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Waterford 3

W3F1-2016-0036

10 CFR 50.90
10 CFR 50.55a

July 25, 2016

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

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," and to Request an Alternative to the ASME Code
Waterford Steam Electric Station, Unit 3
Docket No. 50-382
License No. NPF-38

Dear Sir or Madam:

Pursuant to 10 CFR 50.90, Entergy Operations, Inc. (Entergy) is submitting a request for an amendment to the Technical Specifications (TS) for Waterford Steam Electric Station, Unit 3 (Waterford 3). The proposed change revises the TSs to eliminate the Section 6.5.8, "Inservice Testing Program" (TS Section 5.5 of NUREG 1432, "Standard Technical Specifications – Combustion Engineering Plants," Revision 4, is referred to as TS Section 6.5.8 in the Waterford 3 TSs). 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."

Pursuant to 10 CFR 50.55a(z), the application also proposes an alternative to the testing frequencies in the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code, by adoption of approved Code Case OMN-20, "Inservice Test Frequency," for the third 10 year Inservice Testing (IST) interval. This information is contained in Attachment 5.

Attachment 1 provides a description and assessment of the proposed changes. Attachment 2 provides the existing TS pages marked up to show the proposed changes. Attachment 3 provides revised (clean) TS pages. Attachment 4 provides TS Bases pages marked up to show the associated TS Bases changes and is provided for information only. Attachment 5 provides a description and assessment of the proposed alternative to the ASME Code.

Approval of the proposed amendment and relief request is requested by July 25, 2017. Once approved, the amendment shall be implemented within 90 days.

In accordance with 10 CFR 50.91, a copy of this application, with attachments, is being provided to the designated Louisiana state official.
No new commitments have been identified in this letter.

I declare under penalty of perjury that the foregoing is true and correct. Executed on July 25, 2016.

If you have any questions or require additional information, please contact John Jarrell at 504-739-6685

Sincerely,

MRC/rmc

Attachments:

1. Description and Assessment of Technical Specification Changes
2. Proposed Technical Specification Changes (Mark-Up)
3. Revised Technical Specification Pages
4. Proposed Technical Specification Bases Changes (Mark-Up) – Information Only
5. Description and Assessment of the Proposed Alternative to the ASME Code

cc: Mr. Kriss Kennedy
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NRC Senior Resident Inspector
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U. S. Nuclear Regulatory Commission
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Louisiana Department of Environmental Quality
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Attachment 1 to

W3F1-2016-0036

Description and Assessment of Technical Specification Changes

Description and Assessment of Technical Specification Changes

1.0 DESCRIPTION

The proposed change eliminates the Technical Specifications (TS), Section 6.5.8, “Inservice Testing (IST) Program,” to remove requirements duplicated in American Society of Mechanical Engineers (ASME) Code for Operations 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 1.0, "Definitions.” The proposed change to the TS is consistent with TSTF-545, Revision 3, “TS Inservice Testing Program Removal & Clarify SR Usage Rule Application to Section 5.5 Testing.”

2.0 ASSESSMENT

2.1 Applicability of Published Safety Evaluation

Entergy Operations, Inc. (Entergy), has reviewed the model safety evaluation (SE) addressed to the Technical Specifications Task Force in a letter dated December 11, 2015, (ADAMS Accession No. ML15317A071). This review included a review of the NRC staff’s evaluation, as well as the information provided in TSTF-545. Entergy concluded that the justifications presented in TSTF-545, and the model safety evaluation prepared by the NRC staff are applicable to Waterford Steam Electric Station, Unit 3 (Waterford 3) and justify this amendment for the incorporation of the changes to the Waterford 3 TS.

Waterford 3 was issued a construction permit on November 14, 1972 (CPPR-103), and the provisions of 10 CFR 50.55a(f)(2) are applicable.

2.2 Variations

The Waterford 3 TSs (NUREG-0973) are of an older standard version and have not been converted to the improved standard TSs (ISTSs) based on NUREG 1432, “Standard Technical Specifications – Combustion Engineering Plants,” Revision 4. Entergy performed a search of the entire Waterford 3 TSs for the key phrase “inservice testing program” and “IST”. TS numbering generally differs from that of the ISTS. Actual TS wording may also differ. Therefore, each Waterford 3 TS is listed in the following table, along with the ISTS listing from TSTF-545, with any differences or variations discussed individually. While Entergy has confirmed that TSTF-545 and its associated model SE are applicable to Waterford 3, because of the non-ISTS Waterford 3 version, it is understood that this amendment request will not be reviewed under the Consolidated Line Item Improvement Process (CLIIP). Minor page formatting/cleanup is performed where appropriate which is not discussed further in this submittal.

Waterford 3 TS	ISTS	Differences
New 1.40	Section 1.1	Unlike the ISTS, the Waterford 3 TS Definitions are numbered and are not in alphabetical order. Therefore, the INSERVICE TESTING PROGRAM definition is added as new Definition 1.40 to TS Page 1-8, keeping the current Waterford 3 TS formatting.
SR 4.4.2.1	SR 3.4.10.1	There are minor wording differences between the respective Waterford 3 SR and the ISTS version of TSTF-545; however, the IST program capitalization remains applicable.
SR 4.4.5.2.3	SR 3.4.14.1	The respective Waterford 3 SR lists specific requirements and does not refer to the IST program. Therefore, this TS page is not included in this amendment request.
SR 4.5.2.f	SR 3.5.2.4	There are wording differences between the respective Waterford 3 SR and ISTS version of TSTF-545; however, the IST program capitalization remains applicable.
SR 4.1.2.3	SR 3.5.2.5	The Waterford 3 Charging Pump TS is applicable in Modes 5 and 6 and the Waterford 3 SR states that no additional SRs are required other than those required by the IST program. The IST program capitalization remains applicable.
SR 4.1.2.5	NA	The IST program is listed in the Waterford 3 SR is associated with testing of the Boric Acid Pumps. Because the IST program capitalization remains applicable this TS page is included in the appropriate attachments of this amendment request.
SR 4.4.2.2	SR 3.4.10.1	There are minor wording differences between the respective Waterford 3 SR and the ISTS version of TSTF-545; however, the IST program capitalization remains applicable.
SR 4.4.8.3.1	NA	The IST program is listed in the Waterford 3 SR is associated with testing of the Shutdown Cooling Relief Valves. Because the IST program capitalization remains applicable this TS page is included in the appropriate attachments of this amendment request.
SR 4.6.3.3	SR 3.6.3.5	There are minor wording differences between the respective Waterford 3 SR and the ISTS version of TSTF-545; however, the IST program capitalization remains applicable.
SR 4.6.2.1.c	SR 3.6.6A.5	There are wording differences between the respective Waterford 3 SR and ISTS version of TSTF-545; however, the IST program capitalization remains applicable.
SR 4.6.2.1.c	SR 3.6.6B.5	There are wording differences between the respective Waterford 3 SR and ISTS version of TSTF-545; however, the IST program capitalization remains applicable.
NA	SR 3.6.7.4	No corresponding Waterford 3 Technical Specification exists.
SR 4.6.5	SR 3.6.12.1	There are wording differences between the respective Waterford 3 SR and ISTS version of TSTF-545; however,

Waterford 3 TS	ISTS	Differences
		the IST program capitalization remains applicable.
SR 4.7.1.1	SR 3.7.1.1	There are minor wording differences between the respective Waterford 3 SR and the ISTS version of TSTF-545; however, the IST program capitalization remains applicable.
SR 4.7.1.5.a	SR 3.7.2.1	There are minor wording differences between the respective Waterford 3 SR and the ISTS version of TSTF-545; however, the IST program capitalization remains applicable.
SR 4.7.1.6.a	SR 3.7.3.1	There are minor wording differences between the respective Waterford 3 SR and the ISTS version of TSTF-545; however, the IST program capitalization remains applicable.
SR 4.7.1.2.b	SR 3.7.5.2	There are wording differences between the respective Waterford 3 SR and ISTS version of TSTF-545; however, the IST program capitalization remains applicable.
SR 4.7.1.7.c	NA	The IST program listed in the Waterford 3 SR is associated with testing of the Atmospheric Dump Valves. Because the IST program capitalization remains applicable this TS page is included in the appropriate attachments of this amendment request.
6.5.8	5.5.8	Inservice Testing Program is deleted from the technical specifications as discussed in TSTF-545.

TSTF-545 deletes the IST program TS 6.5.8 (ISTS 5.5.8) as discussed in TSTF-545. This also impacts several TS Bases references. Entergy proposes to retain the TS 6.5.8 reference, now shown as “DELETED”, and not change the subsequent TS program numbers. These program numbers are referenced in a wealth of station procedures. By maintaining the current program numbering, excessive administrative burden is avoided. Based on this approach, several TSTF-545 TS Bases markup pages associated with the TSTF-545 program numbering are not included in Attachment 4 of this application.

No technical variances are proposed in this amendment request. Therefore, Entergy has concluded the aforementioned variations are acceptable.

