Exelon Generation®

200 Exelon Way
Kennett Square, PA 19348

www.exeloncorp.com

10 CFR 50.90

JAF-20-0083

December 11, 2020

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

James A. FitzPatrick Nuclear Power Plant
Renewed Facility Operating License No. DPR-59
NRC Docket No. 50-333

Subject: Application to Revise Technical Specifications to Adopt TSTF-545, Revision 3, "TS Inservice Testing Program Removal & Clarify SR Usage Rule Application to Section 5.5 Testing"

Pursuant to 10 CFR 50.90, Exelon Generation Company, LLC (EGG) is submitting a request for an amendment to the Technical Specifications (TS) for James A. FitzPatrick Nuclear Power Plant (JAF). The proposed change revises the Technical Specifications (TS) to eliminate the Section 5.5, "Inservice Test Program." A new defined term, "Inservice Testing Program," is added to the TS Definitions section. This request is consistent with TSTF-545, Revision 3, "TS Inservice Testing Program Removal & Clarify SR Usage Rule Application to Section 5.5 Testing."

The proposed change revises TS Section 5.5, or equivalent, "Inservice Test Program." A new defined term, "INSERVICE TESTING PROGRAM," is added to the TS Definitions section. This request is consistent with TSTF-545, Revision 3, "TS Inservice Testing Program Removal & Clarify SR Usage Rule Application to Section 5.5 Testing."

Attachment 1 provides a description and assessment of the proposed TS changes. Attachment 2 provides the existing TS pages marked up to show the proposed changes. Attachment 3 provides TS Bases pages marked up to show the associated TS Bases changes and is provided for information only.

Approval of the proposed amendments is requested by December 11, 2021. Once approved, the amendments shall be implemented within 90 days.

The proposed changes have been reviewed by the Plant Operations Review Committee.

There are no new commitments contained in this submittal.

Pursuant to 10 CFR 50.91 (b)(1), a copy of this License Amendment Request is being provided to the designated New York State official.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 11th day of December 2020.

If you have any questions regarding this submittal, please contact Enrique Villar at (610) 765-5736

Respectfully,

David T. Gudger

David T. Gudger
Senior Manager, Licensing
Exelon Generation Company, LLC

Attachments: 1. Provides a description and assessment of the proposed TS changes.
2. Provides the existing TS pages marked up to show the proposed changes.
3. Provides TS Bases pages marked up to show the associated TS Bases changes and is provided for information only.

cc: Regional Administrator – NRC Region I w/ attachments
NRC Senior Resident Inspector – JAF "
NRC Project Manager, NRR – JAF "
A. L. Peterson, NYSERDA "

Attachment 1
Description and Assessment of the Proposed Technical Specifications Changes
Pages 1 of 6

1.0 DESCRIPTION

The proposed change revises the Technical Specifications (TS), Section 5.5, or equivalent, "Inservice Test (IST) Program," to remove requirements duplicated in American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code), Case OMN-20, "Inservice Test Frequency." A new defined term, "INSERVICE TESTING PROGRAM," is added to TS Section 1.1, or equivalent, "Definitions." The proposed change to the TS is consistent with Technical Specification Task Force (TSTF) -545, Revision 3, "TS Inservice Testing Program Removal & Clarify SR Usage Rule Application to Section 5.5 Testing."

Revision 3 of RG 1.192 dated October 2019 lists OMN-20 in Table 2 "Conditionally Acceptable OM Code Cases"

2.1 ASSESSMENT

2.2 Applicability of Published Safety Evaluation

Exelon Generation Company, LLC (EGC) has reviewed the model safety evaluation referred to in the Federal Register Notice of Availability dated March 28, 2016. This review included a review of the NRC staff's evaluation, as well as the information provided in TSTF-545. EGC concluded that the justifications presented in TSTF-545, and the model safety evaluation prepared by the NRC staff is applicable to JAF and justify this amendment for the incorporation of the changes to each plant's TS.

James A. FitzPatrick Nuclear Power Plant (JAF) was issued a construction permit on May 20, 1970, and the provisions of 10 CFR 50.55a(f)(3) are applicable.

2.3 Variations

Table 1 below identifies variations/deviations from the TSTF where the STS numbering is different from JAFs, or the SR is not included in the JAF TS.

Table 1
Variations from TSTF 545 BWR/4 markups to JAF technical Specifications

TSTF 545 BWR4 SRs	DESCRIPTION	APPLICABILITY TO JAF TECH. SPECS
Section 5.0 Programs and Manuals	Deletes Section 5.5.7 Inservice Testing Program and re-numbers all the following programs in the section	Applicable to JAF; however, JAF will deleted verbiage associated with section 5.5.7 and annotate this section as "not Used." The remaining program numbers will not be revised. These program numbers, including the Inservice Testing Program, are referenced in a multitude of station procedures. By maintaining the current program numbering and references, excessive administrative burden to update station procedure references is avoided.

SR 3.4.5.1	Verify equivalent leakage of each RCS PIV is ≤ 0.5 gpm per nominal inch of valve size up to a maximum of 5 gpm, at an RCS pressure ≥[ ] and ≥[ ] psig	Not applicable to JAF. JAF does not have this SR.
SR 3.5.2.5	Verify each required ECCS pump develops the specified flow rate [against a system head corresponding to the specified reactor pressure	Not applicable to JAF. JAF does not have this SR.
SR 3.6.1.3.6	Verify the isolation time of each power operated automatic PCIV, [except for MSIVs], is within limits	Applicable to JAF and incorporated; However, this SR is numbered SR 3.6.1.3.5
SR 3.6.1.3.8	Verify the isolation time of each MSIV is ≥[2] seconds and ≤[8] Seconds.	Applicable to JAF and incorporated; However, this SR is numbered SR 3.6.1.3.6
SR 3.6.2.4.2	[Verify each RHR pump develops a flow rate ≥[400] gpm through the heat exchanger while operating in the suppression pool spray mode.	Applicable to JAF and incorporated; However, this SR is numbered SR 3.6.1.9.2
SR 3.6.4.2.2	Verify the isolation time of each power operated, automatic SCIV is within limits	Not applicable to JAF. JAF does not have this SR

Table 2 below identifies JAF plant specific SRs that are not identify in the TSTF, but that clearly fall within the scope of the TSTF but are:

Table 2
JAF Technical Specifications SRs within the scope of TSTF 545 but not included in the approved TSTF

