



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

July 17, 2025

Charles V. McFeaters
President and Chief Nuclear Officer
PSEG Nuclear LLC - N09
P.O. Box 236
Hancocks Bridge, NJ 08038

SUBJECT: HOPE CREEK GENERATING STATION - ISSUANCE OF AMENDMENT
NO. 237 RE: INCREASE CERTAIN SURVEILLANCE REQUIREMENT
INTERVALS (EPID L-2024-LLA-0065)

Dear Mr. McFeaters:

The U.S. Nuclear Regulatory Commission (Commission) has issued the enclosed Amendment No. 237 to Renewed Facility Operating License No. NPF-57 for the Hope Creek Generating Station. This amendment consists of changes to the technical specifications in response to your application dated May 20, 2024, as supplemented by letters dated September 26, 2024, and December 6, 2024. The amendment revises the technical specifications for Hope Creek to increase certain surveillance requirement intervals from 18 months to 24 months for surveillance requirements whose frequency is controlled within the licensee's Surveillance Frequency Control Program. Also, the amendment increases some surveillance requirement intervals extended under the Surveillance Frequency Control Program from 36 months to 48 months.

A copy of our related safety evaluation is also enclosed. The Notice of Issuance will be included in the Commission's monthly *Federal Register* notice.

Sincerely,

/RA/

Michael L. Marshall, Jr., Senior Project Manager
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-354

Enclosures:

1. Amendment No. 237 to
Renewed License No. NPF-57
2. Safety Evaluation

cc: Listserv



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

PSEG NUCLEAR LLC

DOCKET NO. 50-354

HOPE CREEK GENERATING STATION

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 237
Renewed License No. NPF-57

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment filed by PSEG Nuclear LLC dated May 20, 2024, as supplemented by letters dated September 26, 2024 and December 6, 2024, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Renewed Facility Operating License No. NPF-57 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 237, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated into the renewed license. PSEG Nuclear LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license amendment is effective as of its date of issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Hipólito González, Chief
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility
Operating License and Technical
Specifications

Date of Issuance: July 17, 2025

ATTACHMENT TO LICENSE AMENDMENT NO. 237

HOPE CREEK GENERATING STATION

RENEWED FACILITY OPERATING LICENSE NO. NPF-57

DOCKET NO. 50-354

Replace the following page of the Renewed Facility Operating License with the revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove

3
16
17

Insert

3
16
17

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

1-10
3/4 6-4
6-27

Insert

1-10
3/4 6-4
6-27

reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;

- (4) PSEG Nuclear LLC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (5) PSEG Nuclear LLC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (6) PSEG Nuclear LLC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility. Mechanical disassembly of the GE14i isotope test assemblies containing Cobalt-60 is not considered separation.
- (7) PSEG Nuclear LLC, pursuant to the Act and 10 CFR Part 30, to intentionally produce, possess, receive, transfer, and use Cobalt-60.

C. This renewed license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

PSEG Nuclear LLC is authorized to operate the facility at reactor core Power levels not in excess of 3902 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 237, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the renewed license. PSEG Nuclear LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

Prior NRC approval, under 10 CFR 50.90, is required for a change to the categorization process specified above (e.g., change from the alternate seismic approach (referenced above) to a seismic probabilistic risk assessment approach).

(29) 24 Month Fuel Cycle Exception to Surveillance Frequency Control Program

The 24 Month Fuel Cycle-related Surveillance Requirement Frequency changes approved by the NRC in License Amendment 237 are not subject to the Surveillance Frequency Control Program (SFCP) requirements on a one-time extension basis. Subsequent extensions are subject to the SFCP requirements specified in the Technical Specifications.

- D. The facility requires exemptions from certain requirements of 10 CFR Part 50 and 10 CFR Part 70. An exemption from the criticality alarm requirements of 10 CFR 70.24 was granted in Special Nuclear Material License No. 1953, dated August 21, 1985. This exemption is described in Section 9.1 of Supplement No. 5 to the SER. This previously granted exemption is continued in this renewed operating license. An exemption from certain requirements of Appendix A to 10 CFR Part 50, is described in Supplement No. 5 to the SER. This exemption is a schedular exemption to the requirements of General Design Criterion 64, permitting delaying functionality of the Turbine Building Circulating Water System-Radiation Monitoring System until 5 percent power for local indication, and until 120 days after fuel load for control room indication (Appendix R of SSER 5). Exemptions from certain requirements of Appendix J to 10 CFR Part 50, are described in Supplement No. 5 to the SER. These include an exemption from the requirement of Appendix J, exempting main steam isolation valve leak-rate testing at 1.10 Pa (Section 6.2.6 of SSER 5); an exemption from Appendix J, exempting Type C testing on traversing incore probe system shear valves (Section 6.2.6 of SSER 5); an exemption from Appendix J, exempting Type C testing for instrument lines and lines containing excess flow check valves (Section 6.2.6 of SSER 5); and an exemption from Appendix J, exempting Type C testing of thermal relief valves (Section 6.2.6 of SSER 5). These exemptions are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security. These exemptions are hereby granted. The special circumstances regarding each exemption are identified in the referenced section of the safety evaluation report and the supplements thereto. These exemptions are granted pursuant to 10 CFR 50.12. With these exemptions, the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.

- E. The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, submitted by letter dated May 19, 2006 are entitled: "Salem-Hope Creek Nuclear Generating Station Security Training and Qualification Plan," and "Salem-Hope Creek Nuclear Generating Station Security Contingency Plan." The plans contain Safeguards Information protected under 10 CFR 73.21.

PSEG Nuclear LLC shall fully implement and maintain in effect all provisions of the Commission-approved Cyber Security Plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The Salem-Hope Creek CSP was approved by License Amendment No. 189 as supplemented by changes approved by License Amendment Nos. 192, 197 and 204.

- F. DELETED
- G. The licensees shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims.
- H. This renewed license is effective as of the date of issuance and shall expire at midnight on April 11, 2046.

FOR THE NUCLEAR REGULATORY COMMISSION

- original signed by E. J. Leeds -

Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

Enclosures:

1. Appendix A - Technical Specifications
(NUREG-1202)
2. Appendix B - Environmental Protection Plan
3. Appendix C - Additional Conditions

Date of Issuance: July 20, 2011

TABLE 1.1
SURVEILLANCE FREQUENCY NOTATION

<u>NOTATION</u>	<u>FREQUENCY</u>
S	At least once per 12 hours.
D	At least once per 24 hours.
W	At least once per 7 days.
M	At least once per 31 days.
Q	At least once per 92 days.
SA	At least once per 184 days.
A	At least once per 366 days.
R	At least once per 24 months (731 days).
S/U	Prior to each reactor startup.
P	Prior to each radioactive release.
Z	During startup, prior to exceeding 30% of RATED THERMAL POWER, if not performed within the previous 7 days
N.A.	Not applicable.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS

- d. DELETED.
- e. DELETED.
- f. Main steam line isolation valves shall be leak tested at least once per 24 months. |
- g. Containment isolation valves which form the boundary for the long-term seal of the feedwater lines shall be hydrostatically tested at 1.10 Pa, 55.7 psig, at least once per 24 months. |
- h. All containment isolation valves in hydrostatically tested lines which penetrate the primary containment shall be leak tested at least once per 24 months. |
- i. DELETED.
- j. DELETED.

6.16 CONTROL ROOM ENVELOPE HABITABILITY PROGRAM (Continued)

- d. Measurement, at designated locations, of the CRE pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of operation by one train of the Control Room Emergency Filtration System, operating at the flow rate required by Surveillance Requirement 4.7.2.1.c.1, at a Frequency of 48 months on a STAGGERED TEST BASIS. The results shall be trended and used as part of the 48 month assessment of the CRE boundary.
- e. The quantitative limits on unfiltered air inleakage into the CRE. These limits shall be stated in a manner to allow direct comparison to the unfiltered air inleakage measured by the testing described in paragraph c. The unfiltered air inleakage limit for radiological challenges is the inleakage flow rate assumed in the licensing basis analyses of DBA consequences. Unfiltered air inleakage limits for hazardous chemicals must ensure that exposure of CRE occupants to these hazards will be within the assumptions in the licensing basis.
- f. The provisions of Specification 4.0.2 are applicable to the Frequencies for assessing CRE habitability, determining CRE unfiltered inleakage, and measuring CRE pressure and assessing the CRE boundary as required by paragraphs c and d, respectively.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 237

TO RENEWED FACILITY OPERATING LICENSE NO. NPF-57

PSEG NUCLEAR LLC

HOPE CREEK GENERATING STATION

DOCKET NO. 50-354

1.0 INTRODUCTION

By application dated May 20, 2024 (Agencywide Documents Access and Management System Accession No. ML24141A136), as supplemented by letters dated September 26, 2024 (ML24271A138) and December 6, 2024 (ML24341A215), PSEG Nuclear LLC, (PSEG or the licensee) submitted a license amendment request (LAR) requesting changes to the technical specifications (TS) for Hope Creek Generating Station (Hope Creek or HCGS). The proposed changes will revise the TS for Hope Creek to increase certain surveillance requirement (SR) intervals from 18 months to 24 months for SRs whose frequency is controlled within the licensee's Surveillance Frequency Control Program (SFCP). The licensee states that all the proposed changes were made in accordance with the guidance of Generic Letter (GL) 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. The proposed changes also increase some SR intervals extended under the SFCP from 36 months to 48 months based on the guidance in GL 91-04.