3.0 REGULATORY ANALYSIS

3.1 No Significant Hazards Consideration Analysis

Entergy Operations, Inc. (Entergy), 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 Improved Standard Technical Specifications (ISTS), into the Waterford Steam Electric Station, Unit 3 (Waterford 3) TS. The proposed change revises the TS Chapter 6, "Administrative Controls," Section 6.5, "Programs” to delete the "Inservice Testing Program" specification. Requirements in the Inservice Testing (IST) Program are removed, as they are duplicative of requirements in the American Society of Mechanical Engineers (ASME) Operations and Maintenance (OM)

Code, as clarified by Code Case OMN-20, “Inservice Test Frequency.” Note that TS Section 5.5 of NUREG 1432, “Standard Technical Specifications – Combustion Engineering Plants,” Revision 4, is referred to as TS Section 6.5.8 in the Waterford 3 TSs. Other requirements in Section 6.5.8 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). Entergy 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 change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   The proposed change revises TS Chapter 6, "Administrative Controls," Section 6.5, "Programs”" by eliminating the "Inservice Testing Program" specification. Most requirements in the IST Program are removed, as they are duplicative of requirements in the ASME OM Code, as clarified by Code Case OMN-20, “Inservice Test Frequency.” The remaining requirements in the Section 6.5.8, IST Program are eliminated because the NRC has determined their inclusion in the TS is contrary to regulations. A new defined term, “Inservice Testing Program,” is added to the TS, which references the requirements of 10 CFR 50.55a(f).

   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 2 years may be extended by up to 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 change 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 change 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 2 years to be extended by 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 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 Surveillance Requirement (SR) 4.0.3 (referenced as SR 3.0.3 in the ISTS) 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 (equipment operability). Should the component be inoperable, the Technical Specifications 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, Entergy 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 EVALUATION

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.

5.0 PRECEDENCE

Because TSTF-545, Revision 3, was approved by the NRC in December 2015, time has not permitted licensees to apply, and gain approval for, adoption of TSTF-545. Therefore, other than TSTF-545 itself, no other precedence exists at this time.

Attachment 2 to

W3F1-2016-0036

Proposed Technical Specification Changes (Mark-Up)

INDEX

ADMINISTRATIVE CONTROLS

UNRESTRICTED AREA

1.36 An UNRESTRICTED AREA shall be any area at or beyond the SITE BOUNDARY access to which is not controlled by the licensee for purposes of protection of individuals from exposure to radiation and radioactive materials, or any area within the SITE BOUNDARY used for residential quarters or for industrial, commercial, institutional, and/or recreational purposes.

VENTILATION EXHAUST TREATMENT SYSTEM

1.37 A VENTILATION EXHAUST TREATMENT SYSTEM shall be any system designed and installed to reduce gaseous radioiodine or radioactive material in particulate form in effluents by passing ventilation or vent exhaust gases through charcoal adsorbers and/or HEPA filters for the purpose of removing iodines or particulates from the gaseous exhaust stream prior to the release to the environment. Such a system is not considered to have any effect on noble gas effluents. Engineered Safety Feature (ESF) atmospheric cleanup systems are not considered to be VENTILATION EXHAUST TREATMENT SYSTEM components.

VENTING

1.38 VENTING shall be the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is not provided or required during VENTING. Vent, used in system names, does not imply a VENTING process.

WASTE GAS HOLDUP SYSTEM

1.39 A WASTE GAS HOLDUP SYSTEM shall be any system designed and installed to reduce radioactive gaseous effluents by collecting coolant system offgases from the primary system and providing for delay or holdup for the purpose of reducing the total radioactivity prior to release to the environment.

INSERVICE TESTING PROGRAM

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

REACTIVITY CONTROL SYSTEMS

CHARGING PUMPS - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.3 At least one charging pump or one high pressure safety injection pump in the boron injection flow path required OPERABLE pursuant to Specification 3.1.2.1 shall be OPERABLE and capable of being powered from an OPERABLE emergency power source.

APPLICABILITY: MODES 5 and 6.

ACTION:

With no charging pump or high pressure safety injection pump OPERABLE or capable of being powered from an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS or positive reactivity changes. *

SURVEILLANCE REQUIREMENTS

4.1.2.3 No additional Surveillance Requirements other than those required by the ~~inservice testing program~~ INSERVICE TESTING PROGRAM.

* Plant temperature changes are allowed provided the temperature change is accounted for in the calculated SHUTDOWN MARGIN.

REACTIVITY CONTROL SYSTEMS

BORIC ACID MAKEUP PUMPS - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.5 At least one boric acid makeup pump shall be OPERABLE and capable of being powered from an OPERABLE emergency bus if only the flow path through the boric acid pump in Specification 3.1.2.1a. is OPERABLE.

APPLICABILITY: MODES 5 and 6.

ACTION:

With no boric acid makeup pump OPERABLE as required to complete the flow path of Specification 3.1.2.1a., suspend all operations involving CORE ALTERATIONS or positive reactivity changes. *

SURVEILLANCE REQUIREMENTS

4.1.2.5 No additional Surveillance Requirements other than those required by the ~~inservice testing program~~ INSERVICE TESTING PROGRAM.

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* Plant temperature changes are allowed provided the temperature change is accounted for in the calculated SHUTDOWN MARGIN.

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3/4.4.2 SAFETY VALVES

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.4.2.1 A minimum of one pressurizer code safety valve shall be OPERABLE with a lift setting of 2500 psia ± 3%.*

APPLICABILITY: MODE 4.

ACTION:

With no pressurizer code safety valve OPERABLE, immediately suspend all operations involving positive reactivity changes (except cooldown in shutdown cooling) and place an OPERABLE shutdown cooling loop into operation.

SURVEILLANCE REQUIREMENTS

4.4.2.1 Verify each required pressurizer code safety valve is OPERABLE in accordance with the ~~inservice testing program~~ INSERVICE TESTING PROGRAM. Following testing, lift settings shall be within ± 1%.

*The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

OPERATING

LIMITING CONDITION FOR OPERATION

3.4.2.2 All pressurizer code safety valves shall be OPERABLE with a lift setting of 2500 psia ± 3%.*

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

With one pressurizer code safety valve inoperable, either restore the inoperable valve to OPERABLE status within 15 minutes or be in at least HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.4.2.2 Verify each required pressurizer code safety valve is OPERABLE in accordance with the ~~inservice testing program~~ INSERVICE TESTING PROGRAM. Following testing, lift settings shall be within ± 1%.

*The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

SURVEILLANCE REQUIREMENTS

4.4.8.3.1 For each SDC System suction line relief valve:

a. verify in the control room at least once per 12 hours that each valve in the suction path between the RCS and the SDC relief valve is open.

b. verify each SDC relief valve is OPERABLE in accordance with the ~~inservice testing program~~ INSERVICE TESTING PROGRAM.

4.4.8.3.2 With the RCS vented per ACTIONS a, b, or c, the RCS vent(s) and all valves in the vent path shall be verified to be open at least once per 12 hours*.

*Except when the vent pathway is provided with a valve which is locked, sealed, or otherwise secured in the open position, then verify these valves open at least once per 31 days.

SURVEILLANCE REQUIREMENTS (Continued)

2. A visual inspection of the safety injection system sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or corrosion.

3. Verifying that a minimum total of 380 cubic feet of granular trisodium phosphate dodecahydrate (TSP) is contained within the TSP storage baskets.

4. Verifying that when a representative sample of 13.07 ± 0.03 grams of TSP from a TSP storage basket is submerged, without agitation, in 4 ± 0.1 liters of 120 ± 10°F water borated to 3011 ± 30 ppm, the pH of the mixed solution is raised to greater than or equal to 7 within 3 hours.

e. At least once per 18 months by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on SIAS and RAS test signals.

2. Verifying that each of the following pumps start automatically upon receipt of a safety injection actuation test signal:

   a. High pressure safety injection pump.

   b. Low pressure safety injection pump.

3. Verifying that on a recirculation actuation test signal, the low pressure safety injection pumps stop, the safety injection system sump isolation valves open.

f. By verifying that each of the following pumps required to be OPERABLE performs as indicated on recirculation flow when tested pursuant to the ~~inservice testing program~~ INSERVICE TESTING PROGRAM.

CONTAINMENT SYSTEMS

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY SYSTEM

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 RWSP on a containment spray actuation signal and automatically transferring suction to the safety injection system sump on a recirculation actuation signal. Each spray system flow path from the safety injection system sump shall be via an OPERABLE shutdown cooling heat exchanger.

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

ACTION:

a. With one containment spray system inoperable, restore the inoperable spray system to OPERABLE status within 7 days 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.

b. With two containment spray systems inoperable, restore at least one spray system to OPERABLE status within 1 hour or be in at least HOT STANDBY within the next 6 hours and be in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each containment spray system shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying that the water level in the containment spray header riser is > 149.5 feet MSL elevation.

b. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is correctly positioned to take suction from the RWSP.

c. By verifying, that on recirculation flow, each pump develops a total head of greater than or equal to 219 psid when tested pursuant to the ~~inservice testing program~~ INSERVICE TESTING PROGRAM.

*With Reactor Coolant System pressure > 400 psia.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.2 Each containment isolation valve shall be demonstrated OPERABLE at least once per 18 months by:

a. Verifying that on a containment isolation test signal, each isolation valve actuates to its isolation position.

b. Verifying that on a containment Radiation-High test signal, each containment purge valve actuates to its isolation position.