JAF TS SR	DESCRIPTION	COMMENTS
SR 3.1.8.2	Cycle each SDV vent and drain valve to the fully closed and fully open position.	The current SR Frequency is in accordance with Inservice Testing program, and it will be changed to in accordance with the INSERVICE TESTING PROGRAM"
SR 3.4.3.2	Each required S/RV is capable of being closed	The current SR Frequency is in accordance with Inservice Testing program, and it will be changed to in accordance with the INSERVICE TESTING PROGRAM"
SR 3.5.1.8	Verify reactor pressure ≤ 1040 psig.	The current SR Frequency is in accordance with Inservice Testing program, and it will be changed to in accordance with the INSERVICE TESTING PROGRAM"
SR 3.5.1.13	Verify each required ADS valve is capable of being opened.	The current SR Frequency is in accordance with Inservice Testing program, and it will be changed to in accordance with the INSERVICE TESTING PROGRAM"
SR 3.6.1.3.8	Verify each reactor instrumentation line EFCV	The current SR Frequency is in accordance with Inservice Testing program, and it will be changed to in accordance with the INSERVICE TESTING PROGRAM"

SR 3.6.1.6.2	Perform a functional test of each vacuum breaker	The current SR Frequency is in accordance with Inservice Testing program, and it will be changed to in accordance with the INSERVICE TESTING PROGRAM"
SR 3.6.1.7.2	Perform a functional test of each vacuum breaker	The current SR Frequency is in accordance with Inservice Testing program, and it will be changed to in accordance with the INSERVICE TESTING PROGRAM"
TS Bases SR 3.4.3.2	Has two references to the "IST Program"	They are changed to INSERVICE TESTING PROGRAM"
SR 3.6.2.3.2	Verify each RHR pump develops a flow rate > [7700] gpm through the associated heat exchanger while operating in the suppression pool cooling mode.	
TS Bases SR 3.5.1.6	"..Verification during reactor start up prior to reaching >25% RTP is an exception to the normal Inservice Testing Program."	Inservice Testing Program will be changed to INSERVICE TESTING PROGRAM"
TS Bases SR 3.5.1.13	It partially states "…as part of the Inservice Testing Program."	Inservice Testing Program is changed to INSERVICE TESTING PROGRAM"
TS Bases page B3.6.1.3-3	It partially states "The associated stroke time of each automatic PCIV is included in the Inservice Testing (IST) Program"	Inservice Testing (IST) Program is changed to INSERVICE TESTING PROGRAM"
TS Bases page B3.7.2-3:	It partially states "ESW pumps is based on measured performance remaining within allowable IST Program acceptance criteria"	IST Program is changed to INSERVICE TESTING PROGRAM"

Exelon has concluded that the differences described above are administrative in nature and do not affect the applicability of TSTF- 545 or the associated model SE.

3.1 REGULATORY ANALYSIS

3.2 <u>No Significant Hazards Consideration</u>

Exelon Generation Company, LLC (EGC) requests adoption of the Technical Specification (TS) changes described in TSTF-545, "TS Inservice Testing Program Removal & Clarify SR Usage Rule Application to Section 5.5 Testing," which is an approved change to the TS.

The proposed change revises the TS Chapter 5, or equivalent, "Administrative Controls," Section 5.5 "Programs and Manuals," to revise the "Inservice Testing (IST) Program" specification. Requirements in the IST Program that are duplicative of requirements in the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code, as clarified by Code Case OMN-20, "Inservice Test Frequency," are deleted. Other requirements in Section 5.5, or equivalent, are eliminated because the Nuclear Regulatory Commission (NRC) has determined their appearance in the TS is contrary to regulations. A

new defined term, "INSERVICE TESTING PROGRAM," is added, which references the requirements of Title 10 of the Code of Federal Regulations (10 CFR), Part 50, paragraph 50.55a(f). EGC has evaluated whether or not a significant hazards consideration is involved with the proposed amendment 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.

Performance of inservice testing is not an initiator to any accident previously evaluated. As a result, the probability of occurrence of an accident is not significantly affected by the proposed change. Inservice test frequencies under Code Case OMN-20 are equivalent to the current testing period allowed by the TS with the exception that testing frequencies greater than two (2) years may be extended by up to six (6) months to facilitate test scheduling and consideration of plant operating conditions that may not be suitable for performance of the required testing. The testing frequency extension will not affect the ability of the components to mitigate any accident previously evaluated as the components are required to be operable during the testing period extension. Performance of inservice tests utilizing the allowances in OMN-20 will not significantly affect the reliability of the tested components. As a result, the availability of the affected components, as well as their ability to mitigate the consequences of accidents previously evaluated, is 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 does not alter the design or configuration of the plant. The proposed change does not involve a physical alteration of the plant; no new or different kind of equipment will be installed. The proposed change does not alter the types of inservice testing performed. In most cases, the frequency of inservice testing is unchanged. However, the frequency of testing would not result in a new or different kind of accident from any previously evaluated since the testing methods are not altered.

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

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

   Response: No.

The proposed change eliminates some requirements from the TS in lieu of requirements in the ASME Code, as modified by use of Code Case OMN-20. Compliance with the ASME Code is required by 10 CFR 50.55a. The proposed change also allows inservice tests with frequencies

greater than two years to be extended by six months to facilitate test scheduling and consideration of plant operating conditions that may not be suitable for performance of the required testing. The testing frequency extension will not affect the ability of the components to respond to an accident as the components are required to be operable during the testing period extension. The proposed change will eliminate the existing TS SR 3.0.3, or equivalent, allowance to defer performance of missed inservice tests up to the duration of the specified testing frequency, and instead will require an assessment of the missed test on equipment operability. This assessment will consider the effect on a margin of safety (i.e., equipment operability). Should the component be inoperable, the TS provide actions to ensure that the margin of safety is protected. The proposed change also eliminates a statement that nothing in the ASME Code should be construed to supersede the requirements of any TS. The NRC has determined that statement to be incorrect. However, elimination of the statement will have no effect on plant operation or safety.

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

Based on the above, EGC 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.

4.0 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.