2.0 REGULATORY EVALUATION

2.1 Background

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed requests for individual plants to modify TS surveillance intervals to be compatible with a 24-month fuel cycle (MFC). The NRC staff issued GL 91-04 to provide guidance to licensees for preparing such license amendment requests.

On March 19, 2010, PSEG requested an amendment to the Hope Creek TS to implement TS Task Force (TSTF) Change Traveler, TSTF-425, Revision 3, "Relocate Surveillance Frequencies to Licensee Control – RITSTF Initiative 5b" (ML100900224). By letter dated February 25, 2011, the NRC issued Amendment No. 187 (ML103410243) which approved the requested TS changes. Amendment No. 187 incorporated TS 6.8.4.j, "Surveillance Frequency Control Program (SFCP)," into the Hope Creek TS.

The SFCP transferred most SR intervals from the TS to a licensee-controlled program. As discussed during PSEG’s presentation to the NRC staff during the pre-submittal meeting held on February 27, 2024 (ML24068A086), PSEG is requesting NRC approval of a 24-MFC license amendment based on GL 91-04 in lieu of the SFCP.

GL 91-04 has been used as the basis for 24-MFC SR interval changes in several recent f license amendments by other pressurized water reactor facilities. Similar to Hope Creek, both Prairie Island Nuclear Generating Plant (Prairie Island) and Fermi, Unit 2, (Fermi 2) transitioned to the 24.MFC utilizing the GL 91-04 guidance, and had previously adopted the SFCP approach for extending SR frequencies.

In addition, Hope Creek has already transitioned certain SR frequencies to 36 months under the SFCP and is utilizing the guidance of the GL 91-04 approach for extending these SR frequencies to 48 months. These select 36-month SR frequency extensions are a small subset of the overall population of 36-month SRs but are necessary to support the continuance of channelized outages.

2.2 Proposed Changes

The proposed amendment would modify the Hope Creek TS to support a 24-MFC and revises TS 6.8.4.j for the SRs whose interval is contained in the licensee-controlled SFCP, which are as follows:

SR 4.1.3.1.4	SR 4.1.5	SR 4.3.1.1	SR 4.3.1.2	SR 4.3.1.3	SR 4.3.2.1
SR 4.3.2.3	SR 4.3.3.1	SR 4.3.3.2	SR 4.3.3.3	SR 4.3.4.2.2	SR 4.3.5.1
SR 4.3.5.2	SR 4.3.6	SR 4.3.7.1	SR 4.3.7.4.3	SR 4.3.7.5	SR 4.3.7.6
SR 4.3.9.1	SR 4.3.9.2	SR 4.3.10	SR 4.4.2.2	SR 4.4.3.1	SR 4.4.3.2.2
SR 4.4.3.2.3	SR 4.5.1	SR 4.5.2.7	SR 4.6.1.2	SR 4.6.2.1	SR 4.6.3.4
SR 4.6.3.5	SR 4.6.4.1	SR 4.6.4.2	SR 4.6.5.3.1	SR 4.6.5.3.2	SR 4.7.1.1
SR 4.7.1.2	SR 4.7.2.1.1	SR 4.7.2.2	SR 4.7.4	SR 4.7.7	SR 4.8.1.1.2
SR 4.8.4.1	SR 4.8.4.2.1	SR 4.8.4.4	SR 4.8.4.6		

In addition to the TS surveillance frequencies controlled via the SFCP, the licensee proposes changes to TS Table 1.1, and SR 4.6.1.2.f, g, and h to increase the current 18-month testing interval to 24 months, and revises TS 6.16, Control Room Envelope Habitability Program from 36 months on a staggered test basis to 48 months on a staggered test basis.

The amendment request divided the SR frequency changes into the following two categories consistent with GL 91-04: (1) changes to surveillance frequencies not involving channel calibrations, identified as “non-calibration changes,” and (2) changes to surveillance frequencies involving channel calibrations, identified as “calibration changes.”

2.3 Regulatory Requirements and Guidance

2.3.1 Regulatory Requirements

The NRC staff considered the following regulatory requirements related to this application.

Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36, “Technical specifications,” details the content and information that must be included in a facility’s TS. Specifically,

As stated in part at 10 CFR 50.36:

Each applicant for a license authorizing operation of a production or utilization facility shall include in his application proposed technical specifications in accordance with the requirements of this section.

The regulation at 10 CFR 50.36(c)(3) states:

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

Additionally, 10 CFR 50.36(c)(5) 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.

The NRC staff used the guidance in Section 2.3.2 of this safety evaluation (SE) to review the proposed TS changes against these requirements to ensure that there is reasonable assurance that the systems affected by the proposed TS changes will perform their required safety functions.

2.3.2 Regulatory Guidance

The NRC staff considered the regulatory guidance provided in GL 91-04. Enclosure 1 to GL 91-04 indicates that SRs with an 18-month frequency requirement that are not instrument calibration related (i.e., non-calibration changes) should be evaluated for the effect on safety associated with an extension to a 24-month required interval. This evaluation should address the following three criteria:

- The licensee should analyze the effect on plant safety from the change in surveillance intervals to accommodate a 24-MFC. This evaluation should support a conclusion that the effect on safety is small,
- The licensee should confirm that historical plant maintenance and surveillance data support the conclusion that the effect on safety is small, and
- The licensee should confirm that the performance of surveillance at the bounding surveillance interval limit would not invalidate any assumption in the plant licensing basis.

For those SRs where the evaluation accomplishes these goals, the licensees need not quantify the effect of the change in surveillance intervals on the availability of individual systems or components. No change in the existence, testability, or availability of plant systems and components is being requested, only the extension in the frequency of the tests or inspections. GL 91-04, Enclosure 2, identifies the following seven steps (i.e., actions) for the evaluation of instrumentation calibration related frequency changes (i.e., calibration changes).

- Step 1: Confirm that instrument drift as determined by as-found and as-left calibration data from surveillance and maintenance records has not, except on rare occasions, exceeded acceptable limits for a calibration interval.
- Step 2: Confirm that the values of drift for each instrument type (make, model, and range) and application have been determined with a high probability and a high degree of confidence. Provide a summary of the methodology and assumptions used to determine the rate of instrument drift with time based upon historical plant calibration data.
- Step 3: Confirm the magnitude of instrument drift has been determined with a high probability and a high degree of confidence for a bounding calibration interval of 30 months for each instrument type (make, model, number, and range) and application that performs a safety function. Provide a list of the channels by TS section that identifies these instrument applications.
- Step 4: Confirm that a comparison of the projected instrument drift errors has been made with the values of drift used in the setpoint analysis. If this results in revised setpoints to accommodate larger drift errors, provide proposed TS changes to update trip setpoints. If the drift errors result in revised safety analysis to support existing setpoints, provide a summary of the updated analysis conclusions to confirm that safety limits and safety analysis assumptions are not exceeded.
- Step 5: Confirm that the projected instrument errors caused by drift are acceptable for control of plant parameters to affect a safe shutdown with the associated instrumentation.
- Step 6: Confirm that all conditions and assumptions of the setpoint and safety analyses have been checked and are appropriately reflected in the acceptance criteria of plant SR procedures for channel checks, channel functional tests, and channel calibrations.
- Step 7: Provide a summary description of the program for monitoring and assessing the effects of increased calibration surveillance intervals on instrument drift and its effect on safety.

Regulatory Guide (RG) 1.105, Revision 4, "Setpoints for Safety-Related Instrumentation," dated February 2021 (ML20330A329), describes a method acceptable to the NRC staff for complying with the NRC's regulations for ensuring that setpoints for safety-related instrumentation are initially within and remain within the TS limits. RG 1.105, Revision 4 endorses American National Standards Institute (ANSI)/International Society of Automation (ISA) Standard 67.04.01-2018, "Setpoints for Nuclear Safety-Related Instrumentation," dated December 2018. The NRC staff used this regulatory guide to verify the adequacy of the licensee's setpoint calculation methodologies and the related plant surveillance procedures.

NUREG-1475, "Applying Statistics," Revision 1, dated March 2011 (ML11102A076) states that activities in support of the NRC's mission include licensing, monitoring, and research. The purpose of this guidance document is to provide a reference and text on statistical concepts and methods that meet the NRC's mission. The NRC staff used this guidance to verify the adequacy of the licensee's statistical analysis and the related plant methodologies.

