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GNRO-2015/00037

September 15, 2015

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

SUBJECT: Application to Revise the Grand Gulf Nuclear Station Unit 1 Technical Specifications to Remove the Inservice Testing Program and to Clarify SR Usage Rule Application to Section 5.5 Testing
Grand Gulf Nuclear Station, Unit 1
Docket No. 50-416
License No. NPF-29

Dear Sir or Madam:

In accordance with the provisions of 10 CFR 50.90, the Entergy Operations Inc. (Entergy) is submitting a request for an amendment to the Grand Gulf Nuclear Station Unit 1 Technical Specifications (TS).

The proposed change revises the Grand Gulf Nuclear Station Unit 1 Technical Specifications (TS) to eliminate Section 5.5, "Inservice Test Program," which is superseded by OMN-20. A new defined term, "Inservice Testing Program," is added to the TS. This request is consistent with TSTF-545, Revision 1, "TS Inservice Testing Program Removal & Clarify SR Usage Rule Application to Section 5.5 Testing," which under Nuclear Regulatory Commission (NRC) approval review at this time. The proposed change also proposes an alternative to the testing periods in the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code, by adoption of Code Case OMN-20, "Inservice Test Frequency."

Attachment 1 provides a description and assessment of the proposed TS changes. Attachment 2 provides the request for an alternative to the ASME Code. Attachment 3 provides the existing TS pages marked up to show the proposed changes. Attachment 4 provides revised (clean) TS pages.

Approval of the proposed amendment is requested. 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 Mississippi Official.

This letter contains no new commitments. If you have any questions or require additional information, please contact James Nadeau at 601-437-2103.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 15th day of September, 2015.

Sincerely,



KJM/ram

- Attachment(s):
1. Description and Assessment of Technical Specifications Changes
 2. Description and Assessment of Proposed Alternative to the ASME Code
 3. Proposed Technical Specification Changes (Marked-Up)
 4. Revised Technical Specification Pages (Clean)

cc: with Attachment(s)

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Attachment 1 to GNRO-2015/00037

Description and Assessment of Technical Specifications Changes

DESCRIPTION AND ASSESSMENT OF TECHNICAL SPECIFICATIONS CHANGES

DESCRIPTION AND ASSESSMENT OF TECHNICAL SPECIFICATIONS CHANGES

1.0 DESCRIPTION

The proposed change eliminates the Technical Specifications (TS), Section 5.5, "Inservice Test (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 1.1, "Definitions." The Surveillance Requirement (SR) Section 3.0, "SR Applicability," Bases are revised to explain the application of the usage rules to the Section 5.5 testing requirements. The proposed change to the TS is consistent with TSTF 545, Revision 1, "TS Inservice Testing Program Removal & Clarify SR Usage Rule Application to Section 5.5 Testing," which is under NRC approval review at this time.

2.0 SUMMARY DESCRIPTION

On August 23, 2012, the NRC issued 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." The RIS stated that the NRC staff had determined that restructuring Technical Specifications (TS) chapters during the development of the Improved Standard Technical Specifications (ISTS) resulted in unintended consequences when Section 3.0, "Surveillance Requirement Applicability," provisions were made applicable to Section 5.0 TS. The NRC staff concluded that Surveillance Requirement (SR) 3.0.2 and SR 3.0.3 cannot be applied to TS 5.5 for tests that are not associated with a TS SR.

In order to provide time for licensees to address the NRC position, the NRC issued 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," on February 24, 2012. The EGM states the NRC staff position that SR 3.0.2 and SR 3.0.3 cannot be applied to Inservice Tests. The Inservice Testing (IST) Program requirements, including the associated testing intervals, are provided in the American Society of Mechanical Engineers (ASME) Code for Operations and Maintenance of Nuclear Power Plants (OM Code), which licensees are required to follow by 10 CFR 50.55a(f), "Inservice testing requirements." The staff evaluation of inservice testing requirements under 10 CFR 50.55a determined that, if a licensee finds that the requirements of the TS conflict with the requirements of 10 CFR 50.55a, then the licensee must amend their TS to comply with 10 CFR 50.55a. Also, with regard to the ASME OM Code and 10 CFR 50.55a, the OM Code, at the time, did not make available test allowances similar to either SR 3.0.2 or SR 3.0.3 under Title 10 of the Code of Federal Regulations (10 CFR), Part 50, paragraph 50.55a(f). Therefore, these allowances could not be applied to Inservice Tests. The EGM provided enforcement discretion to licensees to apply SR 3.0.2 to Inservice Tests and guidance on addressing missed Inservice Tests, pending revision to the ASME OM Code and the TS.

Attachment 1

The proposed change requests a revision to the TS to eliminate the Chapter 5.0, "Administrative Controls," specification, "Inservice Testing Program." The ASME has made available a Code Case, OMN-20, "Inservice Test Frequency," which provides similar definitions and allowances as in the current TS inservice testing program. A new defined term, "Inservice Testing Program," is added to TS Section 1.1, "Definitions." Existing uses of the term "Inservice Testing Program" in the TS and TS Bases are capitalized to indicate it is now a defined term.

The SR 3.0.2 and SR 3.0.3 Bases are revised to clarify the application of these usage rules to testing required by TS Section 5.5, "Programs and Manuals," specifications. The SR 3.0.2 Bases are also revised to clarify the application of SR 3.0.2 to inservice tests.

This application is modelled after TSTF-545, Revision 2, "TS Inservice Testing Program Removal & Clarify SR Usage Rule Application to Section 5.5 Testing," which is under NRC evaluation at this time and it is anticipated that it will be available for use as a Model Safety Evaluation and Model Application on or after September 10, 2015. The conservative position outlined in the TSTF that changes to the SR 3.0 Bases have been adopted in this license amendment application.