ATTACHMENT 2

Technical Specifications Pages Marked Up to Show the Proposed Changes

REVISED TECHNICAL SPECIFICATION PAGES

INSERVICE TESTING PROGRAM The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f)

1.1 Definitions (continued)

ISOLATION INSTRUMENTATION RESPONSE TIME	The ISOLATION INSTRUMENTATION RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its isolation initiation setpoint at the channel sensor until the isolation valve receives the isolation signal (e.g., de-energization of the main steam isolation valve solenoids). The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC.
LEAKAGE	LEAKAGE shall be: a. Identified LEAKAGE 1. LEAKAGE into the drywell, such as that from pump seals or valve packing, that is captured and conducted to a sump or collecting tank; or 2. LEAKAGE into the drywell atmosphere from sources that are both specifically located and known either not to interfere with the operation of leakage detection systems or not to be pressure boundary LEAKAGE; b. Unidentified LEAKAGE All LEAKAGE into the drywell that is not identified LEAKAGE; c. Total LEAKAGE Sum of the identified and unidentified LEAKAGE; d. Pressure Boundary LEAKAGE LEAKAGE through a nonisolable fault in a Reactor Coolant System (RCS) component body, pipe wall, or vessel wall.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.1.7.5	Verify the concentration of sodium pentaborate in solution is within the limits of Figure 3.1.7-1.	In accordance with the Surveillance Frequency Control Program AND Once within 24 hours after water or sodium pentaborate is added to solution AND Once within 24 hours after solution temperature is restored within the limits of Figure 3.1.7-2
SR 3.1.7.6	Verify each SLC subsystem manual valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position, or can be aligned to the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.1.7.7	Verify each pump develops a flow rate ≥ 50 gpm at a discharge pressure ≥ 1275 psig.	In accordance with the ~~Inservice Testing Program~~
SR 3.1.7.8	Verify flow through one SLC subsystem from pump into reactor pressure vessel.	In accordance with the Surveillance Frequency Control Program

(continued)

INSERVICE TESTING PROGRAM

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.8.1	----------NOTE---------- Not required to be met on vent and drain valves closed during performance of SR 3.1.8.2. ---------- Verify each SDV vent and drain valve is open.	In accordance with the Surveillance Frequency Control Program
SR 3.1.8.2	Cycle each SDV vent and drain valve to the fully closed and fully open position.	In accordance with the ~~Inservice Testing Program~~
SR 3.1.8.3	Verify each SDV vent and drain valve: a. Closes in ≤ 30 seconds after receipt of an actual or simulated scram signal; and b. Opens when the actual or simulated scram signal is reset.	In accordance with the Surveillance Frequency Control Program

INSERVICE TESTING PROGRAM

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.4.3.1	Verify the safety function lift setpoint of the required S/RVs is 1145 ± 34.3 psig. Following testing, lift settings shall be within ± 1%.	In accordance with the ~~Inservice Testing Program~~ INSERVICE TESTING PROGRAM
SR 3.4.3.2	Verify each required S/RV is capable of being opened.	In accordance with the ~~Inservice Testing Program.~~ INSERVICE TESTING PROGRAM

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.5.1.6	----------NOTE---------- Not required to be performed if performed within the previous 31 days. ---------- Verify each recirculation pump discharge valve cycles through one complete cycle of full travel or is de-energized in the closed position.	Once each startup prior to exceeding 25% RTP
SR 3.5.1.7	Verify the following ECCS pumps develop the specified flow rate against a system head corresponding to the specified reactor pressure above primary containment pressure. SYSTEM / FLOW RATE / NO. OF PUMPS / SYSTEM HEAD CORRESPONDING TO A REACTOR PRESSURE ABOVE PRIMARY CONTAINMENT PRESSURE OF Core Spray: ≥ 4265 gpm: 1: ≥ 113 psi LPCI: ≥ 7700 gpm: 1: ≥ 20 psi	In accordance with the ~~Inservice Testing Program~~ INSERVICE TESTING PROGRAM
SR 3.5.1.8	----------NOTE---------- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ---------- Verify, with reactor pressure ≤ 1040 psig and ≥ 970 psig, the HPCI pump can develop a flow rate ≥ 3400 gpm against a system head corresponding to reactor pressure.	In accordance with the ~~Inservice Testing Program~~ INSERVICE TESTING PROGRAM

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.1.13	Verify each required ADS valve is capable of being opened.	In accordance with ~~the Inservice Testing Program~~

INSERVICE TESTING PROGRAM

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.6.1.3.3	——————NOTE—————— 1. Valves and blind flanges in high radiation areas may be verified by use of administrative means. 2. Not required to be met for PCIVs that are open under administrative controls. ———————————— Verify each primary containment manual isolation valve and blind flange that is located inside primary containment and not locked, sealed or otherwise secured and is required to be closed during accident conditions is closed.	Prior to entering MODE 2 or 3 from MODE 4 if primary containment was de-inerted while in MODE 4, if not performed within the previous 92 days
SR 3.6.1.3.4	Verify continuity of the traversing incore probe (TIP) shear isolation valve explosive charge.	In accordance with the Surveillance Frequency Control Program
SR 3.6.1.3.5	Verify the isolation time of each power operated, automatic PCIV, except for MSIVs, is within limits.	In accordance with the ~~Inservice Testing Program~~
SR 3.6.1.3.6	Verify the isolation time of each MSIV is ≥ 3 seconds and ≤ 5 seconds.	In accordance with the ~~Inservice Testing Program~~

(continued)

INSERVICE TESTING PROGRAM

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.7	Verify each automatic PCIV actuates to the isolation position on an actual or simulated isolation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.6.1.3.8	Verify each reactor instrumentation line EFCV actuates to the isolation position on a simulated instrument line break.	In accordance with ~~the Inservice Testing Program~~
SR 3.6.1.3.9	Remove and test the explosive squib from each shear isolation valve of the TIP System.	In accordance with the Surveillance Frequency Control Program
SR 3.6.1.3.10	Verify combined main steam line leakage rate is ≤ 200 scfh, and ≤ 100 scfh for any one steam line, when tested at ≥ 25 psig.	In accordance with the Primary Containment Leakage Rate Testing Program
SR 3.6.1.3.11	Verify the leakage rate of each air operated testable check valve associated with the LPCI and CS Systems vessel injection penetrations is within limits.	In accordance with the Primary Containment Leakage Rate Testing Program

INSERVICE TESTING PROGRAM

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
D. Two lines with one or more reactor building-to-suppression chamber vacuum breakers inoperable for opening.	D.1	Restore all vacuum breakers in one line to OPERABLE status.	1 hour
E. Required Action and Associated Completion Time not met.	E.1	Be in MODE 3.	12 hours
	AND		
	E.2	Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.6.1	NOTES 1. Not required to be met for vacuum breakers that are open during Surveillances. 2. Not required to be met for vacuum breakers open when performing their intended function.	
	Verify each vacuum breaker is closed.	In accordance with the Surveillance Frequency Control Program
SR 3.6.1.6.2	Perform a functional test of each vacuum breaker.	In accordance with the ~~Inservice Testing Program~~ INSERVICE TESTING PROGRAM

