

Dominion Nuclear Connecticut, Inc.  
Millstone Power Station  
Rope Ferry Road  
Waterford, CT 06385



**Dominion**

FEB - 5 2002

Docket No. 50-423  
B18534

RE: 10 CFR 50.90

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

Millstone Nuclear Power Station, Unit No. 3  
Technical Specification Change Request 3-16-01  
Revision of the Term "REFUELING INTERVAL"

Pursuant to 10 CFR 50.90, Dominion Nuclear Connecticut, Inc. (DNC) proposes to amend Operating License No. NPF-49 by incorporating the proposed change into the Millstone Unit No. 3 Technical Specifications. Specifically, DNC proposes to revise the Millstone Unit No. 3 Technical Specifications by modifying the term "once each REFUELING INTERVAL" to "once per 24 months" in several surveillance requirements.

The affected surveillance requirements are listed in Table 1 of Attachment 1 of this submittal.

Attachment 1 provides a discussion of the proposed change and the Safety Summary. Attachment 2 provides the No Significant Hazards Consideration (SHC) discussion. Attachments 3 and 4 provide a marked-up and retyped versions of the current Millstone Unit No. 3 Technical Specifications pages.

Environmental Considerations

DNC has evaluated the proposed change against the criteria for identification of licensing and regulatory actions requiring environmental assessment in accordance with 10 CFR 51.22. DNC has determined that the proposed change meet the criteria for categorical exclusion set forth in 10 CFR 51.22(c) and as such, has determined that no irreversible consequences exist in accordance with 10 CFR 50.92(b).

This determination is based on the fact that the change is being proposed as an amendment to a license issued pursuant to 10 CFR 50 that changes a requirement with respect to use of a facility component located within the restricted area, as defined in 10 CFR 20, or that changes an inspection or surveillance requirement, and that the amendment request meets the following specific criteria.

A001

- (i) The proposed change involves no significant hazards consideration.

As demonstrated in Attachment 2, the proposed change does not involve a significant hazards consideration.

- (ii) There is no significant change in the types or significant increase in the amounts of any effluent that may be released off site.

The proposed change will revise the term "once each REFUELING INTERVAL" to "once per 24 months" in several surveillance requirements.

The proposed change is consistent with and does not change the design basis of the plant. The proposed change will not result in an increase in power level, will not increase the production of radioactive waste and byproducts, and will not alter the flowpath or method of disposal of radioactive waste or byproducts. Therefore, the proposed change will not increase the types and amounts of effluents that may be released off site.

- (iii) There is no significant increase in individual or cumulative occupational radiation exposure.

The proposed change will not result in changes in the configuration of the facility. There will be no change in the level of controls or methodology used for processing radioactive effluents or the handling of solid radioactive waste. There will be no change to the normal radiation levels within the plant. Therefore, there will be no increase in individual or cumulative occupational radiation exposure resulting from the proposed change.

### Conclusions

The proposed change does not impact the public health and safety (see the Safety Assessment provided in Attachment 1) and does not involve a Significant Hazards Consideration pursuant to the provisions of 10 CFR 50.92 (see the SHC provided in Attachment 2).

### Site Operations Review Committee and Nuclear Safety Assessment Board

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

### Schedule

We request issuance of this amendment by January 31, 2003, with the amendment to be implemented within 90 days of issuance.

State Notification

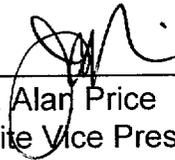
In accordance with 10 CFR 50.91(b), a copy of this License Amendment Request is being provided to the State of Connecticut.

There are no regulatory commitments contained in this letter.

If you should have any questions regarding this submittal, please contact Mr. Ravi Joshi at (860) 440-2080.

Very truly yours,

DOMINION NUCLEAR CONNECTICUT, INC.

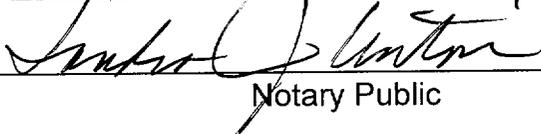


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J. Alan Price  
Site Vice President - Millstone

Subscribed and sworn to before me

this 5<sup>th</sup> day of February, 2002



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Notary Public

Date Commission Expires: \_\_\_\_\_

**SANDRA J. ANTON  
NOTARY PUBLIC  
COMMISSION EXPIRES  
MAY 31, 2005**

Attachments (4)

cc: H. J. Miller, Region I Administrator  
V. Nerses, NRC Senior Project Manager, Millstone Unit No. 3  
NRC 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

Attachment 1

Millstone Nuclear Power Station, Unit No. 3

Technical Specification Change Request 3-16-01  
Revision of the Term "REFUELING INTERVAL"  
Description of the Proposed Change and Safety Summary

Technical Specification Change Request 3-16-01  
Revision of the Term "REFUELING INTERVAL"  
Discussion of the Proposed Change and the Safety Summary

BACKGROUND

By letter dated May 1, 1995,<sup>(1)</sup> a request (Technical Specification Change) was submitted to extend the interval for performance of selected surveillances from 18 months to 24 months to coincide with a 24-month Operating Cycle for Millstone Unit No. 3. Specifically, the Millstone Unit No. 3 Technical Specifications that specify an 18-month surveillance will be changed to state that these surveillances are to be performed at least once each "REFUELING INTERVAL" (i.e., once per 24 months). Section 1.0 of the Millstone Unit No. 3 Technical Specifications defines the terms used throughout the document. Table 1.1, Section 1.0, "FREQUENCY NOTATION" lists the frequency for surveillances identified by various symbols. For those surveillances designated by the letter 'R', the frequency was specified as "At least once per 18 months." In the May 1, 1995<sup>(1)</sup> request, it was proposed to further define "R" as "REFUELING INTERVAL" and specify the frequency as "At least once per 24 months." In the May 1, 1995 request, it was noted that this change (Table 1.1) did not stand alone and that it was submitted in advance. It was further stated that the future proposals (License Amendment Request) will provide justification for changing each of surveillance extension from at least once per 18 months to at least once per 24 months. By letter dated December 28, 1995,<sup>(2)</sup> the Nuclear Regulatory Commission (NRC) issued Amendment No. 122 in response to the letter dated May 1, 1995. As part of the amendment, Technical Specification Page 1-8 (Table 1.1) was also revised to reflect the proposal. Subsequently, the NRC approved additional requests dated July 17, 1995,<sup>(3)</sup> July 14, 1995,<sup>(4)</sup> June 29, 1995,<sup>(5)</sup> and July 18, 1995,<sup>(6)</sup> in Amendment Nos. 123,<sup>(7)</sup>

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- (1) J. F. Opeka letter to U.S. NRC, "Millstone Unit No. 3, Proposed Revision to Technical Specifications - 24 Months Fuel Cycle," dated May 1, 1995.
  - (2) V. L. Rooney (U.S. NRC) letter to R. E. Busch, "Issuance of Amendment for 24 Month Fuel Cycle (TAC NO. M92203)," dated December 28, 1995.
  - (3) J. F. Opeka letter to U.S. NRC, "Millstone Nuclear Power Station, Unit No. 3, Proposed Revision to Technical Specifications, 24-Months Fuel Cycle - Plant Systems Surveillance Extension," dated July 17, 1995.
  - (4) J. F. Opeka letter to U.S. NRC, "Millstone Nuclear Power Station, Unit No. 3, Proposed Revision to Technical Specifications, 24-Months Fuel Cycle - Emergency Core Cooling Systems Surveillance Extensions," dated July 14, 1995.
  - (5) J. F. Opeka letter to U.S. NRC, "Millstone Nuclear Power Station, Unit No. 3, Proposed Revision to Technical Specifications, 24 Months Fuel Cycle - Plant System Surveillance Extension," dated June 29, 1995.
  - (6) J. F. Opeka letter to U.S. NRC, "Millstone Nuclear Power Station, Unit No. 3, Proposed Revision to Technical Specifications, 24-Months Fuel Cycle - Reactor Coolant System Surveillance Extension," dated July 18, 1995.
  - (7) V. L. Rooney (U.S. NRC) letter to R. E. Busch, "Issuance of Amendment - 24 Months Fuel Cycle (TAC NO. M93019), dated December 28, 1995 (B15263).

124,<sup>(8)</sup> 127,<sup>(9)</sup> and 133<sup>(10)</sup> respectively. These amendments revised additional Technical Specification surveillance requirements to extend the surveillance interval from 18-months to 24-months. Each of the surveillance extension request was based on the review of the historical plant maintenance and surveillance results and it was concluded that extending the surveillance interval has a small effect on safety. A list of surveillance requirements that were extended and were approved is included in Table 1. However, it is noted that not all 18-month surveillance requirements (e.g., I&C and Electrical System Surveillances) have been revised to extend the surveillance interval from 18-months to 24-months. By letter dated October 2, 1997,<sup>(11)</sup> the NRC issued the original Technical Specification Page 1-8 and indicated that additional Technical Specification surveillance changes (e.g., Electric and I&C System Surveillance) are needed to complete the conversion to a 24-months Fuel Cycle and Page 1-8 should not have been issued with Amendment No. 122. This action has resulted in an inconsistency within the Millstone Unit No. 3 Technical Specifications. Specifically, this has resulted the term "REFUELING INTERVAL" included in several surveillances (Refer to Table 1 to this attachment), as an undefined term in context of the Technical Specifications (Table 1.1 of Millstone Unit No. 3 Technical Specifications). Although, Millstone Unit No. 3 will be operating on a 18-month fuel cycle instead of on a 24-month fuel cycle in the future, DNC would like to preserve the NRC approved surveillance interval extensions (Table 1 of Attachment 1) in the Millstone Unit No. 3 Technical Specifications. The purpose of this amendment request is to resolve the apparent inconsistency in the Millstone Unit No. 3 Technical Specifications and preserve what is already approved.

#### DESCRIPTION OF THE PROPOSED CHANGE

DNC hereby proposes to revise the Millstone Unit No. 3 Technical Specifications by modifying the term "once each REFUELING INTERVAL" to "once per 24 months" in several surveillance requirements (Table 1 of this attachment). As stated in the Background Section, this change in the individual interval for the surveillance requirement was approved by the NRC in Amendment Nos. 122, 123, 124, 127 and 133. In addition, increase in the interval for surveillance requirements 4.4.3.1.2 (Page 3/4 4-11) and 4.4.3.2.2 (Page 3/4 4-16), 4.5.5 (Page 3/4 5-10) and 4.6.4.1. (Page 3/4 6-16) was approved by the NRC in license amendments 100, 115 and 142, respectively. The proposed change will reflect and preserve what is already approved by the NRC previously. Attachments 3 and 4 provide a marked-up and retyped versions of the current Millstone Unit No. 3 Technical Specifications. Since the

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<sup>(8)</sup> V. L. Rooney (U.S. NRC) letter to T. C. Feigenbaum, "Issuance of Amendment (TAC NO. M92804)," dated March 4, 1996.

<sup>(9)</sup> V. L. Rooney (U.S. NRC) letter to R. E. Busch, "Issuance of Amendment (TAC NO. M93020)," dated December 28, 1995.

<sup>(10)</sup> J. Andersen (U.S. NRC) letter to N. S. Carne, "Issuance of Amendment (TAC NO. M93018)," dated February 19, 1997.

<sup>(11)</sup> J. Andersen (U.S. NRC) letter to N. S. Carns, "Millstone Nuclear Power Station, Unit No. 3 - Correction to Amendment No. 122 (TAC NO. M92203)," dated October 2, 1997.

proposed change will achieve consistency throughout the Millstone Unit No. 3 Technical Specifications, DNC considers this change as an administrative change.

#### SAFETY SUMMARY

The proposed change revises the term “once each REFUELING INTERVAL” to “once per 24 months” in certain surveillance requirements. As stated earlier, the increase in the surveillance interval (i.e., from once per 18 months to once per 24 month) was approved by the NRC in License Amendment Nos. 122, 123, 124, 127, 133, 142, 100 and 115. Therefore, this change will reflect and preserve what is already approved by the NRC previously. Since the proposed change will achieve consistency throughout the Millstone Unit No. 3 Technical Specifications, DNC considers this change as an administrative change.

The proposed change has no impact on plant operation. The proposed change does not impact the acceptance criteria for any design basis accident described in the Millstone Unit No. 3 Final Safety Analysis Report. Since the change is solely administrative, it cannot affect the likelihood, consequences or introduce a new or different kind of accident. Therefore, DNC considers the proposed change to each of the certain technical specification surveillance requirements to be safe and acceptable.

TABLE 1

Surveillance extensions from 18-months to 24-months (denoted by the term "REFUELING INTERVAL") approved in Amendment Nos. 122, 123, 124, 127 and 133 are listed below:

<u>SURVEILLANCE REQUIREMENT</u>	<u>TECHNICAL SPECIFICATION PAGE NUMBER.</u>
Amendment No. 122	
Table 1-1	1-8
4.1.2.2c and 4.1.2.2d*	3/4 1-14
4.1.3.3	3/4 1-24
4.1.3.4c	3/4 1-25
4.3.3.8c*	3/4 3-68*
4.6.2.1.c	3/4 6-12
4.6.2.2c and 4.6.2.2d	3/4 6-13
4.6.3.2	3/4 6-15
Amendment No. 123	
4.6.6.1b	3/4 6-19
4.6.6.1d	3/4 6-20
4.6.6.2.2	3/4 6-22
4.7.7.c and e	3/4 7-16
4.7.8c	3/4 7-19
4.7.9b	3/4 7-20
4.7.9d	3/4 7-21
4.9.12.1.b	3/4 9-13
4.9.12.1.d.	3/4 9-14
Amendment No. 124	
4.5.2d	3/4 5-4
4.5.2e and 4.5.2g.2	3/4 5-5
Amendment No. 127	
4.6.4.2	3/4 6-17
4.7.1.2.1.c	3/4 7-5
4.7.3b	3/4 7-11
4.7.4b	3/4 7-12
4.7.10e	3/4 7-23
Amendment No. 133	
4.4.4.1a, 4.4.4.1b and 4.4.4.3	3/4 4-13
4.4.6.1b	3/4 4-21
4.4.6.2.2a	3/4 4-23
4.4.9.3.1.b	3/4 4-39
4.4.11.2 and 4.4.11.3	3/4 4-43a

\* Surveillance requirements 4.3.3.8c (Page 3/4 3-68) and 4.1.2.2.c and 4.1.2.2.d were relocated to the Millstone Unit No. 3 Technical Requirements Manual via Amendment Nos. 193 and 197 respectively.

In addition surveillance requirements 4.4.3.1.2 (Page 3/4 4-11), 4.4.3.2.2 (Page 3/4 4-16), 4.5.5 (Page 3/4 5-10) and 4.6.4.1c Page 3/4 6-16) were revised in Amendment Nos. 100, 115 and 142.

Attachment 2

Millstone Nuclear Power Station, Unit No. 3

Technical Specification Change Request 3-16-01  
Revision of the Term "REFUELING INTERVAL"  
Significant Hazards Consideration

Technical Specification Change Request 3-16-01  
Revision of the Term "REFUELING INTERVAL"  
Significant Hazards Consideration

Dominion Nuclear Connecticut, Inc. (DNC) hereby proposes to amend Operating License No. NPF-49 by incorporating a change into the Millstone Unit No. 3 Technical Specifications. Specifically, DNC proposes to revise the Millstone Unit No. 3 Technical Specifications by modifying the term "once each REFUELING INTERVAL" to "once per 24 months" in several surveillance requirements (Table 1 of Attachment 1 of this submittal). The proposed change will reflect and preserve what is already approved by the Nuclear Regulatory Commission (NRC) previously (see License Amendment Nos. 122, 123, 124, 127, 133, 100, 115 and 142). Since the proposed change will achieve consistency throughout the Millstone Unit No. 3 Technical Specifications, DNC considers this change as an administrative change.

Significant Hazards Consideration

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

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

The proposed change that revises the term "once each REFUELING INTERVAL" to "once per 24 months" is an administrative change. The proposed change does not revise any surveillance requirements. The change does not alter any regulatory requirement or any acceptance criteria for any design basis accidents described in the Millstone Unit No. 3 Final Safety Analysis Report (FSAR). The change has no impact on plant operation. Since the change is solely administrative in nature, it cannot affect the likelihood or consequences of accidents. Therefore, the change will not increase the probability or consequences of an accident previously evaluated.

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

Since the proposed change is solely administrative in nature, it does not affect plant operation in any way. The proposed change does not involve a physical alteration of the plant or change the plant configuration (no new or different type of equipment will be installed). The proposed change does not require any new or

unusual operator actions. The change does not alter the way any structure, system, or component functions and do not alter the manner in which the plant is operated. The change does not introduce any new failure modes. Therefore, the proposed change 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.

Since the proposed change is solely administrative in nature, it does not affect plant operation in any way. The proposed change does not revise any acceptance criteria for the design basis accident described in the Millstone Unit No. 3 FSAR. The proposed change does not impact consequences of accidents previously evaluated. Therefore, the proposed change will not result in a reduction in a margin of safety.

