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U.S. Nuclear Regulatory Commission
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Brunswick Steam Electric Plant, Unit Nos. 1 and 2
Renewed Facility Operating License Nos. DPR-71 and DPR-62
Docket Nos. 50-325 and 50-324

Catawba Nuclear Station, Unit Nos. 1 and 2
Renewed Facility Operating License Nos. NPF-35 and NPF-52
Docket Nos. 50-413 and 50-414

Shearon Harris Nuclear Power Plant, Unit No. 1
Renewed Facility Operating License No. NPF-63
Docket No. 50-400

McGuire Nuclear Station, Unit Nos. 1 and 2
Renewed Facility Operating License Nos. NPF-9 and NPF-17
Docket Nos. 50-369 and 50-370

Oconee Nuclear Station, Unit Nos. 1, 2, and 3
Renewed Facility Operating License Nos. DPR-38, DPR-47, and DPR-55
Docket Numbers 50-269, 50-270, and 50-287

H. B. Robinson Steam Electric Plant, Unit No. 2
Renewed Facility Operating License No. DPR-23
Docket No. 50-261

Subject: Application to Revise Technical Specifications to Adopt TSTF-541, "Add Exceptions to Surveillance Requirements for Valves and Dampers Locked in the Actuated Position"

Pursuant to 10 CFR 50.90, Duke Energy Progress, LLC and Duke Energy Carolinas, LLC, collectively referred to as Duke Energy, is submitting a request for an amendment to the Technical Specifications (TS) for the Brunswick Steam Electric Plant, Unit Nos. 1 and 2; the Catawba Nuclear Station, Unit Nos. 1 and 2; the Shearon Harris Nuclear Power Plant, Unit No. 1; the McGuire Nuclear Station, Unit Nos. 1 and 2; the Oconee Nuclear Station, Unit Nos. 1, 2, and 3; and the H. B. Robinson Steam Electric Plant, Unit No. 2.

Duke Energy requests adoption of TSTF-541, "Add Exceptions to Surveillance Requirements for Valves and Dampers Locked in the Actuated Position," which is an approved change to the Standard Technical Specifications (STS). The proposed amendment modifies certain TS Surveillance Requirements (SRs) by adding exceptions to consider the SR met when automatic valves or dampers are locked, sealed, or otherwise secured in the actuated position, in order to consider the SR met. Securing the automatic valve or damper in the actuated position may affect the operability of the system or any supported systems. The associated Limiting Condition for Operation (LCO) is met if the subject structure, system or component (SSC) remains operable (i.e., capable of performing its specified safety function).

Enclosure 1 provides a description and assessment of the proposed changes. Enclosure 2 provides the existing TS pages marked up to show the proposed changes. Revised (clean) TS pages will be provided in support of issuance of the requested amendments. Enclosure 3 provides existing TS Bases pages marked to show the proposed changes, for information only.

Duke Energy requests that the amendment be reviewed under the Consolidated Line Item Improvement Process (CLIIP). Approval of the proposed amendment is requested within one year of completion of the NRC's acceptance review. Once approved, the amendment shall be implemented within 120 days.

This document contains no new regulatory commitments.

In accordance with 10 CFR 50.91, Duke Energy is providing a copy of the proposed license amendment to the designated representatives for the State of North Carolina and the State of South Carolina.

Please refer any questions regarding this submittal to Mr. Lee Grzeck, Manager - Nuclear Fleet Licensing (Acting), at (980) 373-1530.

I declare, under penalty of perjury, that the foregoing is true and correct. Executed on January 18, 2022.

Sincerely,

Shawn K. Gibby

Shawn Gibby
Vice President – Nuclear Engineering

MAT/mat

Enclosures:

1. Description and Assessment
2. Proposed Technical Specification Changes (Mark-Up)
3. Revised Technical Specification Bases Changes (Mark-Up)

cc:

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Description and Assessment

1.0 DESCRIPTION

Duke Energy Progress, LLC and Duke Energy Carolinas, LLC, collectively referred to as Duke Energy, requests adoption of TSTF-541, "Add Exceptions to Surveillance Requirements for Valves and Dampers Locked in the Actuated Position," which is an approved change to the Standard Technical Specifications (STS), into the Technical Specifications (TS) for the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2; the Catawba Nuclear Station (CNS), Unit Nos. 1 and 2; the Shearon Harris Nuclear Power Plant (HNP), Unit No. 1; the McGuire Nuclear Station (MNS), Unit Nos. 1 and 2; the Oconee Nuclear Station (ONS), Unit Nos. 1, 2, and 3; and the H. B. Robinson Steam Electric Plant (RNP), Unit No. 2. The proposed amendment modifies the TS Surveillance Requirements (SRs) by adding exceptions to consider the SR met when automatic valves or dampers are locked, sealed, or otherwise secured in the actuated position, in order to consider the SR met. Securing the automatic valve or damper in the actuated position may affect the operability of the system or of any supported systems. The associated Limiting Condition for Operation (LCO) is met if the subject structure, system, or component (SSC) remains operable (i.e., capable of performing its specified safety function).

The following SRs are affected by the proposed change:

<u>Brunswick Steam Electric Plant, Unit Nos. 1 and 2</u>

- SR 3.5.1.9, ECCS – Operating
- SR 3.5.2.6, Reactor Pressure Vessel Water Inventory Control
- SR 3.5.3.5, RCIC System
- SR 3.6.4.3.3, Standby Gas Treatment (SGT) System
- SR 3.7.2.5, Service Water (SW) System and Ultimate Heat Sink (UHS)
- SR 3.7.3.4, Control Room Emergency Ventilation (CREV) System

<u>Catawba Nuclear Station, Unit Nos. 1 and 2</u>

- SR 3.6.10.3, Annulus Ventilation System (AVS)
- SR 3.6.10.4, Annulus Ventilation System (AVS)
- SR 3.6.17.3, Containment Valve Injection Water System (CVIWS)
- SR 3.7.10.3, Control Room Area Ventilation System (CRAVS)
- SR 3.7.12.3, Auxiliary Building Filtered Ventilation Exhaust System (ABFVES)

<u>Shearon Harris Nuclear Power Plant, Unit No. 1</u>

- SR 4.6.2.1.c.1, Containment Spray System
- SR 4.6.2.1.c.3, Containment Spray System
- SR 4.6.2.2.c, Spray Additive System
- SR 4.7.3.b.1, Component Cooling Water System
- SR 4.7.3.b.3, Component Cooling Water System

- SR 4.7.4.b.1, Emergency Service Water System
- SR 4.7.6.d.2, Control Room Emergency Filtration System
- SR 4.7.13.b.1, Essential Services Chilled Water System

McGuire Nuclear Station, Unit Nos. 1 and 2

- SR 3.6.10.3, Annulus Ventilation System (AVS)
- SR 3.6.10.4, Annulus Ventilation System (AVS)
- SR 3.7.9.3, Control Room Area Ventilation System (CRAVS)
- SR 3.7.11.3, Auxiliary Building Filtered Ventilation Exhaust System (ABFVES)

Oconee Nuclear Station, Unit Nos. 1, 2, and 3

- SR 3.7.9.3, Control Room Ventilation System (CRVS) Booster Fans

H. B. Robinson Steam Electric Plant, Unit No. 2

- SR 3.6.8.4, Isolation Valve Seal Water (IVSW) System
- SR 3.7.9.3, Control Room Emergency Filtration System (CREFS)

While the proposed exceptions permit automatic valves and dampers that are locked, sealed, or otherwise secured in the actuated position to be excluded from the SR in order to consider the SR met, the proposed changes will not permit a system that is made inoperable by locking, sealing, or otherwise securing an automatic valve or damper in the actuated position to be considered operable. As discussed in the SR 3.0.1 Bases (4.0.1 Bases for HNP), nothing in this Specification, however, is to be construed as implying that systems or components are operable when the systems or components are known to be inoperable, although still meeting the SRs.

2.0 ASSESSMENT

2.1 Applicability of Safety Evaluation

Duke Energy has reviewed the safety evaluation for TSTF-541 provided to the Technical Specifications Task Force in a letter dated December 10, 2019. This review included a review of the NRC staff's evaluation, as well as the information provided in TSTF-541. Duke Energy has concluded that the justifications presented in TSTF-541 and the safety evaluation prepared by the NRC staff are applicable to BSEP, Unit Nos. 1 and 2; CNS, Unit Nos. 1 and 2; HNP, Unit No. 1; MNS, Unit Nos. 1 and 2; ONS, Unit Nos. 1, 2, and 3, and RNP, Unit No. 2, and justify this amendment for the incorporation of the changes to each plant's TS.

Duke Energy acknowledges that under the proposed change, the affected valves and dampers may be excluded from the SR when locked, sealed or otherwise secured in the actuated position. However, if the safety analysis assumes movement from the actuated position following an event, or the system is rendered inoperable by locking, sealing, or otherwise securing the valve or damper in the actuated position, then the

system cannot perform its specified safety function and is inoperable regardless of whether the SR is met.

Duke Energy acknowledges for components for which the SR allowance can be utilized, the SR must be verified to have been met within its required Frequency after removing the valve or damper from the locked, sealed or otherwise secured status. If the SR exception is utilized to not test the actuation of a valve or damper and the specified Frequency of the SR is exceeded without testing the component, the SR must be performed on the component when it is returned to service in order to meet the SR.