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.7.1	NOTES 1. Not required to be met for vacuum breakers that are open during Surveillances. 2. Not required to be met for vacuum breakers open when performing their intended function. Verify each vacuum breaker is closed.	In accordance with the Surveillance Frequency Control Program
SR 3.6.1.7.2	Perform a functional test of each vacuum breaker.	In accordance with the ~~Inservice Testing Program~~
SR 3.6.1.7.3	Verify the opening setpoint of each vacuum breaker is ≤ 0.5 psid.	In accordance with the Surveillance Frequency Control Program

INSERVICE TESTING PROGRAM

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.6.1.9.1	Verify each RHR containment spray subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, is in the correct position or can be aligned to the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.6.1.9.2	Verify each required RHR pump develops a flow rate of ≥ 7750 gpm through the associated heat exchanger while operating in the suppression pool cooling mode.	In accordance with ~~the Inservice Testing Program~~
SR 3.6.1.9.3	Verify each spray nozzle is unobstructed.	In accordance with the Surveillance Frequency Control Program

INSERVICE TESTING PROGRAM

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.3.1	Verify each RHR suppression pool cooling subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, is in the correct position or can be aligned to the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.6.2.3.2	Verify each required RHR pump develops a flow rate ≥ 7700 gpm through the associated heat exchanger while operating in the suppression pool cooling mode.	In accordance with the ~~Inservice Testing Program~~

INSERVICE TESTING PROGRAM

5.5 Programs and Manuals

5.5.6 Primary Containment Leakage Rate Testing Program (continued)

d. The provisions of SR 3.0.3 are applicable to the Primary Containment Leakage Rate Testing Program.

e. Nothing in these Technical Specifications shall be construed to modify the testing Frequencies required by 10 CFR 50, Appendix J.

5.5.7 ~~Inservice Testing Program~~ Not Used

~~This program provides controls for inservice testing of certain ASME Code Class 1, 2, and 3 pumps and valves. The program shall include the following:~~

~~a. Testing Frequencies specified in the ASME OM Code and applicable Addenda are as follows:~~

~~ASME OM Code and applicable Addenda terminology for inservice testing activities~~	~~Required Frequencies for performing inservice testing activities~~
~~Quarterly or every 3 months~~	~~At least once per 92 days~~
~~Biennially or every 2 years~~	~~At least once per 731 days~~

~~b. The provisions of SR 3.0.2 are applicable to the above required Frequencies for performing inservice testing activities;~~

~~c. The provisions of SR 3.0.3 are applicable to inservice testing activities; and~~

(continued)

5.5 Programs and Manuals

5.5.7 ~~Inservice Testing Program~~ ~~(continued)~~

~~d. Nothing in the ASME Boiler and Pressure Vessel code shall be construed to supersede the requirements of any TS.~~

5.5.8 Ventilation Filter Testing Program (VFTP)

This program implements the following required testing of Engineered Safeguards filter ventilation systems.

The tests described in Specifications 5.5.8.a and 5.5.8.b shall be performed:

Once per 24 months;

After each complete or partial replacement of the HEPA filter train or charcoal adsorber filter or after removal of a charcoal sample;

After any structural maintenance on the HEPA filter or charcoal adsorber housing that could affect the filter system efficiency; and

Following painting, fire, or chemical release that could adversely affect the ability of the filter system to perform the intended function in any ventilation zone communicating with the system.

The tests described in Specification 5.5.8.c shall be performed:

Once per 24 months;

After 720 hours of system operation;

After any structural maintenance on the charcoal adsorber housing that could affect the filter system efficiency; and

Following painting, fire, or chemical release that could adversely affect the ability of the charcoal filter system to perform the intended function in any ventilation zone communicating with the system.

The tests described in Specifications 5.5.8.d and 5.5.8.e shall be performed once per 24 months.

(continued)

ATTACHMENT 3

Technical Specifications Pages Marked Up to Show the Associated TS Bases Changes and is Provided For Information Only.

REVISED TECHNICAL SPECIFICATION PAGES

BASES

LCO 3.0.6 (continued)

Specification 5.5.12, "Safety Function Determination Program (SFDP)," ensures loss of safety function is detected and appropriate actions are taken. Upon entry into LCO 3.0.6, an evaluation shall be made to determine if loss of safety function exists. Additionally, other limitations, remedial actions, or compensatory actions may be identified as a result of the support system inoperability and corresponding exception to entering supported system Conditions and Required Actions. The SFDP implements the requirements of LCO 3.0.6.

Cross division checks to identify a loss of safety function for those support systems that support safety systems are required. The cross division check verifies that the supported systems of the redundant OPERABLE support system are OPERABLE, thereby ensuring safety function is retained. A loss of safety function may exist when a support system is inoperable, and:

a. A required system redundant to system(s) supported by the inoperable support system is also inoperable (EXAMPLE B3.0.6-1); or

b. A required system redundant to system(s) in turn supported by the inoperable supported system is also inoperable (EXAMPLE B3.0.6-2); or

c. A required system redundant to support system(s) for the supported systems (a) and (b) above is also inoperable (EXAMPLE B3.0.6-3).

EXAMPLE B3.0.6-1

If System 2 of Division A is inoperable, and System 5 of Division B is inoperable, a loss of safety function exists in supported System 5.

EXAMPLE B3.0.6-2

If System 2 of Division A is inoperable, and System 11 of Division B is inoperable, a loss of safety function exists in System 11 which in turn is supported by System 5.

EXAMPLE B3.0.6-3

If System 2 of Division A is inoperable, and System 1 of Division B is inoperable, a loss of safety function exists in Systems 2, 4, 5, 8, 9, 10 and 11.

If this evaluation determines that a loss of safety function exists, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.

(continued)

SR 3.0.2 and SR 3.0.3 apply in Chapter 5 only wnen invoked by a Chapter 5 Specification

B 3.0 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY

BASES

SRs

SR 3.0.1 through SR 3.0.4 establish the general requirements applicable to all Specifications in Sections 3.1 through 3.10 and apply at all times, unless otherwise stated.

SR 3.0.1

SR 3.0.1 establishes the requirement that SRs must be met during the MODES or other specified conditions in the Applicability for which the requirements of the LCO apply, unless otherwise specified in the individual SRs. This Specification is to ensure that Surveillances are performed to verify the OPERABILITY of systems and components, and that variables are within specified limits. Failure to meet a Surveillance within the specified Frequency, in accordance with SR 3.0.2, constitutes a failure to meet an LCO. Surveillances may be performed by means of any series of sequential, overlapping, or total steps provided the entire Surveillance is performed within the specified Frequency. Additionally, the definitions related to instrument testing (e.g., CHANNEL CALIBRATION) specify that these tests are performed by means of any series of sequential, overlapping, or total steps.