Docket No. 50-123

B18534

Attachment 3

Millstone Nuclear Power Station, Unit No. 3

Technical Specification Change Request 3-16-01

Revision of the Term "REFUELING INTERVAL"

Marked-Up Pages

Technical Specification Change Request 3-16-01  
 Revision of the Term "REFUELING INTERVAL"  
Mark-Up Pages

<u>TECHNICAL SPECIFICATION SECTION NUMBERS</u>	<u>TITLE(S) OF SECTION(S)</u>	<u>PAGE AND AMENDMENT NUMBERS</u>
3.1.3.3	Position Indicating System	3/4 1-24 Amendment 122
3.1.3.4	Rod Drop Time	3/4 1-25 Amendment 122
3.4.3.1	Pressurizer, Startup and Power Operation	3/4 4-11 Amendment 160
3.4.3.2	Pressurizer - Hot Standby	3/4 4-11b Amendment 160
3.4.4	Relief Valve	3/4 4-13 Amendment 161
3.4.6.1	Leakage Detection Systems	3/4 4-21 Amendment 133
3.4.6.2	Operational Leakage	3/4 4-23 Amendment 174
3.4.9.3	Overpressure Protection System	3/4 4-39 Amendment 197
3.4.11	Reactor Coolant System Vents	3/4 4-43a Amendment 133
3.5.2	ECCS - Subsystem	3/4 5-4 Amendment 156 3/4 5-5 Amendment 155
3.5.5.	pH Trisodium Phosphate Storage Baskets	3/4 5-10 Amendment 115
3.6.2.1	Containment Quench Spray System	3/4 6-12 Amendment 177
3.6.2.2	Recirculation Spray System	3/4 6-13 Amendment 177
3.6.3	Containment Isolation Valves	3/4 6-15 Amendment 136
3.6.4.1	Hydrogen Monitors	3/4 6-16 Amendment 142
3.6.4.2	Electric Hydrogen Recombiners	3/4 6-17 Amendment 127
3.6.6.1	Supplementary Leak Collection and Release System	3/4 6-19 Amendment 123 3/4 6-20 Amendment 184
3.6.6.2	Secondary Containment	3/4 6-22 Amendment 126
3.7.1.2	AFW System	3/4 7-5 Amendment 139
3.7.3	Reactor Plant Component Cooling Water System	3/4 7-11 Amendment 127
3.7.4	Service Water System	3/4 7-12 Amendment 127
3.7.7	Control Room Emergency Ventilation System	3/4 7-16 Amendment 184
3.7.8	Control Room Envelope Pressurization System	3/4 7-19 Amendment 123
3.7.9	ABF System	3/4 7-20 Amendment 184 3/4 7-21 Amendment 184
3.7.10	Snubbers	3/4 7-23 Amendment 167
3.9.12	Fuel Bldg. Exhaust Filter System	3/4 9-13 Amendment 177 3/4 9-14 Amendment 184

<u>TECHNICAL SPECIFICATION SECTION NUMBERS</u>	<u>TITLE(S) OF SECTION(S)</u>	<u>PAGE AND AMENDMENT NUMBERS</u>
BASES SECTIONS		
4.0.2	Specification 4.0.2	B 3/4 0-4 Amendment 122
4.4.9.3.1	Overpressure Protection System	B 3/4 4-25 Amendment 197
4.5.5	Trisodium Phosphate Storage Baskets	B 3/4 5-5 Amendment 115
3/4 6.6.1d	SLCRS	B 3/4 6-6 Amendment 184
4.7.7.c	Control Room Emergency Ventilation	3/4 7-14 Amendment 184
4.7.7.e.1, e.2, e.3	System	3/4 7-15 Amendment 184 3/4 7-16 Amendment 184
3/4 7.8.c	Control Room Envelope Pressurization System	3/4 7-21 Amendment 136

Attachment 4

Millstone Nuclear Power Station, Unit No. 3

Technical Specification Change Request 3-16-01  
Revision to the Term "REFUELING INTERVAL"  
Retype Pages

December 28, 1995

REACTIVITY CONTROL SYSTEMS

POSITION INDICATION SYSTEM - SHUTDOWN

LIMITING CONDITION FOR OPERATION

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3.1.3.3 One digital rod position indicator (excluding demand position indication) shall be OPERABLE and capable of determining the control rod position within  $\pm 12$  steps for each shutdown or control rod not fully inserted.

APPLICABILITY: MODES 3\* \*\*, 4\* \*\*, and 5\* \*\*.

ACTION:

With less than the above required position indicator(s) OPERABLE, immediately open the Reactor Trip System breakers.

SURVEILLANCE REQUIREMENTS

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4.1.3.3 Each of the above required digital rod position indicator(s) shall be determined to be OPERABLE by verifying that the digital rod position indicators agree with the demand position indicators within 12 steps when exercised over the full-range of rod travel at least once ~~each REFUELING~~ INTERVAL per 24 months.

\*With the Reactor Trip System breakers in the closed position.

\*\*See Special Test Exceptions Specification 3.10.5.

REACTIVITY CONTROL SYSTEMS

ROD DROP TIME

LIMITING CONDITION FOR OPERATION

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3.1.3.4 The individual full-length (shutdown and control) rod drop time from the fully withdrawn position shall be less than or equal to 2.7 seconds from beginning of decay of stationary gripper coil voltage to dashpot entry with:

- a.  $T_{avg}$  greater than or equal to 551°F, and
- b. All reactor coolant pumps operating.

APPLICABILITY: MODES 1 and 2.

ACTION:

- a. With the drop time of any full-length rod determined to exceed the above limit, restore the rod drop time to within the above limit prior to proceeding to MODE 1 or 2.
- b. With the rod drop times within limits but determined with three reactor coolant pumps operating, operation may proceed provided THERMAL POWER is restricted to less than or equal to 65% of RATED THERMAL POWER with the reactor coolant stop valves in the nonoperating loop closed.

SURVEILLANCE REQUIREMENTS

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4.1.3.4 The rod drop time of full-length rods shall be demonstrated through measurement prior to reactor criticality:

- a. For all rods following each removal of the reactor vessel head,
- b. For specifically affected individual rods following any maintenance on or modification to the Control Rod Drive System which could affect the drop time of those specific rods, and
- c. At least once ~~each REFUELING INTERVAL~~ per 24 months

5/27/98

REACTOR COOLANT SYSTEM

3/4.4.3 PRESSURIZER

STARTUP AND POWER OPERATION

LIMITING CONDITION FOR OPERATION

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- 3.4.3.1 The pressurizer shall be OPERABLE with:
- at least two groups of pressurizer heaters supplied by emergency power, each having a capacity of at least 175 kW; and
  - water level maintained at programmed level +/-6% of full scale (Figure 3.4-5).

APPLICABILITY: MODES 1 and 2.

ACTION:

- With only one group of pressurizer heaters supplied by emergency power OPERABLE, restore at least two groups to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours.
- With pressurizer water level outside the parameters described in Figure 3.4-5, within 2 hours restore programmed level to within +/- 6% of full scale, or be in at least HOT STANDBY within the next 6 hours.
- With the pressurizer otherwise inoperable, be in at least HOT STANDBY with the Reactor Trip System breakers open within 6 hours.

SURVEILLANCE REQUIREMENTS

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4.4.3.1.1 The pressurizer water level shall be verified to be within programmed level +/- 6% of full scale at least once per 12 hours.

4.4.3.1.2 The capacity of each of the above required groups of pressurizer heaters supplied by emergency power shall be verified by energizing the heaters and measuring circuit current at least once each refueling interval.

per 24 months

REACTOR COOLANT SYSTEM

HOT STANDBY

LIMITING CONDITION FOR OPERATION

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3.4.3.2 The pressurizer shall be OPERABLE with:

- a. at least two groups of pressurizer heaters supplied by emergency power, each having a capacity of at least 175 kW; and
- b. water level less than or equal to 89% of full scale.

APPLICABILITY: MODE 3

ACTION:

- a. With only one group of pressurizer heaters supplied by emergency power OPERABLE, restore at least two groups to OPERABLE status within 72 hours of being declared inoperable, or be in HOT SHUTDOWN within the following 6 hours.
- b. With the pressurizer otherwise inoperable, be in HOT SHUTDOWN within 6 hours.

SURVEILLANCE REQUIREMENTS

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4.4.3.2.1 The pressurizer water level shall be determined to be less than or equal to 89% of full scale at least once per 12 hours.

4.4.3.2.2 The capacity of each of the above required groups of pressurizer heaters supplied by emergency power shall be verified by energizing the heaters and measuring circuit current at least once each refueling interval.

*per 24 months*

6/5/98

FOR INFO ONLY

**REACTOR COOLANT SYSTEM****3/4.4.4 RELIEF VALVES****LIMITING CONDITION FOR OPERATION**

3.4.4. Both power-operated relief valves (PORVs) and their associated block valves shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- a. With one or both PORV(s) inoperable because of excessive seat leakage, within 1 hour either restore the PORV(s) to OPERABLE status or close the associated block valve(s) with power maintained to the block valve(s); otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- b. With one PORV inoperable due to causes other than excessive seat leakage, within 1 hour either restore the PORV to OPERABLE status or close the associated block valve and remove power from the block valve; restore the PORV to OPERABLE status within the following 72 hours or be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- c. With both PORVs inoperable due to causes other than excessive seat leakage, within 1 hour either restore at least one PORV to OPERABLE status or close its associated block valve and remove power from the block valve and be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- d. With one or both block valve(s) inoperable, within 1 hour restore the block valve(s) to OPERABLE status, or place its associated PORV(s) control switch to "CLOSE." Restore at least one block valve to OPERABLE status within the next hour if both block valves are inoperable; restore any remaining inoperable block valve to operable status within 72 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- e. Entry into an OPERATIONAL MODE is permitted while subject to these ACTION requirements.

REACTOR COOLANT SYSTEMRELIEF VALVESSURVEILLANCE REQUIREMENTS

4.4.4.1 In addition to the requirements of Specification 4.0.5, each PORV shall be demonstrated OPERABLE by:

- a. Performance of a CHANNEL CALIBRATION at least once <sup>per 24 months;</sup> ~~each REFUELING INTERVAL;~~ and
- b. Operating the valve through one complete cycle of full travel during MODES 3 or 4 at least once ~~each REFUELING INTERVAL;~~ <sup>per 24 months;</sup> and
- c. Performance of an ANALOG CHANNEL OPERATIONAL TEST on the PORV high pressurizer pressure actuation channels, but excluding valve operation, at least once each quarter; and
- d. Verify the PORV high pressure automatic opening function is enabled at least once per 12 hours.

4.4.4.2 Each block valve shall be demonstrated OPERABLE at least once per 92 days by operating the valve through one complete cycle of full travel unless the block valve is closed with power removed in order to meet the requirements of ACTION b. or c. in Specification 3.4.4.

4.4.4.3 The emergency power supply for the PORVs and block valves shall be demonstrated OPERABLE at least once ~~each REFUELING INTERVAL~~ by operating the valves through a complete cycle of full travel.

per 24 months

**REACTOR COOLANT SYSTEM****3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE****LEAKAGE DETECTION SYSTEMS****LIMITING CONDITION FOR OPERATION**

3.4.6.1 The following Reactor Coolant System Leakage Detection Systems shall be OPERABLE:

- a. Either the Containment Atmosphere Gaseous or Particulate Radioactivity Monitoring System, and
- b. The Containment Drain Sump Level or Pumped Capacity Monitoring System

**APPLICABILITY:** MODES 1, 2, 3, and 4.

**ACTION:**

- a. With both the Containment Atmosphere Gaseous and Particulate Radioactivity Monitors INOPERABLE, operation may continue for up to 30 days provided the Containment Drain Sump Level or Pumped Capacity Monitoring System is OPERABLE and gaseous grab samples of the containment atmosphere are obtained at least once per 12 hours and analyzed for gross noble gas activity within the subsequent 2 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With the Containment Drain Sump Level or Pumped Capacity Monitoring System INOPERABLE, operation may continue for up to 30 days provided either the Containment Atmosphere Gaseous or Particulate Radioactivity Monitoring System is OPERABLE; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

**SURVEILLANCE REQUIREMENTS**

4.4.6.1 The Leakage Detection Systems shall be demonstrated OPERABLE by:

- a. Containment Atmosphere Gaseous and Particulate Radioactivity Monitoring Systems-performance of CHANNEL CHECK, CHANNEL CALIBRATION, and ANALOG CHANNEL OPERATIONAL TEST at the frequencies specified in Table 4.3-3, and
- b. Containment Drain Sump Level and Pumped Capacity Monitoring System-performance of CHANNEL CALIBRATION at least once ~~each REFUELLING INTERVAL~~ per 24 months.

REACTOR COOLANT SYSTEM

JAN 31 1986

OPERATIONAL LEAKAGE

LIMITING CONDITION FOR OPERATION

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3.4.6.2 Reactor Coolant System leakage shall be limited to:

- a. No PRESSURE BOUNDARY LEAKAGE,
- b. 1 gpm UNIDENTIFIED LEAKAGE,
- c. 1 gpm total reactor-to-secondary leakage through all steam generators not isolated from the Reactor Coolant System and 500 gallons per day through any one steam generator not isolated from the Reactor Coolant System,
- d. 10 gpm IDENTIFIED LEAKAGE from the Reactor Coolant System,
- e. 40 gpm CONTROLLED LEAKAGE at a Reactor Coolant System pressure of  $2250 \pm 20$  psia, and
- f. 0.5 gpm leakage per nominal inch of valve size up to a maximum of 5 gpm at a Reactor Coolant System pressure of  $2250 \pm 20$  psia from any Reactor Coolant System Pressure Isolation Valve specified in Table 3.4-1.

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

ACTION:

- a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With any Reactor Coolant System leakage greater than any one of the above limits, excluding PRESSURE BOUNDARY LEAKAGE and leakage from Reactor Coolant System Pressure Isolation Valves, reduce the leakage rate to within limits within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. With any Reactor Coolant System Pressure Isolation Valve leakage greater than the above limit, isolate the high pressure portion of the affected system from the low pressure portion within 4 hours by use of at least two closed manual or deactivated automatic valves, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

OPERATIONAL LEAKAGE

SURVEILLANCE REQUIREMENTS

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4.4.6.2.1 Reactor Coolant System leakages shall be demonstrated to be within each of the above limits by:

- a. Monitoring the containment atmosphere (gaseous or particulate) radioactivity monitor at least once per 12 hours;
- b. Monitoring the containment drain sump inventory and discharge at least once per 12 hours;
- c. Measurement of the CONTROLLED LEAKAGE to the reactor coolant pump seals when the Reactor Coolant System pressure is  $2250 \pm 20$  psia at least once per 31 days with the modulating valve fully open. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or 4;
- d. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours; and
- e. Monitoring the Reactor Head Flange Leakoff System at least once per 24 hours.

4.4.6.2.2 Each Reactor Coolant System Pressure Isolation Valve specified in Table 3.4-1 shall be demonstrated OPERABLE by verifying leakage to be within its limit:

- a. At least once <sup>per 24 months</sup> ~~each REFUELING INTERVAL~~,
- b. Prior to entering MODE 2 whenever the plant has been in COLD SHUTDOWN for 7 days or more and if leakage testing has not been performed in the previous 9 months,
- c. Prior to returning the valve to service following maintenance, repair or replacement work on the valve,
- d. Within 24 hours following valve actuation due to automatic or manual action or flow through the valve, and
- e. When tested pursuant to Specification 4.0.5.

The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or 4.

REACTOR COOLANT SYSTEMOVERPRESSURE PROTECTION SYSTEMS

August 27, 2001

LIMITING CONDITION FOR OPERATION

3.4.9.3 Cold Overpressure Protection shall be OPERABLE with a maximum of one centrifugal charging pump\* and no Safety Injection pumps capable of injecting into the Reactor Coolant System (RCS) and one of the following pressure relief capabilities:

1. One power operated relief valve (PORV) with a nominal lift setting established in Figure 3.4-4a and one PORV with a nominal lift setting established in Figure 3.4-4b with no more than one isolated RCS loop, or
2. Two residual heat removal (RHR) suction relief valves with setpoints  $\geq 426.8$  psig and  $\leq 453.2$  psig, or
3. One PORV with a nominal lift setting established in Figure 3.4-4a or Figure 3.4-4b with no more than one isolated RCS loop and one RHR suction relief valve with a setpoint  $\geq 426.8$  psig and  $\leq 453.2$  psig, or
4. RCS depressurized with an RCS vent of  $\geq 2.0$  square inches.

APPLICABILITY: MODE 4 when any RCS cold leg temperature is  $\leq 226^\circ\text{F}$ , MODE 5, and MODE 6 when the head is on the reactor vessel.

ACTION:

- a. With two or more centrifugal charging pumps capable of injecting into the RCS, immediately initiate action to establish that a maximum of one centrifugal charging pump is capable of injecting into the RCS.
- b. With any Safety Injection pump capable of injecting into the RCS, immediately initiate action to establish that no Safety Injection pumps are capable of injecting into the RCS.
- c. With one required relief valve inoperable in MODE 4, restore the required relief valve to OPERABLE status within 7 days, or depressurize and vent the RCS through at least a 2.0 square inch vent within the next 12 hours.

\*Two centrifugal charging pumps may be capable of injecting into the RCS for less than one hour, during pump swap operations. However, at no time will two charging pumps be simultaneously out of pull-to-lock during pump swap operations.