Background

Title 10 of the Code of Federal Regulations, Part 50, Section 50.55a, paragraph (b), "Standards approved for incorporation by reference," references the approved standards required to be followed for systems and components of nuclear power reactors. 10 CFR 50.55a, paragraph (b)(3), references the ASME OM Code. 10 CFR 50.55a, paragraph (b)(6), "Operation and Maintenance of Nuclear Power Plants Code Cases," allows licensees to apply the ASME Code Cases listed in Regulatory Guide 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code," without prior NRC approval subject to the conditions listed in 10 CFR 50.55a(b)(6), paragraphs (i) through (iii). 10 CFR 50.55a, paragraph (a)(3)(i) allows licensees to request the use of ASME Code Cases that are not referenced in the current version of Regulatory Guide 1.192.

The OM Code was developed and is maintained by the ASME OM Committee. The ASME publishes a new edition of the OM Code every three years and a new addendum every year. The latest editions and addenda of the OM Code that have been approved for use by the NRC are referenced in 10 CFR 50.55a(b). The ASME also publishes OM Code Cases yearly. Code Cases provide alternatives developed and approved by ASME or explain the intent of existing Code requirements.

The TS IST Program in Section 5.5, "Programs and Manuals," provides a table defining some of the IST frequencies and describes the relationship between the TS and the Inservice Testing requirements. The program states:

Technical Specification 5.5.6 Inservice Testing Program

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 month	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 SR 3.0.2 are applicable to the above required frequencies for performing inservice testing activities;
- c. The provisions of SR 3.0.3 are applicable to inservice testing activities; and
- d. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any TS.

SR 3.0.2 states that an SR is considered met within its specified Frequency if the Surveillance is performed within 1.25 times the interval specified. SR 3.0.3 states that if a Surveillance was not performed within its specified Frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified Frequency, whichever is greater.

In January 2013, the ASME announced the availability of Code Case OMN-20, "Inservice Test Frequency." The Code Case states:

Inquiry: What alternative(s) may be applied 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?

Reply: It is the opinion of the [ASME OM] Committee that for 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, the below requirements may be applied.

ASME OM Division: 1 Section IST and earlier editions and addenda of ASME OM Code specify component test frequencies based either on elapsed time periods (e.g., quarterly, 2 years, etc.) or based on the occurrence of plant conditions or events (e.g., cold shutdown, refueling outage, upon detection of a sample failure, following maintenance, etc.).

Attachment 1

- a) Components whose test frequencies are based on elapsed time periods shall be tested at the frequencies specified in Section IST with a specified time period between tests as shown in the table below. The specified time period between tests may be reduced or extended as follows:
 - 1) For periods specified as less than 2 years, the period may be extended by up to 25% for any given test.
 - 2) For periods specified as greater than or equal to 2 years, the period may be extended by up to 6 months for any given test.
 - 3) All periods specified may be reduced at the discretion of the owner (i.e., there is no minimum period requirement).

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.

Period extensions may also be applied to accelerated test frequencies (e.g., pumps in Alert Range) and other less than two year test frequencies not specified in the table below.

Period extensions may not be applied to the test frequency requirements specified in Subsection ISTD, *Preservice and Inservice Examination and Testing of Dynamic Restraints (Snubbers) in Light-water Reactor Nuclear Power Plants*, as Subsection ISTD contains its own rules for period extensions.

Frequency	Specified Time Period Between Tests
Quarterly (or every 3 months)	92 days
Semiannually (or every 6 months)	184 days
Annually (or every year)	366 days
x Years	x calendar years where 'x' is a whole number of years ≥ 2

- b) Components whose test frequencies are based on the occurrence of plant conditions or events may not have their period between tests extended except as allowed by ASME OM Division: 1 Section IST 2009 Edition through OMa-2011 Addenda and earlier editions and addenda of ASME OM Code.

Attachment 1

The Code Case differs from the current TS requirements in the following aspects:

- The Code Case does not define the periods "Weekly," "Monthly," or "Every 9 months."
- The Code Case allows tests required to be performed at periods greater than 2 years to be extended up to 6 months. The ISTS does not allow test periods greater than 2 years to be extended.
- The Code Case does not address failure to perform an Inservice Test within its required period.
- The Code Case does not include the statement in the TS that the ASME OM Code may not supersede the requirements of any TS.

The proposed change eliminates the TS Inservice Testing Program. The TS contain Surveillances that require testing or test intervals in accordance with the Inservice Testing Program. The elimination of the TS Inservice Testing Program from Section 5.5 of the TS could result in uncertainty regarding the correct application of these Surveillance Requirements. Therefore, a new defined term, "Inservice Testing Program," is added to Section 1.1, "Definitions," in the Technical Specifications. It is defined as, "The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f)." Following the Note in Section 1.1 of the TS, the existing uses of the term "Inservice Testing Program" are capitalized throughout the TS and TS Bases to indicate it is a defined term. The SR 3.0.2 Bases are revised to expand the existing discussion of frequencies specified in regulations to include inservice tests.

At the November 21, 2013 TSTF / NRC public meeting, the TSTF and NRC agreed that revising the TS Section 5.5 specifications to no longer refer to SR 3.0.2 or SR 3.0.3 is not sufficiently beneficial to warrant the expenditure of industry and NRC resources, and should not be pursued. This decision was based on agreement that:

- The presentation has been used for 20 years with no significant misinterpretation (with the exception of the IST program requirements, which are addressed in this Traveler);
- The NRC and industry agree that the allowances are appropriate; and
- Any change would simply restate the existing allowances in a different way.

The NRC is currently pursuing publication of OMN-20 in the regulations so that it may be used without plant-specific approval. Should the NRC approve this Traveler and a licensee desire to adopt the Traveler prior to NRC incorporation of OMN-20 into the regulations, the model application in Enclosure 1 contains an optional request for a plant-specific alternative to the ASME O&M Code to utilize OMN-20.

Proposed Change

The proposed change eliminates the Inservice Testing Program from TS Section 5.5. Subsequent programs are renumbered to reflect elimination of the program and references to the renumbered programs are revised in the TS and TS Bases. It is anticipated that plant-

specific requests to adopt this Traveler will mark the Section 5.5 program deleted and will not renumber the subsequent programs.

A new defined term, "Inservice Testing Program," is added to TS Section 1.1, "Definitions." It states, "The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f)."