2.2 Variations

Duke Energy is proposing the following variations from the TS changes described in TSTF-541 or the applicable parts of the NRC staff's safety evaluation.

All of the Duke Energy plant TS contain a Surveillance Frequency Control Program. Therefore, the Frequency for the affected SRs is "In accordance with the Surveillance Frequency Control Program." This has no effect on the applicability of the proposed change.

Brunswick Steam Electric Plant, Unit Nos. 1 and 2

The BSEP TS utilize different numbering and titles than the STS on which TSTF-541 was based. The following table lists the differences. These differences are administrative and do not affect the applicability of TSTF-541 to the BSEP TS.

TSTF-541 SR	Title	BSEP SR	Title
3.5.1.10	ECCS – Operating	3.5.1.9	ECCS – Operating
3.7.2.6	[Plant Service Water (PSW)] System and [Ultimate Heat Sink (UHS)]	3.7.2.5	Service Water (SW) System and Ultimate Heat Sink (UHS)
3.7.4.3	[MCREC] System	3.7.3.4	Control Room Emergency Ventilation (CREV) System

The BSEP TS have incorporated TSTF-542, Revision 2, "Reactor Pressure Vessel Water Inventory Control," which had not been incorporated into the STS on which TSTF-541 was based. The changes in TSTF-541 are equally applicable to the new SR 3.5.2.7 added by TSTF-542. New TSTF-542 SR 3.5.2.8 does not appear in the BSEP TS. Therefore, the TSTF-541 allowance is added to SR 3.5.2.7.

The BSEP TS contain requirements that differ from the STS on which TSTF-541 was based, but these differences do not affect the applicability of the TSTF-541 justification.

Specifically, the BSEP TS does not contain an SR equivalent to NUREG-1433 SR 3.6.4.3.4, "Standby Gas treatment System." Therefore, no change is proposed.

Catawba Nuclear Station, Unit Nos. 1 and 2

The CNS TS utilize different numbering and titles than the STS on which TSTF-541 was based. The following table lists the differences. These differences are administrative and do not affect the applicability of TSTF-541 to the CNS TS.

TSTF-541 SR	Title	CNS SR	Title
3.6.13.3	Shield Building Air Cleanup System (SBACS)	3.6.10.3	Annulus Ventilation System (AVS)
3.6.13.4	Shield Building Air Cleanup System (SBACS)	3.6.10.4	Annulus Ventilation System (AVS)
3.7.10.3	Control Room Emergency Filtration System (CREFS)	3.7.10.3	Control Room Area Ventilation System (CRAVS)
3.7.12.3	ECCS Penetration Room Air Cleanup System	3.7.12.3	Auxiliary Building Filtered Ventilation Exhaust System (ABFVES)

The CNS TS contains an SR similar to those that are affected by TSTF-541, but that does not appear in the traveler. The justification in TSTF-541 is equally applicable to the proposed change to that SR.

- Specification 3.6.17, "Containment Valve Injection Water System (CVIWS)," is a plant-specific specification. The CVIWS provides a water seal to double disc gate valves during a loss of coolant accident (LOCA) to prevent leakage of containment atmosphere through the valves. The CVIWS injects water between the two seating surfaces of double disc gate valves. The injection pressure is higher than the containment design peak pressure during a LOCA. This prevents leakage of the containment atmosphere through the gate valves and reduces potential offsite doses following a postulated accident. During normal power operation, the system is in a standby mode and does not perform any function. During accident situations the CVIWS is activated.

  SR 3.6.17.3 states, "Verify each automatic valve actuates to its correct position on an actual or simulated actuation signal." It is revised to append to the phrase, "except for valves that are locked, sealed, or otherwise secured in the actuated

position." The proposed change is consistent with the changes in TSTF-541 and the justification in TSTF-541 is applicable.

The CNS TS contain requirements that differ from the STS on which TSTF-541 was based, but these differences do not affect the applicability of the TSTF-541 justification. Specifically, the CNS TS does not contain SRs equivalent to the following SRs affected by TSTF-541:

- SR 3.6.11.3, Iodine Cleanup System (ICS)
- SR 3.6.11.4, Iodine Cleanup System (ICS)
- SR 3.7.12.5, ECCS Penetration Room Air Cleanup System (ECCS PREACS)
- SR 3.7.13.3, Fuel Building Air Cleanup System (FBACS)
- SR 3.7.13.5, Fuel Building Air Cleanup System (FBACS)
- SR 3.7.14.3, Penetration Room Air Cleanup System (PREACS)
- SR 3.7.14.5, Penetration Room Air Cleanup System (PREACS)

Shearon Harris Nuclear Power Plant, Unit No. 1

The HNP TS are not based on the STS (NUREG-1431). As a result, the HNP TS utilize different numbering and titles than the STS on which TSTF-541 was based. The following table lists the differences. These differences are administrative and do not affect the applicability of TSTF-541 to the HNP TS.

TSTF-541 SR	Title	HNP SR	Title
3.7.10.3	Control Room Emergency Filtration System (CREFS)	4.7.6.d.2	Control Room Emergency Filtration System

The HNP TS contains a SR similar to those that are affected by TSTF-541, but that does not appear in the traveler. There are SRs in the STS that have an exception for valves and dampers that are locked, sealed, or otherwise secured in the actuated position and, therefore, TSTF-541 did not alter those SRs. The equivalent Harris TS SRs do not have this exception and, therefore, the TSTF-541 changes are applicable. The proposed changes are consistent with the changes in TSTF-541 and the justification in TSTF-541 is applicable. The affected SRs are:

HNP SR	Title	Equivalent STS SR	Title
4.6.2.1.c.1	Containment Spray System	3.6.6.5	Containment Spray and Cooling System
4.6.2.1.c.3	Containment Spray System	3.6.6.5	Containment Spray and Cooling System

HNP SR	Title	Equivalent STS SR	Title
4.6.2.2.c	Spray Additive System	3.6.7.4	Spray Additive System
4.7.3.b.1	Component Cooling Water System	3.7.7.2	Component Cooling Water
4.7.3.b.3	Component Cooling Water System	3.7.7.2	Component Cooling Water
4.7.4.b.1	Emergency Service Water System	3.7.8.2	Service Water System

The HNP TS contains a SR similar to those that are affected by TSTF-541, but that does not appear in the traveler. The justification in TSTF-541 is equally applicable to the proposed change to that SR.

- Specification 3.7.13, "Essential Services Chilled Water System," is a plant-specific specification. The Essential Service Chilled Water System ensures that sufficient cooling capacity is available for continued operation of safety related equipment during normal and accident conditions. The Westinghouse plant STS has no equivalent TS, but the HNP TS is similar to TS 3.7.8, "Service Water System."

  HNP SR 4.7.13.b.1 requires demonstration that, "Non-essential portions of the system are automatically isolated upon receipt of a Safety Injection actuation signal." It is revised to append to the phrase, "except for valves that are locked, sealed, or otherwise secured in the actuated position." The proposed change is consistent with the changes in TSTF-541 and the justification in TSTF-541 is applicable.

The HNP TS contain requirements that differ from the STS on which TSTF-541 was based, but these differences do not affect the applicability of the TSTF-541 justification. Specifically, the HNP TS does not contain SRs equivalent to the following SRs affected by TSTF-541:

- SR 3.6.11.3, Iodine Cleanup System (ICS)
- SR 3.6.11.4, Iodine Cleanup System (ICS)
- SR 3.6.13.3, Shield Building Are Cleanup System (SBACS)
- SR 3.6.13.4, Shield Building Are Cleanup System (SBACS)
- SR 3.7.12.3, ECCS Penetration Room Air Cleanup System (ECCS PREACS)
- SR 3.7.12.5, ECCS Penetration Room Air Cleanup System (ECCS PREACS)
- SR 3.7.13.3, Fuel Building Air Cleanup System (FBACS)
- SR 3.7.13.5, Fuel Building Air Cleanup System (FBACS)
- SR 3.7.14.3, Penetration Room Air Cleanup System (PREACS)
- SR 3.7.14.5, Penetration Room Air Cleanup System (PREACS)

McGuire Nuclear Station, Unit Nos. 1 and 2

The MNS TS utilize different numbering and titles than the STS on which TSTF-541 was based. The following table lists the differences. These differences are administrative and do not affect the applicability of TSTF-541 to the MNS TS.

TSTF-541 SR	Title	MNS SR	Title
3.6.13.3	Shield Building Air Cleanup System (SBACS)	3.6.10.3	Annulus Ventilation System (AVS)
3.6.13.4	Shield Building Air Cleanup System (SBACS)	3.6.10.4	Annulus Ventilation System (AVS)
3.7.10.3	Control Room Emergency Filtration System (CREFS)	3.7.9.3	Control Room Area Ventilation System (CRAVS)
3.7.12.3	ECCS Penetration Room Air Cleanup System	3.7.11.3	Auxiliary Building Filtered Ventilation Exhaust System (ABFVES)

The MNS TS contain requirements that differ from the STS on which TSTF-541 was based, but these differences do not affect the applicability of the TSTF-541 justification. Specifically, the MNS TS does not contain SRs equivalent to the following SRs affected by TSTF-541:

- SR 3.6.11.3, Iodine Cleanup System (ICS)
- SR 3.6.11.4, Iodine Cleanup System (ICS)
- SR 3.7.12.5, ECCS Penetration Room Air Cleanup System (ECCS PREACS)
- SR 3.7.13.3, Fuel Building Air Cleanup System (FBACS)
- SR 3.7.13.5, Fuel Building Air Cleanup System (FBACS)
- SR 3.7.14.3, Penetration Room Air Cleanup System (PREACS)
- SR 3.7.14.5, Penetration Room Air Cleanup System (PREACS)

Oconee Nuclear Station, Unit Nos. 1, 2, and 3

The ONS TS utilize different numbering and titles than the STS on which TSTF-541 was based. The following table lists the differences. These differences are administrative and do not affect the applicability of TSTF-541 to the ONS TS.