4.6.3.3 The isolation time of each power-operated or automatic containment isolation valve shall be determined to be within its limit when tested pursuant to the ~~inservice testing program~~ INSERVICE TESTING PROGRAM.

CONTAINMENT SYSTEMS

3/4.6.5 VACUUM RELIEF VALVES

LIMITING CONDITION FOR OPERATION

3.6.5 Two vacuum relief lines shall be OPERABLE.

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

ACTION:

With one vacuum relief line inoperable, restore the vacuum relief line to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.5 No additional Surveillance Requirements other than those required by the ~~inservice testing program~~ INSERVICE TESTING PROGRAM.

3/4.7 PLANT SYSTEMS

3/4.7.1 TURBINE CYCLE

SAFETY VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.1 All main steam line code safety valves shall be OPERABLE with lift settings as specified in Table 3.7-1.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

a. With one or more main steam line code safety valve inoperable, within 4 hours reduce indicated power to less than or equal to the applicable percent RATED THERMAL POWER listed in Table 3.7-2 and within 12 hours reduce the Linear Power Level - High trip setpoint in accordance with Table 3.7-2, otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 12 hours.

b. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.1.1 Verify each required main steam line code safety valve lift setpoint per Table 3.7-1 in accordance with the ~~inservice testing program~~ INSERVICE TESTING PROGRAM. Following testing, lift settings shall be within ± 1%.

SURVEILLANCE REQUIREMENTS

4.7.1.2 The emergency feedwater system shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each manual, power-operated, and automatic valve in each water flow path and in both steam supply flow paths to the turbine-driven EFW pump steam turbine, that is not locked, sealed, or otherwise secured in position, is in its correct position.

b. At least once per 92 days on a STAGGERED TEST BASIS by testing the EFW pumps pursuant to ~~the Inservice Testing Program~~ INSERVICE TESTING PROGRAM. This surveillance requirement is not required to be performed for the turbine-driven EFW pump until 24 hours after exceeding 750 psig in the steam generators.

c. At least once per 18 months by:

1. Verifying that each automatic valve in the flow path actuates to its correct position upon receipt of an actual or simulated actuation signal.

NOTE: This surveillance requirement is not required to be performed for the turbine-driven EFW pump until 24 hours after exceeding 750 psig in the steam generators.

2. Verifying that each EFW pump starts automatically upon receipt of an actual or simulated actuation signal.

d. Prior to entering MODE 2, whenever the plant has been in MODE 4, 5, 6 or defueled, for 30 days or longer, or whenever feedwater line cleaning through the emergency feedwater line has been performed, by verifying flow from the condensate storage pool through both parallel flow legs to each steam generator.

PLANT SYSTEMS

MAIN STEAM LINE ISOLATION VALVES (MSIVs)

LIMITING CONDITION FOR OPERATION

3.7.1.5 Two MSIVs shall be OPERABLE.

APPLICABILITY: MODE 1, and
MODES 2, 3, and 4, except when all MSIVs are closed and deactivated.

ACTION:

MODE 1

With one MSIV inoperable, restore the valve to OPERABLE status within 8 hours or be in STARTUP within the next 6 hours.

MODES 2, 3 and 4

With one MSIV inoperable, close the valve within 8 hours and verify the valve is closed once per 7 days. Otherwise, be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

Note: Required to be performed for entry into MODES 1 and 2 only.

4.7.1.5 Each MSIV shall be demonstrated OPERABLE:

a. By verifying full closure within 8.0 seconds when tested pursuant to the ~~inservice testing program~~ INSERVICE TESTING PROGRAM.

b. By verifying each MSIV actuates to the isolation position on an actual or simulated actuation signal at least once per 18 months.

PLANT SYSTEMS

MAIN FEEDWATER ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.6 Each Main Feedwater Isolation Valve (MFIV) shall be OPERABLE.

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

ACTION:

Note: Separate Condition entry is allowed for each valve.

With one or more MFIV inoperable, close and deactivate, or isolate the inoperable valve within 72 hours and verify inoperable valve closed and deactivated or isolated once every 7 days; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The provisions of Specification 3.0.4 do not apply.

SURVEILLANCE REQUIREMENTS

4.7.1.6 Each main feedwater isolation valve shall be demonstrated OPERABLE:

a. By verifying isolation within 6.0 seconds when tested pursuant to the ~~Inservice Testing Program~~ INSERVICE TESTING PROGRAM.

b. By verifying actuation to the isolation position on an actual or simulated actuation signal at least once per 18 months.

3/4.7 PLANT SYSTEMS

3/4.7.1.7 ATMOSPHERIC DUMP VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.7 Each Atmospheric Dump Valve (ADV) shall be OPERABLE*.

APPLICABILITY: MODES 1, 2, 3, and 4

ACTION:

a. With the automatic actuation channel for one ADV inoperable, restore the inoperable ADV to OPERABLE status within 72 hours or reduce power to less than or equal to 70% RATED THERMAL POWER within the next 6 hours.

b. With the automatic actuation channels for both ADVs inoperable, restore one ADV to OPERABLE status within 1 hour or reduce power to less than or equal to 70% RATED THERMAL POWER within the next 6 hours.

c. With one ADV inoperable, for reasons other than above, restore the ADV to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The provisions of Specification 3.0.4 are not applicable provided one ADV is OPERABLE.

SURVEILLANCE REQUIREMENTS

4.7.1.7 The ADVs shall be demonstrated OPERABLE:

a. By performing a CHANNEL CHECK at least once per 12 hours when the automatic actuation channels are required to be OPERABLE.

b. By verifiying each ADV automatic actuation channel is in automatic with a setpoint of less than or equal to 1040 psia at least once per 92 days when the automatic actuation channels are required to be OPERABLE.

c. By verifying one complete cycle of each ADV when tested pursuant to the ~~Inservice Testing Program~~ INSERVICE TESTING PROGRAM.

d. By performing a CHANNEL CALIBRATION of each ADV automatic actuation channel at least once per 18 months.

e. By verifying actuation of each ADV to the open position on an actual or simulated automatic actuation signal at least once per 18 months.

* ADV automatic actuation channels (one per ADV, in automatic with a setpoint of less than or equal to 1040 psia) are not required to be OPERABLE when less than or equal to 70% RATED THERMAL POWER for greater than 6 hours.

6.5.8 ~~INSERVICE TESTING PROGRAM~~ DELETED

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

~~a. Testing frequencies specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as follows:~~

~~ASME Boiler and Pressure Vessel Code and applicable Addenda terminology for inservice testing activities~~	~~Required frequencies for performing inservice testing activities~~
~~Weekly~~	~~At least once per 7 days~~
~~Monthly~~	~~At least once per 31 days~~
~~Quarterly or every 3 months~~	~~At least once per 92 days~~
~~Semiannually or every 6 months~~	~~At least once per 184 days~~
~~Every 9 months~~	~~At least once per 276 days~~
~~Yearly or annually~~	~~At least once per 366 days~~
~~Biennially or every 2 years~~	~~At least once per 731 days~~

~~b. The provisions of Specification 4.0.2 are applicable to the above required frequencies for performing inservice testing activities.~~

~~c. The provisions of Specification 4.0.3 are applicable to inservice testing activities, and~~

~~d. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any Technical Specification.~~

6.5.9 STEAM GENERATOR (SG) PROGRAM

A Steam Generator Program shall be established and implemented to ensure that SG tube integrity is maintained. In addition, the Steam Generator Program shall include the following provisions:

a. Provisions for condition monitoring assessments. Condition monitoring assessment means an evaluation of the “as found” condition of the tubing with respect to the performance criteria for structural integrity and accident induced leakage. The “as found” condition refers to the condition of the tubing during an SG inspection outage, as determined from the inservice inspection results or by other means, prior to the plugging of tubes. Condition monitoring assessments shall be conducted during each outage during which the SG tubes are inspected or plugged to confirm that the performance criteria are being met

Attachment 3 to

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Revised Technical Specification Pages

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ADMINISTRATIVE CONTROLS

UNRESTRICTED AREA

1.36 An UNRESTRICTED AREA shall be any area at or beyond the SITE BOUNDARY access to which is not controlled by the licensee for purposes of protection of individuals from exposure to radiation and radioactive materials, or any area within the SITE BOUNDARY used for residential quarters or for industrial, commercial, institutional, and/or recreational purposes.

VENTILATION EXHAUST TREATMENT SYSTEM

1.37 A VENTILATION EXHAUST TREATMENT SYSTEM shall be any system designed and installed to reduce gaseous radioiodine or radioactive material in particulate form in effluents by passing ventilation or vent exhaust gases through charcoal adsorbers and/or HEPA filters for the purpose of removing iodines or particulates from the gaseous exhaust stream prior to the release to the environment. Such a system is not considered to have any effect on noble gas effluents. Engineered Safety Feature (ESF) atmospheric cleanup systems are not considered to be VENTILATION EXHAUST TREATMENT SYSTEM components.

VENTING

1.38 VENTING shall be the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is not provided or required during VENTING. Vent, used in system names, does not imply a VENTING process.