Systems and components are assumed to be OPERABLE when the associated SRs have been met. Nothing in this Specification, however, is to be construed as implying that systems or components are OPERABLE when:

a. The systems or components are known to be inoperable, although still meeting the SRs; or

b. The requirements of the Surveillance(s) are known to be not met between required Surveillance performances.

Surveillances do not have to be performed when the plant is in a MODE or other specified condition for which the requirements of the associated LCO are not applicable, unless otherwise specified. The SRs associated with a Special Operations LCO are only applicable when the Special Operations LCO is used as an allowable exception to the requirements of a Specification.

Unplanned events may satisfy the requirements (including applicable acceptance criteria) for a given SR. In this case, the unplanned event may be credited as fulfilling the performance of the SR.

(continued)

When a section 5.5, "Programs and Manuals," specification states that the provisions of SR 3.0.2 are applicable, a 25% extension of the testing interval, whether stated in the specification or incorporated by reference, is permitted.

BASES

SR 3.0.2 (continued)

The 25% extension does not significantly degrade the reliability that results from performing the Surveillance at its specified Frequency. This is based on the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the SRs. The exceptions to SR 3.0.2 are those Surveillances for which the 25% extension of the interval specified in the Frequency does not apply. These exceptions are stated in the individual Specifications. The requirements of regulations take precedence over the TS. ~~An example~~ of where SR 3.0.2 does not apply ~~is~~ the Primary Containment Leakage Rate Testing Program. ~~This program~~ establishes testing requirements and Frequencies in accordance with the requirements of regulations. The TS cannot in and of themselves extend a test interval specified in the regulations.

Examples

are

These programs

directly or by reference.

required by 10 CFR 50, Appendix J, and the inservice testing of pumps and valves in accordance with the applicable American Society of Mechanical Engineers Operation and Maintenance Code, as required by 10 CFR 50.55a.

As stated in SR 3.0.2, the 25% extension also does not apply to the initial portion of a periodic Completion Time that requires performance on a "once per..." basis. The 25% extension applies to each performance after the initial performance. The initial performance of the Required Action, whether it is a particular Surveillance or some other remedial action, is considered a single action with a single Completion Time. One reason for not allowing the 25% extension to this Completion Time is that such an action usually verifies that no loss of function has occurred by checking the status of redundant or diverse components or accomplishes the function of the inoperable equipment in an alternative manner.

The provisions of SR 3.0.2 are not intended to be used repeatedly merely as an operational convenience to extend Surveillance intervals (other than those consistent with refueling intervals) or periodic Completion Time intervals beyond those specified.

SR 3.0.3

SR 3.0.3 establishes the flexibility to defer declaring affected equipment inoperable or an affected variable outside the specified limits when a Surveillance has not been completed within the specified Frequency. A delay period of up to 24 hours or up to the limit of the specified Frequency, whichever is greater, applies from the point in time that it is discovered that the Surveillance has not been performed in accordance with SR 3.0.2, and not at the time that the specified Frequency was not met. This delay period provides adequate time to complete Surveillances that have been missed. This delay period permits the completion of a Surveillance before complying with Required Actions or other remedial measures that might preclude completion of the Surveillance.

When a Section 5.5, "Programs and Manuals," specification states that the provisions of SR 3.0.3 are applicable, it permits the flexibility to defer declaring the testing requirement not met in accordance with SR 3.0.3 when the testing has not been completed within the testing interval (including the allowance of SR 3.0.2 if invoked by the Section 5.5 specification).

BASES

SURVEILLANCE REQUIREMENTS

SR 3.1.7.7 (continued)

pump flow rate requirement ensures that, when combined with the sodium pentaborate solution concentration requirements, the rate of negative reactivity insertion from the SLC System will adequately compensate for the positive reactivity effects encountered during power reduction, cooldown of the moderator, and xenon decay. This test confirms pump and motor capability and is indicative of overall performance. Such inservice tests confirm component OPERABILITY, trend performance, and detect incipient failures by indicating abnormal performance. The Frequency of this Surveillance is in accordance with the ~~Inservice Testing Program.~~ INSERVICE TESTING PROGRAM

SR 3.1.7.8 and SR 3.1.7.9

These Surveillances ensure that there is a functioning flow path from the boron solution storage tank to the RPV, including the firing of an explosive valve primer assembly. The replacement primer assembly for the explosive valve shall be from the same manufactured batch as the one fired or from another batch that has been certified by having one of that batch successfully fired. The Surveillance may be performed in separate steps to prevent injecting boron into the RPV. An acceptable method for verifying flow from the pump to the RPV is to pump demineralized water from a test tank through one SLC subsystem and into the RPV. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

Demonstrating that all heat traced piping between the boron solution storage tank and the suction inlet to the injection pumps is unblocked ensures that there is a functioning flow path for injecting the sodium pentaborate solution. An acceptable method for verifying that the suction piping is unblocked is to manually initiate the system, except the explosive valves, and pump from the storage tank and recirculating it back to the storage tank. Upon completion of this verification, the pump suction piping must be flushed with demineralized water to ensure piping between the storage tank and pump suction is unblocked.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program. This is especially true in light of the temperature verification of this piping required by SR 3.1.7.3. However, if, in performing SR 3.1.7.3, it is determined that the temperature of this piping has fallen below the specified minimum, SR 3.1.7.9 must be performed once within 24 hours after the piping temperature is restored to within the limits of Figure 3.1.7-2.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.1.8.1 (continued)

that the SDV vent and drain valves will perform their intended functions during normal operation. This SR does not require any testing or valve manipulation; rather, it involves verification that the valves are in the correct position.

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

SR 3.1.8.2

During a scram, the SDV vent and drain valves should close to contain the reactor water discharged to the SDV piping. Cycling each valve through its complete range of motion (closed and open) ensures that the valve will function properly during a scram. The Frequency is in accordance with the ~~Inservice Testing Program requirements~~.

INSERVICE TESTING PROGRAM

SR 3.1.8.3

SR 3.1.8.3 is an integrated test of the SDV vent and drain valves to verify total system performance. After receipt of a simulated or actual scram signal, the closure of the SDV vent and drain valves is verified. The closure time of 30 seconds after receipt of a scram signal is based on the bounding leakage case evaluated in the accident analysis (Ref. 3). Similarly, after receipt of a simulated or actual scram reset signal, the opening of the SDV vent and drain valves is verified. The LOGIC SYSTEM FUNCTIONAL TEST in LCO 3.3.1.1 and the scram time testing of control rods in LCO 3.1.3 overlap this Surveillance to provide complete testing of the assumed safety function. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

(continued)

BASES (continued)

APPLICABILITY

In MODES 1, 2, and 3, nine S/RVs must be OPERABLE, since considerable energy may be in the reactor core and the limiting design basis transients are assumed to occur in these MODES. The S/RVs may be required to provide pressure relief to discharge energy from the core until such time that the Residual Heat Removal (RHR) System is capable of dissipating the core heat.