TSTF-541 SR	Title	ONS SR	Title
3.7.10.3	Control Room Emergency Ventilation System (CREVS)	3.7.9.3	Control Room Ventilation System (CRVS) Booster Fans

The ONS TS contain requirements that differ from the STS on which TSTF-541 was based, but these differences do not affect the applicability of the TSTF-541 justification. The proposed ONS SR 3.7.9.3 and the associated Bases refer only to automatic dampers, not automatic valves and dampers as in TSTF-541. The ONS CRVS Booster Fans components tested by the SR do not include valves. This difference does not affect the applicability of the TSTF-541 justification.

The ONS TS contain requirements that differ from the STS on which TSTF-541 was based, but these differences do not affect the applicability of the TSTF-541 justification. Specifically, the ONS TS does not contain SRs equivalent to the following SRs affected by TSTF-541:

- SR 3.6.7.4, Spray Additive System
- SR 3.7.12.3, Emergency Ventilation System (EVS)
- SR 3.7.12.5, Emergency Ventilation System (EVS)
- SR 3.7.13.3, Fuel Storage Pool Ventilation System (FSPVS)
- SR 3.7.13.5, Fuel Storage Pool Ventilation System (FSPVS)

H. B. Robinson Steam Electric Plant, Unit No. 2

The RNP TS utilize different numbering and titles than the STS on which TSTF-541 was based. The following table lists the differences. These differences are administrative and do not affect the applicability of TSTF-541 to the RNP TS.

TSTF-541 SR	Title	RNP SR	Title
3.7.10.3	Control Room Emergency Filtration System (CREFS)	3.7.9.3	Control Room Emergency Filtration System (CREFS)

The RNP TS contains an SR similar to those that are affected by TSTF-541, but that does not appear in the traveler. The justification in TSTF-541 is equally applicable to the proposed change to that SR.

- Specification 3.6.8, "Isolation Valve Seal Water (IVSW) System," is a plant-specific specification. The IVSW System assures the effectiveness of certain containment isolation valves during any condition which requires containment isolation, by providing a water seal at the valves. The system provides a reliable means for injecting seal water between the seats and stem packing of the globe and double

disc types of isolation valves, and into the piping between other closed isolation valves. The system provides assurance that, should an accident occur, the containment leak rate is no greater than that assumed in the accident analysis.

SR 3.6.8.4 states, "Verify each automatic valve in the IVSW System actuates to the correct position on an actual or simulated actuation signal." It is revised to append to the phrase, "except for valves that are locked, sealed, or otherwise secured in the actuated position." The proposed change is consistent with the changes in TSTF-541 and the justification in TSTF-541 is applicable.

The RNP TS contain requirements that differ from the STS on which TSTF-541 was based, but these differences do not affect the applicability of the TSTF-541 justification. Specifically, the RNP TS does not contain SRs equivalent to the following SRs affected by TSTF-541:

- SR 3.6.11.3, Iodine Cleanup System (ICS)
- SR 3.6.11.4, Iodine Cleanup System (ICS)
- SR 3.6.13.3, Shield Building Air Cleanup System (SBACS)
- SR 3.6.13.4, Shield Building Air Cleanup System (SBACS)
- SR 3.7.12.4, ECCS Penetration Room Air Cleanup System (ECCS PREACS)
- SR 3.7.12.5, ECCS Penetration Room Air Cleanup System (ECCS PREACS)
- SR 3.7.13.3, Fuel Building Air Cleanup System (FBACS)
- SR 3.7.13.5, Fuel Building Air Cleanup System (FBACS)
- SR 3.7.14.3, Penetration Room Air Cleanup System (PREACS)
- SR 3.7.14.5, Penetration Room Air Cleanup System (PREACS)

2.3 Licensee Verifications

Duke Energy confirms that existing administrative processes, such as the Corrective Action Program, Operability Determination process, the maintenance, design control, configuration control, and operating procedures, will be used to assess the operability of the system or of any supported systems when utilizing the SR allowances, which includes consideration of whether movement of the affected valves or dampers following an event is assumed in the safety analysis.

3.0 REGULATORY ANALYSIS

3.1 No Significant Hazards Consideration Determination

Duke Energy Progress, LLC and Duke Energy Carolinas, LLC, collectively referred to as Duke Energy, requests adoption of TSTF-541, "Add Exceptions to Surveillance Requirements for Valves and Dampers Locked in the Actuated Position," which is an approved change to the Standard Technical Specifications (STS), into the Technical Specifications (TS) for the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2; the Catawba Nuclear Station (CNS), Unit Nos. 1 and 2; the Shearon Harris Nuclear Power Plant (HNP), Unit No. 1; the McGuire Nuclear Station (MNS), Unit Nos. 1 and 2;

the Oconee Nuclear Station (ONS), Unit Nos. 1, 2, and 3; and the H. B. Robinson Steam Electric Plant (RNP), Unit No. 2. The proposed amendment modifies the TS Surveillance Requirements (SRs) by adding exceptions to consider the SR met when automatic valves or dampers are locked, sealed, or otherwise secured in the actuated position, in order to consider the SR met. Securing the automatic valve or damper in the actuated position may affect the operability of the system or of any supported systems. The associated Limiting Condition for Operation (LCO) is met if the subject structure, system, or component (SSC) remains operable (i.e., capable of performing its specified safety function).

Duke Energy has evaluated whether or not a significant hazards consideration is involved with the proposed amendment(s) by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No

   The proposed change revises SRs by adding exceptions excluding from actuation and isolation time testing those valves and dampers that are locked, sealed, or otherwise secured in the actuated position. The performance or lack of performance of SRs is not an initiator of any accident previously evaluated. As a result, the proposed change has no effect on the probability of any accident previously evaluated. The proposed change excludes performance of portions of certain SRs, but the SSC must still be capable of performing the safety functions assumed in the accident analysis. Otherwise, the SSC is inoperable, and the associated TS Actions are followed. As a result, the SSCs continue to perform their mitigating functions and the consequences of any accident previously evaluated are not affected.

   Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No

   The proposed change revises SRs by adding exceptions excluding from actuation and isolation time testing those valves and dampers that are locked, sealed, or otherwise secured in the actuated position. The proposed change will not change the design function or operability requirements of the affected SSCs. The SSC must still be capable of performing the safety functions assumed in the accident analysis or the SSC is inoperable, and the associated TS Actions are followed. The proposed change does not create any credible new failure

mechanisms, malfunctions, or accident initiators not considered in the design and licensing bases.

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

3. Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No

The proposed change revises SRs by adding exceptions excluding from actuation and isolation time testing those valves and dampers that are locked, sealed, or otherwise secured in the actuated position. The proposed change does not alter the manner in which safety limits, limiting safety system settings or limiting conditions for operation are determined. The safety analysis assumptions and acceptance criteria are not affected by this change.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, Duke Energy concludes that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

3.2 Conclusion

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission’s regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

4. ENVIRONMENTAL CONSIDERATION

The proposed change would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed change.

Proposed Technical Specification Changes (Mark-Up)

BSEP, Unit No. 1
Proposed Technical Specification Changes (Mark-Up)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.1.9	----------NOTE---------- Vessel injection/spray may be excluded. ---------- Verify each ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal, except for valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program
SR 3.5.1.10	----------NOTE---------- Valve actuation may be excluded. ---------- Verify the ADS actuates on an actual or simulated automatic initiation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.5.1.11	----------NOTE---------- Not required to be performed until 12 hours after reactor steam pressure is adequate to perform the test. ---------- Verify each required ADS valve is capable of being opened.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.5.1.12	----------NOTE---------- Instrumentation response time may be assumed to be the design instrumentation response time. ---------- Verify the ECCS RESPONSE TIME for each ECCS injection/spray subsystem is within the limit.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.2.6	Verify each valve credited for automatically isolating a penetration flow path actuates to the isolation position on an actual or simulated isolation signal, except for valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program
SR 3.5.2.7	----------NOTE---------- Vessel injection/spray may be excluded. ---------- Verify the required ECCS injection/spray subsystem can be manually operated.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.3.4	----------NOTES---------- 1. Use of auxiliary steam for the performance of the SR is not allowed with reactor pressure ≥ 150 psig. 2. Not required to be performed until 24 hours after reactor steam pressure is adequate to perform the test. ----------	
	Verify, with turbine inlet pressure ≥ 135 psig and ≤ 165 psig, the RCIC pump can develop a flow rate ≥ 400 gpm against a system head corresponding to an equivalent reactor pressure.	In accordance with the Surveillance Frequency Control Program
SR 3.5.3.5	----------NOTE---------- Vessel injection may be excluded. ----------	
	Verify the RCIC System actuates on an actual or simulated automatic initiation signal, except for valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Two SGT subsystems inoperable during movement of recently irradiated fuel assemblies in the secondary containment.	E.1 ----------NOTE---------- LCO 3.0.3 is not applicable. ---------- Suspend movement of recently irradiated fuel assemblies in secondary containment.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.3.1	Operate each SGT subsystem for ≥ 15 continuous minutes with heaters operating.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.3.2	Perform required SGT filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.6.4.3.3	Verify each SGT subsystem actuates on an actual or simulated initiation signal, except for dampers that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.2.5	----------NOTE---------- Isolation of flow to individual components does not render SW System inoperable. ----------	
	Verify each required SW System automatic component actuates on an actual or simulated initiation signal, except for valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.3.3	Perform required CRE unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.	In accordance with the Control Room Envelope Habitability Program
SR 3.7.3.4	Verify each CREV subsystem actuates on an actual or simulated initiation signal, except for valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program