The existing uses of the term "Inservice Testing Program" are capitalized throughout the TS and TS Bases to indicate it is a defined term. The phrase "Inservice Testing Program" may appear in different TS and TS Bases locations in plant-specific TS. Revising this phrase to be capitalized, wherever it may appear in a plant's TS and TS Bases, is within the scope of this proposed change.

The SR 3.0.2 Bases discussion of frequencies specified in the regulation is expanded to discuss inservice tests. Words in italics are added. Words that are struck-through are deleted.

The 25% extension does not significantly degrade the reliability that results from performing the Surveillance at its specified Frequency. This is based on the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the SRs. The exceptions to SR 3.0.2 are those Surveillances for which the 25% extension of the interval specified in the Frequency does not apply. These exceptions are stated in the individual Specifications. The requirements of regulations take precedence over the TS. ~~An example~~ *Examples* of where SR 3.0.2 does not apply *are* in the [Primary] Containment Leakage Rate Testing Program *required by 10 CFR 50, Appendix J, and the American Society of Mechanical Engineers (ASME) Code inservice testing required by 10 CFR 50.55a.* ~~These~~ *This* programs establishes testing requirements and Frequencies in accordance with the requirements of regulations. The TS cannot, in and of themselves, extend a test interval specified in the regulations *directly or by reference.*

The SR 3.0 Bases are modified to discuss the application of SR 3.0.2 and SR 3.0.3 to Section 5.5 testing requirements.

SR 3.0.1 through SR 3.0.4 establish the general requirements applicable to all Specifications and apply at all times, unless otherwise stated. *SR 3.0.2 and SR 3.0.3 apply in Chapter 5 only when invoked by a Chapter 5 Specification.*

The SR 3.0.2 Bases are modified to discuss the application of SR 3.0.2 to Section 5.5 testing requirements.

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

The SR 3.0.3 Bases are modified to discuss the application of SR 3.0.3 to Section 5.5 testing requirements.

When a Section 5.5, "Programs and Manuals," specification states that the provisions of SR 3.0.3 are applicable, it permits the flexibility to defer declaring the testing requirement not met in accordance with SR 3.0.3 when the testing has not been completed within the

testing interval (including the allowance of SR 3.0.2 if invoked by the Section 5.5 specification).

3.0 TECHNICAL EVALUATION

3.1 Technical Evaluation of the Proposed Change to the Technical Specifications

The proposed change eliminates TS Section 5.5, "Programs and Manuals," "Inservice Testing Program." This removes TS requirements related to IST frequencies, the application of SR 3.0.2 and SR 3.0.3, and the relationship between the TS and the ASME Code.

The existing references to the IST Program are revised to reference a new TS Section 1.1 defined term, "Inservice Testing Program," which states: "The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f)."

Plant operation under the proposed alternative in OMN-20 and the proposed TS will differ from the current TS requirements in the following aspects:

The Code Case does not define the periods "Weekly," "Monthly," or "Every 9 months."

Unlike the existing TS IST Program, the OMN-20 Code Case does not define the periods "weekly," "monthly," or "every 9 months." As the ASME OM Committee specifies the pump and valve testing frequencies in the OM Code, we defer to that Committee regarding the need to define these testing periods in the Code Case or in the TS.

The Code Case allows tests required to be performed at periods greater than 2 years to be extended up to 6 months. The ISTS does not allow test periods greater than 2 years to be extended.

The ASME OM Committee determined that allowing a 6-month extension to testing periods greater than 2 years is appropriate. The 6-month extension will have 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.

The Code Case does not address failure to perform an Inservice Test within its required period.

The current TS allow SR 3.0.3 to be used when an Inservice Test is not performed within its required testing period. SR 3.0.3 states that if a Surveillance was not performed within its specified Frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified Frequency, whichever is greater. RIS 2012-10 stated licensees cannot use TS 5.5.6 to apply SR 3.0.3 to an inservice test under 10 CFR 50.55a(f) that is not associated with a TS surveillance.

In EGM 2012-001, the NRC stated that failure to either perform or meet an inservice test for tests required only by 10 CFR 50.55a(f) results in a nonconformance with the OM Code requirements and should be resolved as discussed in RIS 2005-20, Revision 1. RIS 2005-20, Revision 1, announced the availability of NRC Inspection Manual Part 9900, Technical Guidance, "Operability Determinations & Functionality Assessments for Resolution of Degraded

and Nonconforming Conditions Adverse to Quality or Safety" (herein referred to as the "OD Process"). In other words, if it is discovered that an inservice test was not performed within the specified period, the effect on equipment Operability must be assessed.

The guidance in EGM 2012-001 is consistent with Section 6.2 of the OD Process, which states, "In some cases a licensee may discover a noncompliance with a regulation. The noncompliance with the regulation should be treated as a degraded or nonconforming condition, and the operability or functionality of affected SSCs assessed." Therefore, following adoption of the proposed Code Case and the proposed change to the TS, failure to perform an inservice test within the period specified in the OM Code as modified by Code Case OMN-20 will be treated as a degraded or nonconforming condition and the effect on the Operability of the affected components will be assessed. Should it be determined that the affected components are inoperable, the appropriate TS Actions will be taken.

The proposed change to delete the SR 3.0.3 allowance is considered more restrictive since the OM Code, applicable addenda, and Regulatory Guide 1.192 incorporated by reference in 10 CFR 50.55a(b) do not provide an equivalent allowance to generically delay performance of an inservice test due to discovery of a missed test. Although SR 3.0.3 will continue to apply to TS LCOs and associated surveillance requirements that reference the IST Program, the SR 3.0.3 allowance will not apply to non-TS inservice testing requirements.

The Code Case does not include the statement in the TS that the ASME OM Code may not supersede the requirements of any TS.

The current TS IST Program, Paragraph d, states, "Nothing in the ASME OM Code shall be construed to supersede the requirements of any TS." This statement has been in the ISTS since Revision 0 was issued in 1992, and in the pre-ISTS equivalent requirement (4.0.5) since 1978, or earlier.