WASTE GAS HOLDUP SYSTEM

1.39 A WASTE GAS HOLDUP SYSTEM shall be any system designed and installed to reduce radioactive gaseous effluents by collecting coolant system offgases from the primary system and providing for delay or holdup for the purpose of reducing the total radioactivity prior to release to the environment.

INSERVICE TESTING PROGRAM

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

REACTIVITY CONTROL SYSTEMS

CHARGING PUMPS - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.3 At least one charging pump or one high pressure safety injection pump in the boron injection flow path required OPERABLE pursuant to Specification 3.1.2.1 shall be OPERABLE and capable of being powered from an OPERABLE emergency power source.

APPLICABILITY: MODES 5 and 6.

ACTION:

With no charging pump or high pressure safety injection pump OPERABLE or capable of being powered from an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS or positive reactivity changes. *

SURVEILLANCE REQUIREMENTS

4.1.2.3 No additional Surveillance Requirements other than those required by the INSERVICE TESTING PROGRAM.

* Plant temperature changes are allowed provided the temperature change is accounted for in the calculated SHUTDOWN MARGIN.

REACTIVITY CONTROL SYSTEMS

BORIC ACID MAKEUP PUMPS - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.5 At least one boric acid makeup pump shall be OPERABLE and capable of being powered from an OPERABLE emergency bus if only the flow path through the boric acid pump in Specification 3.1.2.1a. is OPERABLE.

APPLICABILITY: MODES 5 and 6.

ACTION:

With no boric acid makeup pump OPERABLE as required to complete the flow path of Specification 3.1.2.1a., suspend all operations involving CORE ALTERATIONS or positive reactivity changes. *

SURVEILLANCE REQUIREMENTS

4.1.2.5 No additional Surveillance Requirements other than those required by the INSERVICE TESTING PROGRAM.

* Plant temperature changes are allowed provided the temperature change is accounted for in the calculated SHUTDOWN MARGIN.

REACTOR COOLANT SYSTEM

3/4.4.2 SAFETY VALVES

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.4.2.1 A minimum of one pressurizer code safety valve shall be OPERABLE with a lift setting of 2500 psia ± 3%.*

APPLICABILITY: MODE 4.

ACTION:

With no pressurizer code safety valve OPERABLE, immediately suspend all operations involving positive reactivity changes (except cooldown in shutdown cooling) and place an OPERABLE shutdown cooling loop into operation.

SURVEILLANCE REQUIREMENTS

4.4.2.1 Verify each required pressurizer code safety valve is OPERABLE in accordance with the INSERVICE TESTING PROGRAM. Following testing, lift settings shall be within ± 1%.

*The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

REACTOR COOLANT SYSTEM

OPERATING

LIMITING CONDITION FOR OPERATION

3.4.2.2 All pressurizer code safety valves shall be OPERABLE with a lift setting of 2500 psia ± 3%.*

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

With one pressurizer code safety valve inoperable, either restore the inoperable valve to OPERABLE status within 15 minutes or be in at least HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.4.2.2 Verify each required pressurizer code safety valve is OPERABLE in accordance with the INSERVICE TESTING PROGRAM. Following testing, lift settings shall be within ± 1%.

*The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

SURVEILLANCE REQUIREMENTS

4.4.8.3.1 For each SDC System suction line relief valve:

a. verify in the control room at least once per 12 hours that each valve in the suction path between the RCS and the SDC relief valve is open.

b. verify each SDC relief valve is OPERABLE in accordance with the INSERVICE TESTING PROGRAM.

4.4.8.3.2 With the RCS vented per ACTIONS a, b, or c, the RCS vent(s) and all valves in the vent path shall be verified to be open at least once per 12 hours*.

*Except when the vent pathway is provided with a valve which is locked, sealed, or otherwise secured in the open position, then verify these valves open at least once per 31 days.

SURVEILLANCE REQUIREMENTS (Continued)

2. A visual inspection of the safety injection system sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or corrosion.

3. Verifying that a minimum total of 380 cubic feet of granular trisodium phosphate dodecahydrate (TSP) is contained within the TSP storage baskets.

4. Verifying that when a representative sample of 13.07 ± 0.03 grams of TSP from a TSP storage basket is submerged, without agitation, in 4 ± 0.1 liters of 120 ± 10°F water borated to 3011 ± 30 ppm, the pH of the mixed solution is raised to greater than or equal to 7 within 3 hours.

e. At least once per 18 months by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on SIAS and RAS test signals.

2. Verifying that each of the following pumps start automatically upon receipt of a safety injection actuation test signal:

   a. High pressure safety injection pump.

   b. Low pressure safety injection pump.

3. Verifying that on a recirculation actuation test signal, the low pressure safety injection pumps stop, the safety injection system sump isolation valves open.

f. By verifying that each of the following pumps required to be OPERABLE performs as indicated on recirculation flow when tested pursuant to the INSERVICE TESTING PROGRAM.

1. High pressure safety injection pump differential pressure greater than or equal to 1429 psid.

2. Low pressure safety injection pump differential pressure greater than or equal to 168 psid.

CONTAINMENT SYSTEMS

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY SYSTEM

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 RWSP on a containment spray actuation signal and automatically transferring suction to the safety injection system sump on a recirculation actuation signal. Each spray system flow path from the safety injection system sump shall be via an OPERABLE shutdown cooling heat exchanger.

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

ACTION:

b. With one containment spray system inoperable, restore the inoperable spray system to OPERABLE status within 7 days 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.

c. With two containment spray systems inoperable, restore at least one spray system to OPERABLE status within 1 hour or be in at least HOT STANDBY within the next 6 hours and be in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each containment spray system shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying that the water level in the containment spray header riser is > 149.5 feet MSL elevation.

b. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is correctly positioned to take suction from the RWSP.

c. By verifying, that on recirculation flow, each pump develops a total head of greater than or equal to 219 psid when tested pursuant to the INSERVICE TESTING PROGRAM.

*With Reactor Coolant System pressure > 400 psia.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.2 Each containment isolation valve shall be demonstrated OPERABLE at least once per 18 months by:

a. Verifying that on a containment isolation test signal, each isolation valve actuates to its isolation position.

b. Verifying that on a containment Radiation-High test signal, each containment purge valve actuates to its isolation position.

4.6.3.3 The isolation time of each power-operated or automatic containment isolation valve shall be determined to be within its limit when tested pursuant to the INSERVICE TESTING PROGRAM.

CONTAINMENT SYSTEMS

3/4.6.5 VACUUM RELIEF VALVES

LIMITING CONDITION FOR OPERATION

3.6.5 Two vacuum relief lines shall be OPERABLE.

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

ACTION:

With one vacuum relief line inoperable, restore the vacuum relief line to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.5 No additional Surveillance Requirements other than those required by the INSERVICE TESTING PROGRAM.

3/4.7 PLANT SYSTEMS

3/4.7.1 TURBINE CYCLE

SAFETY VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.1 All main steam line code safety valves shall be OPERABLE with lift settings as specified in Table 3.7-1.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

a. With one or more main steam line code safety valve inoperable, within 4 hours reduce indicated power to less than or equal to the applicable percent RATED THERMAL POWER listed in Table 3.7-2 and within 12 hours reduce the Linear Power Level - High trip setpoint in accordance with Table 3.7-2, otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 12 hours.

b. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.1.1 Verify each required main steam line code safety valve lift setpoint per Table 3.7-1 in accordance with the INSERVICE TESTING PROGRAM. Following testing, lift settings shall be within ± 1%.

SURVEILLANCE REQUIREMENTS

4.7.1.2 The emergency feedwater system shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each manual, power-operated, and automatic valve in each water flow path and in both steam supply flow paths to the turbine-driven EFW pump steam turbine, that is not locked, sealed, or otherwise secured in position, is in its correct position.

b. At least once per 92 days on a STAGGERED TEST BASIS by testing the EFW pumps pursuant to the INSERVICE TESTING PROGRAM. This surveillance requirement is not required to be performed for the turbine-driven EFW pump until 24 hours after exceeding 750 psig in the steam generators.

c. At least once per 18 months by:

1. Verifying that each automatic valve in the flow path actuates to its correct position upon receipt of an actual or simulated actuation signal.

NOTE: This surveillance requirement is not required to be performed for the turbine-driven EFW pump until 24 hours after exceeding 750 psig in the steam generators.

2. Verifying that each EFW pump starts automatically upon receipt of an actual or simulated actuation signal.

d. Prior to entering MODE 2, whenever the plant has been in MODE 4, 5, 6 or defueled, for 30 days or longer, or whenever feedwater line cleaning through the emergency feedwater line has been performed, by verifying flow from the condensate storage pool through both parallel flow legs to each steam generator.

PLANT SYSTEMS

MAIN STEAM LINE ISOLATION VALVES (MSIVs)

LIMITING CONDITION FOR OPERATION

3.7.1.5 Two MSIVs shall be OPERABLE.

APPLICABILITY: MODE 1, and
MODES 2, 3, and 4, except when all MSIVs are closed and deactivated.

ACTION:

MODE 1

With one MSIV inoperable, restore the valve to OPERABLE status within 8 hours or be in STARTUP within the next 6 hours.