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SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.1.9	----------NOTE---------- Vessel injection/spray may be excluded. ---------- Verify each ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal, except for valves that are locked, sealed, or otherwise secured in the actuated position..	In accordance with the Surveillance Frequency Control Program
SR 3.5.1.10	----------NOTE---------- Valve actuation may be excluded. ---------- Verify the ADS actuates on an actual or simulated automatic initiation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.5.1.11	----------NOTE---------- Not required to be performed until 12 hours after reactor steam pressure is adequate to perform the test. ---------- Verify each required ADS valve is capable of being opened.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.5.1.12	----------NOTE---------- Instrumentation response time may be assumed to be the design instrumentation response time. ---------- Verify the ECCS RESPONSE TIME for each ECCS injection/spray subsystem is within the limit.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.2.6	Verify each valve credited for automatically isolating a penetration flow path actuates to the isolation position on an actual or simulated isolation signal, except for valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program
SR 3.5.2.7	----------NOTE---------- Vessel injection/spray may be excluded. ---------- Verify the required ECCS injection/spray subsystem can be manually operated.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.3.4	----------NOTES---------- 1. Use of auxiliary steam for the performance of the SR is not allowed with reactor pressure ≥ 150 psig. 2. Not required to be performed until 24 hours after reactor steam pressure is adequate to perform the test. ----------	
	Verify, with turbine inlet pressure ≥ 135 psig and ≤ 165 psig, the RCIC pump can develop a flow rate ≥ 400 gpm against a system head corresponding to an equivalent reactor pressure.	In accordance with the Surveillance Frequency Control Program
SR 3.5.3.5	----------NOTE---------- Vessel injection may be excluded. ----------	
	Verify the RCIC System actuates on an actual or simulated automatic initiation signal, except for valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Two SGT subsystems inoperable during movement of recently irradiated fuel assemblies in the secondary containment.	E.1 ----------NOTE---------- LCO 3.0.3 is not applicable. ---------- Suspend movement of recently irradiated fuel assemblies in secondary containment.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.3.1	Operate each SGT subsystem for ≥ 15 continuous minutes with heaters operating.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.3.2	Perform required SGT filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.6.4.3.3	Verify each SGT subsystem actuates on an actual or simulated initiation signal, except for dampers that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.2.5	----------NOTE---------- Isolation of flow to individual components does not render SW System inoperable. ----------	
	Verify each required SW System automatic component actuates on an actual or simulated initiation signal, except for valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.3.3	Perform required CRE unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.	In accordance with the Control Room Envelope Habitability Program
SR 3.7.3.4	Verify each CREV subsystem actuates on an actual or simulated initiation signal, except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program

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SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.10.1	Operate each AVS train for ≥ 15 continuous minutes.	In accordance with the Surveillance Frequency Control Program
SR 3.6.10.2	Perform required AVS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.6.10.3	Verify each AVS train actuates on an actual or simulated actuation signal, except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program
SR 3.6.10.4	Verify each AVS filter cooling bypass valve can be opened, except for valves that are locked, sealed, or otherwise secured in the open position.	In accordance with the Surveillance Frequency Control Program
SR 3.6.10.5	Verify each AVS train flow rate is ≥ 8100 cfm and ≤ 9900 cfm.	In accordance with the Surveillance Frequency Control Program
SR 3.6.10.6	Verify each AVS train produces a pressure equal to or more negative than -0.88 inch water gauge when corrected to elevation 564 feet.	In accordance with the Surveillance Frequency Control Program

3.6 CONTAINMENT SYSTEMS

3.6.17 Containment Valve Injection Water System (CVIWS)

LCO 3.6.17 Two CVIWS trains shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CVIWS train inoperable.	A.1 Restore CVIWS train to OPERABLE status.	7 days
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.17.1 Verify system surge tanks pressure is ≥ 36.4 psig.	31 days
SR 3.6.17.2 Verify valve injection flow rate is < 1.29 gpm (Unit 1) < 1.21 gpm (Unit 2) for Train A and < 1.16 gpm for Train B with a surge tank pressure ≥ 36.4 psig.	18 months
SR 3.6.17.3 Verify each automatic valve actuates to its correct position on an actual or simulated actuation signal, except for valves that are locked, sealed, or otherwise secured in the actuated position.	18 months

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.10.1	Operate each CRAVS train for ≥ 15 continuous minutes.	In accordance with the Surveillance Frequency Control Program
SR 3.7.10.2	Perform required CRAVS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with VFTP
SR 3.7.10.3	Verify each CRAVS train actuates on an actual or simulated actuation signal, except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.10.4	Perform required CRE unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.	In accordance with the Control Room Envelope Habitability Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.12.1	Operate each ABFVES train for ≥ 15 continuous minutes.	In accordance with the Surveillance Frequency Control Program
SR 3.7.12.2	Perform required ABFVES filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.12.3	Verify each ABFVES train actuates on an actual or simulated actuation signal, except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.12.4	Verify one ABFVES train can maintain the ECCS pump rooms at negative pressure relative to adjacent areas.	In accordance with the Surveillance Frequency Control Program

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LIMITING CONDITION FOR OPERATION

3.6.2.1 Two independent Containment Spray Systems shall be OPERABLE with each Spray System capable of taking suction from the RWST and transferring suction to the containment sump.

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

ACTION:

With one Containment Spray System inoperable, restore the inoperable Spray System to OPERABLE status within 72 hours** or in accordance with the Risk-Informed Completion Time Program or be in at least HOT STANDBY within the next 6 hours; restore the inoperable Spray System to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours. Refer also to Specification 3.6.2.3 Action.

---NOTE---

**One Containment Spray System train is allowed to be inoperable for a total of 7 days to allow for maintenance on the Essential Services Chilled Water System and air handlers supported by the Essential Services Chilled Water System. Prior to exceeding 72 hours, the compensatory measures described in HNP LAR correspondence letter RA-19-0007 shall be implemented.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each Containment Spray System shall be demonstrated OPERABLE:

a. At the frequency specified in the Surveillance Frequency Control Program 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, on an indicated recirculation flow of at least 1832 gpm, each pump develops a differential pressure of greater than or equal to 186 psi when tested pursuant to the INSERVICE TESTING PROGRAM;

c. At the frequency specified in the Surveillance Frequency Control Program by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on a containment spray actuation test signal, except for valves that are locked, sealed, or otherwise secured in the actuated position, and

2. Verifying that each spray pump starts automatically on a containment spray actuation test signal.

3. Verifying that, coincident with an indication of containment spray pump running, each automatic valve from the sump and RWST actuates to its appropriate position following an RWST Lo-Lo test signa, except for valves that are locked, sealed, or otherwise secured in the actuated position.

d. At the frequency specified in the Surveillance Frequency Control Program by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

e. At the frequency specified in the Surveillance Frequency Control Program by verifying that containment spray locations susceptible to gas accumulation are sufficiently filled with water.

* Not required to be met for system vent flow paths opened under administrative control.

LIMITING CONDITION FOR OPERATION

3.6.2.2 The Spray Additive System shall be OPERABLE with:

a. A Spray Additive Tank containing a volume of between 3268 and 3768 gallons of between 27 and 29 weight % of NaOH solution, and

b. Two spray additive eductors each capable of adding NaOH solution from the chemical additive tank to a Containment Spray System pump flow.

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

ACTION:

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

SURVEILLANCE REQUIREMENTS

4.6.2.2 The Spray Additive System shall be demonstrated OPERABLE:

a. At the frequency specified in the Surveillance Frequency Control Program 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. At the frequency specified in the Surveillance Frequency Control Program by:

1. Verifying the contained solution volume in the tank, and

2. Verifying the concentration of the NaOH solution by chemical analysis.

c. At the frequency specified in the Surveillance Frequency Control Program by verifying that each automatic valve in the flow path actuates to its correct position on a containment spray or containment isolation phase A test signal as applicable; except for valves that are locked, sealed, or otherwise secured in the actuated position, and

d. At the frequency specified in the Surveillance Frequency Control Program by verifying each eductor flow rate is between 17.2 and 22.2 gpm, using the RWST as the test source containing at least 436,000 gallons of water.

3/4.7.3 COMPONENT COOLING WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.3 At least two component cooling water (CCW) pumps*, heat exchangers and essential flow paths shall be OPERABLE.

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

ACTION:

With only one component cooling water flow path OPERABLE, restore at least two flow paths to OPERABLE status within 72 hours or in accordance with the Risk-Informed Completion Time Program or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.3 At least two component cooling water flow paths shall be demonstrated OPERABLE:

a. At the frequency specified in the Surveillance Frequency Control Program 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 the frequency specified in the Surveillance Frequency Control Program by verifying that:

1. Each automatic valve servicing safety-related equipment or isolating non-safety-related components actuates to its correct position on a Safety Injection test signal, except for valves that are locked, sealed, or otherwise secured in the actuated position, and

2. Each Component Cooling Water System pump required to be OPERABLE starts automatically on a Safety Injection test signal.