EGM 2012-001 stated, "the staff evaluation of inservice testing requirements under 10 CFR 50.55a determined that, if a licensee finds that the requirements of TS conflict with the requirements of 10 CFR 50.55a, then the licensee must amend their TS to comply with 10 CFR 50.55a." As the NRC position is that the statement in Paragraph d is incorrect, it is removed in the proposed change.

SR 3.0.2 will no longer apply to frequencies specified in the Inservice Testing Program

Inservice testing frequencies are specified in the ASME OM Code, as modified by OMN-20, and 10 CFR 50.55a(f) requires licensees to implement the ASME OM Code. The Technical Specifications cannot supersede regulations and, therefore, SR 3.0.2 may not be used to extend the testing frequencies specified in the ASME OM Code. The existing SR 3.0.2 Bases discussion regarding the inability of SR 3.0.2 to alter frequencies specified in regulations is expanded to discuss inservice testing. OMN-20 adds this test scheduling flexibility to the ASME OM Code, so it is not needed in the TS.

Plant operation under the proposed alternative (OMN-20) and the proposed changes to the TS will have no significant effect on component reliability.

3.2 Technical Evaluation of the Proposed Change to the Technical Specifications Bases

The SR 3.0 Applicability specifications apply to Chapter 3 of the TS and apply to testing requirements in Chapter 5, "Administrative Controls," Section 5.5, "Programs and Manuals," only when explicitly stated in the Section 5.5 Specification.

The introductory paragraph of the Bases to SR 3.0, "SR Applicability," states, "SR 3.0.1 through SR 3.0.4 establish the general requirements applicable to all Specifications and apply at all times, unless otherwise stated." To clarify that the SR 3.0 usage rules are applicable when invoked by a Section 5.5 testing requirement, the SR 3.0 introductory paragraph is being revised to state,

"SR 3.0.1 through SR 3.0.4 establish the general requirements applicable to all Specifications and apply at all times, unless otherwise stated. SR 3.0.2 and SR 3.0.3 apply in Chapter 5 only when invoked by a Chapter 5 Specification."

The SR 3.0.2 Bases are revised to add the following after the third paragraph (i.e., as a separate paragraph before "As stated in SR 3.0.2,..."):

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

Some Section 5.5 programs reference documents, such as Regulatory Guides, which contain testing intervals. Hence, the discussion of testing intervals incorporated by reference was included.

The SR 3.0.3 Bases are revised to add the following after the first paragraph:

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

The changes to the SR 3.0. Bases are consistent with the historical application of SR 3.0 usage rules to Section 5.5 testing requirements and serve to explain their application in a readily accessible location.

In order to facilitate operator understanding of the revised TS requirements related to the IST Program, the existing SR 3.0.2 discussion of Frequencies specified in the regulations is expanded to address ITS program testing intervals:

The 25% extension does not significantly degrade the reliability that results from performing the Surveillance at its specified Frequency. This is based on the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the SRs. The exceptions to SR 3.0.2 are those Surveillances for which the 25% extension of the interval specified in the Frequency does not apply. These exceptions are stated in the individual Specifications. The requirements of regulations take precedence over the TS. An example *Examples of where SR 3.0.2 does not apply are in the [Primary] Containment Leakage Rate*

Testing Program *required by 10 CFR 50, Appendix J, and the American Society of Mechanical Engineers (ASME) Code inservice testing required by 10 CFR 50.55a.* These ~~This~~ programs establishes testing requirements and Frequencies in accordance with the requirements of regulations. The TS cannot, in and of themselves, extend a test interval specified in the regulations *directly or by reference.*

4.0 REGULATORY ANALYSIS

4.1 Applicable Regulatory Requirements/Criteria

10 CFR 50.55a(b), "Standards approved for incorporation by reference," references the approved standards required to be followed for systems and components of nuclear power reactors. 10 CFR 50.55a, paragraph (b)(3), references the ASME OM Code. 10 CFR 50.55a, paragraph (b)(6), "Operation and Maintenance of Nuclear Power Plants Code Cases," allows licensees to apply the ASME Code Cases listed in Regulatory Guide 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code," without prior NRC approval subject to the conditions listed in 10 CFR 50.55a(b)(6), paragraphs (i) through (iii). 10 CFR 50.55a, paragraph (a)(3)(i) allows licensees to request the use of ASME Code Cases that are not referenced in the current version of Regulatory Guide 1.192. The use of the approved ASME OM Code Case OMN-20 is consistent with these regulations.

10 CFR 50.36(c)(5), "Administrative controls," states, "Administrative controls are the provisions relating to organization and management, procedures, recordkeeping, review and audit, and reporting necessary to assure operation of the facility in a safe manner. Each licensee shall submit any reports to the Commission pursuant to approved technical specifications as specified in § 50.4." The proposed change to the TS Inservice Testing Program does not affect compliance with this requirement.

Therefore, the proposed change to the TS does not affect plant compliance with these regulations.

4.2 No Significant Hazards Consideration Determination

Entergy requests approval to remove Inservice Testing Program from the TS and to clarify SR usage rule application to Section 5.5 Testing. The proposed change revises the TS Chapter 5, "Administrative Controls," Section 5.5, "Programs and Manuals," to delete the "Inservice Testing (IST) Program" specification. Requirements in the 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." Other requirements in Section 5.5 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). The Surveillance Requirement (SR) Section 3.0, "SR Applicability," Bases are revised to explain the application of the usage rules to the Section 5.5 testing requirements. 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 5, "Administrative Controls," Section 5.5, "Programs and Manuals," by eliminating the "Inservice Testing Program" specification. 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." Other requirements in the Section 5.5 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). The proposed change also revises the SR Section 3.0, "SR Applicability," Bases to explain the application of the usage rules to the Section 5.5 testing requirements.

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 periods under Code Case OMN-20 are equivalent to the current testing period allowed by the TS with the exception that testing periods 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 period 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.

The proposed SR 3.0 Bases changes clarify the appropriate application of the existing TS requirements. Since the proposed change does not significantly affect system Operability, the proposed change will have no significant effect on the initiating events for accidents previously evaluated and will have no significant effect on the ability of the systems to mitigate accidents previously evaluated.

