change(s) together with the appropriate analyses or evaluations justifying the change(s), and
 - 2) a determination that the change(s) will maintain the level of radioactive effluent control required by 10 CFR 20.1302, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I of 10 CFR 50, and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations;
- b. Shall become effective after review and acceptance by SORC and the approval of the designated officer; and
- c. Shall be submitted to the Commission in the form of a complete, legible copy of the entire REMODCM as a part of or concurrent with the Radioactive Effluent Release Report for the period of the report in which any change in the REMODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (i.e., month and year) the change was implemented.

6.14 RADIOACTIVE WASTE TREATMENT

Procedures for liquid and gaseous radioactive effluent discharges from the Unit shall be prepared, approved, maintained and adhered to for all operations involving offsite releases of radioactive effluents. These procedures shall specify the use of appropriate waste treatment systems utilizing the guidance provided in the REMODCM.

The Solid Radioactive Waste Treatment System shall be operated in accordance with the Process Control Program to process wet radioactive wastes to meet shipping and burial ground requirements.

ADMINISTRATIVE CONTROLS

6.15 RADIOACTIVE EFFLUENT CONTROLS PROGRAM

This program conforms to 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to members of the public from radioactive effluents as low as reasonably achievable. The program shall be contained in the REMODCM, shall be implemented by procedures, and shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

- a. Limitations on the functional capability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the REMODCM;
- b. Limitations on the concentrations of radioactive material released in liquid effluents to unrestricted areas, conforming to 10 CFR 20, Appendix B, Table II, Column 2 (1993 version);
- c. Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the REMODCM;
- d. Limitations on the annual and quarterly doses or dose commitment to a member of the public from radioactive materials in liquid effluents released from each unit to unrestricted areas, conforming to 10 CFR 50, Appendix I;
- e. Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the REMODCM at least every 31 days;
- f. Limitations on the functional capability and use of the liquid and gaseous effluent treatment systems to ensure that appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a period of 31 days would exceed 2% of the guidelines for the annual dose or dose commitment, conforming to 10 CFR 50, Appendix I;
- g. Limitations on the dose rate at any time resulting from radioactive material released in gaseous effluents to areas beyond the site boundary to a dose rate which, if the release were to occur for a full year, would cause a dose of 500 mrem. This conforms to the dose associated with the 1993 version of 10 CFR 20, Appendix B, Table II, Column I;
- h. Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I;
- i. Limitations on the annual and quarterly doses to a member of the public from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half lives > 8 days in gaseous effluents released from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I; and

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- j. Limitations on the annual dose or dose commitment to any member of the public due to releases of radioactivity and to radiation from uranium fuel cycle sources, conforming to 40 CFR 190.

6.16 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

A program shall be provided to monitor the radiation and radionuclides in the environs of the plant. The program shall provided (1) representative measurements of radioactivity in the highest potential exposure pathways, and (2) verification of the accuracy of the effluent monitoring program and modeling of environmental exposure pathways. The program shall (1) be contained in the REMODCM, (2) conform to the guidance of Appendix I to 10 CFR Part 50, and (3) include the following:

- a. Monitoring, sampling, analysis, and reporting of radiation and radionuclides in the environment in accordance with the methodology and parameters in the REMODCM.
- b. A Land Use Census to ensure that changes in the use of areas at and beyond the SITE BOUNDARY are identified and that modifications to the monitoring program are made if required by the results of this census, and
- c. Participation in a Interlaboratory Comparison Program to ensue that independent checks on the precision and accuracy of the measurements of radioactive materials in environmental sample matrices are performed as part of the quality assurance program for environmental monitoring.

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