3.0 TECHNICAL EVALUATION

In the LAR, the licensee proposed to extend the current selected 18-month and 36-month SR performance intervals to 24 month and 48 month SR performance intervals in accordance with GL 91-04 guidance.

The licensee divided the proposed changes into two categories:

- (1) Changes to surveillances other than channel calibration (non-calibration changes)
- (2) Changes involving the channel calibration (calibration changes).

In the enclosures of the LAR, the licensee defined each step outlined (three steps for the non-calibration channels and seven steps for the calibration channels) by GL 91-04 and described the methodology the licensee used to complete its evaluations.

The licensee described the historical surveillance test data and associated maintenance records that were reviewed in evaluating the effect of these changes on safety. Based on the results of these reviews, the licensee concluded that there is no adverse effect on plant safety due to increasing the surveillance test intervals from 18 to 24 months with the continued application of the 25 percent grace period allowed by SR 4.0.2.

SR 4.0.2: Each Surveillance Requirement shall be performed within its specified surveillance interval with a maximum allowable extension not to exceed 25 percent of the specified surveillance interval.

Similarly, the licensee followed the GL 91-04 guidance to evaluate certain SRs with frequencies that had already been extended to 36 months under the SFCP for which the licensee now seeks an extension to 48 months.

In the LAR, the licensee provided:

- The licensee's GL 91-04 Evaluation in Attachment 3.
- The "Applicable Instruments" table including the list of affected channels for 24-MFC changes by TS sections, instrument make, model, and range in Attachment 4.
- "PSEG Nuclear L.L.C Technical Standard Analysis of Instrument Drift for Surveillance Extension" providing an analysis sponsored by the PSEG Design Engineering department, in Attachment 5.

As stated in the LAR, the methodology used in the Hope Creek drift analysis is similar to the methodology requesting transition to a 24-MFC used for previous plant submittals, such as Fermi 2, and Prairie Island, Units 1 and 2. The licensee also used Electric Power Research Institute (EPRI) 3002002556, "Guidelines for Instrument Calibration Extension/Reduction - Revision 2; Statistical Analysis of Instrument Calibration Data", Revision 2, January 2014 (Technical Report (TR) -103335) to perform a drift analysis as described in Attachment 5 of the LAR.

TR-103335 was used in the Fermi and Prairie Island license amendment applications, which the NRC staff found to be acceptable. The NRC staff evaluated the parts of the methodology used in this application for acceptability in demonstrating compliance with regulatory requirements, as described below.

Evaluation of TR-103335 for the Hope Creek Application

TR-103335 provides a methodology for the analysis of historical calibration data and addresses technical issues associated with the application of the analysis, which statistically analyzes historic as-found and as-left calibration data. This TR evaluates instrument performance in support of extended surveillance intervals, monitoring instrument performance after changing to a 24-MFC. The NRC staff reviewed the TR and documented the status of that review in a letter to EPRI dated December 1, 1997 (ML12255A333). As stated in the letter, the NRC staff found that the TR offered generally acceptable guidance for meeting GL 91-04 calibration interval extension programs, except in areas mentioned in the letter.

In October 1998, EPRI issued Revision 1 to TR-103335, "Guidelines for Instrument Calibration Extension / Reduction—Revision 1, Statistical Analysis of Instrument Calibration Data." EPRI TR-103335, Revision 1, includes commonly used statistical methods and procedures for data, outlier, and time-dependency analyses as they are applied to setpoint and calibration problems. The EPRI report also includes methods of testing for the normality of data. Revision 1 was not submitted to the NRC for review and potential endorsement; however, the TR has been referenced by some licensees within their LAR submittals. As stated in the letter to EPRI dated July 10, 2013 (ML13169A078), the NRC staff determined that Revision 1 of TR-103335, when used by a licensee, introduces a low safety significant error in computations. As a result, any licensee referencing the TR will be required to provide additional information as it relates to the use of the TR. The NRC staff requested that EPRI update the TR for the improvement of safety and generic use by licensees, and submit Revision 2 for NRC's review and consideration for endorsement.

As noted above, the NRC staff has previously approved similar license amendments for: Fermi 2 (ML20358A155) and Prairie Island, Units 1 and 2 (ML22166A389). Those amendments were used to inform the scope of this review and the acceptability of the proposed approaches.

In TR-103335, EPRI applied RG 1.105, Revision 3, that endorses conformance with Part 1 of ISA-S67.04-1994, "Setpoints for Nuclear Safety-Related Instrumentation" to combine the uncertainties in determining a trip setpoint and 95/95 tolerance limit in support of extended surveillance intervals to satisfy the GL 91-04 requirements. The NRC staff reviewed TR-103335 and the "Technical Standard Analysis of Instrument Drift for Surveillance Extension" provided in Attachment 5 of the LAR to verify that the method and concepts in these documents are aligned and are consistent with ANSI/ISG 67.04.01-2018 that was endorsed in t RG 1.105 Revision 4.

Based upon its review, the NRC staff finds that:

- (1) The term definitions in Section 4 of Attachment 5 of the LAR and in Appendix A of TR -103335 are consistent with the definition of terms in Section 3 of ANSI/ISA 67.04.01-2018.
- (2) Section 5.12, "Methods of Drift Assessment for Very Low Sample Sizes" in Attachment 5 of the LAR, which uses the square root of the sum of the squares combination of the manufacturer specifications for drift and reference accuracy, and calibration term (comprised

of measurement and test equipment), is consistent with the concepts in Section 4.5.1, "Square-root-sum-of-squares" and Section 4.5.2, "Arithmetic method," of ANSI/ISA 67.04.01-2018.

(3) The equation that calculates the resultant uncertainty in Section 11.1.2, "Typical Uncertainty Analysis Equations" of TR-103335 is consistent with the equation to calculate the resultant uncertainty (Z) in Section 4.5.3, "Formulas and Methodology Discussion," of ANSI/ISA 67.04.01-2018 (which is endorsed by the NRC in RG 1.105 Rev. 4).

(4) The relationships between setpoint parameters in Figure 11-3 (in Section 11.2) of TR-103335 is consistent with Figure 1 in Section 4.3 of ANSI/ISA 67.04.01-2018.

In addition, the NRC staff reviewed the "Analysis of Instrument Drift for Surveillance Extension" document in Attachment 5 of the LAR to verify that:

(1) In Section 5.6.1, "Detection of Outliers," the two-sided values within T2 (Table 2 - Critical Values for the t-Test) are derived from Table T-20 (one-sided test - Critical Values for Grubbs' T-test) and per Section 26.5 of NUREG-1475, and

(2) in Section 5.8.1, "Regression Analyses and Plots," the critical F (Statistic test) values can be determined by using Table T-4 (see Section 7.12) of NUREG-1475.

Therefore, the NRC staff finds that Sections 5.6.1 & 5.8.1 of "Analysis of Instrument Drift for Surveillance Extension" in Attachment 5 of the LAR are consistent with NUREG-1475.

Improved reactor fuels allow licensees to consider an increase in the duration of the fuel cycle for their facilities, which increases the time interval between refueling outages and the performance of the associated TS SRs. The NRC staff has reviewed requests for individual plants to modify TS surveillance intervals to be compatible with a 24-MFC.

Consistent with the licensee's amendment request and the guidance in GL 91-04, the NRC staff's evaluation is divided into two categories: (1) non-calibration changes and (2) calibration changes. Non-calibration changes are discussed in LAR Section 4.1.1 and its Attachment 3. Calibration changes are discussed in LAR Section 4.1.2 and its Attachments 3, 4, and 5.

3.1 Non-Calibration Changes

3.1.1 GL 91-04 Regulatory Guidance and Licensee Evaluation

GL 91-04 identifies three steps (i.e., actions) to evaluate non-calibration changes. The licensee provided the following general evaluations for those three steps.

- Step 1: Licensees should evaluate the effect on safety of an increase in 18-month surveillance intervals to accommodate a 24-MFC. This evaluation should support a conclusion that the effect on safety is small.

Licensee Evaluation of Step 1: Although the preface of the review process refers to surveillances with an 18-month frequency, this is pretextual rather than prescriptive, and equally applies to extend SRs with a 36-month frequency. Each non-calibration SR frequency being changed has been evaluated with respect to the effect on plant safety.

The methodology utilized to justify the conclusion that extending the testing interval has a minimal effect on safety was based on the fact that the function/feature is:

1. Tested on a more frequent basis during the operating cycle by other plant programs,
2. Designed to have redundant counterparts or be single failure proof, or
3. Highly reliable.

The licensee provided a summary of the evaluation of the effect on safety for each proposed non-calibration SR interval change in Attachment 3 of the amendment request. The NRC staff's evaluation of the licensee's explanation for each SR interval change is provided below.

- Step 2: Licensees should confirm that historical plant maintenance and surveillance data support this conclusion.