3. Each automatic valve serving the gross failed fuel detector and sample system heat exchangers actuates to its correct position on a Low Surge Tank Level test signal, except for valves that are locked, sealed, or otherwise secured in the actuated position.

* The breaker for CCW pump 1C-SAB shall not be racked into either power source (SA or SB) unless the breaker from the applicable CCW pump (1A-SA or 1B-SB) is racked out.

3/4.7.4 EMERGENCY SERVICE WATER SYSTEM

LIMITING CONDITION FOR OPERATION

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

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

ACTION:

With only one emergency service water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours* or in accordance with the Risk-Informed Completion Time Program or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

----------NOTE----------

*The 'B' Train emergency service water loop is allowed to be inoperable for a total of 7 days to allow for maintenance on the Essential Services Chilled Water System and air handlers supported by the Essential Services Chilled Water System. Prior to exceeding 72 hours, the compensatory measures described in HNP LAR correspondence letter RA-19-0007 shall be implemented.

SURVEILLANCE REQUIREMENTS

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

a. At the frequency specified in the Surveillance Frequency Control Program 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 the frequency specified in the Surveillance Frequency Control Program by verifying that:

1. Each automatic valve servicing safety-related equipment or isolating non-safety portions of the system actuates to its correct position on a Safety Injection test signal, except for valves that are locked, sealed, or otherwise secured in the actuated position, and

2. Each emergency service water pump and each emergency service water booster pump starts automatically on a Safety Injection test signal.

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, has a methyl iodide penetration of ≤0.5% when tested at a temperature of 30°C and at a relative humidity of 95% in accordance with ASTM D3803 -1989.

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, has a methyl iodide penetration of ≤0.5% when tested at a temperature of 30°C and at a relative humidity of 95% in accordance with ASTM D3803-1989.

d. At the frequency specified in the Surveillance Frequency Control Program by:

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 5.1 inches water gauge while operating the system at a flow rate of 4000 cfm ± 10%;

2. Verifying that, on either a Safety Injection or a High Radiation test signal, the system automatically switches into an isolation with recirculation mode of operation with flow through the HEPA filters and charcoal adsorber banks, except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position;

3. Deleted.

4. Deleted.

5. Deleted.

e. After each complete or partial replacement of a HEPA filter bank, by verifying that the unit 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 4000 cfm ± 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 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 4000 cfm ± 10%.

g. Perform required CRE unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.

3/4.7.13 ESSENTIAL SERVICES CHILLED WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.13 At least two independent Essential Services Chilled Water System loops shall be OPERABLE.

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

ACTION:

With only one Essential Services Chilled Water System loop OPERABLE, restore at least two loops to OPERABLE status within 7 days* or in accordance with the Risk-Informed Completion Time Program or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.13 The Essential Services Chilled Water System shall be demonstrated OPERABLE by:

a. Performance of surveillances as required by the INSERVICE TESTING PROGRAM, and

b. At the frequency specified in the Surveillance Frequency Control Program by demonstrating that:

1. Non-essential portions of the system are automatically isolated upon receipt of a Safety Injection actuation signal, except for valves that are locked, sealed, or otherwise secured in the actuated position, and

2. The system starts automatically on a Safety Injection actuation signal.

*Prior to exceeding 72 hours, the compensatory measures described in HNP LAR correspondence letter RA-19-0007 shall be implemented.

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Proposed Technical Specification Changes (Mark-Up)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.10.1	Operate each AVS train for ≥ 15 continuous minutes.	In accordance with the Surveillance Frequency Control Program
SR 3.6.10.2	Perform required AVS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.6.10.3	Verify each AVS train actuates on an actual or simulated actuation signal, except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program
SR 3.6.10.4	Verify each AVS filter cooling bypass valve can be opened, except for valves that are locked, sealed, or otherwise secured in the open position.	In accordance with the Surveillance Frequency Control Program
SR 3.6.10.5	Verify each AVS train flow rate is ≥ 7200 cfm and ≤ 8800 cfm.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.9.1	Operate each CRAVS train for ≥ 15 continuous minutes.	In accordance with the Surveillance Frequency Control Program
SR 3.7.9.2	Perform required CRAVS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.9.3	Verify each CRAVS train actuates on an actual or simulated actuation signal, except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.9.4	Perform required CRE unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.	In accordance with the Control Room Envelope Habitability Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.11.1	Operate each ABFVES for ≥ 15 minutes.	In accordance with the Surveillance Frequency Control Program
SR 3.7.11.2	Perform required ABFVES filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.11.3	Verify each ABFVES actuates on an actual or simulated actuation signal, except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.11.4	Verify one ABFVES can maintain a pressure ≤ -0.125 inches water gauge in the ECCS pump room area relative to atmospheric pressure during the post accident mode of operation.	In accordance with the Surveillance Frequency Control Program

ONS, Unit Nos. 1, 2, and 3
Proposed Technical Specification Changes (Mark-Up)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. Two CRVS Booster Fan trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B.	F.1 Restore one CRVS Booster Fan train to OPERABLE status.	24 hours
G. Required Action and associated Completion Time of Condition F not met.	G.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.9.1	Operate each CRVS Booster Fan train for ≥ 1 hour.	In accordance with the Surveillance Frequency Control Program
SR 3.7.9.2	Perform required CRVS Booster Fan train filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.9.3	Verify the control room isolates on a manual actuation signal, except for dampers that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.9.4	Perform required CRE unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.	In accordance with the Control Room Envelope Habitability Program

(continued)

RNP, Unit No. 2
Proposed Technical Specification Changes (Mark-Up)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.8.3	Verify the opening time of each air operated header injection valve is within limits.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.6.8.4	Verify each automatic valve in the IVSW System actuates to the correct position on an actual or simulated actuation signal, except for valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program
SR 3.6.8.5	Verify the IVSW dedicated nitrogen bottles will pressurize the IVSW tank to ≥ 46.2 psig.	In accordance with the Surveillance Frequency Control Program
SR 3.6.8.6	Verify total IVSW seal header flow rate is ≤ 124 cc/minute	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
H. Required Action and associated Completion Time of Condition G not met in MODE 1, 2, 3, or 4.	H.1 Be in MODE 3. AND H.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.9.1	Operate each CREFS train for ≥ 15 minutes.	In accordance with the Surveillance Frequency Control Program
SR 3.7.9.2	Perform required CREFS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with VFTP
SR 3.7.9.3	Verify each CREFS train actuates on an actual or simulated actuation signal, except for dampers and valves that are locked, sealed, or otherwise secured in the actuated position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.9.4	Perform required CRE maintenance and testing in accordance with the CRE Habitability Program.	In accordance with the CRE Habitability Program

Revised Technical Specification Bases Changes
(Mark-Up)

BSEP, Unit No. 1
Revised Technical Specification Bases Changes (Mark-Up)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.5.1.6, SR 3.5.1.7, and SR 3.5.1.8 (continued)

Therefore, SR 3.5.1.7 and SR 3.5.1.8 are modified by Notes that state the Surveillances are not required to be performed until 48 hours after the reactor steam pressure is adequate to perform the test.

The Surveillance Frequencies are controlled under the Surveillance Frequency Control Program.

SR 3.5.1.9

The ECCS subsystems are required to actuate automatically to perform their design functions. This Surveillance verifies that, with a required system initiation signal (actual or simulated), the automatic initiation logic of HPCI, CS, and LPCI will cause the systems or subsystems to operate as designed, including actuation of the system throughout its emergency operating sequence, automatic pump startup and actuation of all automatic valves to their required positions. This SR also ensures that the HPCI System will automatically restart on an RPV low water level signal received subsequent to an RPV high water level trip and that the suction is automatically transferred from the CST to the suppression pool on a CST low level signal or a suppression pool high water level signal. The SR excludes automatic valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to valves that are locked, sealed, or otherwise secured in the actuated position since the affected valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve to the non-actuated position requires verification that the SR has been met within its required Frequency. The LOGIC SYSTEM FUNCTIONAL TEST performed in LCO 3.3.5.1, "ECCS Instrumentation," overlaps this Surveillance to provide complete testing of the assumed safety function.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

This SR is modified by a Note that excludes vessel injection/spray during the Surveillance. Since all active components are testable and full flow can be demonstrated by recirculation through the test line, coolant injection into the RPV is not required during the Surveillance.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.5.2.2 and SR 3.5.2.3 (continued)

The required CS System is OPERABLE only if it can take suction from the CST and the CST contains a total volume, which includes both usable and unusable volumes, of ≥ 228,200 gallons of water, ensures that the CS System can supply at least 50,000 gallons of makeup water to the RPV. CS System air ingestion is expected to occur at the level which corresponds to a CST volume of 178,200 gallons.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.5.2.4

The flow path piping has the potential to develop voids and pockets of entrained air. Maintaining the pump discharge lines of the required ECCS injection/spray subsystems full of water ensures that the ECCS subsystem will perform properly. This may also prevent a water hammer following an ECCS actuation. One acceptable method of ensuring that the lines are full is to vent at the high points. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.5.2.5

Verifying that the required ECCS injection/spray subsystem can be manually aligned, and the pump started and operated for at least 10 minutes demonstrates that the subsystem is available to mitigate a draining event. This SR is modified by two Notes. Note 1 states that testing the ECCS injection/spray subsystem may be done through the test return line to avoid overfilling the refueling cavity. Note 2 states that credit for meeting the SR may be taken for normal system operation that satisfies the SR, such as using the RHR mode of LPCI for ≥ 10 minutes. The minimum operating time of 10 minutes was based on engineering judgment. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.5.2.6

Verifying that each valve credited for automatically isolating a penetration flow path actuates to the isolation position on an actual or simulated RPV water level isolation signal is required to prevent RPV water inventory from dropping below the TAF should an unexpected draining event occur. The SR excludes automatic valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to valves that are locked, sealed, or otherwise secured in the actuated position since the affected valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve to the non-actuated position requires verification that the

SR has been met within its required Frequency. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.5.3.3 and SR 3.5.3.4 (continued)

The Surveillance Frequencies are controlled under the Surveillance Frequency Control Program.