In MODE 4, decay heat is low enough for the RHR System to provide adequate cooling, and reactor pressure is low enough that the overpressure limit is unlikely to be approached by assumed operational transients or accidents. In MODE 5, the reactor vessel head is unbolted or removed and the reactor is at atmospheric pressure. The S/RV function is not needed during these conditions.

ACTIONS

A.1 and A.2

With less than the minimum number of required S/RVs OPERABLE, a transient may result in the violation of the ASME Code limit on reactor pressure. If the safety function of the inoperable required S/RVs cannot be restored to OPERABLE status, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.4.3.1

This Surveillance requires that the required S/RVs open at the pressures assumed in the safety analysis of References 3 and 4. The demonstration of the S/RV safety function lift settings must be performed during shutdown, since this is a bench test, to be done in accordance with the ~~Inservice Testing Program~~. The lift setting pressure shall correspond to ambient conditions of the valves at nominal operating temperatures and pressures. The S/RV setpoint is ± 3% for OPERABILITY; however, the valves are reset to ± 1% during the Surveillance to allow for drift.

INSERVICE TESTING PROGRAM

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.4.3.2

Valve OPERABILITY and the setpoints for overpressure protection are verified, per ASME Code requirements, prior to valve installation. Actuation of each required S/RV is performed to verify that mechanically the valve is functioning properly. This requires that the pilot stage be tested to show that it actuates when required and opens the associated main stage. Likewise, the main stage must be tested to show that it opens and passes steam when the associated pilot stage actuates. The actuators and main stages are bench tested, together or separately, as part of the certification process, at intervals determined in accordance with the ~~Inservice Testing Program~~. Maintenance procedures ensure that the S/RV actuators and main stages are correctly installed in the plant, and that the S/RV and associated piping remain clear of foreign material that might obstruct valve operation or full steam flow. This approach provides adequate assurance that the required S/RVs will operate as required, while minimizing the challenges to the S/RVs and the likelihood of leakage or spurious operation.

INSERVICE TESTING PROGRAM

For the purpose of this test, pilot actuation in the safety mode or relief mode is acceptable to satisfy the test requirements. Testing of the related solenoid valves is not required because they do not affect the safety mode operation of the S/RV. However, the solenoid valves are also tested in the ~~IST program~~ to support relief mode operation of the S/RVs for other functions.

INSERVICE TESTING PROGRAM

REFERENCES

1. ASME, Boiler and Pressure Vessel Code, Section III.
2. UFSAR, Section 4.4.
3. UFSAR, Section 14.5.1.2.
4. UFSAR, Section 16.9.3.2.3.
5. UFSAR, Section 14.5.2.
6. 10 CFR 50.36(c)(2)(ii).
7. ASME, Boiler and Pressure Vessel Code, Section XI.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.5.1.5 (continued)

demonstrates that the AC electrical power is available to ensure proper operation of the associated LPCI injection and heat exchanger bypass valves and the recirculation pump discharge valve. Each inverter must be OPERABLE for the associated LPCI subsystem to be OPERABLE. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.5.1.6

Cycling the recirculation pump discharge valves through one complete cycle of full travel demonstrates that the valves are mechanically OPERABLE and will close when required. Upon initiation of an automatic LPCI subsystem injection signal, these valves are required to close to ensure full LPCI subsystem flow injection in the reactor via the recirculation jet pumps. De-energizing the valve in the closed position will also ensure the proper flow path for the LPCI subsystem. Acceptable methods of de-energizing the valve include de-energizing breaker control power, racking out the breaker or removing the breaker.

The specified Frequency is once during reactor startup before THERMAL POWER is > 25% RTP. However, this SR is modified by a Note that states the Surveillance is only required to be performed if the last performance was more than 31 days ago. Verification during reactor startup prior to reaching > 25% RTP is an exception to the normal ~~Inservice Testing Program~~ generic valve cycling Frequency of 92 days, but is considered acceptable due to the demonstrated reliability of these valves. If the valve is inoperable and in the open position, the associated LPCI subsystem must be declared inoperable.

INSERVICE TESTING PROGRAM

SR 3.5.1.7, SR 3.5.1.8, and SR 3.5.1.9

The performance requirements of the low pressure ECCS pumps are determined through application of the 10 CFR 50, Appendix K criteria (Ref. 8). This periodic Surveillance is performed (in accordance with

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.5.1.7, SR 3.5.1.8, and SR 3.5.1.9 (continued)

perform the test. The 12 hours allowed for performing the flow test after the required pressure and flow are reached is sufficient to achieve stable conditions for testing and provides reasonable time to complete the SRs.

The Frequency for SR 3.5.1.7 and SR 3.5.1.8 is in accordance with the ~~Inservice Testing Program~~ requirements. The Frequency for SR 3.5.1.9 is controlled under the Surveillance Frequency Control Program.

INSERVICE TESTING PROGRAM

SR 3.5.1.10

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. The HPCI System actual or simulated automatic actuation test must be performed with adequate steam pressure for verification of automatic pump startup. Additionally, adequate steam flow must be passing through the main turbine or turbine bypass valves to continue to control reactor pressure when the HPCI System diverts steam flow. Thus, sufficient time is allowed after adequate pressure and flow are achieved to perform this test associated with the HPCI System. Adequate reactor steam dome pressure is > 150 psig. Adequate steam flow is represented by at least one turbine bypass valve open. This SR also ensures that the HPCI System will automatically restart on an RPV low water level (Level 2) signal received subsequent to an RPV high water level (Level 8) trip. In addition, this SR also ensures that the HPCI suction is automatically

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.5.1.13 (continued)

Actuation of each required ADS valve is performed to verify that mechanically the valve is functioning properly. The tests are required to demonstrate:

- That each ADS S/RV solenoid valve ports pneumatic pressure to the associated S/RV actuator when energized;
- That each ADS S/RV pilot stage actuates to open the associated main stage when the pneumatic actuator is pressurized; and
- That each ADS S/RV main stage opens and passes steam when the associated pilot stage actuates.