FOR INFO ONLY

REACTOR COOLANT SYSTEM

August 27, 2001

OVERPRESSURE PROTECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

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- d. With one required relief valve inoperable in MODE 5 or 6, restore the required relief valve to OPERABLE status within 24 hours, or depressurize the RCS and establish an RCS vent of  $\geq 2.0$  square inches within the next 12 hours.
- e. With two required relief valves inoperable, depressurize the RCS and establish an RCS vent of  $\geq 2.0$  square inches within 12 hours.
- f. In the event the PORVs, the RHR suction relief valves, or the RCS vent are used to mitigate an RCS pressure transient, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 30 days. The report shall describe the circumstances initiating the transient, the effect of the PORVs, the RHR suction relief valves, or RCS vent on the transient, and any corrective action necessary to prevent recurrence.
- g. Entry into an OPERATIONAL MODE is permitted while subject to these ACTION requirements.

REACTOR COOLANT SYSTEM

OVERPRESSURE PROTECTION SYSTEM

August 27, 2001

SURVEILLANCE REQUIREMENTS

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4.4.9.3.1 Demonstrate that each required PORV is OPERABLE by:

- a. Performance of an ANALOG CHANNEL OPERATIONAL TEST on the PORV actuation channel, but excluding valve operation, within 31 days prior to entering a condition in which the PORV is required OPERABLE and at least once per 31 days thereafter when the PORV is required OPERABLE;
- b. Performance of a CHANNEL CALIBRATION on the PORV actuation channel at least once ~~each REFUELING INTERVAL~~; and  
*per 24 months*
- c. Verifying the PORV block valve is open and the PORV Cold Overpressure Protection System (COPPS) is armed at least once per 72 hours when the PORV is being used for overpressure protection.

4.4.9.3.2 Demonstrate that each required RHR suction relief valve is OPERABLE by:

- a. Verifying the isolation valves between the RCS and each required RHR suction relief valve are open at least once per 12 hours; and
- b. Testing pursuant to Specification 4.0.5.

4.4.9.3.3 When complying with 3.4.9.3.4, verify that the RCS is vented through a vent pathway  $\geq 2.0$  square inches at least once per 31 days for a passive vent path and at least once per 12 hours for unlocked open vent valves.

4.4.9.3.4 Verify that no Safety Injection pumps are capable of injecting into the RCS at least once per 12 hours.

4.4.9.3.5 Verify that a maximum of one centrifugal charging pump is capable of injecting into the RCS at least once per 12 hours.

REACTOR COOLANT SYSTEM

January 3, 1995

3/4.4.11 REACTOR COOLANT SYSTEM VENTSLIMITING CONDITION FOR OPERATION

3.4.11 At least one Reactor Coolant System vent path consisting of two parallel trains with two valves in series powered from emergency busses shall be OPERABLE and the vent closed\* at each of the following locations:

- a. Reactor vessel head, and
- b. Pressurizer steam space.

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

ACTION:

- a. With one train of the reactor vessel head vent path inoperable, STARTUP and/or POWER OPERATION may continue provided the inoperable train is maintained closed with power removed from the valve actuators of all valves in the inoperable train; restore the inoperable train to OPERABLE status within 30 days, or, be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With both trains of the reactor vessel head vent paths inoperable; maintain both trains closed with power removed from the valve actuators of all valves in the inoperable trains, and restore at least one of the trains to OPERABLE status within 72 hours or be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. With any valve(s) of the pressurizer steam space vent path inoperable in MODES 1, 2, or 3, follow the ACTION requirements of Specification 3.4.4.
- d. With any valve(s) of the pressurizer steam space vent path inoperable in MODE 4, follow the ACTION requirements of Specification 3.4.9.3.

SURVEILLANCE REQUIREMENTS

4.4.11.1 Each train of the reactor vessel head vent path isolation valve not required to be closed by ACTION a. or b., above, shall be demonstrated OPERABLE at least once per COLD SHUTDOWN, if not performed within the previous 92 days, by operating the valve through one complete cycle of full travel from the control room.

\*For an OPERABLE vent path using a power-operated relief valve (PORV) as the vent path, the PORV block valve is not required to be closed.

SURVEILLANCE REQUIREMENT (Continued)

4.4.11.2 Each train of the reactor vessel head vent path shall be demonstrated OPERABLE at least once ~~each REFUELING INTERVAL~~ by:

- per 24 months*
- a. Verifying all manual isolation valves in each vent path are locked in the open position,
  - b. Cycling each vent valve through at least one complete cycle of full travel from the control room, and
  - c. Verifying flow through the Reactor Coolant System vent paths during venting.

4.4.11.3 Each train of the pressurizer steam space vent path shall be demonstrated OPERABLE per the applicable requirement of Specifications 4.4.4.1 through 4.4.4.3 and 4.4.9.3.1. In addition, flow shall be verified through the pressurizer steam space vent path during venting at least once ~~each REFUELING INTERVAL~~.

*per 24 months.*

EMERGENCY CORE COOLING SYSTEMS

February 9, 1995

3/4.5.2 ECCS SUBSYSTEMS - T<sub>ref</sub> GREATER THAN OR EQUAL TO 350°FLIMITING CONDITION FOR OPERATION

3.5.2 Two independent Emergency Core Cooling System (ECCS) subsystems shall be OPERABLE with each subsystem comprised of:

- a. One OPERABLE centrifugal charging pump,
- b. One OPERABLE Safety Injection pump,
- c. One OPERABLE RHR heat exchanger,\*
- d. One OPERABLE RHR pump,\*
- e. One OPERABLE containment recirculation heat exchanger,
- f. One OPERABLE containment recirculation pump, and
- g. An OPERABLE flow path capable of taking suction from the refueling water storage tank on a Safety Injection signal and capable of automatically stopping the RHR pump and being manually realigned to transfer suction to the containment sump during the recirculation phase of operation.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- a. With one ECCS subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours\* or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- b. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date. The current value of the usage factor for each affected Safety Injection nozzle shall be provided in this Special Report whenever its value exceeds 0.70.

\*The allowable outage time for each RHR pump/RHR heat exchanger may be extended to 120 hours for the purpose of pump modification to change mechanical seal and other related modifications. This exception may only be used one time per RHR pump/RHR heat exchanger and is not valid after April 30, 1995.

EMERGENCY CORE COOLING SYSTEMSSURVEILLANCE REQUIREMENTS

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

- a. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

<u>Valve Number</u>	<u>Valve Function</u>	<u>Valve Position</u>
3SIH*MV8806	RWST Supply to SI Pumps	OPEN
3SIH*MV8802A	SI Pump A to Hot Leg Injection	CLOSED
3SIH*MV8802B	SI Pump B to Hot Leg Injection	CLOSED
3SIH*MV8835	SI Cold Leg Master Isolation	OPEN
3SIH*MV8813	SI Pump Master Miniflow Isolation	OPEN
3SIL*MV8840	RHR to Hot Leg Injection	CLOSED
3SIL*MV8809A	RHR Pump A to Cold Leg Injection	OPEN
3SIL*MV8809B	RHR Pump B to Cold Leg Injection	OPEN

- b. At least once per 31 days by:

- 1) Verifying that the ECCS piping, except for the operating centrifugal charging pump(s) and associated piping, the RSS pump, the RSS heat exchanger and associated piping, is full of water, and
- 2) Verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

- c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suction during LOCA conditions. This visual inspection shall be performed:

- 1) For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and
- 2) At least once daily of the areas affected (during each day) within containment by containment entry and during the final entry when CONTAINMENT INTEGRITY is established.

- d. At least once <sup>per 24 months</sup> ~~each REFUELING INTERVAL~~ by:

- 1) Verifying automatic interlock action of the RHR System from the Reactor Coolant System by ensuring that with a simulated signal greater than or equal to 412.5 psia the interlocks prevent the valves from being opened.

SURVEILLANCE REQUIREMENTS (Continued)

- 2) A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or abnormal corrosion.
- e. At least once <sup>per 24 months</sup> ~~each REFUELING INTERVAL~~ by:
- 1) Verifying that each automatic valve in the flow path actuates to its correct position on a Safety Injection actuation test signal, and
  - 2) Verifying that each of the following pumps start automatically upon receipt of a Safety Injection actuation test signal:
    - a) Centrifugal charging pump,
    - b) Safety Injection pump, and
    - c) RHR pump.
  - 3) Verifying that the Residual Heat Removal pumps stop automatically upon receipt of a Low-Low RWST Level test signal.
- f. By verifying that each of the following pump's developed head at the test flow point is greater than or equal to the required developed head when tested pursuant to Specification 4.0.5:
- 1) Centrifugal charging pump
  - 2) Safety Injection pump
  - 3) RHR pump
  - 4) Containment recirculation pump
- g. By verifying the correct position of each electrical and/or mechanical position stop for the following ECCS throttle valves:
- 1) Within 4 hours following completion of each valve stroking operation or maintenance on the valve when the ECCS subsystems are required to be OPERABLE, and
  - 2) At least once ~~each REFUELING INTERVAL~~ per 24 months

ECCS Throttle ValvesValve NumberValve Number

3SIH\*V6

3SIH\*V25

3SIH\*V7

3SIH\*V27

May 26, 1995

**EMERGENCY CORE COOLING SYSTEMS**

**3/4.5.5 pH TRISODIUM PHOSPHATE STORAGE BASKETS**

**LIMITING CONDITION FOR OPERATION**

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**3.5.5** The trisodium phosphate (TSP) dodecahydrate Storage Baskets shall be OPERABLE.

**APPLICABILITY:** MODES 1, 2, 3 and 4

**ACTION:**

With the TSP Storage Baskets inoperable, restore the system TSP Storage Baskets to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN the following 6 hours.

**SURVEILLANCE REQUIREMENTS**

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**4.5.5** The TSP Storage Baskets shall be demonstrated OPERABLE at least once ~~each REFUELING INTERVAL~~ by verifying that a minimum total of 974 cubic feet of TSP is contained in the TSP Storage Baskets.

*per 24 months*

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT QUENCH SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

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3.6.2.1 Two independent Containment Quench Spray subsystems shall be OPERABLE.

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

ACTION:

With one Containment Quench Spray subsystem inoperable, restore the inoperable system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

---

4.6.2.1 Each Containment Quench Spray subsystem shall be demonstrated OPERABLE:

- a. At least once per 31 days:
  - 1) Verifying that each valve (manual, power operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position; and
  - 2) Verifying the temperature of the borated water in the refueling water storage tank is between 40°F and 50°F.
- b. By verifying that each pump's developed head at the test flow point is greater than or equal to the required developed head when tested pursuant to Specification 4.0.5;
- c. At least once <sup>per 24 months</sup> each REFUELING INTERVAL, by:
  - 1) Verifying that each automatic valve in the flow path actuates to its correct position on a CDA test signal, and
  - 2) Verifying that each spray pump starts automatically on a CDA test signal.
- d. At least once per 10 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

CONTAINMENT SYSTEMS

November 15, 1999

RECIRCULATION SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

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3.6.2.2 Two independent Recirculation Spray Systems shall be OPERABLE.

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

ACTION:

With one Recirculation Spray System inoperable, restore the inoperable system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours; restore the inoperable Recirculation Spray System to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

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4.6.2.2 Each Recirculation Spray System shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position;
- b. By verifying that each pump's developed head at the test flow point is greater than or equal to the required developed head when tested pursuant to Specification 4.0.5;
- c. At least once <sup>per 24 months</sup> ~~each REFUELING INTERVAL~~ by verifying that on a CDA test signal, each recirculation spray pump starts automatically after a 660 ±20 second delay;
- d. At least once <sup>per 24 months</sup> ~~each REFUELING INTERVAL~~, by verifying that each automatic valve in the flow path actuates to its correct position on a CDA test signal; and
- e. At least once per 10 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

3/4.6.3 CONTAINMENT ISOLATION VALVESLIMITING CONDITION FOR OPERATION

3.6.3 The containment isolation valves shall be OPERABLE\* with isolation times less than or equal to the required isolation times.

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

ACTION:

With one or more of the isolation valve(s) inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and:

- a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or
- b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position, or
- c. Isolate each affected penetration within 4 hours by use of at least one closed manual valve or blind flange; or
- d. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.3.1 DELETED

4.6.3.2 Each isolation valve shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once each REFUELING INTERVAL by:

- a. Verifying that on a Phase "A" Isolation test signal, each Phase "A" isolation valve actuates to its isolation position,
- b. Verifying that on a Phase "B" Isolation test signal, each Phase "B" isolation valve actuates to its isolation position, and
- c. Verifying that on a Containment High Radiation test signal, each purge supply and exhaust isolation valve actuates to its isolation position.

4.6.3.3 The isolation time of each power-operated or automatic valve shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

\*The provisions of this Specification are not applicable for main steam line isolation valves. However, provisions of Specification 3.7.1.5 are applicable for main steam line isolation valves.

MILLSTONE - UNIT 3

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3/4 6-15

Amendment No. 28, 37, 37,200  
98, 122, 138,

CONTAINMENT SYSTEMS3/4.6.4 COMBUSTIBLE GAS CONTROLHYDROGEN MONITORSLIMITING CONDITION FOR OPERATION

3.6.4.1 Two independent containment hydrogen monitors shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- a. With one hydrogen monitor inoperable, restore the inoperable monitor to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours.
- b. With both hydrogen monitors inoperable, restore at least one monitor to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours.
- c. Entry into an OPERATIONAL MODE is permitted while subject to these ACTION requirements.

SURVEILLANCE REQUIREMENTS

4.6.4.1 Each hydrogen monitor shall be demonstrated OPERABLE:

- a. By the performance of a CHANNEL CHECK at least once per 12 hours, and
- b. By the performance of a Hydrogen Sensor Calibration and an ANALOG CHANNEL OPERATIONAL TEST at least once per 92 days on a STAGGERED TEST BASIS, and
- c. By the performance of a CHANNEL CALIBRATION at least once each ~~REFUELING INTERVAL.~~ *per 24 months*

March 4, 1996

CONTAINMENT SYSTEMS

ELECTRIC HYDROGEN RECOMBINERS

LIMITING CONDITION FOR OPERATION

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3.6.4.2 Two independent Hydrogen Recombiner Systems shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

With one Hydrogen Recombiner System inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

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4.6.4.2 Each Hydrogen Recombiner System shall be demonstrated OPERABLE at least once ~~each REFUELING INTERVAL~~ by:

*per 24 months*

- a. Deleted
- b. Performing a CHANNEL CALIBRATION of all recombinder instrumentation and control circuits,
- c. Verifying through a visual examination that there is no evidence of abnormal conditions within the recombinder enclosure (i.e., loose wiring or structural connections, deposits of foreign materials, etc.),
- d. Verifying the integrity of all heater electrical circuits by performing a resistance to ground test following the above required functional test. The resistance to ground for any heater phase shall be greater than 10,000 ohms, and
- e. Verifying during a recombinder system functional test using containment atmospheric air at an acceptable flow rate as determined in Section 4.6.4.2.f that the gas temperature increases to greater than or equal to 1100°F within 5 hours and is maintained for at least 4 hours.
- f. Verifying during a recombinder system functional test using containment atmospheric air that the blower would be capable of delivering at least 41.52 scfm at containment conditions of 12.47 psia and 130°F.

## CONTAINMENT SYSTEMS

December 28, 1995

### 3/4.6.6 SECONDARY CONTAINMENT

#### SUPPLEMENTARY LEAK COLLECTION AND RELEASE SYSTEM

##### LIMITING CONDITION FOR OPERATION

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3.6.6.1 Two independent Supplementary Leak Collection and Release Systems shall be OPERABLE with each system comprised of:

- a. one OPERABLE filter and fan, and
- b. one OPERABLE Auxiliary Building Filter System as defined in Specification 3.7.9.

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

##### ACTION:

With one Supplementary Leak Collection and Release System inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

##### SURVEILLANCE REQUIREMENTS

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4.6.6.1 Each Supplementary Leak Collection and Release System shall be demonstrated OPERABLE:

- a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying a system flow rate of 7600 cfm to 9800 cfm and that the system operates for at least 10 continuous hours with the heaters operating.
- b. At least once <sup>Per 24 months</sup> ~~each REFUELING INTERVAL~~ or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system by:
  - 1) Verifying that the system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978,\* and the system flow rate is 7600 cfm to 9800 cfm;

## SURVEILLANCE REQUIREMENTS (Continued)

- 2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978,\* shows the methyl iodide penetration less than or equal to 2.5% when tested in accordance with ASTM D3803-89 at a temperature of 30°C (86°F) and a relative humidity of 70%; and
  - 3) Verifying a system flow rate of 7600 cfm to 9800 cfm during system operation when tested in accordance with ANSI N510-1980.
- c. After every 720 hours of charcoal adsorber operation, by verifying, within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978,\* shows the methyl iodide penetration less than or equal to 2.5% when tested in accordance with ASTM D3803-89 at a temperature of 30°C (86°F) and a relative humidity of 70%:
- d. At least once <sup>per 24 months</sup> ~~each REFUELING INTERVAL~~ by:
- 1) Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6.25 inches Water Gauge while operating the system at a flow rate of 7600 cfm to 9800 cfm,
  - 2) Verifying that the system starts on a Safety Injection test signal, and
  - 3) Verifying that the heaters dissipate 50 ±5 kW when tested in accordance with ANSI N510-1980.