Licensee Evaluation of Step 2: The surveillance test history of the affected SRs has been evaluated. This evaluation consisted of a review of available surveillance test results and associated maintenance records for at least five cycles of operation for 18-month to 24-month extensions, and two cycles of operation for 36-month to 48-month extensions. The evaluation included extension of current 18-month frequencies for online testing that is not normally needed to be credited. With the extension of the testing frequency to 24 and 48 months, there will be a longer period between each surveillance performance. If a failure that results in the loss of the associated safety function should occur during the operating cycle and would only be detected by the performance of the 18-month or 36-month TS SR, then the increase in the surveillance testing interval could reduce the associated function availability. In addition to evaluating these surveillance failures, potential common failures of similar components tested by different surveillances were also evaluated. This additional evaluation determined whether there is evidence of repetitive failures among similar plant components. These common component failures have been further evaluated to determine if there was an impact on plant reliability. The evaluation determined that current plant programs are adequate to ensure system reliability. The surveillance failures exclude failures that:

1. Did not impact a TS safety function of TS operability,
2. Are detectable by required testing performed more frequently than the 18-month (or 36-month) surveillance being extended, or
3. The cause can be attributed to an associated event such as a preventative maintenance task, human error, previous modification, or previously existing design deficiency, or that were subsequently re-performed successfully with no intervening corrective maintenance (e.g., plant conditions or malfunctioning measurement and test equipment may have caused aborting the test performance).

The licensee states that these categories of failures are not related to potential unavailability due to testing interval extension and are therefore not listed or further evaluated in its submittal. The licensee's review of surveillance test history validates the

conclusion that the impact, if any, on system availability will be minimal as a result of the change to a 24-month and 48-month testing frequency. Specific SR test failures and justification for this conclusion are discussed in Attachment 3 of the amendment request.

- Step 3: Licensees should confirm that assumptions in the plant licensing basis would not be invalidated on the basis of performing any surveillance at the bounding SR interval limit provided to accommodate a 24-MFC.

Licensee Evaluation of Step 3: As part of the evaluation of each affected SR, the impact of the changes against the assumptions in the HCGS licensing basis were reviewed. The licensee concluded that, in general, testing interval changes have no impact on the plant licensing basis. In some cases, the change to a 24-MFC may require a change to licensing basis information as described in the Updated Final Safety Analysis Report (UFSAR). However, no changes requiring NRC review and approval have been identified. Therefore, the UFSAR changes associated with fuel cycle extension to 24 months will be drafted in accordance with HCGS procedures and will be submitted in accordance with 10 CFR 50.71(e).

The licensee further states that if the proposed SR interval changes were to lead to degrading performance, PSEG would address such degradation as a routine part of Maintenance Rule Program evaluations or, in some cases, evaluations conducted under the SFCP. Systems and functions included in the scope of the Maintenance Rule are monitored under the Maintenance Rule Program. Component and/or train level monitoring is required for high risk SSCs [structures, systems, and components] associated with surveillance frequencies that have been extended using the SFCP. If component and/or train monitoring is not already performed as part of the Maintenance Rule performance monitoring for SSCs affected by a SFCP surveillance frequency change, additional monitoring is required under the HCGS SFCP.

The NRC staff's evaluation of the licensee's discussion of the three steps in GL 91-04 to evaluate non calibration changes is provided in Sections 3.1.2.1 through 3.1.2.7 of this SE.

3.1.2 Non-Calibration SR Interval Change Evaluation

In Section 2.1 of the LAR Attachment 3, the licensee provided its evaluation of the proposed non-calibration changes. The licensee states that the associated qualitative evaluation is provided for each of these changes, which concludes that: the effect of these changes on plant safety, if any, is small; that the changes do not invalidate any assumption in the plant licensing basis; and that the impact, if any, on system availability is minimal.

The NRC staff reviewed the evaluations related to all non-calibration changes proposed by the licensee. NRC staff finds the changes meet the guidance of GL 91-04 as explained under the following individual items.

3.1.2.1 Non-Calibration Changes for 18-Month Frequency Extensions

3.1.2.1.1 TS 3/4.1.3 Control Rods

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.1.3.1.4 The scram discharge volume shall be determined OPERABLE by demonstrating:
 - a. The scram discharge volume vent and drain valves OPERABLE in accordance with the Surveillance Frequency Control Program, by verifying that the drain and vent valves:
 1. Close within 30 seconds after receipt of a signal for control rods to scram, and
 2. Open when the scram signal is reset.

In the LAR, the licensee stated that the technical justification for the proposed changes addresses the information requested by GL 91-04. For non-calibration SRs, GL 91-04 instructs licensees to perform evaluations and confirmations as described in Section 3.1.1 of this SE to support the change in surveillance intervals to accommodate a 24-MFC. As part of the LAR, the licensee provided a summary of the evaluation to address the guidance in GL 91-04.

As part of the licensee's review of the surveillance history for SR 4.1.3.1.4.a.1, a single failure was identified where a scram discharge volume vent and drain valve did not close within the allowed 30 second acceptance criteria. The valve required reworking with a packing adjustment. The licensee identified this failure as a unique failure that is not indicative of a repetitive time-based failure mechanism and determined that the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency.

As part of the licensee's review of the surveillance history for SR 4.1.3.1.4.a.2, a single failure was identified where a scram discharge volume vent and drain valve indicated open, however, water was not draining from the volume as expected. The problem was determined to be a valve actuator and valve stem had become uncoupled. The coupling was replaced and retested satisfactorily. The licensee identified this failure as a unique failure that is not indicative of a repetitive time-based failure mechanism and determined that the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency.

The NRC staff finds the proposed interval extensions from 18 months to 24 months for SRs 4.1.3.1.4.a.1 and 4.1.3.1.4.a.2 acceptable as it meets the guidance of GL 91-04 in that (1) the effect on safety would be small, (2) historical data do not contradict this conclusion, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.1.2.1.2 TS 3/4.1.5 Standby Liquid Control System

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.1.5 d. In accordance with the Surveillance Frequency Control Program:
 2. Demonstrate that all heat traced piping between the storage tank and the injection pumps is unblocked and then drain and flush the piping with demineralized water.
 3. Demonstrate that the storage tank heaters are OPERABLE by verifying the expected temperature rise of the sodium pentaborate solution in the storage tank after the heaters are energized.

In the LAR, the licensee stated that the technical justification for the proposed changes addresses the information requested by GL 91-04. For non-calibration SRs, GL 91-04 instructs licensees to perform evaluations and confirmations as described in Section 3.1.1 of this SE to support the change in surveillance intervals to accommodate a 24-MFC. As part of the LAR, the licensee provided a summary of the evaluation to address the guidance in GL 91-04.

As part of the licensee's review of the surveillance history, no failures of the TS functions were identified that would have been solely detected by the periodic performance of these SRs. The licensee states the impact, if any, on system availability is minimal from the proposed SR interval change from 18 to 24 months. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed change and the supporting document and determined that the proposed increase in frequency of SRs 4.1.5.d.2 and 4.1.5.d.3 meets the guidance of GL 91-04. The NRC staff finds the proposed interval extensions for the above SRs acceptable because 1) the effect on safety would be small, 2) historical data does not contradict this conclusion, and 3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed changes.

3.1.2.1.3 TS 3/4.3.1 Reactor Protection System Instrumentation

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.1.1 Each reactor protection system instrumentation channel shall be demonstrated OPERABLE by the performance of the [CHANNEL FUNCTIONAL TEST] operations for the OPERATIONAL CONDITIONS and at the frequencies shown in Table 4.3.1.1-1 [Functional Unit: 11].
- SR 4.3.1.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed in accordance with the Surveillance Frequency Control Program. Functional Unit 2.a, 2.b, 2.c, 2.d, and 2.f do not require separate LOGIC SYSTEM FUNCTIONAL TESTS. The LOGIC SYSTEM FUNCTIONAL TEST for APRM Function 2.e includes simulating APRM [Average Power Range Monitor] and OPRM [Oscillation Power Range Monitor] trip conditions at the APRM channel inputs to the voter channel to check all combinations of two tripped inputs to the 2-Out-Of-4 voter logic in the voter channels [Functional Units: 1.a, 1.b, 2.e, 7, 8.a, 8.b, and 11].

- SR 4.3.1.3 The REACTOR PROTECTION SYSTEM RESPONSE TIME of each reactor trip functional unit shall be demonstrated to be within its limit in accordance with the Surveillance Frequency Control Program. Neutron detectors are exempt from response time testing. For the Reactor Vessel Steam Dome Pressure - High Functional Unit and the Reactor Vessel Water Level - Low, Level 3 Functional Unit, the sensor is eliminated from response time testing for RPS [reactor protection system] circuits [Functional Units 3, 4, 5].