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 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. The proposed Bases change does not change the Operability requirements for plant systems

or the actions taken when plant systems are not operable. The proposed Bases change clarifies the current application of the specifications.

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 periods 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 period extension will not affect the ability of the components to respond to an accident as the components are required to be operable during the testing period extension. The proposed change will eliminate the existing TS SR 3.0.3 allowance to defer performance of missed inservice tests up to the duration of the specified testing period, 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. The proposed changes to the SR 3.0 Bases clarify the application of the existing TS requirements and, as a result, have no significant effect on a margin of 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.

5.0 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.

6.0 References

1. Regulatory Issue Summary 2012-10, "NRC Staff Position on Applying Surveillance Requirement 3.0.2 and 3.0.3 to Administrative Controls Program Tests," dated August 23, 2012.
2. Enforcement Guidance Memorandum 2012-001, "Dispositioning Noncompliance with Administrative Controls Technical Specifications Programmatic Requirements that Extend Test Frequencies and Allow Performance of Missed Tests," dated February 24, 2012.
3. American Society of Mechanical Engineers Code Case OMN-20, "Inservice Test Frequency," issued January 2013.
4. NRC Inspection Manual Part 9900, Technical Guidance, "Operability Determinations & Functionality Assessments for Resolution of Degraded and Nonconforming Conditions Adverse to Quality or Safety," Revision 1, dated April 16, 2008 (ADAMS Accession Number ML073440103)."
5. Regulatory Guide 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code," August 2014.
6. TSTF-GG-05-01, "Writer's Guide for Plant-Specific Improved Technical Specifications."

Attachment 2 to GNRO-2015/00037

Description and Assessment of 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(a)(3)(i)**

Alternative Provides Acceptable Level of 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

2.1 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(b)(3), 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).

The IST Program controls specified in Section 5.5 of TS provide: a) a table specifying certain IST frequencies; b) an allowance to apply SR 3.0.2 to inservice tests required by the OM Code and with frequencies of two years or less; c) an allowance to apply SR 3.0.3 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).

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 permanently use Code Case OMN-20 to extend or reduce the IST frequency requirements 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. Period 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 or less, the test period allowed by OMN-20 and the current TS Inservice Testing Program (as modified by SR 3.0.2 and EGM 2012-001) are the same. For pumps and valves with test periods greater than 2 years, OMN-20 allows the test period to be extended by 6 months. The current TS Inservice Testing Program does not allow extension of test periods 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 Grand Gulf Nuclear Station Unit 1 Code Edition and Addenda that are applicable to the program interval are ASME OM Code 2001 Edition with addenda through and including ASME OMB Code 2003 Addenda (referred to as OMB-2003), with exception for the Main Steam Safety Relief Valves testing. For Main Steam Safety Relief Valves testing the Grand Gulf Nuclear Station Unit 1 implements Appendix I, Paragraphs I-3410(a)&(b) of ASME OM Code-2004 Edition with no addenda. The term "the Code" is used in this plan to call out both of these sets of rules. Where necessary, OM-1, OM-6, or OM-10 will be listed at the bottom of a page or called out to indicate that a section is only applicable to a specific code. The Grand Gulf Nuclear Station Unit 1 current interval ends November 30, 2017.

Applicable Code Requirement

This request is made in accordance with 10 CFR 50.55a(a)(3), 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(b). ASME Code Case OMN-20 applies to Division 1, Section IST of the ASME OM Code and associated addenda, which are incorporated by reference in 10 CFR 50.55a(b)(3).

Reason for Request

In RIS 2012-10 and EGM 2012-001, the NRC stated that the current TS allowance to apply SR 3.0.2 and SR 3.0.3 to the Inservice Testing 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 change substitutes an approved Code Case for existing TS requirements that the NRC has determined are legally, but not technically, unacceptable as a TS allowance.

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(a)(3)(i) and is considered an alternative that provides an acceptable level of 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 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 3.0.3 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 to be permanent, effective through the term of the license, or until Code Case OMN-20 is incorporated into a future revision of Regulatory Guide 1.192, whichever occurs first.

Precedents

The NRC approved the use of OMN-20 for Quad Cities on February 14, 2013 (NRC ADAMS Accession Number ML13042A348).

Attachment 3 to GNRO-2015/00037

Proposed Technical Specification Changes (Marked-Up)

1.1 Definitions

DOSE EQUIVALENT I-131
(continued)

be those listed in Federal Guidance Report (FGR) 11, "Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion," 1989.

EMERGENCY CORE COOLING
SYSTEM (ECCS) RESPONSE
TIME

The ECCS RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its ECCS initiation setpoint at the channel sensor until the ECCS equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays, where applicable. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured.

END OF CYCLE
RECIRCULATION PUMP TRIP
(EOC-RPT) SYSTEM RESPONSE
TIME

The EOC-RPT SYSTEM RESPONSE TIME shall be that time interval from initial movement of the associated turbine stop valve or the turbine control valve to complete suppression of the electric arc between the fully open contacts of the recirculation pump circuit breaker. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured, except for the breaker arc suppression time, which is not measured but is validated to conform to the manufacturer's design value.

ISOLATION SYSTEM
RESPONSE TIME

The ISOLATION SYSTEM RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its isolation initiation setpoint at the channel sensor until the isolation valves travel to their required positions. The response time

(continued)

INSERVICE TESTING
PROGRAM

The INSERVICE TESTING PROGRAM is the license program that fulfills the requirements of 10 CFR 50.55A (f).