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

*For Info only*

January 3, 1995

**CONTAINMENT SYSTEMS**

**SURVEILLANCE REQUIREMENTS (Continued)**

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- e. After each complete or partial replacement of a HEPA filter bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 for a DOP test aerosol while operating the system at a flow rate of 7600 cfm to 9800 cfm; and
  
- f. After each complete or partial replacement of a charcoal adsorber bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of 7600 cfm to 9800 cfm.

February 5, 1996

CONTAINMENT SYSTEMS

SECONDARY CONTAINMENT

LIMITING CONDITION FOR OPERATION

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3.6.6.2 Secondary Containment shall be OPERABLE.

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

ACTION:

With Secondary Containment inoperable, restore Secondary Containment to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENT

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4.6.6.2.1 OPERABILITY of Secondary Containment shall be demonstrated at least once per 31 days by verifying that each door in each access opening is closed except when the access opening is being used for normal transit entry and exit.

4.6.6.2.2 At least once <sup>per 24 months</sup> ~~each REFUELING INTERVAL~~, verify each Supplementary Leak Collection and Release System produces a negative pressure of greater than or equal to 0.4 inch water gauge in the Auxiliary Building at 24'-6" elevation within 120 seconds after a start signal.

January 3, 1995

PLANT SYSTEMSAUXILIARY FEEDWATER SYSTEMLIMITING CONDITION FOR OPERATION

3.7.1.2 At least three independent steam generator auxiliary feedwater pumps and associated flow paths shall be OPERABLE with:

- a. Two motor-driven auxiliary feedwater pumps, each capable of being powered from separate emergency busses, and
- b. One steam turbine-driven auxiliary feedwater pump capable of being powered from an OPERABLE steam supply system.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- a. With one auxiliary feedwater pump inoperable, restore the required auxiliary feedwater pumps to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- b. With two auxiliary feedwater pumps inoperable, be in at least HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.
- c. With three auxiliary feedwater pumps inoperable, immediately initiate corrective action to restore at least one auxiliary feedwater pump to OPERABLE status as soon as possible. Entry into an OPERATIONAL MODE pursuant to Specification 3.0.4 is not permitted with three auxiliary feedwater pumps inoperable.

SURVEILLANCE REQUIREMENTS

4.7.1.2.1 Each auxiliary feedwater pump shall be demonstrated OPERABLE:

- a. At least once per 31 days by:
  - 1) Verifying that each non-automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in its correct position; and
  - 2) Verifying that each auxiliary feedwater control and isolation valve in the flow path is in the fully open position when above 10% RATED THERMAL POWER.

**PLANT SYSTEMS****SURVEILLANCE REQUIREMENTS (Continued)**

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- b. At least once per 92 days on a STAGGERED TEST BASIS, tested pursuant to Specification 4.0.5, by:
- 1) Verifying that on recirculation flow each motor-driven pump develops a total head of greater than or equal to 3385 feet;
  - 2) Verifying that on recirculation flow the steam turbine-driven pump develops a total head of greater than or equal to 3780 feet when the secondary steam supply pressure is greater than 800 psig. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3.
- c. At least once <sup>per 24 months</sup> ~~each REFUELING INTERVAL~~ by verifying that each auxiliary feedwater pump starts as designed automatically upon receipt of an Auxiliary Feedwater Actuation test signal. For the steam turbine-driven auxiliary feedwater pump, the provisions of Specification 4.0.4 are not applicable for entry into MODE 3.

4.7.1.2.2 An auxiliary feedwater flow path to each steam generator shall be demonstrated OPERABLE following each COLD SHUTDOWN of greater than 30 days prior to entering MODE 2 by verifying flow to each steam generator.

March 4, 1996

PLANT SYSTEMS

3/4.7.3 REACTOR PLANT COMPONENT COOLING WATER SYSTEM

LIMITING CONDITION FOR OPERATION

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3.7.3 At least two independent reactor plant component cooling water safety loops shall be OPERABLE.

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

ACTION:

With only one reactor plant component cooling water safety loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

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4.7.3 At least two reactor plant component cooling water safety loops shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) servicing safety-related equipment that is not locked, sealed, or otherwise secured in position is in its correct position; and
- b. At least once <sup>per 24 months</sup> ~~each REFUELING INTERVAL~~ by verifying that:
  - 1) Each automatic valve actuates to its correct position on its associated Engineered Safety Feature actuation signal, and
  - 2) Each Component Cooling Water System pump starts automatically on an SIS test signal.

March 4, 1996

PLANT SYSTEMS

3/4.7.4 SERVICE WATER SYSTEM

LIMITING CONDITION FOR OPERATION

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3.7.4 At least two independent service water loops shall be OPERABLE.

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

ACTION:

With only one service water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

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4.7.4 At least two service water loops shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) servicing safety-related equipment that is not locked, sealed, or otherwise secured in position is in its correct position; and
- b. At least once <sup>per 24 months</sup> ~~each REFUELING INTERVAL~~ by verifying that:
  - 1) Each automatic valve servicing safety-related equipment actuates to its correct position on its associated Engineered Safety Feature actuation signal, and
  - 2) Each Service Water System pump starts automatically on an SIS test signal.

PLANT SYSTEMS

3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

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

APPLICABILITY: All MODES.

ACTION:

MODES 1, 2, 3 and 4:

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

MODES 5 and 6:

- a. With one Control Room Emergency Air Filtration System inoperable, restore the inoperable system to OPERABLE status within 7 days or initiate and maintain operation of the remaining OPERABLE Control Room Emergency Air Filtration System in the recirculation mode.
- b. With both Control Room Emergency Air Filtration Systems inoperable, or with the OPERABLE Control Room Emergency Air Filtration System required to be in the recirculation mode by ACTION a. not capable of being powered by an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

SURVEILLANCE REQUIREMENTS

4.7.7 Each Control Room Emergency Air Filtration System shall be demonstrated OPERABLE:

- a. At least once per 12 hours by verifying that the control room air temperature is less than or equal to 95°F;
- b. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying a system flow rate of 1,120 cfm  $\pm 20\%$  and that the system operates for at least 10 continuous hours with the heaters operating;

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\* The requirements of Surveillance Requirement 4.7.7.e.2 do not apply during pressure testing of the Cable Spreading Room. This exception is valid until the first entry into MODE 4 following the completion of refueling operations associated with the seventh Refueling Outage.

SURVEILLANCE REQUIREMENTS (Continued)

- c. At least once <sup>per 24 months</sup> ~~each REFUELING INTERVAL~~ or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system by:
- 1) Verifying that the system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% and uses the test procedure guidance in Regulatory Position C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revisions 2, March 1978,\* and the system flow rate is 1,120 cfm  $\pm 20\%$ ;
  - 2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978,\* shows the methyl iodide penetration less than or equal to 2.5% when tested in accordance with ASTM D3803-89 at a temperature of 30°C (86°F), a relative humidity of 70%, and a face velocity of 54 ft/min; and
  - 3) Verifying a system flow rate of 1,120 cfm  $\pm 20\%$  during system operation when tested in accordance with ANSI N510-1980.
- d. After every 720 hours of charcoal adsorber operation, by verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978,\* shows the methyl iodide penetration less than or equal to 2.5% when tested in accordance with ASTM D3803-89 at a temperature of 30°C (86°F), and a relative humidity of 70%, and a face velocity of 54 ft/min.
- e. At least once <sup>per 24 months</sup> ~~each REFUELING INTERVAL~~ by:
- 1) Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6.75 inches Water Gauge while operating the system at a flow rate of 1,120 cfm  $\pm 20\%$ ;
  - 2) Verifying that the system maintains the control room at a positive pressure of greater than or equal to 1/8 inch Water Gauge at less than or equal to a pressurization flow of 230 cfm relative to adjacent areas during positive pressure system operation; and
  - 3) Verifying that the heaters dissipate 9.4  $\pm 1$  kW when tested in accordance with ANSI N510-1980.

January 31, 1986

For Info  
onlySURVEILLANCE REQUIREMENTS (Continued)

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

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

PLANT SYSTEMS

*For Info only*

3/4.7.8 CONTROL ROOM ENVELOPE PRESSURIZATION SYSTEM

August 22, 2000

LIMITING CONDITION FOR OPERATION

3.7.8 Two independent Control Room Envelope Pressurization Systems shall be OPERABLE.\*

APPLICABILITY: All MODES.

ACTION:

- a. With one Control Room Envelope Pressurization System inoperable either:
  - 1. Restore the inoperable system to OPERABLE status within 7 days, or
  - 2. Initiate and maintain operation of an OPERABLE Control Room Emergency Air Filtration System in the recirculation mode, or
  - 3. Be in HOT STANDBY within 6 hours and COLD SHUTDOWN within the next 30 hours and suspend all operations involving CORE ALTERATIONS or positive reactivity changes.
- b. With both Control Room Envelope Pressurization Systems inoperable, within one hour initiate action to restore one inoperable system to OPERABLE status and either:
  - 1. Initiate and maintain operation of an OPERABLE Control Room Emergency Air Filtration System in the recirculation mode, or
  - 2. Be in HOT STANDBY within 6 hours and COLD SHUTDOWN within the next 30 hours and suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

SURVEILLANCE REQUIREMENTS

4.7.8 Each Control Room Envelope Pressurization System shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying that the storage air bottles are pressurized to greater than or equal to 2200 psig,
- b. At least once per 31 days on a STAGGERED TEST BASIS by verifying that each valve (manual, power operated or automatic) in the flow path not locked, sealed or otherwise secured in position, is in its correct position, and

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\* The requirements of Surveillance Requirements 4.7.8.c.2 and 4.7.8.c.3 do not apply during pressure testing of the Cable Spreading Room. This exception is valid until the first entry into MODE 4 following the completion of refueling operations associated with the seventh Refueling Outage.

SURVEILLANCE REQUIREMENTS (Continued)

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- c. At least once <sup>per 24 months</sup> ~~each REFUELING INTERVAL~~ or following a major alteration of the control room envelope pressure boundary by:
1. Verifying that the control room envelope is isolated in response to a Control Building Isolation test signal,
  2. Verifying that after a 60 second time delay following a Control Building Isolation test signal, the control room envelope pressurizes to greater than or equal to 1/8 inch W.G. relative to the outside atmosphere, and
  3. Verifying that the positive pressure of Specification 4.7.8.c.2 is maintained for greater than or equal to 60 minutes.

## PLANT SYSTEMS

### 3/4.7.9 AUXILIARY BUILDING FILTER SYSTEM

October 4, 2000

#### LIMITING CONDITION FOR OPERATION

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3.7.9 Two independent Auxiliary Building Filter Systems shall be OPERABLE with each system comprised of:

- a. one OPERABLE filter and fan, and
- b. one OPERATIONAL Charging Pump/Reactor Plant Component Cooling Water Pump Ventilation System.

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

#### ACTION:

With one Auxiliary Building Filter System inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. In addition, comply with the ACTION requirements of Specification 3.6.6.1.

#### SURVEILLANCE REQUIREMENTS

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4.7.9 Each Auxiliary Building Filter System shall be demonstrated OPERABLE:

- a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying a system flow rate of 30,000 cfm  $\pm 10\%$  and that the system operates for at least 10 continuous hours with the heaters operating;
- b. At least once <sup>per 24 months</sup> ~~each REFUELLING INTERVAL~~ or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system by:
  - 1) Verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978,\* and the system flow rate is 30,000 cfm  $\pm 10\%$ ;
  - 2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978,\* shows the methyl

SURVEILLANCE REQUIREMENTS

- iodide penetration less than or equal to 2.5% when tested in accordance with ASTM D3803-89 at a temperature of 30°C (86°F), a relative humidity of 70%, and a face velocity of 52 ft/min; and
- 3) Verifying a system flow rate of 30,000 cfm  $\pm 10\%$  during system operation when tested in accordance with ANSI N510-1980.
- c. After every 720 hours of charcoal adsorber operation, by verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978,\* shows the methyl iodide penetration less than or equal to 2.5% when tested in accordance with ASTM D3803-89 at a temperature of 30°C (86°F), a relative humidity of 70%, and a face velocity of 52 ft/min;
- d. At least once <sup>per 24 months</sup> ~~each REFUELING INTERVAL~~ by:
- 1) Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6.8 inches Water Gauge while operating the system at a flow rate of 30,000 cfm  $\pm 10\%$ ,
  - 2) Verifying that the system starts on a Safety Injection test signal, and
  - 3) Verifying that the heaters dissipate 180  $\pm 18$  kW when tested in accordance with ANSI N510-1980.
- e. After each complete or partial replacement of a HEPA filter bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 for a DOP test aerosol while operating the system at a flow rate of 30,000 cfm  $\pm 10\%$ ; and
- f. After each complete or partial replacement of a charcoal adsorber bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of 30,000 cfm  $\pm 10\%$ .

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

For info only

PLANT SYSTEMS

12/02/92

3/4.7.10 SNUBBERS

LIMITING CONDITION FOR OPERATION

3.7.10 All snubbers shall be OPERABLE. The only snubbers excluded from the requirements are those installed on nonsafety-related systems and then only if their failure or failure of the system on which they are installed would have no adverse effect on any safety-related system.

APPLICABILITY: MODES 1, 2, 3, and 4. MODES 5 and 6 for snubbers located on systems required OPERABLE in those MODES.

ACTION:

With one or more snubbers inoperable on any system, within 72 hours replace or restore the inoperable snubber(s) to OPERABLE status and perform an engineering evaluation per Specification 4.7.10g. on the attached component or declare the attached system inoperable and follow the appropriate ACTION statement for that system.

SURVEILLANCE REQUIREMENTS

4.7.10 Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program and the requirements of Specification 4.0.5.

a. Inspection Types

As used in this specification, "type of snubber" shall mean snubbers of the same design and manufacturer, irrespective of capacity.

b. Visual Inspections

Snubbers are categorized as inaccessible or accessible during reactor operation. Each of these categories (inaccessible and accessible) may be inspected independently according to the schedule determined by Table 4.7-2. The visual inspection interval for each type of snubber shall be determined based upon the criteria provided in Table 4.7-2.

c. Visual Inspection Acceptance Criteria

Visual inspections shall verify that (1) the snubber has no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are functional, and (3) fasteners for the attachment of the snubber to the component and to the snubber anchorage are functional. Snubbers which appear inoperable as a result of visual inspections shall be classified as unacceptable and may be reclassified acceptable for the purpose of establishing the next visual inspection interval, provided that (1) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers irrespective of

SURVEILLANCE REQUIREMENTS (Continued)

type that may be generically susceptible; and (2) the affected snubber is functionally tested in the as-found condition and determined OPERABLE per Specification 4.7.10.f. All snubbers found connected to an inoperable common hydraulic fluid reservoir shall be counted as unacceptable for determining the next inspection interval. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the ACTION requirements shall be met.

d. Transient Event Inspection

An inspection shall be performed of all snubbers attached to sections of systems that have experienced unexpected, potentially damaging transients as determined from a review of operational data and a visual inspection of the systems within 6 months following such an event. In addition to satisfying the visual inspection acceptance criteria, freedom-of-motion of mechanical snubbers shall be verified using at least one of the following: (1) manually induced snubber movement; or (2) evaluation of in-place snubber piston setting; or (3) stroking the mechanical snubber through its full range of travel.

e. Functional Tests

During the first refueling shutdown and at least once <sup>per 24 months</sup> ~~each REFUELING~~ ~~INTERVAL~~ thereafter,\* a representative sample of snubbers of each type shall be tested using one of the following sample plans. The sample plan for each type shall be selected prior to the test period and cannot be changed during the test period. The NRC Regional Administrator shall be notified in writing of the sample plan selected for each snubber type prior to the test period or the sample plan used in the prior test period shall be implemented:

- 1) At least 10% of the total of each type of snubber shall be functionally tested either in-place or in a bench test. For each snubber of a type that does not meet the functional test acceptance criteria of Specification 4.7.10f., an additional 5% of that type of snubber shall be functionally tested until no more failures are found or until all snubbers of that type have been functionally tested; or

\*Except the surveillance related to snubber functional testing due no later than March 10, 1999 may be deferred until the end of the next refueling outage or no later than September 10, 1999, whichever is earlier.

REFUELING OPERATIONS

November 15, 1999

3/4.9.12 FUEL BUILDING EXHAUST FILTER SYSTEM

LIMITING CONDITION FOR OPERATION

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3.9.12 Two independent Fuel Building Exhaust Filter Systems shall be OPERABLE. At least one Fuel Building Exhaust Filter System shall be in operation whenever any evolution involving movement of fuel within the storage pool or crane operations with loads over the storage pool is in progress.

APPLICABILITY: Whenever irradiated fuel with less than 60 days decay is in the storage pool.