MODES 2, 3 and 4

With one MSIV inoperable, close the valve within 8 hours and verify the valve is closed once per 7 days. Otherwise, be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

Note: Required to be performed for entry into MODES 1 and 2 only.

4.7.1.5 Each MSIV shall be demonstrated OPERABLE:

a. By verifying full closure within 8.0 seconds when tested pursuant to the INSERVICE TESTING PROGRAM.

b. By verifying each MSIV actuates to the isolation position on an actual or simulated actuation signal at least once per 18 months.

PLANT SYSTEMS

MAIN FEEDWATER ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.6 Each Main Feedwater Isolation Valve (MFIV) shall be OPERABLE.

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

ACTION:

Note: Separate Condition entry is allowed for each valve.

With one or more MFIV inoperable, close and deactivate, or isolate the inoperable valve within 72 hours and verify inoperable valve closed and deactivated or isolated once every 7 days; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The provisions of Specification 3.0.4 do not apply.

SURVEILLANCE REQUIREMENTS

4.7.1.6 Each main feedwater isolation valve shall be demonstrated OPERABLE:

a. By verifying isolation within 6.0 seconds when tested pursuant to the INSERVICE TESTING PROGRAM.

b. By verifying actuation to the isolation position on an actual or simulated actuation signal at least once per 18 months.

3/4.7 PLANT SYSTEMS

3/4.7.1.7 ATMOSPHERIC DUMP VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.7 Each Atmospheric Dump Valve (ADV) shall be OPERABLE*.

APPLICABILITY: MODES 1, 2, 3, and 4

ACTION:

a. With the automatic actuation channel for one ADV inoperable, restore the inoperable ADV to OPERABLE status within 72 hours or reduce power to less than or equal to 70% RATED THERMAL POWER within the next 6 hours.

b. With the automatic actuation channels for both ADVs inoperable, restore one ADV to OPERABLE status within 1 hour or reduce power to less than or equal to 70% RATED THERMAL POWER within the next 6 hours.

c. With one ADV inoperable, for reasons other than above, restore the ADV to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The provisions of Specification 3.0.4 are not applicable provided one ADV is OPERABLE.

SURVEILLANCE REQUIREMENTS

4.7.1.7 The ADVs shall be demonstrated OPERABLE:

a. By performing a CHANNEL CHECK at least once per 12 hours when the automatic actuation channels are required to be OPERABLE.

b. By verifiying each ADV automatic actuation channel is in automatic with a setpoint of less than or equal to 1040 psia at least once per 92 days when the automatic actuation channels are required to be OPERABLE.

c. By verifying one complete cycle of each ADV when tested pursuant to the INSERVICE TESTING PROGRAM.

d. By performing a CHANNEL CALIBRATION of each ADV automatic actuation channel at least once per 18 months.

e. By verifying actuation of each ADV to the open position on an actual or simulated automatic actuation signal at least once per 18 months.

* ADV automatic actuation channels (one per ADV, in automatic with a setpoint of less than or equal to 1040 psia) are not required to be OPERABLE when less than or equal to 70% RATED THERMAL POWER for greater than 6 hours.

6.5.8 DELETED

6.5.9 STEAM GENERATOR (SG) PROGRAM

A Steam Generator Program shall be established and implemented to ensure that SG tube integrity is maintained. In addition, the Steam Generator Program shall include the following provisions:

a. Provisions for condition monitoring assessments. Condition monitoring assessment means an evaluation of the "as found" condition of the tubing with respect to the performance criteria for structural integrity and accident induced leakage. The "as found" condition refers to the condition of the tubing during an SG inspection outage, as determined from the inservice inspection results or by other means, prior to the plugging of tubes. Condition monitoring assessments shall be conducted during each outage during which the SG tubes are inspected or plugged to confirm that the performance criteria are being met.

Attachment 4 to

W3F1-2016-0036

Proposed Technical Specification Bases Changes (Mark-Up) – Information Only

➔(DRN 03-524)
Some examples of this process are:

a. Emergency feedwater (EFW) pump turbine maintenance during refueling that requires testing at steam pressures > 750 psig. However, if other appropriate testing is satisfactorily completed, the EFW System can be considered OPERABLE. This allows startup and other necessary testing to proceed until the plant reaches the steam pressure required to perform the testing.

b. High pressure safety injection (HPSI) maintenance during shutdown that requires system functional tests at a specified pressure. Provided other appropriate testing is satisfactorily completed, startup can proceed with HPSI considered OPERABLE. This allows operation to reach the specified pressure to complete the necessary post maintenance testing.
←(DRN 03-524)

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

The exceptions to SR 4.0.2 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. Examples of where SR 4.0.2 does not apply are in the Containment Leakage Rate Testing Program required by 10 CFR 50, Appendix J, and the inservice testing of pumps and valves in accordance with applicable American Society of Mechanical Engineers Operation and Maintenance Code, as required by 10 CFR 50.55a. These programs establish 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 directly or by reference.

When a Section 6.8, “Programs and Manuals,” specification states that the provisions of SR 4.0.2 are applicable, a 25% extension of the testing interval, whether stated in the specification or incorporated by reference, is permitted.

This extension allowed by Specification 4.0.2 is also applicable to Surveillance Requirements required in Technical specification Actions. However, the extension does not apply to the initial performance. The extension only applies to each performance after the initial performance. The initial performance required by the 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 extension to this completion time is that such

an action usually verifies that no loss of function has occurred or accomplishes the function of the inoperable equipment in an alternative manner.

Specification 4.0.3 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 its specified interval. A delay period of up to 24 hours or up to the limit of the specified surveillance interval, whichever is greater, applies from the point in time that it is discovered that the Surveillance has not been performed in accordance with Specification 4.0.2, and not at the time that the specified interval was not met.

This delay period provides an 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.

The basis for this delay period includes consideration of unit conditions, adequate planning, availability of personnel, the time required to perform the Surveillance, the safety significance of the delay in completing the required Surveillance, and the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the requirements. When a Surveillance with an interval based not on time intervals, but upon specified unit conditions, operational situations, or requirements of regulations (e.g., prior to entering MODE 1 after each fuel loading, or in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions, etc. is discovered to not have been performed when specified, Specification 4.0.3 allows for the full delay period of up to the specified interval to perform the Surveillance. However, since there is not a time interval specified, the missed Surveillance should be performed at the first reasonable opportunity. Specification 4.0.3 provides a time limit for, and allowances for the performance of, Surveillances that become applicable as a consequence of MODE changes imposed by required actions.

When a Section 6.8, “Programs and Manuals,“ specification states that the provisions of SR 4.0.3 are applicable, it permits the flexibility to defer declaring the testing requirement not met in accordance with SR 4.0.3 when the testing has not been completed within the testing interval (including the allowance of SR 4.0.2 if invoked by the Section 6.8 specification).

Failure to comply with specified intervals for surveillance requirements is expected to be an infrequent occurrence. Use of the delay period established by Specification 4.0.3 is a flexibility which is not intended to be used as an operational convenience to extend Surveillance intervals. While up to 24 hours or the limit of the specified interval is provided to perform the missed Surveillance, it is expected that the missed Surveillance will be performed at the first reasonable opportunity. The determination of the first reasonable opportunity should include consideration of the impact on plant risk (from delaying the Surveillance as well as any plant configuration changes required or shutting the plant down to perform the Surveillance) and impact on any analysis assumptions, in addition to unit conditions, planning, availability of personnel, and the time required to perform the Surveillance.

This risk impact should be managed through the program in place to implement 10 CFR 50.65(a)(4) and its implementation guidance, NRC Regulatory Guide 1.182, 'Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants.' This Regulatory Guide addresses consideration of temporary and aggregate risk impacts, determination of risk management action thresholds, and risk management action up to and including plant shutdown.

The missed Surveillance should be treated as an emergent condition as discussed in the Regulatory Guide. The risk evaluation may use quantitative, qualitative, or blended methods. The degree of depth and rigor of the evaluation should be commensurate with the importance of the component. Missed Surveillances for important components should be analyzed quantitatively. If the results of the risk evaluation determine the risk increase is significant, this evaluation should be used to determine the safest course of action. All missed Surveillances will be placed in the licensee's Corrective Action Program.
←(DRN 03-524)

3/4.6.5 VACUUM RELIEF VALVES (Continued)

With one of the required vacuum relief lines inoperable, the inoperable line must be restored to OPERABLE status within 72 hours. The specified time period is consistent with other LCOs for the loss of one train of a system required to mitigate the consequences of a LOCA or other DBA.

If the vacuum relief line cannot be restored to OPERABLE status within the required Allowed Outage Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within the following 30 hours. The Allowed Outage 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.

➜(DRN 03-1807, Ch. 30)

The SR references the ~~Inservice Testing Program~~, INSERVICE TESTING PROGRAM which establishes the requirement that inservice testing of the ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda. Therefore, SR Frequency is governed by the ~~Inservice Testing Program~~ INSERVICE TESTING PROGRAM.