GL 91-04 identifies three steps to evaluate non-calibration changes. In Section 4.1.1, “Non-Calibration Changes,” of the LAR, the licensee summarized the HCGS evaluations for those three steps, as described in Section 3.1.1 of this SE.

The following non-calibration functional units in the TS Table 4.3.1.1-1, “Reactor Protection System Surveillance Requirements,” are detected by periodic performance of SRs 4.3.1.1, 4.3.1.2, and 4.3.1.3:

SR Number	Functional Unit
SR 4.3.1.1	Functional Unit 11, Reactor Mode Switch Shutdown Position: Channel Function Test only
SR 4.3.1.2	Functional Unit 1.a, Intermediate Range Monitors, Neutron Flux – High
	Functional Unit 1.b, Intermediate Range Monitors, Inoperative
	Functional Unit 2.e, Average Power Range Monitor, 2-Out-OF-4 Voter
	Functional Unit 7, Drywell Pressure – High
	Functional Unit 8.a, Scram Discharge Volume Water Level High, Float Switch
	Functional Unit 8.b, Scram Discharge Volume Water Level High, Level Transmitter/Trip Unit
	Functional Unit 11, Reactor Mode Switch Shutdown Position
SR 4.3.1.3	UFSAR Table 7.2-3 Functional Unit 3, Reactor Vessel Steam Dome Pressure - High
	UFSAR Table 7.2-3 Functional Unit 4, Reactor Vessel Water Level - Low, Level 3
	UFSAR Table 7.2-3 Functional Unit 5, Main Steam Line Isolation Valve - Closure

As stated in Section 2.1.1, “Non-Calibration Changes for 18-Month Frequency Extensions,” of Attachment 3 of the LAR, the licensee reviewed the surveillance histories of these non-calibration SRs. For each SR of the functional units above, the licensee summarized the evaluation of the effect on safety, and stated:

A review of surveillance test history verified that the instrumentation had no previous failures of the TS function that would have been detected solely by the periodic performance of this SR. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed interval changes of non-calibration SRs 4.3.1.1, 4.3.1.2, and 4.3.1.3 for 18-month frequency extensions and noted that they meet the guidance in GL 91-04. The NRC staff finds that the proposed interval extensions of these non-calibration SRs are acceptable because (1) the historical data does not contradict this conclusion (no failures of the TS function that would have been detected solely by the periodic performance of this SR were reported), (2) the effect on safety, if any, would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.1.2.1.4 TS 3/4.3.2 Isolation Actuation Instrumentation

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.2.1 Each isolation actuation instrumentation channel shall be demonstrated OPERABLE by the performance of the [CHANNEL FUNCTIONAL TEST] operations for the OPERATIONAL CONDITIONS and at the frequencies shown in Table 4.3.2.1-1 [Trip Functions 3.g Footnote (a), 4.g., 5.j, 6.j, and 7.c Footnote (a)]
- SR 4.3.2.3 The ISOLATION SYSTEM RESPONSE TIME of each isolation trip function shall be demonstrated to be within its limit in accordance with the Surveillance Frequency Control Program. Radiation detectors are exempt from response time testing. The sensor is eliminated from response time testing for MSIV [Main Steam Line Isolation Valve] isolation logic circuits of the following trip functions: Reactor Vessel Water Level – Low Low Low, Level 1; Main Steam Line Pressure – Low; Main Steam Line Flow – High. [Trip Functions 2.c and 2.d].

GL 91-04 identifies three steps to evaluate non-calibration changes. In Section 4.1.1, “Non-Calibration Changes,” of the LAR, the licensee summarized the HCGS evaluations for those three steps, as described in Section 3.1.1 of this SE.

The following non-calibration trip functions in TS Table 4.3.2.1-1, “Isolation Actuation Instrumentation Surveillance Requirements,” are detected by periodic performance of SRs 4.3.2.1 and 4.3.2.3:

SR Number	Trip Function
SR 4.3.2.1	Trip Function 3.g Footnote (a), Main Steam Line Isolation, Manual Initiation
	Trip Function 4.g Footnote (a), Reactor Water Cleanup System Isolation, Manual Isolation
	Trip Function 5.j, Reactor Core Isolation Cooling Isolation, Manual Initiation
	Trip Function 6.j, High Pressure Coolant Injection System Isolation, Manual Initiation
	Trip Function 7.c Footnote (a), RHR [Residual Heat Removal] System Shutdown Cooling Mode Isolation, Manual Initiation

SR 4.3.2.3	UFSAR Table 7.3-16 Trip Function 2.c, Secondary Containment Isolation, Refueling Floor Exhaust Radiation – High
	UFSAR Table 7.3-16 Trip Function 2.d, Secondary Containment Isolation, Reactor Building Exhaust Radiation – High

Footnote (a): Manual initiation switches shall be tested in accordance with the Surveillance Frequency Control Program. All other circuitry associated with manual initiation shall receive a CHANNEL FUNCTIONAL TEST in accordance with the Surveillance Frequency Control Program as part of circuitry required to be tested for automatic system actuation.

As stated in Section 2.1.1 of Attachment 3 of the LAR, the licensee reviewed the surveillance histories of these non-calibration SRs. Except for SR 4.3.2.1 of Trip Function 3.g Footnote (a), for each SR of the functional units above, the licensee summarized the evaluation of the effect on safety, and stated:

A review of surveillance test history verified that the instrumentation had no previous failures of the TS function that would have been detected solely by the periodic performance of this SR. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The licensee's evaluation of SR 4.3.2.1 of Trip Function 3.g Footnote (a)

Section 2.1.1 of Attachment 3 of the LAR states that the licensee performed a review of the surveillance history and verified that SR 4.3.2.1 of Trip Function 3.g Footnote (a) had two failures that were "identified as unique failures which are not indicative of a repetitive time-based failure mechanism." The licensee further stated, in part, that:

- 1) Valve AB-HV-F019 indicates dual position. The valve was removed from its installed location, refurbished and reinstalled. The valve will "AUTO-CLOSE" upon receipt of a Group 1 primary containment isolation signal. The valve was unable to be closed from the control room to establish the required alignment to perform Procedure HC.OP-LR, AB-0005. To perform the leak rate test, the MOV [motor operated valve] must be closed by normal means. The valve is normally OPEN in series with 1ABHV-F016 and 1ABHV-F033 or 1ABHV-F021, to drain the inboard MSIV above the seat drain area until approximately 15% load on reactor startup. Valve 1ABHV-F019 is controlled via an open/close momentary contact push button located on the 10C651 panel in the main control room. It has an active "Safety-Related" function to close to provide outboard containment isolation of the inboard MSIV above seat drain lines.
- 2) The E Traversing Incore Probe (TIP) failed to retract when "A" manual NSSS [nuclear steam supply system] initiation signal was given. Replaced K11 relay in "E" Tip Valve Control Monitoring drawer.

The licensee concluded:

No other previous failures of the TS function were identified that would have been detected solely by the periodic performance of this SR. As such, the impact, if any, on system availability is minimal from the proposed change to a

24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

Based on the description above, the NRC staff finds that these failures (1) were detected by the periodic performance of this SR; (2) caused by a preventative maintenance task and are unique failures which are not indicative of a repetitive time-based failure mechanism; and (3) the impact of this change on safety, if any, is small. Therefore, the proposed change to increase the interval of SR 4.3.2.1 of Trip Function 3.g Footnote (a) is consistent with the GL 91-04 guidance.

The NRC staff reviewed the proposed interval changes of non-calibration SRs 4.3.2.1 and 4.3.2.3 for 18-month frequency extensions and noted that they met the guidance of GL 91-04. The NRC staff finds that proposed interval extensions of these non-calibration SRs are acceptable because (1) the historical data do not contradict this conclusion (no failures that were indicative of a repetitive time-based failure mechanism were reported), (2) the effect on safety, if any, would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.1.2.1.5 TS 3/4.3.3 Emergency Core Cooling System Actuation Instrumentation

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.3.1 Each ECCS [emergency core cooling system] actuation instrumentation channel shall be demonstrated OPERABLE by the performance of the [CHANNEL FUNCTIONAL TEST] operations for the OPERATIONAL CONDITIONS and at the frequencies shown in Table 4.3.3.1-1. [Trip Functions 3.g, 4.h and 4.i]
- SR 4.3.3.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed in accordance with the Surveillance Frequency Control Program. [Trip Functions 1.b and 1.d, 2.b, 2.c, and 2.d, 3.b, 3.c, and 3.f, 4.b, 4.c, 4.d, 4.e, 4.g, 4.h, and 4.i]

GL 91-04 identifies three steps to evaluate non-calibration changes. In Section 4.1.1, "Non-Calibration Changes," of the LAR, the licensee summarized the HCGS evaluations for those three steps, as described in Section 3.1.1 of this SE.