ACTION:

- a. With one Fuel Building Exhaust Filter System inoperable, fuel movement within the storage pool or crane operation with loads over the storage pool may proceed provided the OPERABLE Fuel Building Exhaust Filter System is capable of being powered from an OPERABLE emergency power source and is in operation and discharging through at least one train of HEPA filters and charcoal adsorbers.
- b. With no Fuel Building Exhaust Filter System OPERABLE, suspend all operations involving movement of fuel within the storage pool or crane operation with loads over the storage pool until at least one Fuel Building Exhaust Filter System is restored to OPERABLE status.
- c. The provisions of Specifications 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

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4.9.12.1 The above required Fuel Building Exhaust Filter Systems shall be demonstrated OPERABLE:

- a. Within 31 days prior to moving fuel within or loads over the storage pool when irradiated fuel with less than 60 days decay is present by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers, and verifying a system flow rate of 20,700 cfm  $\pm 10\%$  and that the system operates for at least 10 continuous hours with the heaters operating;
- b. At least once <sup>per 24 months</sup> each REFUELING INTERVAL or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system by:

October 4, 2000

REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS (Continued)

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- 1) Verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978,\* and the system flow rate is 20,700 cfm  $\pm 10\%$ ;
  - 2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978,\* shows the methyl iodide penetration less than or equal to 2.5% when tested in accordance with ASTM D3803-89 at a temperature of 30°C (86°F) and a relative humidity of 70%; and
  - 3) Verifying a system flow rate of 20,700 cfm  $\pm 10\%$  during system operation when tested in accordance with ANSI N510-1980.
- c. After every 720 hours of charcoal adsorber operation by verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978,\* shows the methyl iodide penetration less than or equal to 2.5% when tested in accordance with ASTM D3803-89 at a temperature of 30°C (86°F) and a relative humidity of 70%;
- d. At least once ~~each~~ <sup>per 24 months</sup> REFUELING INTERVAL by:
- 1) Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6.8 inches Water Gauge while operating the system at a flow rate of 20,700 cfm  $\pm 10\%$ .

BASES

"Surveillance requirements are requirements relating to test, calibration, or inspection to ensure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions of operation will be met."

Specification 4.0.1 establishes the requirement that surveillances must be performed during the OPERATIONAL MODES or other conditions for which the requirements of the Limiting Conditions for Operation apply unless otherwise stated in an individual Surveillance Requirement. The purpose of this specification is to ensure that surveillances are performed to verify the operational status of systems and components and that parameters are within specified limits to ensure safe operation of the facility when the plant is in a MODE or other specified condition for which the associated Limiting Conditions for Operation are applicable. Surveillance requirements do not have to be performed when the facility is in an OPERATIONAL MODE for which the requirements of the associated Limiting Condition for Operation do not apply unless otherwise specified. The Surveillance Requirements associated with a Special Test Exception are only applicable when the Special Test Exception is used as an allowable exception to the requirements of a specification.

Delete and Replace with INSERT A

Specification 4.0.2 This specification establishes the limit for which the specified time interval for surveillance requirements may be extended. It permits an allowable extension of the normal surveillance interval to facilitate surveillance scheduling and consideration of plant operating conditions that may not be suitable for conducting the surveillance; e.g., transient conditions or other ongoing surveillance or maintenance activities. It also provides flexibility to accommodate the length of a fuel cycle for surveillances that are specified to be performed at least once each REFUELING INTERVAL. It is not intended that this provision be used repeatedly as a convenience to extend surveillance intervals beyond that specified for surveillances that are not performed once each REFUELING INTERVAL. Likewise, it is not the intent that REFUELING INTERVAL surveillances be performed during power operation unless it is consistent with safe plant operation. The limitation of 4.0.2 is based on engineering judgment and the recognition that the most probable result of any particular surveillance being performed is the verification of conformance with the surveillance requirements. This provision is sufficient to ensure that the reliability ensured through surveillance activities is not significantly degraded beyond that obtained from the specified surveillance interval.

Specification 4.0.3 establishes the failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by the provisions of Specification 4.0.2, as a condition that constitutes a failure to meet the OPERABILITY requirements for a Limiting Condition for Operation. Under the provisions of this specification, systems and components are assumed to be OPERABLE when Surveillance Requirements have been satisfactorily performed within the specified time interval. However, nothing in this provision is to be construed as implying that systems or components are OPERABLE when they are found or known to be inoperable although still meeting the Surveillance Requirements. This specification also clarifies that the ACTION requirements are applicable when the Surveillance Requirements have not

INSERT A to page B 3/4 0-4

It also provides flexibility to accommodate the length of a fuel cycle for surveillances that are performed at each refueling outage and are specified typically with an 18-month surveillance interval. It is not intended that this provision be used repeatedly as a convenience to extend surveillance intervals beyond that specified for surveillances that are not performed during refueling outage.

BASESOVERPRESSURE PROTECTION SYSTEMS (continued)

The AOT in MODE 4 considers the facts that only one of the relief valves is required to mitigate an overpressure transient and that the likelihood of an active failure of the remaining valve path during this time period is very low. The RCS must be depressurized and a vent must be established within the following 12 hours if the required relief valve is not restored to OPERABLE within the required AOT of 7 days.

d.

The consequences of operational events that will overpressurize the RCS are more severe at lower temperatures (Ref. 8). Thus, with one of the two required relief valves inoperable in MODE 5 or in MODE 6 with the head on, the AOT to restore two valves to OPERABLE status is 24 hours.

The AOT represents a reasonable time to investigate and repair several types of relief valve failures without exposure to a lengthy period with only one OPERABLE relief valve to protect against overpressure events. The RCS must be depressurized and a vent must be established within the following 12 hours if the required relief valve is not restored to OPERABLE within the required AOT of 24 hours.

e.

The RCS must be depressurized and a vent must be established within 12 hours when both required Cold Overpressure Protection relief valves are inoperable.

The vent must be sized  $\geq 2.0$  square inches to ensure that the flow capacity is greater than that required for the worst case cold overpressure transient reasonable during the applicable MODES. This action is needed to protect the RCPB from a low temperature overpressure event and a possible non-ductile failure of the reactor vessel.

The time required to place the plant in this Condition is based on the relatively low probability of an overpressure event during this time period due to increased operator awareness of administrative control requirements.

SURVEILLANCE REQUIREMENTS4.4.9.3.1

Performance of an ANALOG CHANNEL OPERATIONAL TEST is required within 31 days prior to entering a condition in which the PORV is required to be OPERABLE and every 31 days on each required PORV to verify and, as necessary, adjust its lift setpoint. The ANALOG CHANNEL OPERATIONAL TEST will verify the setpoint in accordance with the nominal values given in Figures 3.4-4a and 3.4-4b. PORV actuation could depressurize the RCS; therefore, valve operation is not required.

## BASES

OVERPRESSURE PROTECTION SYSTEMS (continued)

Performance of a CHANNEL CALIBRATION on each required PORV actuation channel is required once ~~each REFUELING INTERVAL~~ <sup>per 24 months</sup> to adjust the channel so that it responds and the valve opens within the required range and accuracy to a known input.

The PORV block valve must be verified open and COPPS must be verified armed every 72 hours to provide a flow path and a cold overpressure protection actuation circuit for each required PORV to perform its function when required. The valve is remotely verified open in the main control room. This Surveillance is performed if credit is being taken for the PORV to satisfy the LCO.

The block valve is a remotely controlled, motor operated valve. The power to the valve operator is not required to be removed, and the manual operator is not required to be locked in the open position. Thus, the block valve can be closed in the event the PORV develops excessive leakage or does not close (sticks open) after relieving an overpressure transient.

The 72 hour Frequency is considered adequate in view of other administrative controls available to the operator in the control room, such as valve position indication, that verify the PORV block valve remains open.

4.4.9.3.2

Each required RHR suction relief valve shall be demonstrated OPERABLE by verifying the RHR suction valves, 3RHS\*MV8701A and 3RHS\*M8701C, are open when suction relief valve 3RHS\*RV8708A is being used to meet the LCO and by verifying the RHR suction valves, 3RHS\*MV8702B and 3RHS\*MV8702C, are open when suction relief valve 3RHS\*RV8708B is being used to meet the LCO. Each required RHR suction relief valve shall also be demonstrated OPERABLE by testing it in accordance with 4.0.5. This Surveillance is only required to be performed if the RHR suction relief valve is being used to meet this LCO.

The RHR suction valves are verified to be open every 12 hours. The Frequency is considered adequate in view of other administrative controls such as valve status indications available to the operator in the control room that verify the RHR suction valves remain open.

The ASME Code, Section XI (Ref. 9), test per 4.0.5 verifies OPERABILITY by proving proper relief valve mechanical motion and by measuring and, if required, adjusting the lift setpoint.

May 26, 1995

**EMERGENCY CORE COOLING SYSTEMS****3/4.5.5 TRISODIUM PHOSPHATE STORAGE BASKETS****BASES****BACKGROUND**

Trisodium phosphate (TSP) dodecahydrate is stored in porous wire mesh baskets on the floor or in the sump of the containment building to ensure that iodine, which may be dissolved in the recirculated reactor cooling water following a loss of coolant accident (LOCA), remains in solution. TSP also helps inhibit stress corrosion cracking (SCC) of austenitic stainless steel components in containment during the recirculation phase following an accident.

Fuel that is damaged during a LOCA will release iodine in several chemical forms to the reactor coolant and to the containment atmosphere. A portion of the iodine in the containment atmosphere is washed to the sump by containment sprays (i.e., Quench Spray and/or Containment Recirculation Spray). The emergency core cooling water is borated for reactivity control. This borated water causes the sump solution to be acidic. In a low pH (acidic) solution, dissolved iodine will be converted to a volatile form. The volatile iodine will evolve out of solution into the containment atmosphere, significantly increasing the levels of airborne iodine. The increased levels of airborne iodine in containment contribute to the radiological releases and increase the consequences from the accident due to containment atmosphere leakage.

After a LOCA, the components of the core cooling and containment spray systems will be exposed to high temperature borated water. Prolonged exposure to the core cooling water combined with stresses imposed on the components can cause SCC. The SCC is a function of stress, oxygen and chloride concentrations, pH, temperature, and alloy composition of the components. High temperatures and low pH, which would be present after a LOCA, tend to promote SCC. This can lead to the failure of necessary safety systems or components.

Adjusting the pH of the recirculation solution to levels above 7.0 prevents a significant fraction of the dissolved iodine from converting to a volatile form. The higher pH thus decreases the level of airborne iodine in containment and reduces the radiological consequences from containment atmosphere leakage following a LOCA. Maintaining the solution pH  $\geq 7.0$  also reduces the occurrence of SCC of austenitic stainless steel components in containment. Reducing SCC reduces the probability of failure of components.

Granular TSP dodecahydrate is employed as a passive form of pH control for post LOCA containment spray and core cooling water. Baskets of TSP are placed on the floor or in the sump of the containment building to dissolve

EMERGENCY CORE COOLING SYSTEMSBASES (continued)BACKGROUND (continued)

from released reactor coolant water and containment sprays after a LOCA. Recirculation of the water for core cooling and containment sprays then provides mixing to achieve a uniform solution pH. The dodecahydrate form of TSP is used because of the high humidity in the containment building during normal operation. Since the TSP is hydrated, it is less likely to absorb large amounts of water from the humid atmosphere and will undergo less physical and chemical change than the anhydrous form of TSP.

APPLICABLE SAFETY ANALYSES

The LOCA radiological consequences analysis takes credit for iodine retention in the sump solution based on the recirculation water pH being  $\geq 7.0$ . The radionuclide releases from the containment atmosphere and the consequences of a LOCA would be increased if the pH of the recirculation water were not adjusted to 7.0 or above.

LIMITING CONDITION FOR OPERATION

The TSP is required to adjust the pH of the recirculation water to  $\geq 7.0$  after a LOCA. A pH  $\geq 7.0$  after a LOCA is necessary to prevent significant amounts of iodine released from fuel failures and dissolved in the recirculation water from converting to a volatile form and evolving into the containment atmosphere. Higher levels of airborne iodine in containment may increase the release of radionuclides and the consequences of the accident. A pH  $\geq 7.0$  is also necessary to prevent SCC of austenitic stainless steel components in containment. SCC increases the probability of failure of components.

The required amount of TSP is based upon the extreme cases of water volume and pH possible in the containment sump after a large break LOCA. The minimum required volume is the volume of TSP that will achieve a sump solution pH of  $\geq 7.0$  when taking into consideration the maximum possible sump water volume and the minimum possible pH. The amount of TSP needed in the containment building is based on the mass of TSP required to achieve the desired pH. However, a required volume is specified, rather than mass, since it is not feasible to weigh the entire amount of TSP in containment. The minimum required volume is based on the manufactured density of TSP dodecahydrate. Since TSP can have a tendency to agglomerate from high humidity in the containment building, the density may increase and the volume decrease during normal plant operation. Due to possible agglomeration and increase in density, estimating the minimum volume of TSP in containment is conservative with respect to achieving a minimum required pH.

EMERGENCY CORE COOLING SYSTEMSBASES (continued)APPLICABILITY

In MODES 1, 2, 3, and 4, a design basis accident (DBA) could lead to a fission product release to containment that leaks to the secondary containment boundary. The large break LOCA, on which this system's design is based, is a full-power event. Less severe LOCAs and leakage still require the system to be OPERABLE throughout these MODES. The probability and severity of a LOCA decrease as core power and reactor coolant system pressure decrease. With the reactor shut down, the probability of release of radioactivity resulting from such an accident is low.

In MODES 5 and 6, the probability and consequence of a DBA are low due to the pressure and temperature limitations in these MODES. Under these conditions, the SLCRS is not required to be OPERABLE.

ACTIONS

If it is discovered that the TSP in the containment building sump is not within limits, action must be taken to restore the TSP to within limits. During plant operation, the containment sump is not accessible and corrections may not be possible.

The 7-day Completion Time is based on the low probability of a DBA occurring during this period. The Completion Time is adequate to restore the volume of TSP to within the technical specification limits.

If the TSP cannot be restored within limits within the 7-day Completion Time, the plant must be brought to a MODE in which the LCO does not apply. The specified Completion Times for reaching MODES 3 and 4 are those used throughout the technical specifications; they were chosen to allow reaching the specified conditions from full power in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTSSurveillance Requirement 4.5.5

Periodic determination of the volume of TSP in containment must be performed due to the possibility of leaking valves and components in the containment building that could cause dissolution of the TSP during normal operation. A Frequency of once ~~each REFUELING INTERVAL~~ <sup>per 24 months</sup> is required to determine visually that a minimum of 974 cubic feet is contained in the TSP Storage Baskets. This requirement ensures that there is an adequate volume of TSP to adjust the pH of the post LOCA sump solution to a value  $\geq 7.0$ .

The periodic verification is required every refueling outage, since access to the TSP baskets is only feasible during outages. Operating experience has shown this Surveillance Frequency acceptable due to the margin in the volume of TSP placed in the containment building.

BASES3/4.6.6.1 SUPPLEMENTARY LEAK COLLECTION AND RELEASE SYSTEM (Continued)LCO

In the event of a DBA, one SLCRS is required to provide the minimum postulated iodine removal assumed in the safety analysis. Two trains of the SLCRS must be OPERABLE to ensure that at least one train will operate, assuming that the other train is disabled by a single-active failure. The SLCRS works in conjunction with the ABF system. Inoperability of one train of the ABF system also results in inoperability of the corresponding train of the SLCRS. Therefore, whenever LCO 3.7.9 is entered due to the ABF train A (B) being inoperable, LCO 3.6.6.1 must be entered due to the SLCRS train A (B) being inoperable.

When a SLCRS LCO is not met, it is not necessary to declare the secondary containment inoperable. However, in this event, it is necessary to determine that a loss of safety function does not exist. A loss of safety function exists when, assuming no concurrent single failure, a safety function assumed in the accident analysis cannot be performed.

Applicability

In MODES 1, 2, 3, and 4, a DBA could lead to a fission product release to containment that leaks to the secondary containment. The large break LOCA, on which this system's design is based, is a full-power event. Less severe LOCAs and leakage still require the system to be OPERABLE throughout these MODES. The probability and severity of a LOCA decrease as core power and reactor coolant system pressure decrease. With the reactor shut down, the probability of release of radioactivity resulting from such an accident is low.

In MODES 5 and 6, the probability and consequences of a DBA are low due to the pressure and temperature limitations in these MODES. Under these conditions, the SLCRS is not required to be OPERABLE.

ACTIONS

With one SLCRS train inoperable, the inoperable train must be restored to OPERABLE status within 7 days. The operable train is capable of providing 100 percent of the iodine removal needs for a DBA. The 7-day Completion Time is based on consideration of such factors as the reliability of the OPERABLE redundant SLCRS train and the low probability of a DBA occurring during this period. The Completion Time is adequate to make most repairs. If the SLCRS cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and MODE 5 within the following 30 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full-power conditions in an orderly manner and without challenging plant systems.

BASES3/4.6.6.1 SUPPLEMENTARY LEAK COLLECTION AND RELEASE SYSTEM (Continued)Surveillance Requirements

a

Cumulative operation of the SLCRS with heaters operating for at least 10 continuous hours in a 31-day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. The 31-day frequency was developed in consideration of the known reliability of fan motors and controls. This test is performed on a STAGGERED TEST BASIS once per 31-days.

b, c, e, and f

These surveillances verify that the required SLCRS filter testing is performed in accordance with Regulatory Guide 1.52, Revision 2. ANSI N510-1980 shall be used in place of ANSI N510-1975 referenced in Regulatory Guide 1.52, Revision 2. Laboratory testing of methyl iodide penetration shall be performed in accordance with ASTM D3803-89 and Millstone Unit 3 specific parameters. The surveillances include testing HEPA filter performance, charcoal adsorber efficiency, system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). The heater kW measured must be corrected to its nameplate rating. Variations in system voltage can lead to measurements of kW which cannot be compared to the nameplate rating because the output kW is proportional to the square of the voltage.

d

*once per 24 months*  
The automatic startup ensures that each SLCRS train responds properly. The ~~REFUELING INTERVAL~~ frequency is based on the need to perform this surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the surveillance was performed with the reactor at power. The surveillance verifies that the SLCRS starts on a SIS test signal. It also includes the automatic functions to isolate the other ventilation systems that are not part of the safety-related postaccident operating configuration and to start up and to align the ventilation systems that flow through the secondary containment to the accident condition.