SR 3.5.3.5

The RCIC System is required to actuate automatically in order to verify its design function satisfactorily. This Surveillance verifies that, with a required system initiation signal (actual or simulated), the automatic initiation logic will cause the system to operate as designed, including actuation of the system throughout its emergency operating sequence; that is, automatic pump startup and actuation of all automatic valves to their required positions. This SR also ensures the RCIC System will automatically restart on an RPV low water level signal received subsequent to an RPV high water level trip and that the suction is automatically transferred from the CST to the suppression pool on a CST low level signal. The SR excludes automatic valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to valves that are locked, sealed, or otherwise secured in the actuated position since the affected valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve to the non-actuated position requires verification that the SR has been met within its required Frequency. The LOGIC SYSTEM FUNCTIONAL TEST performed in LCO 3.3.5.2, "Reactor Core Isolation Cooling (RCIC) System Instrumentation," overlaps this Surveillance to provide complete testing of the assumed design function.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

This SR is modified by a Note that excludes vessel injection during the Surveillance. Since all active components are testable and full flow can be demonstrated by recirculation through the test line, coolant injection into the RPV is not required during the Surveillance.

REFERENCES

1. UFSAR, Section 3.1.2.4.4.
2. UFSAR, Section 5.4.6.
3. 10 CFR 50.36(c)(2)(ii).
4. NEDC-32988-A, Revision 2, Technical Justification to Support Risk-Informed Modification to Selected Required End States for BWR Plants, December 2002.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.4.3.2

This SR verifies that the required SGT filter testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The SGT System filter tests are in accordance with Regulatory Guide 1.52 (Ref. 6), except as specified in Specification 5.5.7, "Ventilation Filter Testing Program (VFTP)". The VFTP includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). It is noted that, per the basis provided by ESR 99-00055 (Ref. 7), system flow rate is determined using installed calibrated flow orifice plates. Specific test frequencies and additional information are discussed in detail in the VFTP.

SR 3.6.4.3.3

This SR verifies that each SGT subsystem starts on receipt of an actual or simulated initiation signal. The SR excludes automatic dampers that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to dampers that are locked, sealed, or otherwise secured in the actuated position since the affected dampers were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic damper in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the damper to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic damper to the non-actuated position requires verification that the SR has been met within its required Frequency. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

REFERENCES

1. UFSAR, Section 6.5.1.
2. NEDC-32466P, Power Uprate Safety Analysis Report for Brunswick Steam Electric Plant Units 1 and 2, September 1995.
3. UFSAR Section 15.6.4.
4. Not used.
5. 10 CFR 50.36(c)(2)(ii).
6. Regulatory Guide 1.52, Revision 1.
7. ESR 99-00055, SBGT and CBEAF Technical Specification Surveillance Flow Measurement.
8. NEDC-32988-A, Revision 2, Technical Justification to Support Risk-Informed Modification to Selected Required End States for BWR Plants, December 2002.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.2.4

The dominant contributor to a loss of DG cooling is a failure of the normal and alternate cooling water supply valves to open on demand from their normally closed position. As a result, since only three site NSW pumps are required to be OPERABLE, the capability to automatically transfer the cooling water supply to the DG jacket water coolers from the NSW header of one unit to the NSW header of the opposite unit is necessary to meet single failure criteria.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

To minimize testing of the cooling water supply valves to each DG, Note 1 allows a single test (instead of two tests, one for each unit) to satisfy the requirements for both units. This is allowed since the main purpose of the Surveillance can be met by performing the test on either unit. Note 2 indicates that isolation of the SW System to a DG renders the DG inoperable but does not affect the OPERABILITY of the SW System. As such, if the automatic transfer of the cooling water supply valves associated with a DG fails this Surveillance, the DG should be considered inoperable. However, the SW System is still OPERABLE.

It is not necessary to declare the DG inoperable if the service water supply valves to the affected DG are administratively controlled to ensure cooling water is supplied to the DG and two NSW pumps are operable on the corresponding NSW header that the DG is aligned to. This ensures that a single active failure will not result in more than one DG not receiving cooling water (Ref. 5).

SR 3.7.2.5

This SR verifies that the automatic isolation valves of the SW System will automatically align to the safety or emergency position to provide cooling water exclusively to the safety related equipment during an accident event. This is demonstrated by the use of an actual or simulated initiation signal. This SR also verifies the automatic start capability of the required NSW pumps. The SR excludes automatic valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to valves that are locked, sealed, or otherwise secured in the actuated position since the affected valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve to the non-actuated position requires verification that the SR has been met within its required Frequency.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.3.3 (continued)

be used as compensatory measures to restore OPERABILITY (Ref. 8). Options for restoring the CRE boundary to OPERABLE status include changing the licensing basis DBA consequence analysis, repairing the CRE boundary, or a combination of these actions. Depending upon the nature of the problem and the corrective action, a full scope inleakage test may not be necessary to establish that the CRE boundary has been restored to OPERABLE status.

SR 3.7.3.4

This SR verifies that on an actual or simulated initiation signal, each CREV subsystem starts and operates. This SR includes ensuring outside air flow is diverted to the HEPA filter and charcoal adsorber bank of each CREV subsystem. The LOGIC SYSTEM FUNCTIONAL TEST in LCO 3.3.7.1 overlaps this SR to provide complete testing of the safety function. The SR excludes automatic dampers and valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to dampers or valves that are locked, sealed, or otherwise secured in the actuated position since the affected dampers or valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve or damper in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve or damper to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve or damper to the non-actuated position requires verification that the SR has been met within its required Frequency. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

REFERENCES

1. UFSAR, Section 6.4.
2. UFSAR, Section 9.4.
3. UFSAR, Section 6.4.4.1.
4. 10 CFR 50.36(c)(2)(ii).
5. ESR 99-00055, SBGT and CBEAF Technical Specification Surveillance Flow Measurement.
6. Regulatory Guide 1.196
7. NEI 99-03, "Control Room Habitability Assessment," June 2001.
8. Letter from Eric J. Leeds (NRC) to James W. Davis (NEI) dated January 30, 2004, "NEI Draft White Paper, Use of Generic Letter 91-18 Process and Alternative Source Terms in the Context of Control Room Habitability." (ADAMS Accession No. ML040300694).

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Revised Technical Specification Bases Changes (Mark-Up)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.10.3

The automatic startup on a safety injection signal ensures that each AVS train responds properly. The SR excludes automatic dampers and valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to dampers or valves that are locked, sealed, or otherwise secured in the actuated position since the affected dampers or valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve or damper in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve or damper to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve or damper to the non-actuated position requires verification that the SR has been met within its required Frequency. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

SR 3.6.10.4

The AVS filter cooling electric motor-operated bypass valves are tested to verify OPERABILITY. The valves are normally closed and may need to be opened from the control room to initiate miniflow cooling through a filter unit that has been shutdown following a DBA LOCA. Miniflow cooling may be necessary to limit temperature increases in the idle filter train due to decay heat from captured fission products. The SR excludes bypass valves that are locked, sealed, or otherwise secured in the open position. The SR does not apply to bypass valves that are locked, sealed, or otherwise secured in the open position since the affected bypass valves were verified to be in the open position prior to being locked, sealed, or otherwise secured. Placing a bypass valve in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the bypass valve to be closed to support the accident analysis. Restoration of a bypass valves to the closed position requires verification that the SR has been met within its required Frequency. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.17.1

Verifying each CVIWS train is pressurized to ≥ 36.4 psig ensures the system can meet the design basis. Assured water is provided from the essential header of the NSWS. The 31 day Frequency was developed in consideration of the known reliability of the system and the two train redundancy available.

SR 3.6.17.2

This SR verifies that each CVIWS train can perform its required function when needed by measuring the existing conditions for the valves being injected. Gate valves served by the CVIWS do not receive a conventional Type C leak rate test using air as a test medium.

The containment isolation valves served by the CVIWS may be tested individually or simultaneously. Containment isolation valves are leak rate tested by this SR by injecting seal water from the CVIWS to the containment isolation valves. With the containment isolation valve closed, the leakage is determined by measuring flow rate of seal water out of the containment valve injection water surge chamber.

The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage. Operating experience has shown that these components usually pass the Surveillance when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint. Furthermore, the SR interval was developed considering that the CVIWS OPERABILITY is demonstrated at a 31 day Frequency by SR 3.6.17.1.