The following non-calibration trip functions in TS Table 4.3.3.1-1, "Emergency Core Cooling System Actuation Instrumentation Surveillance Requirements," are detected by periodic performance of SRs 4.3.3.1 and 4.3.3.2:

SR Number	Trip Functions
SR 4.3.3.1	Trip Function 3.g, High Pressure Coolant Injection System, Manual Initiation
	Trip Function 4.h, Automatic Depressurization System (ADS), Manual Inhibit Switch
	Trip Function 4.i, Automatic Depressurization System, Manual Initiation

SR Number	Trip Functions
SR 4.3.3.2	Trip Functions 1.b, Core Spray, Drywell Pressure – High
	Trip Function 1.d, Core Spray, Core Spray Pump Discharge Flow – Low (Bypass)
	Trip Function 2.b, Low Pressure Coolant Injection Mode of RHR System, Drywell Pressure – High
	Trip Function 2.c, Low Pressure Coolant Injection Mode of RHR System, Reactor Vessel Pressure - Low (Permissive)
	Trip Function 2.d, Low Pressure Coolant Injection Mode of RHR System, LPCI [low pressure coolant injection] Pump Discharge Flow – Low (Bypass)
	Trip Function 3.b, High Pressure Coolant Injection System, Drywell Pressure – High
	Trip Function 3.c, High Pressure Coolant Injection System, Condensate Storage Tank Level - Low
	Trip Function 3.f, High Pressure Coolant Injection System (HPCI) Pump Discharge Flow – Low (Bypass)
	Trip Function 4.b, Automatic Depressurization System, Drywell Pressure – High
	Trip Function 4.c, Automatic Depressurization System, ADS Timer
	Trip Function 4.d, Automatic Depressurization System, Core Spray Pump Discharge Pressure – High
	Trip Function 4.e, Automatic Depressurization System, RHR LPCI Mode Pump Discharge Pressure - High
	Trip Function 4.g, Automatic Depressurization System, ADS Drywell Pressure Bypass Timer
	Trip Function 4.h, Automatic Depressurization System, ADS Manual Inhibit Switch
Trip Function 4.i, Automatic Depressurization System, Manual Initiation	

As stated in Section 2.1.1 of Attachment 3 of the LAR, the licensee reviewed the surveillance histories of these non-calibration SRs. Except for SR 4.3.3.2 of Trip Functions 3.b and 4.i, for each SR of the functional units above, the licensee summarized the evaluation of the effect on safety, and stated:

(For SR 4.3.3.1 Trip Functions 3.g, 4.h, 4.i, and SR 4.3.3.2 Trip Functions 1.b, 1.d, 2.b, 2.c, 2.d, 3.c, 3.f, 4.b)

A review of surveillance test history verified that the instrumentation had no previous failures of the TS function that would have been detected solely by the periodic performance of this SR. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency.

Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

Or (For SR 4.3.3.2 Trip Functions 4.c, 4.d, 4.e, 4.g, 4.h)

No failures of the TS function were identified that would have been detected solely by the periodic performance of this SR. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The licensee's evaluation of SR 4.3.3.2 of Trip Function 3.b:

Section 2.1.1 of Attachment 3 of the LAR, states that the licensee performed a review of the surveillance test history and verified that SR 4.3.3.2 of Trip Function 3.b had one failure that "was a unique failure which is not indicative of a repetitive time-based failure mechanism." The licensee further stated, in part, that:

The performance of this procedure could not be completed due to equipment failure. Troubleshooting found H1FD-10-P-213 failed to start during the performance of HC.ICFT.BJ-0007. Failed relay H1BJ-1BJYY-K056-E41A was found by troubleshooting. Replacement of the relay was performed.

The licensee concluded:

No other previous failures of the TS function that would have been detected solely by the periodic performance of this SR. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

Based on the description above, the NRC staff finds that the identified failure (1) was detected by the periodic performance of this SR; (2) was caused by a preventative maintenance task and are unique failures which are not indicative of a repetitive time-based failure mechanism; (3) did not impact a TS safety function or TS operability. Therefore, the proposed change to increase the interval of the SR 4.3.3.2, Trip Function 3.b, is consistent with the GL 91-04 guidance.

The licensee's evaluation of SR 4.3.3.2 of Trip Function 4.i:

Section 2.1.1 of Attachment 3 of the LAR states that the licensee performed a review of the surveillance test history and verified that SR 4.3.3.2 of Trip Function 4.i had one failure that was "identified as a unique failure which is not indicative of a repetitive time-based failure mechanism." The licensee further stated, in part, that:

SRV [safety relief valve] F013A would not de-energize. This documents that the HS-F013A2 switch did not function as intended and was difficult to actuate. This is therefore considered a functional failure (conservatively). Replaced switch assembly with new parts from store room.

The licensee concluded:

No other previous failures of the TS function were identified that would have been detected solely by the periodic performance of this SR. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component

reliability as shown by the failure history, the impact of this change on safety, if any, is small.

Based on the description above, the NRC staff finds that the identified failure (1) was detected by the periodic performance of this SR; (2) was caused by a preventative maintenance task and are unique failures which are not indicative of a repetitive time-based failure mechanism; and (3) the impact of this change on safety, if any, is small. Therefore, the proposed change to increase the interval of the SR 4.3.3.2 of Trip Function 4.i is consistent with the GL 91-04 guidance.

The NRC staff reviewed the proposed interval changes of non-calibration SRs 4.3.3.1 and 4.3.3.2 for 18-month frequency extensions and noted that they meet the guidance in GL 91-04. The NRC staff finds that the proposed interval extensions of these non-calibration SRs are acceptable because (1) the historical data does not contradict this conclusion (no failures that were indicative of a repetitive time-based failure mechanism were reported), (2) the effect on safety, if any, would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.1.2.1.6 TS 3/4.3.5 Reactor Core Isolation Cooling [RCIC] System Actuation Instrumentation

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.5.1 Each RCIC system actuation instrumentation channel shall be demonstrated OPERABLE by the performance of the [CHANNEL - FUNCTIONAL TEST and CHANNEL CALIBRATION] operations at the frequencies shown in Table 4.3.5.1-1 [Functional Unit d Footnote (a)].
- SR 4.3.5.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed in accordance with the Surveillance Frequency Control Program [Functional Units c and d].

GL 91-04 identifies three steps to evaluate non-calibration changes. In Section 4.1.1, "Non-Calibration Changes," of the LAR, the licensee summarized the HCGS evaluations for those three steps, as described in Section 3.1.1 of this SE.

The following non-calibration Functional Unit d in TS Table 4.3.5.1-1, "Reactor Core Isolation Cooling System Actuation Instrumentation Surveillance Requirements," is tested by periodic performance of SR 4.3.5.1:

SR Number	Trip Functions (in TS Table 4.3.5.1-1)
SR 4.3.5.1	Functional Unit d Footnote (a), Manual Initiation

Footnote (a): Manual initiation switches shall be tested in accordance with the Surveillance Frequency Control Program. All other circuitry associated with manual initiation shall receive a CHANNEL FUNCTIONAL TEST in accordance with the Surveillance Frequency Control Program as part of circuitry required to be tested for automatic system actuation.

The following non-calibration Functional Units c and d, in accordance with the SFCP, are detected by periodic performance of SR 3.4.5.2:

SR Number	In accordance with the SFCP,
SR 4.3.5.2	Functional Unit c, Condensate Storage Tank Level - Low
	Functional Unit d, Manual Initiation

As stated in Section 2.1.1 of Attachment 3 of the LAR, the licensee reviewed the surveillance histories of these non-calibration SRs. For each SR of the functional units above, the licensee summarized the evaluation of the effect on safety, and stated:

A review of surveillance test history verified that the instrumentation had no previous failures of the TS function that would have been detected solely by the periodic performance of this SR. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed interval changes of non-calibration SRs 4.3.5.1 and 4.3.5.2 for 18-month frequency extensions and noted that they meet the guidance in GL 91-04. The NRC staff finds that the proposed interval extensions of these non-calibration SRs are acceptable because (1) the historical data does not contradict this conclusion (no failures of the TS function that would have been detected solely by the periodic performance of this SR were reported), (2) the effect on safety, if any, would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.1.2.1.7 TS 3/4.3.6 Control Rod Block Instrumentation

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.6 Each of the above required control rod block trip systems and instrumentation channels shall be demonstrated OPERABLE by the performance of the [CHANNEL FUNCTIONAL TEST] operations for the OPERATIONAL CONDITIONS and at the frequencies shown in Table 4.3.6-1. The provisions of Specification 4.0.4 are not applicable for entry into OPERATIONAL CONDITION 2 from OPERATIONAL CONDITION 1 for the Source Range Monitors or the Intermediate Range Monitors. [Trip Function 7]

GL 91-04 identifies three steps to evaluate non-calibration changes. In Section 4.1.1, "Non-Calibration Changes," of the LAR, the licensee summarized the HCGS evaluations for those three steps, as described in Section 3.1.1 of this SE.