- The main steam valve building ventilation system isolates.
- Auxiliary building ventilation (normal) system isolates.
- Charging pump/reactor plant component cooling water pump area cooling subsystem aligns and discharges to the auxiliary building filters and a filter fan starts.
- Hydrogen recombiner ventilation system aligns to the postaccident configuration.
- The engineered safety features building ventilation system aligns to the postaccident configuration.

PLANT SYSTEMSBASES3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)SURVEILLANCE REQUIREMENTS (Continued)4.7.7.c

The performance of the control room emergency filtration systems should be checked periodically by verifying the HEPA filter efficiency, charcoal adsorber efficiency, minimum flow rate, and the physical properties of the activated charcoal. The frequency is at least once per ~~REFUELING INTERVAL~~ or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system. —

ANSI N510-1980 will be used as a procedural guide for surveillance testing.

4.7.7.c.1

This surveillance verifies that the system satisfies the in-place penetration and bypass leakage testing acceptance criterion of less than 0.05% in accordance with Regulatory Position C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, while operating the system at a flow rate of 1,120 cfm  $\pm$  20%. ANSI N510-1980 is used in lieu of ANSI N510-1975 referenced in the regulatory guide.

4.7.7.c.2

This surveillance requires that a representative carbon sample be obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978 and that a laboratory analysis verify that the representative carbon sample meets the laboratory testing criteria of ASTM D3803-89 and Millstone Unit 3 specific parameters. The laboratory analysis is required to be performed within 31 days after removal of the sample. ANSI N510-1980 is used in lieu of ANSI N510-1975 referenced in Revision 2 of Regulatory Guide 1.52.

4.7.7.c.3

This surveillance verifies that a system flow rate of 1,120 cfm  $\pm$  20%, during system operation when testing in accordance with ANSI N510-1980.

4.7.7.d

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

**BASES**

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3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)

SURVEILLANCE REQUIREMENTS (Continued)

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

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

4.7.7.e.1

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

*24 months.*

4.7.7.e.2

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

*24 months*

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

BASES3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)SURVEILLANCE REQUIREMENTS (Continued)

During the first hour, the control room pressurization system creates and maintains the positive pressure in the control room. This capability is verified by Surveillance Requirement 4.7.8.C, independent of Surveillance Requirement 4.7.7.e.2. Furthermore, ACTIONS A.2 and B.1 of Limiting Condition for Operation 3.7.8 requires that an OPERABLE control room emergency air filtration system be initiated and maintained in the recirculation mode following both control room envelope pressurization systems becoming inoperable (e.g., a breach in the control room envelope). Running the control room air filtration system in the recirculation mode with the control room emergency pressurization inoperable would prohibit the ability to create and maintain a positive pressure in the control room envelope, because no source of air would be available to pressurize the control room envelope. A CBI signal will automatically align an operating filtration system into the recirculation mode of operation due to the isolation of the air supply line to the filter.

After the first hour of an event with the potential for a radiological release, the control room emergency ventilation system will be placed in service in either the recirculation mode (isolated from the outside environment) or filtered pressurization mode (outside air is diverted through the filters to the control room envelope to maintain a positive pressure). The mode of service for the control room emergency air filtration system will be based on the radiological conditions that exist outside the control room. Alignment to the filtered pressurization mode requires manual operator action to open the air supply line.

4.7.7.e.3

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

4.7.7.f

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

PLANT SYSTEMSBASES3/4.7.8 CONTROL ROOM ENVELOPE PRESSURIZATION SYSTEM (Continued)SURVEILLANCE REQUIREMENTS (Continued)4.7.8.c

The performance of the control room envelope pressurization system should be checked periodically. The frequency is at least once per ~~REFUELING INTERVAL~~ and following any major alteration of the control room envelope pressure boundary. *24 months*

A major alteration is a change to the control room envelope pressure boundary that: (1) results in a breach greater than analyzed for acceptable pressurization and requires nonroutine work evolutions to restore the boundary. A nonroutine work evolution is one which makes it difficult to determine As-Found and As-Left conditions. Examples of routine work evolution include: (1) opening and closing a door, and (2) repairing cable and pipe penetrations because the repairs are conducted in accordance with procedures and are verified via inspections. For these two examples, there is a high level of assurance that the boundary is restored to the As-Found condition.

This surveillance requires at least once per ~~REFUELING INTERVAL~~ or following a major alteration of the control room envelope pressure boundary by: *24 months*

- Verifying the control room envelope is isolated in response to a Control Building Isolation Test signal,
- Verifying, after a 60 second time delay following a Control Building Isolation Test signal, the control room envelope pressurizes to greater than or equal to 0.125 inch water gauge relative to outside atmosphere; and
- Verifying the positive pressure of Technical Specification 4.7.8.c.2 is maintained for greater than or equal to 60 minutes.

Changes in conditions outside the control room envelope cause pressure spikes which are reflected on the differential pressure indicator, 3HVC-PDI 113.

Pressure spikes or fluctuations which result in the differential pressure momentarily dropped below the 0.125 inch water gauge acceptance criteria are acceptable providing the following conditions are met:

1. Differential pressure remains positive at all times.
2. Differential pressure is only transitorily below the acceptance criteria.
3. Differential pressure returns to a value above the acceptance criteria.

Attachment 4

Millstone Nuclear Power Station, Unit No. 3

Technical Specification Change Request 3-16-01  
Revision to the Term "REFUELING INTERVAL"  
Retype Pages

## REACTIVITY CONTROL SYSTEMS

### POSITION INDICATION SYSTEM - SHUTDOWN

#### LIMITING CONDITION FOR OPERATION

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3.1.3.3 One digital rod position indicator (excluding demand position indication) shall be OPERABLE and capable of determining the control rod position within  $\pm 12$  steps for each shutdown or control rod not fully inserted.

APPLICABILITY: MODES 3\* \*\*, 4\* \*\*, and 5\* \*\*.

#### ACTION:

With less than the above required position indicator(s) OPERABLE, immediately open the Reactor Trip System breakers.

#### SURVEILLANCE REQUIREMENTS

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4.1.3.3 Each of the above required digital rod position indicator(s) shall be determined to be OPERABLE by verifying that the digital rod position indicators agree with the demand position indicators within 12 steps when exercised over the full-range of rod travel at least once per 24 months. |

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\*With the Reactor Trip System breakers in the closed position.

\*\*See Special Test Exceptions Specification 3.10.5.

## REACTIVITY CONTROL SYSTEMS

### ROD DROP TIME

#### LIMITING CONDITION FOR OPERATION

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3.1.3.4 The individual full-length (shutdown and control) rod drop time from the fully withdrawn position shall be less than or equal to 2.7 seconds from beginning of decay of stationary gripper coil voltage to dashpot entry with:

- a.  $T_{avg}$  greater than or equal to 551°F, and
- b. All reactor coolant pumps operating.

APPLICABILITY: MODES 1 and 2.

#### ACTION:

- a. With the drop time of any full-length rod determined to exceed the above limit, restore the rod drop time to within the above limit prior to proceeding to MODE 1 or 2.
- b. With the rod drop times within limits but determined with three reactor coolant pumps operating, operation may proceed provided THERMAL POWER is restricted to less than or equal to 65% of RATED THERMAL POWER with the reactor coolant stop valves in the nonoperating loop closed.

#### SURVEILLANCE REQUIREMENTS

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4.1.3.4 The rod drop time of full-length rods shall be demonstrated through measurement prior to reactor criticality:

- a. For all rods following each removal of the reactor vessel head,
- b. For specifically affected individual rods following any maintenance on or modification to the Control Rod Drive System which could affect the drop time of those specific rods, and
- c. At least once per 24 months.

## REACTOR COOLANT SYSTEM

### 3/4.4.3 PRESSURIZER

#### STARTUP AND POWER OPERATION

#### LIMITING CONDITION FOR OPERATION

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- 3.4.3.1 The pressurizer shall be OPERABLE with:
- a. at least two groups of pressurizer heaters supplied by emergency power, each having a capacity of at least 175 kW; and
  - b. water level maintained at programmed level +/-6% of full scale (Figure 3.4-5).

APPLICABILITY: MODES 1 and 2.

ACTION:

- a. With only one group of pressurizer heaters supplied by emergency power OPERABLE, restore at least two groups to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours.
- b. With pressurizer water level outside the parameters described in Figure 3.4-5, within 2 hours restore programmed level to within +/- 6% of full scale, or be in at least HOT STANDBY within the next 6 hours.
- c. With the pressurizer otherwise inoperable, be in at least HOT STANDBY with the Reactor Trip System breakers open within 6 hours.

#### SURVEILLANCE REQUIREMENTS

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4.4.3.1.1 The pressurizer water level shall be verified to be within programmed level +/- 6% of full scale at least once per 12 hours.

4.4.3.1.2 The capacity of each of the above required groups of pressurizer heaters supplied by emergency power shall be verified by energizing the heaters and measuring circuit current at least once per 24 months.

## REACTOR COOLANT SYSTEM

### HOT STANDBY

#### LIMITING CONDITION FOR OPERATION

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3.4.3.2 The pressurizer shall be OPERABLE with:

- a. at least two groups of pressurizer heaters supplied by emergency power, each having a capacity of at least 175 kW; and
- b. water level less than or equal to 89% of full scale.

APPLICABILITY: MODE 3

#### ACTION:

- a. With only one group of pressurizer heaters supplied by emergency power OPERABLE, restore at least two groups to OPERABLE status within 72 hours of being declared inoperable, or be in HOT SHUTDOWN within the following 6 hours.
- b. With the pressurizer otherwise inoperable, be in HOT SHUTDOWN within 6 hours.

#### SURVEILLANCE REQUIREMENTS

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4.4.3.2.1 The pressurizer water level shall be determined to be less than or equal to 89% of full scale at least once per 12 hours.

4.4.3.2.2 The capacity of each of the above required groups of pressurizer heaters supplied by emergency power shall be verified by energizing the heaters and measuring circuit current at least once per 24 months.

## REACTOR COOLANT SYSTEM

### RELIEF VALVES

#### SURVEILLANCE REQUIREMENTS

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4.4.4.1 In addition to the requirements of Specification 4.0.5, each PORV shall be demonstrated OPERABLE by:

- a. Performance of a CHANNEL CALIBRATION at least once per 24 months; and
- b. Operating the valve through one complete cycle of full travel during MODES 3 or 4 at least once per 24 months; and
- c. Performance of an ANALOG CHANNEL OPERATIONAL TEST on the PORV high pressurizer pressure actuation channels, but excluding valve operation, at least once each quarter; and
- d. Verify the PORV high pressure automatic opening function is enabled at least once per 12 hours.

4.4.4.2 Each block valve shall be demonstrated OPERABLE at least once per 92 days by operating the valve through one complete cycle of full travel unless the block valve is closed with power removed in order to meet the requirements of ACTION b. or c. in Specification 3.4.4.

4.4.4.3 The emergency power supply for the PORVs and block valves shall be demonstrated OPERABLE at least once per 24 months by operating the valves through a complete cycle of full travel.

## REACTOR COOLANT SYSTEM

### 3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE

#### LEAKAGE DETECTION SYSTEMS

##### LIMITING CONDITION FOR OPERATION

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3.4.6.1 The following Reactor Coolant System Leakage Detection Systems shall be OPERABLE:

- a. Either the Containment Atmosphere Gaseous or Particulate Radioactivity Monitoring System, and
- b. The Containment Drain Sump Level or Pumped Capacity Monitoring System

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

##### ACTION:

- a. With both the Containment Atmosphere Gaseous and Particulate Radioactivity Monitors INOPERABLE, operation may continue for up to 30 days provided the Containment Drain Sump Level or Pumped Capacity Monitoring System is OPERABLE and gaseous grab samples of the containment atmosphere are obtained at least once per 12 hours and analyzed for gross noble gas activity within the subsequent 2 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With the Containment Drain Sump Level or Pumped Capacity Monitoring System INOPERABLE, operation may continue for up to 30 days provided either the Containment Atmosphere Gaseous or Particulate Radioactivity Monitoring System is OPERABLE; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

##### SURVEILLANCE REQUIREMENTS

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4.4.6.1 The Leakage Detection Systems shall be demonstrated OPERABLE by:

- a. Containment Atmosphere Gaseous and Particulate Radioactivity Monitoring Systems-performance of CHANNEL CHECK, CHANNEL CALIBRATION, and ANALOG CHANNEL OPERATIONAL TEST at the frequencies specified in Table 4.3-3, and
- b. Containment Drain Sump Level and Pumped Capacity Monitoring System-performance of CHANNEL CALIBRATION at least once per 24 months.

## REACTOR COOLANT SYSTEM

### OPERATIONAL LEAKAGE

#### SURVEILLANCE REQUIREMENTS

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4.4.6.2.1 Reactor Coolant System leakages shall be demonstrated to be within each of the above limits by:

- a. Monitoring the containment atmosphere (gaseous or particulate) radioactivity monitor at least once per 12 hours;
- b. Monitoring the containment drain sump inventory and discharge at least once per 12 hours;
- c. Measurement of the CONTROLLED LEAKAGE to the reactor coolant pump seals when the Reactor Coolant System pressure is  $2250 \pm 20$  psia at least once per 31 days with the modulating valve fully open. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or 4;
- d. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours; and
- e. Monitoring the Reactor Head Flange Leakoff System at least once per 24 hours.

4.4.6.2.2 Each Reactor Coolant System Pressure Isolation Valve specified in Table 3.4-1 shall be demonstrated OPERABLE by verifying leakage to be within its limit:

- a. At least once per 24 months,
- b. Prior to entering MODE 2 whenever the plant has been in COLD SHUTDOWN for 7 days or more and if leakage testing has not been performed in the previous 9 months,
- c. Prior to returning the valve to service following maintenance, repair or replacement work on the valve,
- d. Within 24 hours following valve actuation due to automatic or manual action or flow through the valve, and
- e. When tested pursuant to Specification 4.0.5.

The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or 4.

## REACTOR COOLANT SYSTEM

### OVERPRESSURE PROTECTION SYSTEM

#### SURVEILLANCE REQUIREMENTS

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4.4.9.3.1 Demonstrate that each required PORV is OPERABLE by:

- a. Performance of an ANALOG CHANNEL OPERATIONAL TEST on the PORV actuation channel, but excluding valve operation, within 31 days prior to entering a condition in which the PORV is required OPERABLE and at least once per 31 days thereafter when the PORV is required OPERABLE;
- b. Performance of a CHANNEL CALIBRATION on the PORV actuation channel at least once per 24 months; and
- c. Verifying the PORV block valve is open and the PORV Cold Overpressure Protection System (COPPS) is armed at least once per 72 hours when the PORV is being used for overpressure protection.

4.4.9.3.2 Demonstrate that each required RHR suction relief valve is OPERABLE by:

- a. Verifying the isolation valves between the RCS and each required RHR suction relief valve are open at least once per 12 hours; and
- b. Testing pursuant to Specification 4.0.5.

4.4.9.3.3 When complying with 3.4.9.3.4, verify that the RCS is vented through a vent pathway  $\geq 2.0$  square inches at least once per 31 days for a passive vent path and at least once per 12 hours for unlocked open vent valves.

4.4.9.3.4 Verify that no Safety Injection pumps are capable of injecting into the RCS at least once per 12 hours.

4.4.9.3.5 Verify that a maximum of one centrifugal charging pump is capable of injecting into the RCS at least once per 12 hours.

## SURVEILLANCE REQUIREMENT (Continued)

4.4.11.2 Each train of the reactor vessel head vent path shall be demonstrated OPERABLE at least once per 24 months by:

- a. Verifying all manual isolation valves in each vent path are locked in the open position,
- b. Cycling each vent valve through at least one complete cycle of full travel from the control room, and
- c. Verifying flow through the Reactor Coolant System vent paths during venting.

4.4.11.3 Each train of the pressurizer steam space vent path shall be demonstrated OPERABLE per the applicable requirement of Specifications 4.4.4.1 through 4.4.4.3 and 4.4.9.3.1. In addition, flow shall be verified through the pressurizer steam space vent path during venting at least once per 24 months.

**EMERGENCY CORE COOLING SYSTEMS**

**SURVEILLANCE REQUIREMENTS**

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4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

- a. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

<u>Valve Number</u>	<u>Valve Function</u>	<u>Valve Position</u>
3SIH*MV8806	RWST Supply to SI Pumps	OPEN
3SIH*MV8802A	SI Pump A to Hot Leg Injection	CLOSED
3SIH*MV8802B	SI Pump B to Hot Leg Injection	CLOSED
3SIH*MV8835	SI Cold Leg Master Isolation	OPEN
3SIH*MV8813	SI Pump Master Miniflow Isolation	OPEN
3SIL*MV8840	RHR to Hot Leg Injection	CLOSED
3SIL*MV8809A	RHR Pump A to Cold Leg Injection	OPEN
3SIL*MV8809B	RHR Pump B to Cold Leg Injection	OPEN

- b. At least once per 31 days by:
  - 1) Verifying that the ECCS piping, except for the operating centrifugal charging pump(s) and associated piping, the RSS pump, the RSS heat exchanger and associated piping, is full of water, and
  - 2) Verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

- c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suction during LOCA conditions. This visual inspection shall be performed:

- 1) For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and
- 2) At least once daily of the areas affected (during each day) within containment by containment entry and during the final entry when CONTAINMENT INTEGRITY is established.