The solenoid valves are functionally tested once per cycle as part of the Inservice Testing Program. The actuators and main stages are bench tested, together or separately, as part of the certification process, at intervals determined in accordance with the ~~Inservice Testing Program~~. Maintenance procedures ensure that the S/RV actuators and main stages are correctly installed in the plant, and that the S/RV and associated piping remain clear of foreign material that might obstruct valve operation or full steam flow. This approach provides adequate assurance that the required ADS valves will operate when actuated, while minimizing the challenges to the valves and the likelihood of leakage or spurious operation. The two-stage actuator assemblies are not tested in-situ due to a high probability of causing unseating or leakage of the pilot stage which can lead to spurious actuation or failure to reclose. SR 3.5.1.11 and the LOGIC SYSTEM FUNCTIONAL Test performed in LCO 3.3.5.1 overlap this Surveillance to provide complete testing of the assumed safety function.

INSERVICE TESTING PROGRAM

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.1.3.3 (continued)

92 days" is appropriate since these isolation devices are operated under administrative controls and the probability of their misalignment is low. This SR does not apply to valves that are locked, sealed, or otherwise secured in the closed position, since these were verified to be in the correct position upon locking, sealing, or securing.

Two Notes have been added to this SR. The first Note allows valves and blind flanges located in high radiation areas to be verified by use of administrative controls. Allowing verification by administrative controls is considered acceptable since the primary containment is inerted and access to these areas is typically restricted during MODES 1, 2, and 3 for ALARA reasons. Therefore, the probability of misalignment of these isolation devices, once they have been verified to be in their proper position, is low. A second Note has been included to clarify that PCIVs that are open under administrative controls are not required to meet the SR during the time that the PCIVs are open. These controls consist of stationing a dedicated operator at the controls of the valve, who is in continuous communication with the control room. In this way, the penetration can be rapidly isolated when a need for primary containment isolation is indicated.

SR 3.6.1.3.4

The traversing incore probe (TIP) shear isolation valves are actuated by explosive charges. Surveillance of explosive charge continuity provides assurance that TIP valves will actuate when required. Other administrative controls, such as those that limit the shelf life of the explosive charges, must be followed. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.6.1.3.5

Verifying the isolation time of each power operated, automatic PCIV is within limits is required to demonstrate OPERABILITY. MSIVs may be excluded from this SR since MSIV full closure isolation time is demonstrated by SR 3.6.1.3.6. The isolation time test ensures that the valve will isolate in a time period less than or equal to that assumed in the safety analyses. The Frequency of this SR is in accordance with the requirements of the ~~Inservice Testing Program~~.

INSERVICE TESTING PROGRAM

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.1.3.6

Verifying that the isolation time of each MSIV is within the specified limits is required to demonstrate OPERABILITY. The isolation time test ensures that the MSIV will isolate in a time period that does not exceed the times assumed in the DBA analyses. This ensures that the calculated radiological consequences of these events remain within 10 CFR 100 limits. The Frequency of this SR is in accordance with the requirements of the ~~Inservice Testing Program.~~ INSERVICE TESTING PROGRAM

SR 3.6.1.3.7

Automatic PCIVs close on a primary containment isolation signal to prevent leakage of radioactive material from primary containment following a DBA. This SR ensures that each automatic PCIV will actuate to its isolation position on a primary containment isolation signal. The LOGIC SYSTEM FUNCTIONAL TEST in LCO 3.3.6.1, "Primary Containment Isolation Instrumentation," overlaps this SR to provide complete testing of the safety function. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.6.1.3.8

This SR requires a demonstration that each reactor instrumentation line excess flow check valve (EFCV) is OPERABLE by verifying that the valve actuates to the isolation position on a simulated instrument line break. This SR provides assurance that the instrumentation line EFCVs will perform so that secondary containment will not be overpressurized during the postulated instrument line break (Ref. 10). The Frequency of this SR is in accordance with the requirements of the ~~Inservice Testing Program.~~ INSERVICE TESTING PROGRAM

SR 3.6.1.3.9

The TIP shear isolation valves are actuated by explosive charges. An in-place functional test is not possible with this design. The explosive squib is removed and tested to provide assurance that the valves will actuate when required. The replacement charge for the explosive squib shall be from the same manufactured batch as the one fired or from another batch that has been certified by having one of the batch successfully fired. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

(continued)

BASES

ACTIONS (continued)

E.1 and E.2

If any Required Action and associated Completion Time cannot be met, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.1.6.1

Each vacuum breaker is verified to be closed to ensure that a potential breach in the primary containment boundary is not present. This Surveillance may be performed by observing local or remote indications of vacuum breaker position. Position indications of the air operated vacuum breakers are available in the control and relay rooms while position indications of the self actuating vacuum breakers are only available in the relay room. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

Two Notes are added to this SR. The first Note allows reactor building-to-suppression chamber vacuum breakers opened in conjunction with the performance of a Surveillance to not be considered as failing this SR. These periods of opening vacuum breakers are controlled by plant procedures and do not represent inoperable vacuum breakers. The second Note is included to clarify that vacuum breakers open due to an actual differential pressure are not considered as failing this SR.

SR 3.6.1.6.2

Each vacuum breaker must be cycled to ensure that it opens properly to perform its design function and returns to its fully closed position. This ensures that the safety analysis assumptions are valid. The Frequency of this SR is in accordance with the ~~Inservice Testing Program.~~

(continued)

INSERVICE TESTING PROGRAM

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.1.7.1 (continued)

Two Notes are added to this SR. The first Note allows suppression chamber-to-drywell vacuum breakers opened in conjunction with the performance of a Surveillance to not be considered as failing this SR. These periods of opening vacuum breakers are controlled by plant procedures and do not represent inoperable vacuum breakers.

The second Note is included to clarify that vacuum breakers open due to an actual differential pressure are not considered as failing this SR.

SR 3.6.1.7.2

Each vacuum breaker must be cycled to ensure that it opens adequately to perform its design function and returns to the fully closed position. This ensures that the safety analysis assumptions are valid. The Frequency of this SR is in accordance with the ~~Inservice Testing Program~~.

INSERVICE TESTING PROGRAM

SR 3.6.1.7.3

Verification of the vacuum breaker opening setpoint is necessary to ensure that the safety analysis assumption regarding vacuum breaker opening differential pressure of 0.5 psid is valid. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

REFERENCES

1 UFSAR, Section 14.6.1.3.3.

2 UFSAR, Section 5.2.3.6.

3 UFSAR, Section 5.2.4.2.

4 Preliminary Hazards Summary Report, Bodega Bay Atomic Park Unit Number 1, Docket No. 50-205, Appendix I, December 28, 1962.