The following non-calibration Trip Function 7 in TS Table 4.3.6-1, "Control Rod Block Instrumentation Surveillance Requirements," is detected by periodic performance of SR 4.3.6:

SR Number	Trip Function
SR 4.3.6	Trip Function 7, Reactor Mode Switch Shutdown Position

As stated in Section 2.1.1 of Attachment 3 of the LAR, the licensee reviewed the surveillance history of the non-calibration SR of Trip Function 7 above. For this SR, the licensee summarized the evaluation of the effect on safety, and stated:

A review of surveillance test history verified that the instrumentation had no previous failures of the TS function that would have been detected solely by the periodic performance of this SR. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed interval change of non-calibration SR 4.3.6 for 18-month frequency extension and noted that it meets the guidance in GL 91-04. The NRC staff finds that the proposed interval extension of this non-calibration SR is acceptable because (1) the historical data does not contradict this conclusion (no failures of the TS function that would have been detected solely by the periodic performance of this SR were reported), (2) the effect on safety, if any, would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.1.2.1.8 TS 3/4.3.9 Feedwater/Main Turbine Trip System Actuation Instrumentation

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.9.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed in accordance with the Surveillance Frequency Control Program [Functional Unit 1].

GL 91-04 identifies three steps to evaluate non-calibration changes. In Section 4.1.1, "Non-Calibration Changes," of the LAR, the licensee summarized the HCGS evaluations for those three steps, as described in Section 3.1.1 of this SE.

The following non-calibration Functional Unit 1 in TS 3/4.3.9, "Feedwater/Main Turbine Trip System Actuation Instrumentation," is detected by periodic performance of SR 4.3.9.2:

SR Number	Functional Unit
SR 4.3.9.2	Functional Unit 1, Reactor Vessel Water Level – High, Level 8

As stated in Section 2.1.1 of Attachment 3 of the LAR, the licensee reviewed the surveillance history of the non-calibration SR of Functional Unit 1 above. For this SR, the licensee summarized the evaluation of the effect on safety, and stated:

A review of surveillance test history verified that the instrumentation had no previous failures of the TS function that would have been detected solely by the

periodic performance of this SR. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed interval change of non-calibration SR 4.3.9.2 for 18-month frequency extension and noted that it meets the guidance in GL 91-04. The NRC staff finds that the proposed interval extension of this non-calibration SR is acceptable because (1) the historical data does not contradict this conclusion (no failures of the TS function that would have been detected solely by the periodic performance of this SR were reported), (2) the effect on safety, if any, would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.1.2.1.9 TS 3/4.3.10 Mechanical Vacuum Pump Trip Instrumentation

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.10 Each channel of the Main Steam Line Radiation - High, High function for the mechanical vacuum pump trip shall be demonstrated OPERABLE by:
 - d. Performance of a LOGIC SYSTEM FUNCTIONAL TEST, including mechanical vacuum pump trip breaker actuation, in accordance with the Surveillance Frequency Control Program

GL 91-04 identifies three steps to evaluate non-calibration changes. In Section 4.1.1, "Non-Calibration Changes," of the LAR, the licensee summarized the HCGS evaluations for those three steps, as described in Section 3.1.1 of this SE.

The SR 4.3.10.d Logic System Functional Test, in accordance with the SFCP, is tested by periodic performance of SR 4.3.10.

As stated in Section 2.1.1 of Attachment 3 of the LAR, the licensee reviewed the surveillance history of the non-calibration SR 4.3.10.d LOGIC SYSTEM FUNCTIONAL TEST above. For this SR, the licensee summarized the evaluation of the effect on safety, and stated:

A review of surveillance test history verified that the instrumentation had no previous failures of the TS function that would have been detected solely by the periodic performance of this SR. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed interval change of non-calibration SR 3.3.10 (d) for 18-month frequency extension and noted that it meets the guidance in GL 91-04. The NRC staff finds that the proposed interval extension of this non-calibration SR is acceptable because (1) the historical data does not contradict this conclusion (no failures of the TS function that would have been detected solely by the periodic performance of this SR were reported), (2) the effect on safety, if any, would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.1.2.1.10 TS 3/4.4.3 Reactor Coolant Leakage System

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.4.3.2.2 Each reactor coolant system pressure isolation valve specified in Table 3.4.3.2-1 shall be demonstrated OPERABLE by leak testing pursuant to the INSERVICE TESTING PROGRAM and verifying the leakage of each valve to be within the specified limit:
 - a. In accordance with the Surveillance Frequency Control Program

In the LAR, the licensee stated that the technical justification for the proposed changes addresses the information requested by GL 91-04. For non-calibration SRs, GL 91-04 instructs licensees to perform evaluations and confirmations as described in Section 3.1.1 of this SE to support the change in surveillance intervals to accommodate a 24-MFC. In the LAR, the licensee provided a summary of the evaluation to address the guidance in GL 91-04.

As part of the licensee's review of the surveillance history for SR 4.4.3.2.2, no failures of the TS functions were identified that would have been detected solely by the periodic performance of this SR. As such, the licensee determined that the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency.

The NRC staff finds the proposed interval extensions from 18 months to 24 months for SR 4.4.3.2.2 acceptable as it meets the guidance of GL 91-04 in that (1) the effect on safety would be small, (2) historical data do not contradict this conclusion, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.1.2.1.11 TS 3/4.5.1 ECCS - Operating

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.5.1 The emergency core cooling systems shall be demonstrated OPERABLE by:
 - c. In accordance with the Surveillance Frequency Control Program:
 - 1. For the HPCI system, perform a system functional test which includes simulated automatic actuation of the system throughout its emergency operating sequence and verifying that each automatic valve in the flow path actuates to its correct position. Actual injection of coolant into the reactor vessel may be excluded from the test.
 - 2. For the HPCI system, verify that:
 - b) The suction is automatically transferred from the condensate storage tank to the suppression chamber on a condensate storage tank water level - low signal and on a suppression chamber - water level high signal.
 - d. For the ADS:
 - 2. In accordance with the Surveillance Frequency Control Program:

- a) Performing a system functional test which includes simulated automatic actuation of the system throughout its emergency operating sequence but excluding actual valve actuation.
- b) Verify that when tested pursuant to the INSERVICE TESTING PROGRAM, that each ADS valve is capable of being opened.

In the LAR, the licensee stated that the technical justification for the proposed changes addresses the information requested by GL 91-04. For non-calibration SRs, GL 91-04 instructs licensees to perform evaluations and confirmations as described in Section 3.1.1 of this SE to support the change in surveillance intervals to accommodate a 24-MFC. In the LAR, the licensee provided a summary of the evaluation to address the guidance in GL 91-04. Note that the SR 4.5.1.c.1 discussed in this section is relevant to the HPCI system while the same SR for the core spray system (CSS) and LPCI systems is discussed below in Section 3.1.2.2.3 of this SE.

As part of the licensee's review of the surveillance history for SRs 4.5.1.c.1, 4.5.1.c.2.b, and 4.5.1.d.2.a, no failures of the TS functions were identified that would have been detected solely by the periodic performance of this SR. As such, the licensee determined that the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency.

As part of the licensee's review of the surveillance history for SR 4.5.1.d.2.b, the licensee identified one failure of a SRV that would not de-energize. This was conservatively considered a functional failure. The licensee determined this failure as a unique failure that is not indicative of a repetitive time-based failure mechanism and determined that the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency.

The NRC staff finds the proposed interval extensions from 18 months to 24 months for SRs 4.5.1.c.1, 4.5.1.c.2.b, 4.5.1.d.2.a, and 4.5.1.d.2.b acceptable as it meets the guidance of GL 91-04 in that (1) the effect on safety would be small, (2) historical data do not contradict this conclusion, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.1.2.1.12 TS 3/4.5.2 RPV Water Inventory Control

The LAR proposes to increase the interval of the following non-calibration SR from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.5.2.7 Verify each valve credited for automatically isolating a penetration flow path actuates to the isolation position on an actual or simulated isolation signal, in accordance with the Surveillance Frequency Control Program.

In the LAR, the licensee stated that the technical justification for the proposed changes addresses the information requested by GL 91-04. For non-calibration SRs, GL 91-04 instructs licensees to perform evaluations and confirmations as described in Section 3.1.1 of this SE to support the change in surveillance intervals to accommodate a 24-MFC. In the LAR, the licensee provided a summary of the evaluation to address the guidance in GL 91-04.

As part of the licensee's review of the surveillance history for SR 4.5.2.7, no failures of the TS functions were identified. As such, the licensee determined that the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency.

The NRC staff finds the proposed interval extensions from 18 months to 24 months for SR 4.5.2.7 acceptable as it meets the guidance of GL 91-04 in that (1) the effect on safety would be small, (2) historical data do not contradict this conclusion, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.1.2.1.13 TS 3/4.6.1 Primary Containment

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.6.1.2. f. Main steam line isolation valves shall be leak tested at least once per 18 months.
- g. Containment isolation valves which form the boundary for the long term seal of the feedwater lines shall be hydrostatically tested at 1.10 Pa, 55.7 psig, at least once per 18 months.
- h. All containment isolation valves in hydrostatically tested lines which penetrate the primary containment shall be leak tested at least once per 18 months.