- d. At least once per 24 months by:

- 1) Verifying automatic interlock action of the RHR System from the Reactor Coolant System by ensuring that with a simulated signal greater than or equal to 412.5 psia the interlocks prevent the valves from being opened.

**EMERGENCY CORE COOLING SYSTEMS**

**SURVEILLANCE REQUIREMENTS (Continued)**

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- 2) A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or abnormal corrosion.
  
- e. At least once per 24 months by:
  - 1) Verifying that each automatic valve in the flow path actuates to its correct position on a Safety Injection actuation test signal, and
  - 2) Verifying that each of the following pumps start automatically upon receipt of a Safety Injection actuation test signal:
    - a) Centrifugal charging pump,
    - b) Safety Injection pump, and
    - c) RHR pump.
  - 3) Verifying that the Residual Heat Removal pumps stop automatically upon receipt of a Low-Low RWST Level test signal.
  
- f. By verifying that each of the following pump's developed head at the test flow point is greater than or equal to the required developed head when tested pursuant to Specification 4.0.5:
  - 1) Centrifugal charging pump
  - 2) Safety Injection pump
  - 3) RHR pump
  - 4) Containment recirculation pump
  
- g. By verifying the correct position of each electrical and/or mechanical position stop for the following ECCS throttle valves:
  - 1) Within 4 hours following completion of each valve stroking operation or maintenance on the valve when the ECCS subsystems are required to be OPERABLE, and
  - 2) At least once per 24 months.

ECCS Throttle Valves

<u>Valve Number</u>	<u>Valve Number</u>
3SIH*V6	3SIH*V25
3SIH*V7	3SIH*V27

## EMERGENCY CORE COOLING SYSTEMS

### 3/4.5.5 pH TRISODIUM PHOSPHATE STORAGE BASKETS

#### LIMITING CONDITION FOR OPERATION

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3.5.5 The trisodium phosphate (TSP) dodecahydrate Storage Baskets shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4

#### ACTION:

With the TSP Storage Baskets inoperable, restore the system TSP Storage Baskets to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN the following 6 hours.

#### SURVEILLANCE REQUIREMENTS

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4.5.5 The TSP Storage Baskets shall be demonstrated OPERABLE at least once per 24 months by verifying that a minimum total of 974 cubic feet of TSP is contained in the TSP Storage Baskets. |

## CONTAINMENT SYSTEMS

### 3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

#### CONTAINMENT QUENCH SPRAY SYSTEM

##### LIMITING CONDITION FOR OPERATION

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3.6.2.1 Two independent Containment Quench Spray subsystems shall be OPERABLE.

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

##### ACTION:

With one Containment Quench Spray subsystem inoperable, restore the inoperable system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

##### SURVEILLANCE REQUIREMENTS

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4.6.2.1 Each Containment Quench Spray subsystem shall be demonstrated OPERABLE:

- a. At least once per 31 days:
  - 1) Verifying that each valve (manual, power operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position; and
  - 2) Verifying the temperature of the borated water in the refueling water storage tank is between 40°F and 50°F.
- b. By verifying that each pump's developed head at the test flow point is greater than or equal to the required developed head when tested pursuant to Specification 4.0.5;
- c. At least once per 24 months, by:
  - 1) Verifying that each automatic valve in the flow path actuates to its correct position on a CDA test signal, and
  - 2) Verifying that each spray pump starts automatically on a CDA test signal.
- d. At least once per 10 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

## CONTAINMENT SYSTEMS

### RECIRCULATION SPRAY SYSTEM

#### LIMITING CONDITION FOR OPERATION

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3.6.2.2 Two independent Recirculation Spray Systems shall be OPERABLE.

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

ACTION:

With one Recirculation Spray System inoperable, restore the inoperable system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours; restore the inoperable Recirculation Spray System to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.6.2.2 Each Recirculation Spray System shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position;
- b. By verifying that each pump's developed head at the test flow point is greater than or equal to the required developed head when tested pursuant to Specification 4.0.5;
- c. At least once per 24 months by verifying that on a CDA test signal, each recirculation spray pump starts automatically after a 660  $\pm$ 20 second delay;
- d. At least once per 24 months, by verifying that each automatic valve in the flow path actuates to its correct position on a CDA test signal; and
- e. At least once per 10 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

## CONTAINMENT SYSTEMS

### 3/4.6.3 CONTAINMENT ISOLATION VALVES

#### LIMITING CONDITION FOR OPERATION

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3.6.3 The containment isolation valves shall be OPERABLE\* with isolation times less than or equal to the required isolation times.

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

#### ACTION:

With one or more of the isolation valve(s) inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and:

- a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or
- b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position, or
- c. Isolate each affected penetration within 4 hours by use of at least one closed manual valve or blind flange; or
- d. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.6.3.1 Each isolation valve shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair, or replacement work is performed on the valve or its associated actuator, control, or power circuit by performance of a cycling test and verification of isolation time.

4.6.3.2 Each isolation valve shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 24 months by:

- a. Verifying that on a Phase "A" Isolation test signal, each Phase "A" isolation valve actuates to its isolation position,
- b. Verifying that on a Phase "B" Isolation test signal, each Phase "B" isolation valve actuates to its isolation position, and
- c. Verifying that on a Containment High Radiation test signal, each purge supply and exhaust isolation valve actuates to its isolation position.

4.6.3.3 The isolation time of each power-operated or automatic valve shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

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\*The provisions of this Specification are not applicable for main steam line isolation valves. However, provisions of Specification 3.7.1.5 are applicable for main steam line isolation valves.

## CONTAINMENT SYSTEMS

### 3/4.6.4 COMBUSTIBLE GAS CONTROL

#### HYDROGEN MONITORS

#### LIMITING CONDITION FOR OPERATION

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3.6.4.1 Two independent containment hydrogen monitors shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- a. With one hydrogen monitor inoperable, restore the inoperable monitor to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours.
- b. With both hydrogen monitors inoperable, restore at least one monitor to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours.
- c. Entry into an OPERATIONAL MODE is permitted while subject to these ACTION requirements.

#### SURVEILLANCE REQUIREMENTS

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4.6.4.1 Each hydrogen monitor shall be demonstrated OPERABLE:

- a. By the performance of a CHANNEL CHECK at least once per 12 hours, and
- b. By the performance of a Hydrogen Sensor Calibration and an ANALOG CHANNEL OPERATIONAL TEST at least once per 92 days on a STAGGERED TEST BASIS, and
- c. By the performance of a CHANNEL CALIBRATION at least once per 24 months.

## CONTAINMENT SYSTEMS

### ELECTRIC HYDROGEN RECOMBINERS

#### LIMITING CONDITION FOR OPERATION

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3.6.4.2 Two independent Hydrogen Recombiner Systems shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

With one Hydrogen Recombiner System inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.

#### SURVEILLANCE REQUIREMENTS

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4.6.4.2 Each Hydrogen Recombiner System shall be demonstrated OPERABLE at least once per 24 months by:

- a. Deleted
- b. Performing a CHANNEL CALIBRATION of all recombinder instrumentation and control circuits,
- c. Verifying through a visual examination that there is no evidence of abnormal conditions within the recombinder enclosure (i.e., loose wiring or structural connections, deposits of foreign materials, etc.),
- d. Verifying the integrity of all heater electrical circuits by performing a resistance to ground test following the above required functional test. The resistance to ground for any heater phase shall be greater than 10,000 ohms, and
- e. Verifying during a recombinder system functional test using containment atmospheric air at an acceptable flow rate as determined in Section 4.6.4.2.f that the gas temperature increases to greater than or equal to 1100°F within 5 hours and is maintained for at least 4 hours.
- f. Verifying during a recombinder system functional test using containment atmospheric air that the blower would be capable of delivering at least 41.52 scfm at containment conditions of 12.47 psia and 130°F.

## CONTAINMENT SYSTEMS

### 3/4.6.6 SECONDARY CONTAINMENT

#### SUPPLEMENTARY LEAK COLLECTION AND RELEASE SYSTEM

##### LIMITING CONDITION FOR OPERATION

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3.6.6.1 Two independent Supplementary Leak Collection and Release Systems shall be OPERABLE with each system comprised of:

- a. one OPERABLE filter and fan, and
- b. one OPERABLE Auxiliary Building Filter System as defined in Specification 3.7.9.

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

##### ACTION:

With one Supplementary Leak Collection and Release System inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

##### SURVEILLANCE REQUIREMENTS

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4.6.6.1 Each Supplementary Leak Collection and Release System shall be demonstrated OPERABLE:

- a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying a system flow rate of 7600 cfm to 9800 cfm and that the system operates for at least 10 continuous hours with the heaters operating.
- b. At least once per 24 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system by:
  - 1) Verifying that the system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978,\* and the system flow rate is 7600 cfm to 9800 cfm;

## CONTAINMENT SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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- 2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978,\* shows the methyl iodide penetration less than or equal to 2.5% when tested in accordance with ASTM D3803-89 at a temperature of 30°C (86°F) and a relative humidity of 70%; and
  - 3) Verifying a system flow rate of 7600 cfm to 9800 cfm during system operation when tested in accordance with ANSI N510-1980.
- c. After every 720 hours of charcoal adsorber operation, by verifying, within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978,\* shows the methyl iodide penetration less than or equal to 2.5% when tested in accordance with ASTM D3803-89 at a temperature of 30°C (86°F) and a relative humidity of 70%:
- d. At least once per 24 months by:
- 1) Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6.25 inches Water Gauge while operating the system at a flow rate of 7600 cfm to 9800 cfm,
  - 2) Verifying that the system starts on a Safety Injection test signal, and
  - 3) Verifying that the heaters dissipate 50 ±5 kW when tested in accordance with ANSI N510-1980.

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

## CONTAINMENT SYSTEMS

### SECONDARY CONTAINMENT

#### LIMITING CONDITION FOR OPERATION

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3.6.6.2 Secondary Containment shall be OPERABLE.

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

#### ACTION:

With Secondary Containment inoperable, restore Secondary Containment to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENT

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4.6.6.2.1 OPERABILITY of Secondary Containment shall be demonstrated at least once per 31 days by verifying that each door in each access opening is closed except when the access opening is being used for normal transit entry and exit.

4.6.6.2.2 At least once per 24 months, verify each Supplementary Leak Collection and Release System produces a negative pressure of greater than or equal to 0.4 inch water gauge in the Auxiliary Building at 24'-6" elevation within 120 seconds after a start signal. |

## PLANT SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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- b. At least once per 92 days on a STAGGERED TEST BASIS, tested pursuant to Specification 4.0.5, by:
- 1) Verifying that on recirculation flow each motor-driven pump develops a total head of greater than or equal to 3385 feet;
  - 2) Verifying that on recirculation flow the steam turbine-driven pump develops a total head of greater than or equal to 3780 feet when the secondary steam supply pressure is greater than 800 psig. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3.
- c. At least once per 24 months by verifying that each auxiliary feedwater pump starts as designed automatically upon receipt of an Auxiliary Feedwater Actuation test signal. For the steam turbine-driven auxiliary feedwater pump, the provisions of Specification 4.0.4 are not applicable for entry into MODE 3.

4.7.1.2.2 An auxiliary feedwater flow path to each steam generator shall be demonstrated OPERABLE following each COLD SHUTDOWN of greater than 30 days prior to entering MODE 2 by verifying flow to each steam generator.

## PLANT SYSTEMS

### 3/4.7.3 REACTOR PLANT COMPONENT COOLING WATER SYSTEM

#### LIMITING CONDITION FOR OPERATION

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3.7.3 At least two independent reactor plant component cooling water safety loops shall be OPERABLE.

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

#### ACTION:

With only one reactor plant component cooling water safety loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.7.3 At least two reactor plant component cooling water safety loops shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) servicing safety-related equipment that is not locked, sealed, or otherwise secured in position is in its correct position; and
- b. At least once per 24 months by verifying that:
  - 1) Each automatic valve actuates to its correct position on its associated Engineered Safety Feature actuation signal, and
  - 2) Each Component Cooling Water System pump starts automatically on an SIS test signal.

## PLANT SYSTEMS

### 3/4.7.4 SERVICE WATER SYSTEM

#### LIMITING CONDITION FOR OPERATION

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3.7.4 At least two independent service water loops shall be OPERABLE.

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

#### ACTION:

With only one service water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.7.4 At least two service water loops shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) servicing safety-related equipment that is not locked, sealed, or otherwise secured in position is in its correct position; and
- b. At least once per 24 months by verifying that:
  - 1) Each automatic valve servicing safety-related equipment actuates to its correct position on its associated Engineered Safety Feature actuation signal, and
  - 2) Each Service Water System pump starts automatically on an SIS test signal.

## PLANT SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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- c. At least once per 24 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system by:
- 1) Verifying that the system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% and uses the test procedure guidance in Regulatory Position C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revisions 2, March 1978,\* and the system flow rate is 1,120 cfm  $\pm 20\%$ ;
  - 2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978,\* shows the methyl iodide penetration less than or equal to 2.5% when tested in accordance with ASTM D3803-89 at a temperature of 30°C (86°F), a relative humidity of 70%, and a face velocity of 54 ft/min; and
  - 3) Verifying a system flow rate of 1,120 cfm  $\pm 20\%$  during system operation when tested in accordance with ANSI N510-1980.
- d. After every 720 hours of charcoal adsorber operation, by verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978,\* shows the methyl iodide penetration less than or equal to 2.5% when tested in accordance with ASTM D3803-89 at a temperature of 30°C (86°F), and a relative humidity of 70%, and a face velocity of 54 ft/min.
- e. At least once per 24 months by:
- 1) Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6.75 inches Water Gauge while operating the system at a flow rate of 1,120 cfm  $\pm 20\%$ ;
  - 2) Verifying that the system maintains the control room at a positive pressure of greater than or equal to 1/8 inch Water Gauge at less than or equal to a pressurization flow of 230 cfm relative to adjacent areas during positive pressure system operation; and
  - 3) Verifying that the heaters dissipate 9.4  $\pm 1$  kW when tested in accordance with ANSI N510-1980.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

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- c. At least once per 24 months or following a major alteration of the control room envelope pressure boundary by: |
1. Verifying that the control room envelope is isolated in response to a Control Building Isolation test signal,
  2. Verifying that after a 60 second time delay following a Control Building Isolation test signal, the control room envelope pressurizes to greater than or equal to 1/8 inch W.G. relative to the outside atmosphere, and
  3. Verifying that the positive pressure of Specification 4.7.8.c.2 is maintained for greater than or equal to 60 minutes.

## PLANT SYSTEMS

### 3/4.7.9 AUXILIARY BUILDING FILTER SYSTEM

#### LIMITING CONDITION FOR OPERATION

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3.7.9 Two independent Auxiliary Building Filter Systems shall be OPERABLE with each system comprised of:

- a. one OPERABLE filter and fan, and
- b. one OPERATIONAL Charging Pump/Reactor Plant Component Cooling Water Pump Ventilation System.

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

#### ACTION:

With one Auxiliary Building Filter System inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. In addition, comply with the ACTION requirements of Specification 3.6.6.1.

#### SURVEILLANCE REQUIREMENTS

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4.7.9 Each Auxiliary Building Filter System shall be demonstrated OPERABLE:

- a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying a system flow rate of 30,000 cfm  $\pm 10\%$  and that the system operates for at least 10 continuous hours with the heaters operating;
- b. At least once per 24 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system by:
  - 1) Verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978,\* and the system flow rate is 30,000 cfm  $\pm 10\%$ ;
  - 2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978,\* shows the methyl

## PLANT SYSTEMS

### SURVEILLANCE REQUIREMENTS

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- iodide penetration less than or equal to 2.5% when tested in accordance with ASTM D3803-89 at a temperature of 30°C (86°F), a relative humidity of 70%, and a face velocity of 52 ft/min; and
- 3) Verifying a system flow rate of 30,000 cfm  $\pm 10\%$  during system operation when tested in accordance with ANSI N510-1980.
- c. After every 720 hours of charcoal adsorber operation, by verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978,\* shows the methyl iodide penetration less than or equal to 2.5% when tested in accordance with ASTM D3803-89 at a temperature of 30°C (86°F), a relative humidity of 70%, and a face velocity of 52 ft/min;
- d. At least once per 24 months by:
- 1) Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6.8 inches Water Gauge while operating the system at a flow rate of 30,000 cfm  $\pm 10\%$ ,
  - 2) Verifying that the system starts on a Safety Injection test signal, and
  - 3) Verifying that the heaters dissipate 180  $\pm 18$  kW when tested in accordance with ANSI N510-1980.
- e. After each complete or partial replacement of a HEPA filter bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 for a DOP test aerosol while operating the system at a flow rate of 30,000 cfm  $\pm 10\%$ ; and
- f. After each complete or partial replacement of a charcoal adsorber bank, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of 30,000 cfm  $\pm 10\%$ .