SR 3.6.17.3

This SR ensures that each CVIWS train responds properly to the appropriate actuation signal. The Surveillance verifies that the automatic valves actuate to their correct position. The SR excludes automatic valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to valves that are locked, sealed, or otherwise secured in the actuated position since the affected valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve to the non-actuated position requires verification that the SR has been met within its required

Frequency. The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage. Operating experience has shown that these components usually pass the Surveillance when performed at the 18 month Frequency. Therefore the Frequency was concluded to be acceptable from a reliability standpoint.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.10.1

Standby systems should be checked periodically to ensure that they function properly. As the environment and normal operating conditions on this system are not too severe, testing each train once every month provides an adequate check of this system. Operation for ≥ 15 continuous minutes demonstrates OPERABILITY of the system. Periodic operation ensures that blockage, fan or motor failure, or excessive vibration can be detected for correction action. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

SR 3.7.10.2

This SR verifies that the required CRAVS testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The CRAVS filter tests are in accordance with Regulatory Guide 1.52 (Ref. 5). The VFTP includes testing the performance of the HEPA filter and carbon adsorber efficiencies and the physical properties of the activated carbon. Specific test Frequencies and additional information are discussed in detail in the VFTP.

SR 3.7.10.3

This SR verifies that each CRAVS train starts and operates on an actual or simulated actuation signal. The SR excludes automatic dampers and valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to dampers or valves that are locked, sealed, or otherwise secured in the actuated position since the affected dampers or valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve or damper in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve or damper to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve or damper to the non-actuated position requires verification that the SR has been met within its required Frequency. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.12.3

This SR verifies that each ABFVES train starts and operates with flow through the HEPA filters and carbon adsorbers on an actual or simulated actuation signal. The SR excludes automatic dampers and valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to dampers or valves that are locked, sealed, or otherwise secured in the actuated position since the affected dampers or valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve or damper in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve or damper to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve or damper to the non-actuated position requires verification that the SR has been met within its required Frequency. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

SR 3.7.12.4

This SR verifies the pressure boundary integrity of the ECCS pump rooms. The following rooms are considered to be ECCS pump rooms (with respect to the ABFVES): centrifugal charging pump rooms, safety injection pump rooms, residual heat removal pump rooms, and the containment spray pump rooms. Although the containment spray system is not normally considered an ECCS system, it is included in this ventilation boundary because of its accident mitigation function which requires the pumping of post accident containment sump fluid. The Elevation 522 pipe chase area is also maintained at a negative pressure by the ABFVES. Since the Elevation 543 and 560 mechanical penetration rooms communicate directly with the Elevation 522 pipe chase area, these penetration rooms are also maintained at a negative pressure by the ABFVES. The ability of the system to maintain the ECCS pump rooms at a negative pressure, with respect to potentially unfiltered adjacent areas, is periodically tested to verify proper functioning of the ABFVES. Upon receipt of a safety injection signal to initiate LOCA operation, the ABFVES is designed to maintain a slight negative pressure in the ECCS pump rooms, with respect to adjacent areas, to prevent unfiltered LEAKAGE. The ABFVES will continue to operate in this mode until the safety injection signal is reset. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is

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CONTAINMENT SPRAY SYSTEM (Continued)

may be verified by monitoring a representative sub-set of susceptible locations. Monitoring may not be practical for locations that are inaccessible due to radiological or environmental conditions, the plant configuration, or personnel safety. For these locations alternative methods (e.g., operating parameters, remote monitoring) may be used to monitor the susceptible location. Monitoring is not required for susceptible locations where the maximum potential accumulated gas void volume has been evaluated and determined to not challenge system OPERABILITY. The accuracy of the method used for monitoring the susceptible locations and trending of the results should be sufficient to assure system OPERABILITY during the Surveillance interval.

The Surveillance Requirement provided to verify the correct position of valves in the flow path is modified by a note which exempts system vent flow paths opened under administrative control. The administrative control should be proceduralized and include stationing a dedicated individual at the system vent flow path who is in continuous communication with the operators in the control room. The individual will have a method to rapidly close the system vent flow path if directed.

The Surveillance Requirements provided to verify that automatic valves actuate to their correct position (4.6.2.1.c.1 and 4.6.2.1.c.3) exclude automatic valves that are locked, sealed, or otherwise secured in the actuated position. The SRs do not apply to valves that are locked, sealed, or otherwise secured in the actuated position since the affected valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve to the non-actuated position requires verification that the SRs have been met within its required Frequency.

3/4.6.2.2 SPRAY ADDITIVE SYSTEM

The OPERABILITY of the Spray Additive System ensures that sufficient NaOH is added to the containment spray in the event of a LOCA. The limits on NaOH volume and concentration ensure a pH value of between 7.0 and 11.0 for the solution recirculated within containment after a LOCA. This pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components. The contained solution volume limit includes an allowance for solution not usable because of tank discharge line location or other physical characteristics. These assumptions are consistent with the iodine removal efficiency assumed in the safety analyses.

The maximum and minimum volumes for the Spray Additive Tank are based on the analytical limits. The specified indicated levels used for surveillance include instrument uncertainties and unusable tank volume.

The Surveillance Requirement provided to verify that automatic valves actuate to their correct position (4.6.2.2.c) excludes automatic valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to valves that are locked, sealed, or otherwise secured in the actuated position since the affected valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve to the non-actuated position requires verification that the SR has been met within its required Frequency.

3/4.7.3 COMPONENT COOLING WATER SYSTEM

The OPERABILITY of the Component Cooling Water System ensures that sufficient cooling capacity is available for continued operation of safety-related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the safety analyses.

The Surveillance Requirements provided to verify that automatic valves actuate to their correct position (4.7.3.b.1 and 4.7.3.b.3) exclude automatic valves that are locked, sealed, or otherwise secured in the actuated position. The SRs do not apply to valves that are locked, sealed, or otherwise secured in the actuated position since the affected valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve to the non-actuated position requires verification that the SRs have been met within its required Frequency.

3/4.7.4 EMERGENCY SERVICE WATER SYSTEM

The OPERABILITY of the Emergency Service Water System ensures that sufficient cooling capacity is available for continued operation of safety-related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the safety analyses.

The Surveillance Requirement provided to verify that automatic valves actuate to their correct position (4.7.4.b.1) excludes automatic valves that are locked, sealed, or otherwise secured in the actuated position. The SRs do not apply to valves that are locked, sealed, or otherwise secured in the actuated position since the affected valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve to the non-actuated position requires verification that the SRs have been met within its required Frequency.

[Amendment No. 176 deleted pages B 3/4 7-3a through B 3/4 7-3d]

3.7.6 b.3 and c.3

In MODE 5 or 6, or during movement of irradiated fuel assemblies, or during movement of loads over spent fuel pools, with one or more CREFS trains inoperable due to an inoperable CRE boundary, action must be taken immediately to suspend activities that could result in a release of radioactivity that might require isolation of the CRE. This places the unit in a condition that minimizes the accident risk. This does not preclude the movement of fuel to a safe position.

SURVEILLANCE REQUIREMENTS

SR 4.7.6.a

Standby systems should be checked periodically to ensure that they function properly. As the environment and normal operating conditions on this system are not too severe, testing each train once every month provides an adequate check of this system. Operation for ≥ 15 continuous minutes demonstrates OPERABILITY of the system. Periodic operation ensures that blockage, fan or motor failure, or excessive vibration can be detected for corrective action. The surveillance frequency is controlled under the Surveillance Frequency Control Program.

SR 4.7.6.b, c, e, and f

ANSI N510-1980 will be used as a procedural guide for surveillance testing. Criteria for laboratory testing of charcoal and for in-place testing of HEPA filters and charcoal adsorbers is based upon a removal efficiency of 99% for elemental, particulate and organic forms of radioiodine.

SR 4.7.6.d.1

This SR verifies that the HEPA filters and charcoal adsorbers are not excessively blocked. The filter pressure drop was chosen to be half-way between the estimated clean and dirty pressure drops for those components. This assures the full functionality of the filters for a prolonged period, even at the Technical Specification limit. The surveillance frequency is controlled under the Surveillance Frequency Control Program.

SR 4.7.6.d.2

This SR verifies that each CREFS train starts and operated on an actual or simulated actuation signal. The SR excludes automatic dampers and valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to dampers or valves that are locked, sealed, or otherwise secured in the actuated position since the affected dampers or valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve or damper in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve or damper to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve or damper to the non-actuated position requires verification that the SR has been met within its required Frequency. The surveillance frequency is controlled under the Surveillance Frequency Control Program.

3/4.7.9 SEALED SOURCE CONTAMINATION

The sources requiring leak tests are specified in 10 CFR 31.5(c)(2)(ii). The limitation on removable contamination is required by 10 CFR 31.5(c)5. This limitation will ensure that leakage from Byproduct, Source, and Special Nuclear Material sources will not exceed allowable intake values.

Sealed sources are classified into three groups according to their use, with Surveillance Requirements commensurate with the probability of damage to a source in that group. Those sources that are frequently handled are required to be tested more often than those that are not. Sealed sources that are continuously enclosed within a shielded mechanism (i.e., sealed sources within radiation monitoring or boron measuring devices) are considered to be stored and need not be tested unless they are removed from the shielded mechanism.

3/4.7.10 DELETED

3/4.7.11 DELETED

3/4.7.12 DELETED

3/4.7.13 ESSENTIAL SERVICES CHILLED WATER SYSTEM

The OPERABILITY of the Essential Service Chilled Water System ensures that sufficient cooling capacity is available for continued operation of safety related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the safety analyses.