←(DRN 03-1807, Ch. 30)

3/4.7.1.2 EMERGENCY FEEDWATER SYSTEM (Continued)

Limiting Conditions for Operation (Continued)

>(EC-27828, Ch. 68)

driven EFW pump to be INOPERABLE only when entering Mode 3 under the conditions and for the period (i.e., 24 hours after exceeding 750 psig in both steam generators) as contained in TSSR 4.7.1.2(b) and 4.7.1.2(c), quarterly ~~Inservice Testing~~ INSERVICE TESTING PROGRAM (IST) and 18 month Engineered Safety Features Actuation System Instrumentation - Functional Unit Emergency Feedwater (EFAS), respectively. When the plant enters Mode 3 during a plant startup coming out of an outage, there is insufficient steam pressure to complete the dynamic final calibration of the governor valve speed control unit of the turbine-driven EFW pump. In this condition, the turbine-driven EFW pump is available (i.e., there is a reasonable expectation that once sufficient steam pressure is available to the turbine-driven EFW pump turbine, it will be able to successfully complete the quarterly IST and 18 month EFAS surveillance requirements to fully demonstrate operability). Although the turbine-driven EFW pump does not have sufficient steam pressure to complete dynamic final calibration of the governor valve speed control unit, the turbine-driven EFW pump still maintains performance capability (albeit at a potentially reduced flow performance based upon governor valve speed control unit settings) to provide the system safety function of cooling the plant to shutdown cooling entry conditions. This exception does not allow Mode 3 to be entered during a plant startup while performing maintenance activities that cause the turbine driven EFW pump to be unavailable.

The safety function of the EFW System to ensure the Reactor Coolant System can be cooled to shutdown cooling system entry conditions continues to be met under all plant conditions and for the worst case postulated accident from the point in time when the plant enters Mode 3 during the plant startup with the inoperable turbine-driven EFW pump through the point in time when the turbine-driven EFW pump is restored to OPERABLE condition. The delay of 24 hours after both steam generators have reached sufficient steam pressure on the secondary side is to complete post maintenance activities (i.e., dynamic final calibration of the governor valve speed control unit) and then to complete IST and EFAS testing surveillance requirements.

Prior to entry into Mode 2, surveillance requirement testing of various combinations of EFW pumps and valves will ensure ALL required EFW system flow paths and equipment (including the turbine-driven EFW pump as previously described in second paragraph of this section of the bases) are demonstrated operable before the core is taken critical and significant heat is generated.

<(EC-27828, Ch. 68)

Surveillance Requirements

a. Verifying the correct alignment for manual, power operated, and automatic valves in the EFW water and steam supply flow paths provides assurance that the proper flow paths exist for EFW operation. This Surveillance Requirement (SR) does not apply to valves that are locked, sealed, or otherwise secured in position, since these valves are verified to be in the correct position prior to locking, sealing, or securing. This SR also does not apply to valves that cannot be inadvertently misaligned, such as check valves. This SR does not require any testing or valve manipulation; rather, it involves verification that those valves capable of potentially being mispositioned are in the correct position.

3/4.7.1.2 EMERGENCY FEEDWATER SYSTEM (Continued)

Surveillance Requirements (Continued)

>(DRN 03-1807, Ch. 30)

b. The SR to verify pump OPERABILITY pursuant to the ~~Inservice Testing Program~~ INSERVICE TESTING PROGRAM ensures that the requirements of ASME Code Section XI are met and provides reasonable assurance that the pumps are capable of satisfying the design basis accident flow requirements. Because it is undesirable to introduce cold EFW into the steam generators while they are operating, testing is typically performed on recirculation flow. Such in-service tests confirm component OPERABILITY, trend performance, and detect incipient failures by indicating abnormal performance.

<(DRN 03-1807, Ch. 30)

This SR is modified to indicate the SR should be deferred until suitable test conditions have been established. This deferral is required because there is an insufficient steam pressure to perform post maintenance activities which may need to be completed prior to performing the required turbine-driven pump SR. This deferral allows the unit to transition from MODE 4 to MODE 3 prior to the performance of the SR and provides a 24 hour period once a steam generator pressure of 750 psig is reached to complete the required post maintenance activities and SR. If this SR is not completed within the 24 hour period or fails, then the appropriate ACTION must be entered. The twenty-five percent grace period allowed by TS 4.0.2 cannot be applied to the 24 hour period.

>(DRN 05-42, Ch. 37)

c. The SR for actuation testing ensures that EFW can be delivered to the appropriate steam generator in the event of any accident or transient that generates EFAS and/or MSIS signals, by demonstrating that each automatic valve in the flow path actuates to its correct position and that the EFW pumps will start on an actual or simulated actuation signal. This Surveillance covers the automatic flow control valves, automatic isolation valves, and steam admission valves but is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The 18 month frequency is acceptable, based on the design reliability and operating experience of the equipment.

<(DRN 05-42, Ch. 37)

This SR is modified to indicate that the SR should be deferred until suitable test conditions have been established. This deferral is required because there is an insufficient steam pressure to perform post maintenance activities which may need to be completed prior to performing the required turbine-driven pump SR. This deferral allows the unit to transition from MODE 4 to MODE 3 prior to the performance of the SR and provides a 24 hour period once a steam generator pressure of 750 psig is reached to complete the required post maintenance activities and SR. If this SR is not completed within the 24 hour period or fails, then the appropriate ACTION must be entered. The twenty-five percent grace period allowed by TS 4.0.2 can not be applied to the 24 hour period.

➜(DRN 03-1737, Ch. 31)
3/4.7.1.5 MAIN STEAM LINE ISOLATION VALVE (MSIV) (Continued)
➜(DRN 04-1243, Ch. 38)

SR 4.7.1.5a verifies that the closure time of each MSIV is within its limit when tested pursuant to the ~~Inservice Testing Program~~ INSERVICE TESTING PROGRAM. A static test using 4.0 seconds demonstrates the ability of the MSIVs to close in less than or equal to the 8 seconds required closure time under design basis accident conditions. The 8 second required closure time includes a 1 second allowance for instrument response time.

This SR is normally performed during a refueling outage but may be performed upon returning the unit to operation following a refueling outage. The MSIVs should not be tested at power since even a part stroke exercise increases the risk of a valve closure with the unit generating power. As the MSIVs are not tested at power, they are exempt from the ASME Code, Section XI (Inservice Inspection, Article IWV-3400), requirements during operation in MODES 1 and 2.
➜(DRN 04-1243, Ch. 38)

The Frequency for this SR is in accordance with the ~~Inservice Testing Program~~ INSERVICE TESTING PROGRAM.

This test may be conducted in MODE 3, with the unit at operating temperature and pressure.

SR 4.7.1.5b verifies that each MSIV can close on an actual or simulated actuation signal. This Surveillance may be performed upon returning the plant to operation following a refueling outage. The Frequency of MSIV testing is every 18 months. The 18 month Frequency for testing is based on the refueling cycle. Operating experience has shown that these components usually pass the Surveillance. Therefore, this Frequency is acceptable from a reliability standpoint.
➜(DRN 03-1737, Ch. 31)

3/4.7.1.6 MAIN FEEDWATER ISOLATION VALVES

The Main Feedwater Isolation Valves (MFIVs) isolate main feedwater (MFW) flow to the secondary side of the steam generators following a high energy line break (HELB). Closure of the MFIVs terminates flow to both steam generators, mitigating the consequences for feedwater line breaks (FWLBs). Closure of the MFIVs effectively terminates the addition of main feedwater to an affected steam generator, limiting the mass and energy release for Main Steam Line Breaks (MSLBs) or FWLBs inside containment, and reducing the cooldown effects for MSLBs.

The MFIVs isolate the non-safety related feedwater supply from the safety related portion of the system. In the event of a secondary side pipe rupture inside containment, the valves limit the quantity of high energy fluid that enters containment through the break, and provide a pressure boundary for the controlled addition of Emergency Feedwater (EFW) to the intact steam generator.
➜(DRN 04-1243, Ch. 38)

One MFIV is located on each MFW line, outside, but close to, containment. The MFIVs are located upstream of the EFW injection point so that EFW may be supplied to a steam generator following MFIV closure.
➜(DRN 04-1243, Ch. 38)

3/4.7.1.6 MAIN FEEDWATER ISOLATION VALVES (con't)

The TS is annotated with a 3.0.4 exemption, allowing entry into the applicable MODES to be made with an inoperable MFIV closed or isolated as required by the ACTIONS. The ACTIONS allow separate condition entry for each valve by using "With one or more MFIV...". This prevents immediate entry into TS 3.0.3 if both MFIVs are declared inoperable.
➜(DRN 03-1807, Ch. 30; 04-1243, Ch. 38, 05-1650)

The Surveillance Requirement to verify isolation in less than or equal to 6 seconds is based on the time assumed in the accident and containment analyses. The design basis correlates a static test utilizing one accumulator to demonstrate the ability of the MFIVs to close in less than or equal to 6 seconds under design basis accident conditions with two accumulators. The static stroke time test that utilizes one accumulator is allowed to exceed the 6 second Surveillance Requirement since both accumulators are credited in the design basis Accidents in order to isolate within the 6 second Surveillance Requirement. The 6 second required closure time includes a 1 second allowance for instrument response time.
← (DRN 05-1650)

The MFIVs should not be tested at power since even a partial stroke exercise increases the risk of a valve closure with the plant generating power and would create added cyclic stresses. The Surveillance to verify each MFIV can close on an actual or simulated actuation signal is normally performed when the plant is returning to operation following a refueling outage. Verification of valve closure on an actuation signal is not required until entry into Mode 3 consistent with TS 3.3.2. The 18 month frequency is based on the refueling cycle. Verification of closure time is performed per the ~~Inservice Testing Program~~ INSERVICE TESTING PROGRAM This frequency is acceptable from a reliability standpoint and is in accordance with the ~~Inservice Testing Program~~ INSERVICE TESTING PROGRAM.
➜(DRN 03-1807, Ch. 30)
←(DRN 02-1684, Ch. 15; 04-1243, Ch. 38)

Credited Non-Safety Related Support Systems for MFIV Operability

Reactor Trip Override (RTO) and the Auxiliary Feedwater (AFW) Pump High Discharge Pressure Trip (HDPT) are credited for rapid closure of the Main Feedwater Isolation Valves (MFIVs) during main steam and feedwater line breaks. Crediting of these non-safety features was submitted to the NRC as a USQ and approved. (Reference letter dated September 5, 2000 from the NRC to Charles M. Dugger, "Waterford 3 Steam Electric Station, Unit 3 - Issuance of Amendment RE: Addition of Main Feedwater Ioslation Valves to Technical Specifications and Request for NRC Staff Review of an Unreviewed Safety Question.")