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.1.7.6 Verify each SLC subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, is in the correct position, or can be aligned to the correct position.	31 days
SR 3.1.7.7 Verify each pump develops a flow rate ≥ 41.2 gpm at a discharge pressure ≥ 1340 psig.	In accordance with the Inservice Testing Program
SR 3.1.7.8 Verify flow through one SLC subsystem from pump into reactor pressure vessel.	24 months on a STAGGERED TEST BASIS
SR 3.1.7.9 Determine Boron-10 enrichment in atom percent (E).	Once within 24 hours after boron is added to the solution.
SR 3.1.7.10 Verify piping between the storage tank and the pump suction is not blocked.	Once within 24 hours after solution temperature is restored to $\geq 45^{\circ}\text{F}$

Make ALL CAPS

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.4 Safety/Relief Valves (S/RVs)

LCO 3.4.4 The safety function of nine S/RVs shall be OPERABLE,
AND
The relief function of six additional S/RVs shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required S/RVs inoperable.	A.1 Be in MODE 3.	12 hours
	<u>AND</u> A.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY								
SR 3.4.4.1 Verify the safety function lift setpoints of the required S/RVs are as follows: <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>Number of S/RVs</th> <th>Setpoint (psig)</th> </tr> </thead> <tbody> <tr> <td>8</td> <td>1165 ± 34.9</td> </tr> <tr> <td>6</td> <td>1180 ± 35.4</td> </tr> <tr> <td>6</td> <td>1190 ± 35.7</td> </tr> </tbody> </table>	Number of S/RVs	Setpoint (psig)	8	1165 ± 34.9	6	1180 ± 35.4	6	1190 ± 35.7	In accordance with the Inservice Testing Program <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;"> Make ALL CAPS </div>
Number of S/RVs	Setpoint (psig)								
8	1165 ± 34.9								
6	1180 ± 35.4								
6	1190 ± 35.7								

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2 Isolate the high pressure portion of the affected system from the low pressure portion by use of a second closed manual, deactivated automatic, or check valve.	72 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.4.6.1 -----NOTE----- Only required to be performed in MODES 1 and 2. -----</p> <p>Verify equivalent leakage of each RCS PIV is ≤ 1 gpm, at an RCS pressure ≥ 1040 psig and ≤ 1060 psig.</p>	<p>In accordance with <u>Inservice Testing Program</u> <i>Make ALL CAPs</i></p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY												
SR 3.5.1.1	Verify, for each ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve.	31 days												
SR 3.5.1.2	Verify each ECCS injection/spray subsystem manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days												
SR 3.5.1.3	Verify ADS accumulator supply pressure is ≥ 150 psig.	31 days												
SR 3.5.1.4	Verify each ECCS pump develops the specified flow rate with the specified total developed head.	In accordance with the Inservice Testing Program												
	<table border="1"> <thead> <tr> <th>SYSTEM</th> <th>FLOW RATE</th> <th>TOTAL DEVELOPED HEAD</th> </tr> </thead> <tbody> <tr> <td>LPCS</td> <td>≥ 7115 gpm</td> <td>≥ 290 psid</td> </tr> <tr> <td>LPCI</td> <td>≥ 7450 gpm</td> <td>≥ 125 psid</td> </tr> <tr> <td>HPCS</td> <td>≥ 7115 gpm</td> <td>≥ 445 psid</td> </tr> </tbody> </table>	SYSTEM	FLOW RATE	TOTAL DEVELOPED HEAD	LPCS	≥ 7115 gpm	≥ 290 psid	LPCI	≥ 7450 gpm	≥ 125 psid	HPCS	≥ 7115 gpm	≥ 445 psid	
SYSTEM	FLOW RATE	TOTAL DEVELOPED HEAD												
LPCS	≥ 7115 gpm	≥ 290 psid												
LPCI	≥ 7450 gpm	≥ 125 psid												
HPCS	≥ 7115 gpm	≥ 445 psid												

Make ALL CAPs

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE			FREQUENCY	
SR 3.5.2.5	Verify each required ECCS pump develops the specified flow rate with the specified total developed head.		In accordance with the <u>Inservice Testing Program</u>	
	<u>SYSTEM</u>	<u>FLOW RATE</u>		<u>TOTAL DEVELOPED HEAD</u>
	LPCS	≥ 7115 gpm		≥ 290 psid
	LPCI	≥ 7450 gpm		≥ 125 psid
HPCS	≥ 7115 gpm	≥ 445 psid		
SR 3.5.2.6	-----NOTE----- Vessel injection/spray may be excluded. -----		24 months	
	Verify each required ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal.			

Make ALL CAPs

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.6.1.3.3 -----NOTES-----</p> <ol style="list-style-type: none"> 1. Valves and blind flanges in high radiation areas may be verified by use of administrative means. 2. Not required to be met for PCIVs that are open under administrative controls. <p>-----</p> <p>Verify each primary containment isolation manual valve and blind flange that is located inside primary containment, drywell, or steam tunnel and not locked, sealed, or otherwise secured and is required to be closed during accident conditions is closed.</p>	<p>Prior to entering MODE 2 or 3 from MODE 4, if not performed within the previous 92 days</p>
<p>SR 3.6.1.3.4 Verify the isolation time of each power operated, automatic PCIV, except MSIVs, is within limits.</p>	<p>In accordance with the <u>Inservice Testing Program</u></p>

ALL CAPS

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.6.1.3.6 Verify the isolation time of each MSIV is ≥ 3 seconds and ≤ 5 seconds.</p>	<p>In accordance with the Inservice Testing Program</p>
<p>SR 3.6.1.3.7 Verify each automatic PCIV actuates to the isolation position on an actual or simulated isolation signal.</p>	<p>24 months</p>
<p>SR 3.6.1.3.8 -----NOTE----- Only required to be met in MODES 1, 2, and 3.</p> <p>Verify leakage rate through each main steam line is ≤ 100 scfh when tested at $\geq P_a$, and the total leakage rate through all four main steam lines is ≤ 250 scfh when tested at $\geq P_a$.</p>	<p>In accordance with 10 CFR 50, Appendix J, Testing Program</p>
<p>SR 3.6.1.3.9 -----NOTE----- Only required to be met in MODES 1, 2, and 3.</p> <p>Verify combined leakage rate of 1 gpm times the total number of PCIVs through hydrostatically tested lines that penetrate the primary containment is not exceeded when these isolation valves are tested at $\geq 1.1 P_a$.</p>	<p>In accordance with 10 CFR 50, Appendix J, Testing Program</p>