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

## PLANT SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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type that may be generically susceptible; and (2) the affected snubber is functionally tested in the as-found condition and determined OPERABLE per Specification 4.7.10.f. All snubbers found connected to an inoperable common hydraulic fluid reservoir shall be counted as unacceptable for determining the next inspection interval. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the ACTION requirements shall be met.

#### d. Transient Event Inspection

An inspection shall be performed of all snubbers attached to sections of systems that have experienced unexpected, potentially damaging transients as determined from a review of operational data and a visual inspection of the systems within 6 months following such an event. In addition to satisfying the visual inspection acceptance criteria, freedom-of-motion of mechanical snubbers shall be verified using at least one of the following: (1) manually induced snubber movement; or (2) evaluation of in-place snubber piston setting; or (3) stroking the mechanical snubber through its full range of travel.

#### e. Functional Tests

During the first refueling shutdown and at least once per 24 months thereafter,\* a representative sample of snubbers of each type shall be tested using one of the following sample plans. The sample plan for each type shall be selected prior to the test period and cannot be changed during the test period. The NRC Regional Administrator shall be notified in writing of the sample plan selected for each snubber type prior to the test period or the sample plan used in the prior test period shall be implemented:

- 1) At least 10% of the total of each type of snubber shall be functionally tested either in-place or in a bench test. For each snubber of a type that does not meet the functional test acceptance criteria of Specification 4.7.10f., an additional 5% of that type of snubber shall be functionally tested until no more failures are found or until all snubbers of that type have been functionally tested; or

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\*Except the surveillance related to snubber functional testing due no later than March 10, 1999 may be deferred until the end of the next refueling outage or no later than September 10, 1999, whichever is earlier.

## REFUELING OPERATIONS

### 3/4.9.12 FUEL BUILDING EXHAUST FILTER SYSTEM

#### LIMITING CONDITION FOR OPERATION

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3.9.12 Two independent Fuel Building Exhaust Filter Systems shall be OPERABLE. At least one Fuel Building Exhaust Filter System shall be in operation whenever any evolution involving movement of fuel within the storage pool or crane operations with loads over the storage pool is in progress.

APPLICABILITY: Whenever irradiated fuel with less than 60 days decay is in the storage pool.

#### ACTION:

- a. With one Fuel Building Exhaust Filter System inoperable, fuel movement within the storage pool or crane operation with loads over the storage pool may proceed provided the OPERABLE Fuel Building Exhaust Filter System is capable of being powered from an OPERABLE emergency power source and is in operation and discharging through at least one train of HEPA filters and charcoal adsorbers.
- b. With no Fuel Building Exhaust Filter System OPERABLE, suspend all operations involving movement of fuel within the storage pool or crane operation with loads over the storage pool until at least one Fuel Building Exhaust Filter System is restored to OPERABLE status.
- c. The provisions of Specifications 3.0.3 are not applicable.

#### SURVEILLANCE REQUIREMENTS

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4.9.12.1 The above required Fuel Building Exhaust Filter Systems shall be demonstrated OPERABLE:

- a. Within 31 days prior to moving fuel within or loads over the storage pool when irradiated fuel with less than 60 days decay is present by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers, and verifying a system flow rate of 20,700 cfm  $\pm 10\%$  and that the system operates for at least 10 continuous hours with the heaters operating;
- b. At least once per 24 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system by:

## REFUELING OPERATIONS

### SURVEILLANCE REQUIREMENTS (Continued)

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- 1) Verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978,\* and the system flow rate is 20,700 cfm  $\pm 10\%$ ;
  - 2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978,\* shows the methyl iodide penetration less than or equal to 2.5% when tested in accordance with ASTM D3803-89 at a temperature of 30°C (86°F) and a relative humidity of 70%; and
  - 3) Verifying a system flow rate of 20,700 cfm  $\pm 10\%$  during system operation when tested in accordance with ANSI N510-1980.
- c. After every 720 hours of charcoal adsorber operation by verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978,\* shows the methyl iodide penetration less than or equal to 2.5% when tested in accordance with ASTM D3803-89 at a temperature of 30°C (86°F) and a relative humidity of 70%;
- d. At least once per 24 months by:
- 1) Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6.8 inches Water Gauge while operating the system at a flow rate of 20,700 cfm  $\pm 10\%$ .

### 3/4.0 APPLICABILITY

#### BASES

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"Surveillance requirements are requirements relating to test, calibration, or inspection to ensure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions of operation will be met."

Specification 4.0.1 establishes the requirement that surveillances must be performed during the OPERATIONAL MODES or other conditions for which the requirements of the Limiting Conditions for Operation apply unless otherwise stated in an individual Surveillance Requirement. The purpose of this specification is to ensure that surveillances are performed to verify the operational status of systems and components and that parameters are within specified limits to ensure safe operation of the facility when the plant is in a MODE or other specified condition for which the associated Limiting Conditions for Operation are applicable. Surveillance requirements do not have to be performed when the facility is in an OPERATIONAL MODE for which the requirements of the associated Limiting Condition for Operation do not apply unless otherwise specified. The Surveillance Requirements associated with a Special Test Exception are only applicable when the Special Test Exception is used as an allowable exception to the requirements of a specification.

Specification 4.0.2 This specification establishes the limit for which the specified time interval for surveillance requirements may be extended. It permits an allowable extension of the normal surveillance interval to facilitate surveillance scheduling and consideration of plant operating conditions that may not be suitable for conducting the surveillance; e.g., transient conditions or other ongoing surveillance or maintenance activities. It also provides flexibility to accommodate the length of a fuel cycle for surveillances that are performed at each refueling outage and are specified typically with an 18-month surveillance interval. It is not intended that this provision be used repeatedly as a convenience to extend surveillance intervals beyond that specified for surveillances that are not performed during refueling outage. The limitation of 4.0.2 is based on engineering judgment and the recognition that the most probable result of any particular surveillance being performed is the verification of conformance with the surveillance requirements. This provision is sufficient to ensure that the reliability ensured through surveillance activities is not significantly degraded beyond that obtained from the specified surveillance interval.

Specification 4.0.3 establishes the failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by the provisions of Specification 4.0.2, as a condition that constitutes a failure to meet the OPERABILITY requirements for a Limiting Condition for Operation. Under the provisions of this specification, systems and components are assumed to be OPERABLE when Surveillance Requirements have been satisfactorily performed within the specified time interval. However, nothing in this provision is to be construed as implying that systems or components are OPERABLE when they are found or known to be inoperable although still meeting the Surveillance Requirements. This specification also clarifies that the ACTION requirements are applicable when the Surveillance Requirements have not

## REACTOR COOLANT SYSTEM

### BASES

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#### OVERPRESSURE PROTECTION SYSTEMS (continued)

Performance of a CHANNEL CALIBRATION on each required PORV actuation channel is required once per 24 months to adjust the channel so that it responds and the valve opens within the required range and accuracy to a known input. |

The PORV block valve must be verified open and COPPS must be verified armed every 72 hours to provide a flow path and a cold overpressure protection actuation circuit for each required PORV to perform its function when required. The valve is remotely verified open in the main control room. This Surveillance is performed if credit is being taken for the PORV to satisfy the LCO.

The block valve is a remotely controlled, motor operated valve. The power to the valve operator is not required to be removed, and the manual operator is not required to be locked in the open position. Thus, the block valve can be closed in the event the PORV develops excessive leakage or does not close (sticks open) after relieving an overpressure transient.

The 72 hour Frequency is considered adequate in view of other administrative controls available to the operator in the control room, such as valve position indication, that verify the PORV block valve remains open.

#### 4.4.9.3.2

Each required RHR suction relief valve shall be demonstrated OPERABLE by verifying the RHR suction valves, 3RHS\*MV8701A and 3RHS\*M8701C, are open when suction relief valve 3RHS\*RV8708A is being used to meet the LCO and by verifying the RHR suction valves, 3RHS\*MV8702B and 3RHS\*MV8702C, are open when suction relief valve 3RHS\*RV8708B is being used to meet the LCO. Each required RHR suction relief valve shall also be demonstrated OPERABLE by testing it in accordance with 4.0.5. This Surveillance is only required to be performed if the RHR suction relief valve is being used to meet this LCO.

The RHR suction valves are verified to be open every 12 hours. The Frequency is considered adequate in view of other administrative controls such as valve status indications available to the operator in the control room that verify the RHR suction valves remain open.

The ASME Code, Section XI (Ref. 9), test per 4.0.5 verifies OPERABILITY by proving proper relief valve mechanical motion and by measuring and, if required, adjusting the lift setpoint.

## EMERGENCY CORE COOLING SYSTEMS

### BASES (continued)

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#### APPLICABILITY

In MODES 1, 2, 3, and 4, a design basis accident (DBA) could lead to a fission product release to containment that leaks to the secondary containment boundary. The large break LOCA, on which this system's design is based, is a full-power event. Less severe LOCAs and leakage still require the system to be OPERABLE throughout these MODES. The probability and severity of a LOCA decrease as core power and reactor coolant system pressure decrease. With the reactor shut down, the probability of release of radioactivity resulting from such an accident is low.

In MODES 5 and 6, the probability and consequence of a DBA are low due to the pressure and temperature limitations in these MODES. Under these conditions, the SLCRS is not required to be OPERABLE.

#### ACTIONS

If it is discovered that the TSP in the containment building sump is not within limits, action must be taken to restore the TSP to within limits. During plant operation, the containment sump is not accessible and corrections may not be possible.

The 7-day Completion Time is based on the low probability of a DBA occurring during this period. The Completion Time is adequate to restore the volume of TSP to within the technical specification limits.

If the TSP cannot be restored within limits within the 7-day Completion Time, the plant must be brought to a MODE in which the LCO does not apply. The specified Completion Times for reaching MODES 3 and 4 are those used throughout the technical specifications; they were chosen to allow reaching the specified conditions from full power in an orderly manner and without challenging plant systems.

#### SURVEILLANCE REQUIREMENTS

##### Surveillance Requirement 4.5.5

Periodic determination of the volume of TSP in containment must be performed due to the possibility of leaking valves and components in the containment building that could cause dissolution of the TSP during normal operation. A Frequency of once per 24 months is required to determine visually that a minimum of 974 cubic feet is contained in the TSP Storage Baskets. This requirement ensures that there is an adequate volume of TSP to adjust the pH of the post LOCA sump solution to a value  $\geq 7.0$ .

The periodic verification is required every refueling outage, since access to the TSP baskets is only feasible during outages. Operating experience has shown this Surveillance Frequency acceptable due to the margin in the volume of TSP placed in the containment building.

## CONTAINMENT SYSTEMS

### BASES

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#### 3/4.6.6.1 SUPPLEMENTARY LEAK COLLECTION AND RELEASE SYSTEM (Continued)

##### Surveillance Requirements

a

Cumulative operation of the SLCRS with heaters operating for at least 10 continuous hours in a 31-day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. The 31-day frequency was developed in consideration of the known reliability of fan motors and controls. This test is performed on a STAGGERED TEST BASIS once per 31-days.

b, c, e, and f

These surveillances verify that the required SLCRS filter testing is performed in accordance with Regulatory Guide 1.52, Revision 2. ANSI N510-1980 shall be used in place of ANSI N510-1975 referenced in Regulatory Guide 1.52, Revision 2. Laboratory testing of methyl iodide penetration shall be performed in accordance with ASTM D3803-89 and Millstone Unit 3 specific parameters. The surveillances include testing HEPA filter performance, charcoal adsorber efficiency, system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). The heater kW measured must be corrected to its nameplate rating. Variations in system voltage can lead to measurements of kW which cannot be compared to the nameplate rating because the output kW is proportional to the square of the voltage.

d

The automatic startup ensures that each SLCRS train responds properly. The once per 24 months frequency is based on the need to perform this surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the surveillance was performed with the reactor at power. The surveillance verifies that the SLCRS starts on a SIS test signal. It also includes the automatic functions to isolate the other ventilation systems that are not part of the safety-related postaccident operating configuration and to start up and to align the ventilation systems that flow through the secondary containment to the accident condition.

- The main steam valve building ventilation system isolates.
- Auxiliary building ventilation (normal) system isolates.
- Charging pump/reactor plant component cooling water pump area cooling subsystem aligns and discharges to the auxiliary building filters and a filter fan starts.
- Hydrogen recombiner ventilation system aligns to the postaccident configuration.
- The engineered safety features building ventilation system aligns to the postaccident configuration.

## PLANT SYSTEMS

### BASES

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#### 3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)

#### SURVEILLANCE REQUIREMENTS (Continued)

##### 4.7.7.c

The performance of the control room emergency filtration systems should be checked periodically by verifying the HEPA filter efficiency, charcoal adsorber efficiency, minimum flow rate, and the physical properties of the activated charcoal. The frequency is at least once per 24 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system.

ANSI N510-1980 will be used as a procedural guide for surveillance testing.

##### 4.7.7.c.1

This surveillance verifies that the system satisfies the in-place penetration and bypass leakage testing acceptance criterion of less than 0.05% in accordance with Regulatory Position C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, while operating the system at a flow rate of 1,120 cfm  $\pm$  20%. ANSI N510-1980 is used in lieu of ANSI N510-1975 referenced in the regulatory guide.

##### 4.7.7.c.2

This surveillance requires that a representative carbon sample be obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978 and that a laboratory analysis verify that the representative carbon sample meets the laboratory testing criteria of ASTM D3803-89 and Millstone Unit 3 specific parameters. The laboratory analysis is required to be performed within 31 days after removal of the sample. ANSI N510-1980 is used in lieu of ANSI N510-1975 referenced in Revision 2 of Regulatory Guide 1.52.

##### 4.7.7.c.3

This surveillance verifies that a system flow rate of 1,120 cfm  $\pm$  20%, during system operation when testing in accordance with ANSI N510-1980.

##### 4.7.7.d

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

## PLANT SYSTEMS

### BASES

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#### 3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)

##### SURVEILLANCE REQUIREMENTS (Continued)

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

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

##### 4.7.7.e.1

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

##### 4.7.7.e.2

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

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

## PLANT SYSTEMS

### BASES

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#### 3/4.7.7 CONTROL ROOM EMERGENCY VENTILATION SYSTEM (Continued)

##### SURVEILLANCE REQUIREMENTS (Continued)

During the first hour, the control room pressurization system creates and maintains the positive pressure in the control room. This capability is verified by Surveillance Requirement 4.7.8.C, independent of Surveillance Requirement 4.7.7.e.2. Furthermore, ACTIONS A.2 and B.1 of Limiting Condition for Operation 3.7.8 requires that an OPERABLE control room emergency air filtration system be initiated and maintained in the recirculation mode following both control room envelope pressurization systems becoming inoperable (e.g., a breach in the control room envelope). Running the control room air filtration system in the recirculation mode with the control room emergency pressurization inoperable would prohibit the ability to create and maintain a positive pressure in the control room envelope, because no source of air would be available to pressurize the control room envelope. A CBI signal will automatically align an operating filtration system into the recirculation mode of operation due to the isolation of the air supply line to the filter.

After the first hour of an event with the potential for a radiological release, the control room emergency ventilation system will be placed in service in either the recirculation mode (isolated from the outside environment) or filtered pressurization mode (outside air is diverted through the filters to the control room envelope to maintain a positive pressure). The mode of service for the control room emergency air filtration system will be based on the radiological conditions that exist outside the control room. Alignment to the filtered pressurization mode requires manual operator action to open the air supply line.

##### 4.7.7.e.3

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

##### 4.7.7.f

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

## PLANT SYSTEMS

### BASES

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#### 3/4.7.8 CONTROL ROOM ENVELOPE PRESSURIZATION SYSTEM (Continued)

#### SURVEILLANCE REQUIREMENTS (Continued)

##### 4.7.8.c

The performance of the control room envelope pressurization system should be checked periodically. The frequency is at least once per 24 months and following any major alteration of the control room envelope pressure boundary.

A major alteration is a change to the control room envelope pressure boundary that: (1) results in a breach greater than analyzed for acceptable pressurization and requires nonroutine work evolutions to restore the boundary. A nonroutine work evolution is one which makes it difficult to determine As-Found and As-Left conditions. Examples of routine work evolution include: (1) opening and closing a door, and (2) repairing cable and pipe penetrations because the repairs are conducted in accordance with procedures and are verified via inspections. For these two examples, there is a high level of assurance that the boundary is restored to the As-Found condition.

This surveillance requires at least once per 24 months or following a major alteration of the control room envelope pressure boundary by:

- Verifying the control room envelope is isolated in response to a Control Building Isolation Test signal,
- Verifying, after a 60 second time delay following a Control Building Isolation Test signal, the control room envelope pressurizes to greater than or equal to 0.125 inch water gauge relative to outside atmosphere; and
- Verifying the positive pressure of Technical Specification 4.7.8.c.2 is maintained for greater than or equal to 60 minutes.

Changes in conditions outside the control room envelope cause pressure spikes which are reflected on the differential pressure indicator, 3HVC-PDI 113.

Pressure spikes or fluctuations which result in the differential pressure momentarily dropped below the 0.125 inch water gauge acceptance criteria are acceptable providing the following conditions are met:

1. Differential pressure remains positive at all times.
2. Differential pressure is only transitorily below the acceptance criteria.
3. Differential pressure returns to a value above the acceptance criteria.