The feature of RTO that is credited for MFIV closure is the rapid SGFP speed reduction upon reactor trip initiation. This feature reduces the differential pressure across the valve disc at closure, thus allowing rapid valve closure. Therefore, the RTO feature must be able to decrease SGFP speed to minimum on a reactor trip during SGFP operation for OPERABILITY of the MFIVs.

The AFW Pump HDPT reduces the differential pressure across the valve disc at closure during AFW Pump operation. Therefore, this feature must be functional during AFW Pump operation for OPERABILITY of the MFIVs. When the AFW pump is not running, this trip is not required.

In MODES 1, 2, 3, and 4, the MFIVs are required to be OPERABLE. Because the MFIVs are required to be OPERABLE in MODES 1, 2, 3, and 4, RTO must be able to decrease SGFP
←(DRN 02-1684, Ch. 15)
➜(DRN 03-1737, Ch. 31)

3/4.7.1.6 MAIN FEEDWATER ISOLATION VALVES (con't)

→(DRN 02-1684, Ch. 15)

speed to minimum on a reactor trip and the AFW Pump HDPT must be functional, to support closure of the valve. If RTO is unable to decrease running SGFP(s) speed to minimum on a reactor trip with the SGFPs running, both MFIVs must be declared INOPERABLE, and Technical Specification 3.7.1.6 must be entered. If the AFW Pump HDPT is non-functional with the AFW pump running, the AFW pump should be secured immediately or both MFIVs must be declared INOPERABLE, and Technical Specification 3.7.1.6 must be entered.

RTO and AFW Pump HDPT Test Requirements

The RTO and AFW pump high pressure trip are subjected to a testing program similar to comparable safety related instrumentation to provide assurance of the reliability of these non-safety related functions credited to support the MFIV safety related closure function.

→(DRN 03-1807, Ch. 30)

The testing requirements for the RTO credited function should demonstrate the ability of RTO to reduce SGFP speed upon an actual or simulated actuation signal. The test requirements do not require timing the response because in the limiting FWLB scenario, RTO is required for compliance with a 5 second Technical Specification closure; however, the containment analyses allow longer closure times during this event. Even if RTO were to fail, the MFIV would eventually close as the pressure across the valve equalizes to the available actuator thrust, the nitrogen pressure equalizes, and finally as the SGFP speed reduces due to a loss of steam after the MSIV closes. The expected maximum closure time would be less than one minute due to SGFP speed decrease. This phenomenon would act to close the valve within the appropriate time to preserve the safety function. The RTO feature should not be tested at power since it increases the risk of a feedwater transient with the plant generating power, but should normally be performed when the plant is returning to operation following a refueling outage. The testing criteria shall verify functionality of the RTO system, with SGFP pump response, by verifying that the feedwater control system sends the control signal corresponding to minimum speed to the pump upon an actual or simulated RTO signal at least once per 18 months. The functionality of the RTO system shall be verified through the performance of Instrumentation & Controls functional test procedure, "Functional Test of Reactor Trip Override, High Level Override, and Level Channel Deviation FWCS." The 18 month frequency is based on the refueling cycle, similar to testing performed per the ~~Inservice Testing Program~~ INSERVICE TESTING PROGRAM. This frequency is acceptable from a reliability standpoint.

←(DRN 03-1807, Ch. 30)

The testing requirements for the AFW Pump HDPT should demonstrate the ability of the pump to trip upon receiving an actual or simulated high pressure signal. The AFW Pump HPDT feature can be tested at power since the AFW pump is not required during normal operations, however, the test is normally performed when the plant is returning to operation following a refueling outage. The testing criteria shall verify functionality of the AFW Pump HDPT by (1) verifying pump trip on an actual or simulated actuation signal at least once per 18 months and (2) verifying that the delay time of Relay AFWEREL 1419-3, the most time critical element of

←(DRN 02-1684, Ch. 15)

3/4.7.1.6 MAIN FEEDWATER ISOLATION VALVES (con't)

➜(DRN 02-1684, Ch. 15; 03-1807, Ch. 30)

the trip circuitry, is less than the setpoint specified in the Component Database plus the specified tolerance at least once per 18 months. The AFW pump trip shall be verified through the performance of Operations surveillance test procedure, "AFW High Discharge Pressure Trip Test." The relay delay time shall be verified through the performance of an Electrical Maintenance task document for relay AFWEREL 1419. The 18 month frequency is based on the refueling cycle, similar to testing performed per the ~~Inservice Testing Program~~ INSERVICE TESTING PROGRAM. This frequency is acceptable from a reliability standpoint to detect degradation.

←(DRN 02-1684, ch. 15; 03-1807, Ch. 30)

➜(DRN 04-1243, Ch. 38)

3/4.7.1.7 ATMOSPHERIC DUMP VALVES (ADVs)

Two ADVs are provided, one per steam generator. The ADVs are provided with upstream block valves to permit their being tested at power, and to provide an alternate means of isolation. The ADVs are equipped with pneumatic controllers to permit control of the cooldown rate. The ADVs are provided with a pressurized nitrogen gas supply that, on a loss of pressure in the normal instrument air supply, automatically supplies nitrogen to operate the ADVs. The ADVs can also be operated manually once the nitrogen gas supply is depleted.

The ADVs provide a safety grade method for cooling the unit to Shutdown Cooling (SDC) System entry conditions, should the preferred heat sink via the Steam Bypass System to the condenser not be available, as discussed in the FSAR, Section 10.3. This is done in conjunction with the Emergency Feedwater System providing cooling water from the condensate storage pool (CSP) to meet Branch Technical Position (BTP) RSB 5-1.

The automatic operation of the ADVs to open is assumed in the Small Break LOCA (SBLOCA) analysis at power levels above 70% RATED THERMAL POWER. ADVs are credited for SBLOCA analysis to lower steam generator secondary side pressures, compared to crediting only MSSVs, and thus provide increased cooling of the RCS. This results in a lower calculated peak cladding temperature (PCT) for SBLOCA ECCS analysis.

Analysis has shown that automatic operation of the ADV is not required when the unit is at or below 70% RATED THERMAL POWER for greater than six hours because, based on decay heat load, one high-pressure safety injection train is capable of mitigating the SBLOCA event. At greater than 70% RATED THERMAL POWER, one high-pressure safety injection train and one ADV, in automatic, are capable of mitigating the SBLOCA event. Therefore, the ADVs, in automatic, are required at greater than 70% RATED THERMAL POWER and for six hours after reducing power to less than or equal to 70% RATED THERMAL POWER.

Limiting Condition for Operation

The LCO requires that each ADV be OPERABLE.

The ADV manual controls must be OPERABLE in MODES 1, 2, 3, and 4 to allow operator action needed for decay heat removal and safe shutdown in accordance with BTP RSB 5-1.

←(DRN 04-1243, Ch. 38)

➜(DRN 04-1243, Ch. 38)

3.4.7.1.7 ATMOSPHERIC DUMP VALVES (ADVs) (Continued)

a. To mitigate the SBLOCA event, the ADVs must automatically open at a pressure of less than or equal to 1040 psia (992 psig indicated). This Surveillance Requirement (SR) ensures that the ADV controllers are in automatic and set at an appropriate setpoint that is bounded by the SBLOCA safety analysis. The setpoint must be verified using the plant monitoring computer or appropriate maintenance and test equipment. This SR need not be performed when the ADV automatic actuation channels are not required to be OPERABLE per the LCO footnote.

b. To perform a controlled cooldown of the reactor coolant system, the ADVs must be able to be opened and throttled through their full range. Additionally, the ADV must be capable of being closed to fulfill its secondary function of containment isolation. This SR ensures the ADVs are tested through a full control cycle. The test interval is in accordance with the ~~Inservice Testing Program~~ INSERVICE TESTING PROGRAM.

c. The SR to calibrate the ADV automatic actuation channels ensures that the system will generate an actuation signal at 1040 psia (992 psig indicated) as assumed for the SBLOCA. The calibration should include the plant monitoring computer points used to set the setpoint.

d. The SR for actuation testing ensures that the ADV will automatically open on a high steam pressure signal, with a response time of less than or equal to 60 seconds, as assumed for the SBLOCA. Credit may be taken for an actual or simulated actuation signal.