The Surveillance Requirement provided to verify that non-essential portions of the system are automatically isolated (4.7.13.b.1) excludes automatic valves that are locked, sealed, or otherwise secured in the actuated position. The SRs do not apply to valves that are locked, sealed, or otherwise secured in the actuated position since the affected valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve to the non-actuated position requires verification that the SRs have been met within its required Frequency.

The TS 3.7.13 action statement completion time of 7 days is for maintenance on the Essential Services Chilled Water System (ESCWS). Entry into this action statement also affects TS 3.1.2.4, “Charging Pumps – Operating,” TS 3.5.2, “ECCS [Emergency Core Cooling Systems] Subsystems – Tavg Greater Than or Equal To 350°F,” TS 3.6.2.1, “Containment Spray System,” TS 3.6.2.3, “Containment Cooling System,” and TS 3.7.4, "Emergency Service Water System," for ‘B’ Train ESCWS inoperability only, based upon the impact to the ‘B’ Emergency Service Water (ESW) Booster Pump operability. The ‘B’ Train ESW booster pump area is cooled by AH- 8 1X-SB, which is powered by the ‘B’ Train power supply. There is no impact to the ‘A’ Train ESW Booster Pump or the ‘A’ Train ESW System since an air handler unit for this area may be powered by either ‘A’ or ‘B’ Train power supplies.

A note similar to the following is placed in each of the above listed TS:
* One Train of [Applicable TS or TS System] is allowed to be inoperable for a total of 7 days to allow for maintenance on the Essential Services Chilled Water System and air handlers supported by the Essential Services Chilled Water System. Prior to exceeding 72 hours, the compensatory measures described in TS Bases 3.7.13 and HNP LAR correspondence letter RA-19-0007 shall be implemented.

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SURVEILLANCE REQUIREMENTS

SR 3.6.10.1

Operating each AVS train from the control room with flow through the HEPA filters and activated carbon adsorbers ensures that all trains are OPERABLE and that all associated controls are functioning properly. It also ensures that blockage, fan or motor failure, or excessive vibration can be detected for corrective action. Operation for ≥ 15 continuous minutes demonstrates OPERABILITY of the system. Periodic operation ensures that blockage, fan or motor failure, or excessive vibration can be detected for corrective action.

The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

SR 3.6.10.2

This SR verifies that the required AVS filter testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The AVS filter tests are in accordance with Regulatory Guide 1.52 (Ref. 5) with exceptions as noted in the UFSAR. The VFTP includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the VFTP.

SR 3.6.10.3

The automatic startup on a Containment Phase B Isolation signal ensures that each AVS train responds properly. The SR excludes automatic dampers and valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to dampers or valves that are locked, sealed, or otherwise secured in the actuated position since the affected dampers or valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve or damper in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve or damper to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve or damper to the non-actuated position requires verification that the SR has been met within its required Frequency. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.10.4

The AVS filter cooling electric motor-operated bypass valves are tested to verify OPERABILITY. The valves are normally closed and may need to be opened to initiate miniflow cooling through a filter unit that has been shutdown following a DBA LOCA. Miniflow cooling may be necessary to limit temperature increase in the idle filter train due to decay heat from captured fission products. The SR excludes bypass valves that are locked, sealed, or otherwise secured in the open position. The SR does not apply to bypass valves that are locked, sealed, or otherwise secured in the open position since the affected bypass valves were verified to be in the open position prior to being locked, sealed, or otherwise secured. Placing a bypass valve in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the bypass valve to be closed to support the accident analysis. Restoration of a bypass valves to the closed position requires verification that the SR has been met within its required Frequency. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

SR 3.6.10.5

The proper functioning of the fans, dampers, filters, adsorbers, etc., as a system is verified by the ability of each train to produce the required system flow rate. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 41.
2. UFSAR, Section 6.2.
3. UFSAR, Chapter 15.
4. 10 CFR 50.36, Technical Specifications, (c)(2)(ii).
5. Regulatory Guide 1.52, Revision 2.
6. 10 CFR 50.67, "Accident Source Term."

SURVEILLANCE REQUIREMENTS

SR 3.7.9.1

Standby systems should be checked periodically to ensure that they function properly. As the environment and normal operating conditions on this system are not too severe, testing each train once every month provides an adequate check of this system. Operation for ≥ 15 continuous minutes demonstrates OPERABILITY of the system. Periodic operation ensures that blockage, fan or motor failure, or excessive vibration can be detected for corrective action.

The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

SR 3.7.9.2

This SR verifies that the required CRAVS testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The CRAVS filter tests are in accordance with Regulatory Guide 1.52 (Ref. 4). The VFTP includes testing the performance of the HEPA filter, charcoal adsorber efficiency, minimum flow rate, and the physical properties of the activated charcoal. Specific test Frequencies and additional information are discussed in detail in the VFTP.

SR 3.7.9.3

This SR verifies that each CRAVS train starts and operates with flow through the HEPA filters and charcoal adsorbers on an actual or simulated actuation signal. The SR excludes automatic dampers and valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to dampers or valves that are locked, sealed, or otherwise secured in the actuated position since the affected dampers or valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve or damper in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve or damper to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve or damper to the non-actuated position requires verification that the SR has been met within its required Frequency. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

SR 3.7.9.4

This SR verifies the OPERABILITY of the CRE boundary by testing for unfiltered air inleakage past the CRE boundary and into the CRE.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.11.1

Standby systems should be checked periodically to ensure that they function properly. As the environment and normal operating conditions on this system are not severe, testing each train once a month provides an adequate check on this system. Systems without heaters need only be operated from the control room for ≥ 15 minutes with flow through the HEPA filters and charcoal adsorbers to demonstrate the function of the system. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

SR 3.7.11.2

This SR verifies that the required ABFVES testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The ABFVES filter tests are in accordance with Reference 4. The VFTP includes testing HEPA filter performance, carbon adsorbers efficiency, minimum system flow rate, and the physical properties of the carbon (general use and following specific operations).

Specific test Frequencies and additional information are discussed in detail in the VFTP.

SR 3.7.11.3

This SR verifies that ABFVES starts and operates with flow through the HEPA filters and charcoal adsorbers on an actual or simulated actuation signal. The SR excludes automatic dampers and valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to dampers or valves that are locked, sealed, or otherwise secured in the actuated position since the affected dampers or valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve or damper in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve or damper to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve or damper to the non-actuated position requires verification that the SR has been met within its required Frequency. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

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BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.9.1 (continued)

verified to be OPERABLE to demonstrate the function of the system. This test includes an external visual inspection of the CRVS Booster Fan trains. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

SR 3.7.9.2

This SR verifies that the required CRVS Booster Fan train testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The VFTP includes testing HEPA filter performance, carbon absorber efficiency, minimum system flow rate, and the physical properties of the activated carbon. Specific test frequencies and additional information are discussed in detail in the VFTP.

SR 3.7.9.3

This SR verifies that the CRE isolates and operates on a manual actuation signal. The SR excludes automatic dampers that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to dampers that are locked, sealed, or otherwise secured in the actuated position since the affected dampers were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic damper in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the damper to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic damper to the non-actuated position requires verification that the SR has been met within its required Frequency. The Frequency is based on industry operating experience and is consistent with the typical refueling cycle and will be managed in accordance with the Surveillance Frequency Control Program.

SR 3.7.9.4

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

The CRE is considered habitable when the radiological dose to CRE occupants calculated in the licensing basis analyses of DBA consequences is no more than 5 rem TEDE and the CRE occupants are

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SURVEILLANCE REQUIREMENTS

SR 3.6.8.3 (continued)

and previous operating experience has shown that these valves usually pass the required test when performed.

SR 3.6.8.4

This SR ensures that automatic header injection valves actuate to the correct position on a simulated or actual signal. The SR excludes automatic valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to valves that are locked, sealed, or otherwise secured in the actuated position since the affected valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve to the non-actuated position requires verification that the SR has been met within its required Frequency. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.6.8.5

This SR ensures the capability of the dedicated nitrogen bottles to pressurize the IVSW system independent of the Plant Nitrogen System. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.6.8.6

Integrity of the IVSW seal boundary is important in providing assurance that the design leakage value required for the system to perform its sealing function is not exceeded. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.9.3

This SR verifies that each CREFS train starts and operates on an actual or simulated actuation signal. The SR excludes automatic dampers and valves that are locked, sealed, or otherwise secured in the actuated position. The SR does not apply to dampers or valves that are locked, sealed, or otherwise secured in the actuated position since the affected dampers or valves were verified to be in the actuated position prior to being locked, sealed, or otherwise secured. Placing an automatic valve or damper in a locked, sealed, or otherwise secured position requires an assessment of the operability of the system or any supported systems, including whether it is necessary for the valve or damper to be repositioned to the non-actuated position to support the accident analysis. Restoration of an automatic valve or damper to the non-actuated position requires verification that the SR has been met within its required Frequency. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.7.9.4

This SR verifies the integrity of the CRE boundary. The CRE Habitability Program specifies administrative controls for temporary breaches to the boundary, preventative maintenance requirements to ensure the boundary is maintained, and leak test surveillance requirements. The details and frequencies for these requirements are specified in the CRE Habitability Program.

REFERENCES

1. UFSAR, Section 6.4.
2. UFSAR Section 6.4.2.3.
3. UFSAR, Chapter 15.
4. Deleted.