Make ALL CAP.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.1.7.1 -----NOTE----- RHR containment spray subsystems may be considered OPERABLE during alignment and operation for decay heat removal when below the RHR cut in permissive pressure in MODE 3 if capable of being manually realigned and not otherwise inoperable. -----</p> <p>Verify each RHR containment spray subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.</p>	<p>31 days</p>
<p>SR 3.6.1.7.2 Verify each RHR pump develops a flow rate of ≥ 7450 gpm on recirculation flow through the associated heat exchanger to the suppression pool.</p>	<p>In accordance with the Inservice Testing Program</p> <p><i>Mark ALL CAPS</i></p>
<p>SR 3.6.1.7.3 Verify each RHR containment spray subsystem automatic valve in the flow path actuates to its correct position on an actual or simulated automatic initiation signal.</p>	<p>24 months</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.2.3.1 Verify each RHR suppression pool cooling subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position or can be aligned to the correct position.	31 days
SR 3.6.2.3.2 Verify each RHR pump develops a flow rate ≥ 7450 gpm through the associated heat exchangers to the suppression pool.	In accordance with the Inservice Testing Program

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SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.4.2.1</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Valves, dampers, rupture disks, and blind flanges in high radiation areas may be verified by use of administrative means. 2. Not required to be met for SCIVs that are open under administrative controls. <p>-----</p> <p>Verify each secondary containment isolation manual valve, damper, rupture disk, and blind flange that is required to be closed during accident conditions is closed.</p>	<p>31 days</p>
<p>SR 3.6.4.2.2</p> <p>Verify the isolation time of each power operated, automatic SCIV is within limits.</p>	<p>In accordance with the Inservice Testing Program</p> <p><i>Mark</i> <i>ALB</i> <i>CAPE</i></p>
<p>SR 3.6.4.2.3</p> <p>Verify each automatic SCIV actuates to the isolation position on an actual or simulated automatic isolation signal.</p>	<p>24 months</p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.6.5.3.3 Verify the isolation time of each power operated, automatic drywell isolation valve is within limits.	In accordance with the <u>Inservice Testing Program</u> <i>Make ALL CAPS</i>
SR 3.6.5.3.4 Verify each automatic drywell isolation valve actuates to the isolation position on an actual or simulated isolation signal.	24 months

5.5 Programs and Manuals (continued)

5.5.5 Component Cyclic or Transient Limit

This program provides controls to track the cyclic and transient occurrences identified on UFSAR Table 3.9-35 to ensure that the reactor vessel is maintained within the design limits.

5.5.6 Inservice Testing Program

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 SR 3.0.2 are applicable to the above required frequencies for performing inservice testing activities;
- c. The provisions of SR 3.0.3 are applicable to inservice testing activities; and
- d. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any TS.

5.5.6

GRAND GULF

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5.0-11

Amendment No 120 142

(continued)

delete

5.5.6

Attachment 4 to GNRO-2015/00037
Revised Technical Specification Pages (Clean)

1.1 Definitions

DOSE EQUIVALENT I-131 (continued)	be those listed in Federal Guidance Report (FGR) 11, "Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion," 1989.
EMERGENCY CORE COOLING SYSTEM (ECCS) RESPONSE TIME	The ECCS RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its ECCS initiation setpoint at the channel sensor until the ECCS equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays, where applicable. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured.
END OF CYCLE RECIRCULATION PUMP TRIP (EOC-RPT) SYSTEM RESPONSE TIME	The EOC-RPT SYSTEM RESPONSE TIME shall be that time interval from initial movement of the associated turbine stop valve or the turbine control valve to complete suppression of the electric arc between the fully open contacts of the recirculation pump circuit breaker. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured, except for the breaker arc suppression time, which is not measured but is validated to conform to the manufacturer's design value.
INSERVICE TESTING PROGRAM	The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR50.55a(f).
ISOLATION SYSTEM RESPONSE TIME	The ISOLATION SYSTEM RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its isolation initiation setpoint at the channel sensor until the isolation valves travel to their required positions. The response time

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.1.7.6	Verify each SLC subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, is in the correct position, or can be aligned to the correct position.	31 days
SR 3.1.7.7	Verify each pump develops a flow rate ≥ 41.2 gpm at a discharge pressure ≥ 1340 psig.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.1.7.8	Verify flow through one SLC subsystem from pump into reactor pressure vessel.	24 months on a STAGGERED TEST BASIS
SR 3.1.7.9	Determine Boron-10 enrichment in atom percent (E).	Once within 24 hours after boron is added to the solution.
SR 3.1.7.10	Verify piping between the storage tank and the pump suction is not blocked.	Once within 24 hours after solution temperature is restored to $\geq 45^\circ\text{F}$

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.4 Safety/Relief Valves (S/RVs)

LCO 3.4.4 The safety function of nine S/RVs shall be OPERABLE,

 AND

 The relief function of six additional S/RVs shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required S/RVs inoperable.	A.1 Be in MODE 3.	12 hours
	<u>AND</u> A.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY	
SR 3.4.4.1	Verify the safety function lift setpoints of the required S/RVs are as follows:	In accordance with the INSERVICE TESTING PROGRAM	
	<u>Number of S/RVs</u>		<u>Setpoint (psig)</u>
	8		1165 ± 34.9
	6		1180 ± 35.4
	6	1190 ± 35.7	

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2 Isolate the high pressure portion of the affected system from the low pressure portion by use of a second closed manual, deactivated automatic, or check valve.	72 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.6.1 -----NOTE----- Only required to be performed in MODES 1 and 2. ----- Verify equivalent leakage of each RCS PIV is ≤ 1 gpm, at an RCS pressure ≥ 1040 psig and ≤ 1060 psig.	In accordance with INSERVICE TESTING PROGRAM