←(DRN 04-1243, Ch. 38)

3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION

The limitation on steam generator secondary pressure and temperature ensures that the pressure induced stresses in the steam generators do not exceed the maximum allowable fracture toughness stress limits. The limitation to 115°F and 210 psig is based on a steam generator RTNDT of 40°F and is sufficient to prevent brittle fracture. Below this temperature of 115°F the system pressure must be limited to a maximum of 20% of the secondary hydrostatic test pressure of 1375 psia (corrected for instrument error). Should steam generator temperature drop below 115°F an engineering evaluation of the effects of the overpressurization is required. However, to reduce the potential for brittle failure the steam generator temperature may be increased to a limit of 200°F while performing the evaluation. The limitations on the primary side of the steam generator are bounded by the restrictions on the reactor coolant system in Specification 3.4.8.1.

3/4.7.3 COMPONENT COOLING WATER AND AUXILIARY COMPONENT COOLING WATER SYSTEMS

The OPERABILITY of the component cooling water system and its corresponding auxiliary 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 these systems, assuming a single failure, is consistent with the assumptions used in the safety analyses.

Attachment 5 to

W3F1-2016-0036

Description and Assessment of the Proposed Alternative to the ASME Code

DESCRIPTION AND ASSESSMENT OF THE PROPOSED ALTERNATIVE TO THE ASME CODE

Request in Accordance with 10 CFR 50.55a(z)(2)

Alternative Due To Hardship Without a Compensating Increase in Quality and Safety

1.0 DESCRIPTION

The request is to adopt a proposed alternative to the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code by adoption of approved Code Case OMN-20, "Inservice Test Frequency."

2.0 ASSESSMENT

Technical Evaluation of the Proposed Alternative to the OM Code

Section IST of Division 1 of the OM Code, which is incorporated by reference in 10 CFR 50.55a(a), specifies component test frequencies based either on elapsed time periods (e.g., quarterly, 2 years) or on the occurrence of a plant condition or event (e.g., cold shutdown, refueling outage).

ASME Code Case OMN-20, “Inservice Test Frequency,” has been approved for use by the ASME OM committee as an alternative to the test frequencies for pumps and valves specified in ASME OM Division: 1 Section IST 2009 Edition through OMa-2011 Addenda, and all earlier editions and addenda of ASME OM Code.

Code Case OMN-20 is not referenced in the latest revision of Regulatory Guide 1.192 (August 2014) as an acceptable OM Code Case to comply with 10 CFR 50.55a(f) requirements as allowed by 10 CFR 50.55a(b)(6). The proposed alternative is to use Code Case OMN-20 to extend or reduce the IST frequency requirements for the third10-year IST interval or until OMN-20 is incorporated into the next revision of Regulatory Guide 1.192.

ASME Code Components Affected

The Code Case applies to pumps and valves specified in ASME OM Division: 1 Section IST 2009 Edition through OMa-2011 Addenda and all earlier editions and addenda of ASME OM Code. Frequency extensions may also be applied to accelerated test frequencies (e.g., pumps in Alert Range) as specified in OMN-20.

For pumps and valves with test periods of 2 years of less, the test frequency allowed by OMN-20 and the current Technical Specification (TS) Inservice Testing Program (as modified by SR 3.0.2 and EGM 2012-001) are the same. For pumps and valves with test frequencies greater than 2 years, OMN-20 allows the test frequency to be extended by 6 months. The current TS Inservice Testing (IST) Program does not allow extension of test frequencies that are greater than 2 years.

Applicable Code Edition and Addenda

ASME Code Case OMN-20 applies to ASME OM Division: 1 Section IST 2009 Edition through OMa-2011 Addenda and all earlier editions and addenda of ASME OM Code.

The Waterford Electric Generating Plant, Unit 3 (Waterford 3) Code Edition and Addenda that are applicable to the program interval are the ASME OM Code 2001 Edition with addenda through and including the ASME OMb Code-2003 Adenda (referred to as OMB-2003) (reference Entergy Letter GNRI-96/00184) dated August 27, 1996, TAC M94454, “Inservice Testing Plan” (ADAMS Accession No. ML073410350). The Waterford 3 current interval ends November 30, 2017.

Applicable Code Requirement

This request is made in accordance with 10 CFR 50.55a(z)(2), and proposes an alternative to the requirements of 10 CFR 50.55a(f), which requires pumps and valves to meet the test requirements set forth in specific documents incorporated by reference in 10 CFR 50.55a(a). ASME Code Case OMN-20 applies to Division 1, Section IST of the ASME OM Code and associated addenda incorporated by reference in 10 CFR 50.55a(a).

Reason for Request

NOTE: The discussions within this request for alternative refer to NUREG 1432, “Standard Technical Specifications – Combustion Engineering Plants,” Revision 4, SR numbering. The equivalent Waterford 3 SRs are 4.0.2 and 4.0.3.

The IST Program controls specified in Section 6.5.8 of the Waterford 3 TS provide: a) a table specifying certain IST frequencies; b) an allowance to apply SR 4.0.2 to inservice tests required by the OM Code and with frequencies of two years or less; c) an allowance to apply SR 4.0.3 to inservice tests required by the OM Code; and d) a statement that, “Nothing in the ASME OM Code shall be construed to supersede the requirements of any TS.” In Regulatory Issue Summary (RIS) 2012-10, "NRC Staff Position on Applying Surveillance Requirement 3.0.2 and 3.0.3 to Administrative Controls Program Tests," and Enforcement Guidance Memorandum (EGM) 2012-001, "Dispositioning Noncompliance with Administrative Controls Technical Specifications Programmatic Requirements that Extend Test Frequencies and Allow Performance of Missed Tests," the NRC stated that items b, c, and d of the TS IST Program were inappropriately added to the TS and may not be applied (although the EGM allows licensees to continue to apply those paragraphs pending a generic resolution of the issue).

In RIS 2012-10 and EGM 2012-001, the NRC stated that the current TS allowance to apply Surveillance Requirements (SR) 3.0.2 and SR 3.0.3 to the IST Program would no longer be permitted. In response, OMN-20, which provides allowances similar to SR 3.0.2, was approved and is proposed to be used as an alternative to the test periods specified in the OM code. The proposed alternative substitutes an approved Code Case for the existing TS requirements that the NRC has determined are not legally acceptable as a TS allowance. This proposed alternative provides an equivalent level of safety as the existing TS allowance, while maintaining consistency with 10 CFR 50.55a and the ASME OM Code.

Proposed Alternative and Basis for Use

The proposed alternative is OMN-20, "Inservice Test Frequency," which addresses testing periods for pumps and valves specified in ASME OM Division 1, Section IST, 2009 Edition through OMa-2011 Addenda, and all earlier editions and addenda of ASME OM Code.

This request is being made in accordance with 10 CFR 50.55a(z)(2), in that the existing requirements are considered a hardship without a compensating increase in quality and safety for the following reasons:

1) For IST testing periods up to and including 2 years, Code Case OMN-20 provides an allowance to extend the IST testing periods by up to 25%. The period extension is to facilitate test scheduling and considers plant operating conditions that may not be suitable for performance of the required testing (e.g., performance of the test would cause an unacceptable increase in the plant risk profile due to transient conditions or other ongoing surveillance, test or maintenance activities). Period extensions are not intended to be used repeatedly merely as an operational convenience to extend test intervals beyond those specified. The test period extension and the statements regarding the appropriate use of the period extension are equivalent to the existing TS SR 3.0.2 allowance and the statements regarding its use in the SR 3.0.2 Bases. Use of the SR 3.0.2 period extension has been a practice in the nuclear industry for many decades and elimination of this allowance would place a hardship on Entergy Operations, Inc. (Entergy), when there is no evidence that the period extensions affect component reliability.

2) For IST testing periods of greater than 2 years, OMN-20 allows an extension of up to 6 months. The ASME OM Committee determined that such an extension is appropriate. The 6-month extension will have a minimal impact on component reliability considering that the most probable result of performing any inservice test is satisfactory verification of the test acceptance criteria. As such, pumps and valves will continue to be adequately assessed for operational readiness when tested in accordance with the requirements specified in 10 CFR 50.55a(f) with the frequency extensions allowed by Code Case OMN-20.

3) As stated in EGM 2012-001, if an inservice test is not performed within its frequency, SR 4.0.3 will not be applied. The effect of a missed inservice test on the operability of TS equipment will be assessed under the licensee's Operability Determination Program.

Duration of Proposed Alternative

The proposed alternative is requested for the current 10-year IST interval or until Code Case OMN-20 is incorporated into a future revision of Regulatory Guide 1.192, referenced by a future revision of 10 CFR 50.55a, whichever occurs first.

Precedents

The NRC approved the use of OMN-20 for North Anna on March 27, 2014 (NRC ADAMS Accession Number ML14084A407).