5 10 CFR 50.36(c)(2)(ii).

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.1.9.1 (continued)

also allowed to be in the nonaccident position provided it can be aligned to the accident position within the time assumed in the accident analysis. This is acceptable since the RHR Containment Spray System is manually initiated. This SR does not require any testing or valve manipulation; rather, it involves verification that those valves capable of being mispositioned are in the correct position. This SR does not apply to valves that cannot be inadvertently misaligned, such as check valves.

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

SR 3.6.1.9.2

Verifying each required RHR pump develops a flow rate ≥ 7750 gpm while operating in the suppression pool cooling mode with flow through the associated heat exchanger ensures that pump performance has not degraded during the cycle. It is tested in the pool cooling mode to demonstrate pump OPERABILITY without spraying down equipment in the drywell. Flow is a normal test of centrifugal pump performance required by the ASME Code, Section XI (Ref. 6). This test confirms one point on the pump performance curve and is indicative of overall performance. Such inservice tests confirm component OPERABILITY, trend performance, and detect incipient failures by indicating abnormal performance. The Frequency of this SR is in accordance with the ~~Inservice Testing Program.~~

INSERVICE TESTING PROGRAM

SR 3.6.1.9.3

This Surveillance is performed by introduction of air to verify that the spray nozzles are not obstructed and that flow will be provided when required. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

(continued

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.2.3.2

Verifying that each required RHR pump develops a flow rate ≥ 7700 gpm while operating in the suppression pool cooling mode with flow through the associated heat exchanger ensures that pump performance has not degraded during the cycle. Flow is a normal test of centrifugal pump performance required by ASME Code, Section XI (Ref. 5). This test confirms one point on the pump performance curve, and the results are indicative of overall performance. Such ~~inservice~~ tests confirm component OPERABILITY, trend performance, and detect incipient failures by indicating abnormal performance. The Frequency of this SR is in accordance with the ~~Inservice Testing Program.~~ INSERVICE TESTING

REFERENCES

1. UFSAR, Section 14.6.1.3.3.

2. GE-NE-T23-00737-01, James A. FitzPatrick Nuclear Power Plant Higher RHR Service Water Temperature Analysis, August 1996.

3. NEDC-24361-P, James. A FitzPatrick Nuclear Power Plant Suppression Pool Temperature Response, August 1981.

4. 10 CFR 50.36(c)(2)(ii).

5. ASME, Boiler and Pressure Vessel Code, Section XI.

BASES

APPLICABLE SAFETY ANALYSIS (continued)

The DBA analysis does not assume a specific closure time for primary containment isolation valves (PCIVs). The analysis assumes that the leakage from the primary containment is 1.5 percent primary containment air weight per day (L_a) at pressure P_a throughout the accident. The bases for PCIV closure times, and the specified valve closure times, are specified in UFSAR Section 7.3.3.1 and UFSAR Table 7.3-1 (Refs. 5 and 6), respectively.

The single failure criterion required to be imposed in the conduct of plant safety analyses was considered in the original design of the primary containment vent and purge valves. Two valves in series on each vent and purge line provide assurance that both the supply and exhaust lines could be isolated even if a single failure occurred.

PCIVs satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii) (Ref. 7).

LCO

PCIVs form a part of the primary containment boundary. The PCIV safety function is related to minimizing the loss of reactor coolant inventory and establishing the primary containment boundary during a DBA.

The power operated, automatic isolation valves are required to have isolation times within limits and actuate on an automatic isolation signal. The 20 and 24 inch vent and purge valves must be maintained closed or blocked to prevent full opening. While the reactor building-to-suppression chamber vacuum breakers isolate primary containment penetrations, they are excluded from this Specification. Controls on their isolation function are adequately addressed in LCO 3.6.1.6, "Reactor Building-to-Suppression Chamber Vacuum Breakers." The valves covered by this LCO are listed in Reference 8. The associated stroke time of each automatic PCIV is included in the ~~Inservice Testing (IST) Program~~.

INSERVICE TESTING PROGRAM

The normally closed PCIVs are considered OPERABLE when manual valves are closed or open in accordance with appropriate administrative controls, automatic valves are de-activated and secured in their closed position, blind flanges are in place, and closed systems are intact. These passive isolation valves and devices are those listed in Reference 8.

MSIVs, Low Pressure Coolant Injection (LPCI) and Core Spray (CS) System air operated testable check valves must meet additional leakage rate requirements. Other PCIV leakage rates are addressed by LCO 3.6.1.1, "Primary Containment," as Type B or C testing.

(continued)

BASES

APPLLICABLE SAFETY ANALYSES (continued)

operate, if the worst single active failure occurs coincident with the loss of offsite power.

A subsystem is considered OPERABLE when it has an OPERABLE UHS, one OPERABLE pump, and an OPERABLE flow path capable of taking suction from the intake structure and transferring the water to the appropriate equipment. OPERABILITY of equipment cooled by the ESW System is based on heat transfer, not flow rates; OPERABILITY of the ESW pumps is based on measured performance remaining within allowable ~~IST Program~~ acceptance criteria.

The OPERABILITY of the UHS is based on having a minimum water level in the screenwell of 236.5 ft mean sea level and a maximum water temperature of 85°F.

The isolation of the ESW System to components or systems may render those components or systems inoperable, but does not affect the OPERABILITY of the ESW System.

INSERVICE TESTING PROGRAM

APPLICABILITY

In MODES 1, 2, and 3, the ESW System and UHS are required to be OPERABLE to support OPERABILITY of the equipment serviced by the ESW System. Therefore, the ESW System and UHS are required to be OPERABLE in these MODES.

In MODES 4 and 5, the OPERABILITY requirements of the ESW System and UHS are determined by the systems they support and therefore, the requirements are not the same for all facets of operation in MODES 4 and 5. Thus, LCO 3.7.4, "Control Room AC System," and LCO 3.8.2, "AC Sources - Shutdown," which require the ESW System to be OPERABLE, will govern ESW System operation in MODES 4 and 5.

ACTIONS

A.1

With one ESW subsystem inoperable, the ESW subsystem must be restored to OPERABLE status within 7 days. With the plant in this condition, the remaining OPERABLE ESW subsystem is adequate to perform the heat removal function. However, the overall reliability is reduced because a single active component failure in the OPERABLE ESW subsystem could result in loss of ESW function.

The 7 day Completion Time is based on the redundant ESW System capabilities afforded by the OPERABLE subsystem, the low probability of an accident occurring during this time period, and is consistent with the allowed Completion Time for restoring an inoperable EDG subsystem.

(continued)