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY												
SR 3.5.1.1	Verify, for each ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve.	31 days												
SR 3.5.1.2	Verify each ECCS injection/spray subsystem manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days												
SR 3.5.1.3	Verify ADS accumulator supply pressure is ≥ 150 psig.	31 days												
SR 3.5.1.4	Verify each ECCS pump develops the specified flow rate with the specified total developed head.	In accordance with the INSERVICE TESTING PROGRAM												
	<table border="1"> <thead> <tr> <th><u>SYSTEM</u></th> <th><u>FLOW RATE</u></th> <th><u>TOTAL DEVELOPED HEAD</u></th> </tr> </thead> <tbody> <tr> <td>LPCS</td> <td>≥ 7115 gpm</td> <td>≥ 290 psid</td> </tr> <tr> <td>LPCI</td> <td>≥ 7450 gpm</td> <td>≥ 125 psid</td> </tr> <tr> <td>HPCS</td> <td>≥ 7115 gpm</td> <td>≥ 445 psid</td> </tr> </tbody> </table>	<u>SYSTEM</u>	<u>FLOW RATE</u>	<u>TOTAL DEVELOPED HEAD</u>	LPCS	≥ 7115 gpm	≥ 290 psid	LPCI	≥ 7450 gpm	≥ 125 psid	HPCS	≥ 7115 gpm	≥ 445 psid	
<u>SYSTEM</u>	<u>FLOW RATE</u>	<u>TOTAL DEVELOPED HEAD</u>												
LPCS	≥ 7115 gpm	≥ 290 psid												
LPCI	≥ 7450 gpm	≥ 125 psid												
HPCS	≥ 7115 gpm	≥ 445 psid												

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE			FREQUENCY	
SR 3.5.2.5	Verify each required ECCS pump develops the specified flow rate with the specified total developed head.		In accordance with the INSERVICE TESTING PROGRAM	
	<u>SYSTEM</u>	<u>FLOW RATE</u>		<u>TOTAL DEVELOPED HEAD</u>
	LPCS	≥ 7115 gpm		≥ 290 psid
	LPCI	≥ 7450 gpm		≥ 125 psid
	HPCS		≥ 7115 gpm	
	≥ 445 psid			
SR 3.5.2.6	<p>-----NOTE----- Vessel injection/spray may be excluded. -----</p> <p>Verify each required ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal.</p>		24 months	

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.6.1.3.3</p> <p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. Valves and blind flanges in high radiation areas may be verified by use of administrative means. 2. Not required to be met for PCIVs that are open under administrative controls. <p>-----</p> <p>Verify each primary containment isolation manual valve and blind flange that is located inside primary containment, drywell, or steam tunnel and not locked, sealed, or otherwise secured and is required to be closed during accident conditions is closed.</p>	<p>Prior to entering MODE 2 or 3 from MODE 4, if not performed within the previous 92 days</p>
<p>SR 3.6.1.3.4</p> <p>Verify the isolation time of each power operated, automatic PCIV, except MSIVs, is within limits.</p>	<p>In accordance with the INSERVICE TESTING PROGRAM</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.6	Verify the isolation time of each MSIV is ≥ 3 seconds and ≤ 5 seconds.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.6.1.3.7	Verify each automatic PCIV actuates to the isolation position on an actual or simulated isolation signal.	24 months
SR 3.6.1.3.8	<p>-----NOTE----- Only required to be met in MODES 1, 2, and 3. -----</p> <p>Verify leakage rate through each main steam line is ≤ 100 scfh when tested at $\geq P_a$, and the total leakage rate through all four main steam lines is ≤ 250 scfh when tested at $\geq P_a$</p>	In accordance with 10 CFR 50, Appendix J, Testing Program
SR 3.6.1.3.9	<p>-----NOTE----- Only required to be met in MODES 1, 2, and 3. -----</p> <p>Verify combined leakage rate of 1 gpm times the total number of PCIVs through hydrostatically tested lines that penetrate the primary containment is not exceeded when these isolation valves are tested at $\geq 1.1 P_a$.</p>	In accordance with 10 CFR 50, Appendix J, Testing Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.1.7.1</p> <p>-----NOTE----- RHR containment spray subsystems may be considered OPERABLE during alignment and operation for decay heat removal when below the RHR cut in permissive pressure in MODE 3 if capable of being manually realigned and not otherwise inoperable.</p> <p>Verify each RHR containment spray subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.</p>	<p>31 days</p>
<p>SR 3.6.1.7.2</p> <p>Verify each RHR pump develops a flow rate of ≥ 7450 gpm on recirculation flow through the associated heat exchanger to the suppression pool.</p>	<p>In accordance with the INSERVICE TESTING PROGRAM</p>
<p>SR 3.6.1.7.3</p> <p>Verify each RHR containment spray subsystem automatic valve in the flow path actuates to its correct position on an actual or simulated automatic initiation signal.</p>	<p>24 months</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.3.1	Verify each RHR suppression pool cooling subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position or can be aligned to the correct position.	31 days
SR 3.6.2.3.2	Verify each RHR pump develops a flow rate ≥ 7450 gpm through the associated heat exchangers to the suppression pool.	In accordance with the INSERVICE TESTING PROGRAM

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.4.2.1</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Valves, dampers, rupture disks, and blind flanges in high radiation areas may be verified by use of administrative means. 2. Not required to be met for SCIVs that are open under administrative controls. <p>-----</p> <p>Verify each secondary containment isolation manual valve, damper, rupture disk, and blind flange that is required to be closed during accident conditions is closed.</p>	<p>31 days</p>
<p>SR 3.6.4.2.2</p> <p>Verify the isolation time of each power operated, automatic SCIV is within limits.</p>	<p>In accordance with the INSERVICE TESTING PROGRAM</p>
<p>SR 3.6.4.2.3</p> <p>Verify each automatic SCIV actuates to the isolation position on an actual or simulated automatic isolation signal.</p>	<p>24 months</p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.5.3.3	Verify the isolation time of each power operated, automatic drywell isolation valve is within limits.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.6.5.3.4	Verify each automatic drywell isolation valve actuates to the isolation position on an actual or simulated isolation signal.	24 months

5.5 Programs and Manuals (continued)

5.5.5 Component Cyclic or Transient Limit

This program provides controls to track the cyclic and transient occurrences identified on UFSAR Table 3.9-35 to ensure that the reactor vessel is maintained within the design limits.

5.5.6 Deleted

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