In the LAR, the licensee stated that the technical justification for the proposed changes addresses the information requested by GL 91-04. For non-calibration SRs, GL 91-04 instructs licensees to perform evaluations and confirmations as described in Section 3.1.1 of this SE to support the change in surveillance intervals to accommodate a 24-MFC. As part of the LAR, the licensee provided a summary of the evaluation to address the guidance in GL 91-04.

As part of the licensee's review of the surveillance history for SR 4.6.1.2.f, five failures were identified. These five failures are considered repetitive failures with respect to the as-found local leakage rate testing (LLRT) values of the MSIVs; however, not all failures are on the same valve or same penetration or are a result of the same cause of the failure. The licensee identified these failures as unique failures that are not indicative of a repetitive time-based failure mechanism and determined that the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency.

As part of the licensee's review of the surveillance history for SR 4.6.1.2.g, a single failure was identified where injection header valves were unable to achieve the required test pressure. An inspection determined that a combination of hinge arm wear, hinge pin wear, and a smaller gap between the hinge arm and disc prevented the valve disc from properly seating resulting in the high leak rate and the failed LLRT. The licensee identified this failure as a unique failure that is not indicative of a repetitive time-based failure mechanism and determined that the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency.

As part of the licensee's review of the surveillance history for SR 4.6.1.2.h, a single failure was identified where a containment isolation valve exceeded its 5 gpm leakage limit. The valve required disassembly to replace old worn pieces/parts along with repacking the valve and reconditioning seating surfaces. The licensee identified this failure as a unique failure that is not indicative of a repetitive time-based failure mechanism and determined that the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency.

Based on the licensee's description of the surveillance history summarized above, the NRC staff finds that the reported failures (1) were detected by the periodic performance of these SRs; (2) were unique failures that were not indicative of a repetitive time-based failure mechanism; and (3) the impact of the changes on safety, if any, is small. Therefore, the NRC staff finds that the proposed change to increase the interval of SRs 4.6.1.2.f, 4.6.1.2.g and 4.6.1.2.h are consistent with the GL 91-04 guidance.

The NRC staff reviewed the proposed change and the supporting document and determined that the proposed increase in frequency of SRs 4.6.1.2.f, 4.6.1.2.g and 4.6.1.2.h meets the guidance of GL 91-04. The NRC staff finds the proposed interval extensions for the above SRs acceptable because 1) the effect on safety would be small, 2) historical data does not contradict this conclusion, and 3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed changes.

3.1.2.1.14 TS 3/4.6.2 Depressurization Systems

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.6.2.1 e. Perform visual inspection of the assessable interior and exterior of the suppression chamber.
- f. Conduct a drywell-to-suppression chamber bypass leak test at an initial differential pressure of 0.80 psi and verifying that the differential pressure does not decrease by more than 0.24 inch of water per minute for a period of 10 minutes. If any drywell-to-suppression chamber bypass leak test fails to meet the specified limit, the test schedule for subsequent tests shall be reviewed and approved by the Commission. If two consecutive tests fail to meet the specified limit, a test shall be performed at least every 9 months until two consecutive tests meet the specified limit, at which time the Surveillance Frequency Control Program schedule may be resumed.

In the LAR, the licensee stated that the technical justification for the proposed changes addresses the information requested by GL 91-04. For non-calibration SRs, GL 91-04 instructs licensees to perform evaluations and confirmations as described in Section 3.1.1 of this SE to support the change in surveillance intervals to accommodate a 24-MFC. As part of the LAR, the licensee provided a summary of the evaluation to address the guidance in GL 91-04.

As part of the licensee's review of the surveillance history, no failures of the TS functions were identified that would have been solely detected by the periodic performance of these SRs. The licensee states the impact, if any, on system availability is minimal from the proposed SR interval change from 18 to 24 months. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed change and the supporting document and determined that the proposed increase in frequency of SRs 4.6.2.1.e and 4.6.2.1.f meets the guidance of GL 91-04. The NRC staff finds the proposed interval extensions for the above SRs acceptable because 1) the effect on safety would be small, 2) historical data does not contradict this conclusion, and 3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed changes.

3.1.2.1.15 TS 3/4.6.3 Primary Containment Isolation Valves

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.6.3.4 In accordance with the Surveillance Frequency Control Program, verify that a representative sample of reactor instrumentation line excess flow check valves actuates to the isolation position on a simulated instrument line break signal.
- SR 4.6.3.5 Each traversing in-core probe system explosive isolation valve shall be demonstrated OPERABLE:
 - b. In accordance with the Surveillance Frequency Control Program by removing the explosive squib from at least one explosive valve and initiating the explosive squib. The replacement charge for the exploded squib shall be from the same manufactured batch as the one fired or from another batch which has been certified by having at least one of that batch successfully fired. No squib shall remain in use beyond the expiration of its shelf-life or operating life, as applicable.

In the LAR, the licensee stated that the technical justification for the proposed changes addresses the information requested by GL 91-04. For non-calibration SRs, GL 91-04 instructs licensees to perform evaluations and confirmations as described in Section 3.1.1 of this SE to support the change in surveillance intervals to accommodate a 24-MFC. As part of the LAR, the licensee provided a summary of the evaluation to address the guidance in GL 91-04.

As part of the licensee's review of the surveillance history, no failures of the TS functions were identified that would have been solely detected by the periodic performance of these SRs. The licensee states the impact, if any, on system availability is minimal from the proposed SR interval change from 18 to 24 months. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed change and the supporting document and determined that the proposed increase in frequency of SRs 4.6.3.4 and 4.6.3.5 meets the guidance of GL 91-04. The NRC staff finds the proposed interval extensions for the above SRs acceptable because 1) the effect on safety would be small, 2) historical data does not contradict this conclusion, and 3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed changes.

3.1.2.1.16 TS 3/4.6.4 Vacuum Relief

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.6.4.1 Each suppression chamber – drywell vacuum breaker shall be:
 - b. Demonstrated OPERABLE:

2. In accordance with the Surveillance Frequency Control Program by verifying the opening setpoint of each vacuum breaker to be less than or equal to 0.20 psid.
- SR 4.6.4.2 Each reactor building - suppression chamber vacuum breaker assembly shall be:
 - b. Demonstrate OPERABLE:
 2. In accordance with the Surveillance Frequency Control Program by:
 - a) Verifying the opening setpoint of each vacuum breaker assembly valve to be less than or equal to 0.25 psid.

In the LAR, the licensee stated that the technical justification for the proposed changes addresses the information requested by GL 91-04. For non-calibration SRs, GL 91-04 instructs licensees to perform evaluations and confirmations as described in Section 3.1.1 of this SE to support the change in surveillance intervals to accommodate a 24-MFC. As part of the LAR, the licensee provided a summary of the evaluation to address the guidance in GL 91-04.

As part of the licensee's review of the surveillance history, no failures of the TS functions were identified that would have been solely detected by the periodic performance of these SRs. The licensee states the impact, if any, on system availability is minimal from the proposed SR interval change from 18 to 24 months. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed change and the supporting document and determined that the proposed increase in frequency of SRs 4.6.4.1.b.2 and 4.6.4.2.b.2 meets the guidance of GL 91-04. The NRC staff finds the proposed interval extensions for the above SRs acceptable because 1) the effect on safety would be small, 2) historical data does not contradict this conclusion, and 3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed changes.

3.1.2.1.17 TS 3/4.6.5.3 Filtration, Recirculation and Ventilation System (FRVS) – Ventilation Subsystem

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.6.5.3.1 Each of the two ventilation units shall be demonstrated OPERABLE:
 - c. In accordance with the Surveillance Frequency Control Program or upon determination that the HEPA filters or charcoal adsorbent could have been damaged by structural maintenance or adversely affected by any chemicals, fumes or foreign materials (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the subsystem by:
 1. Verifying that the subsystem satisfies the in-place penetration testing acceptance criteria of less than 0.05% and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the

- system flow rates are 9,000 cfm \pm 10% for each FRVS ventilation unit.
2. Verifying within 31 days after removal from the FRVS ventilation units, that a laboratory test of a sample of the charcoal adsorber, when obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows the methyl iodide penetration less than 5% when tested in accordance with ASTM D3803-1989 at a temperature of 30°C and a relative humidity 95%.
 3. Verifying a subsystem flow rate of 9,000 cfm \pm 10% for each FRVS ventilation unit during system operation when tested in accordance with ANSI N510-1980.
- e. In accordance with the Surveillance Frequency Control Program by:
1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 5 inches Water Gauge in the ventilation unit while operating the filter train at a flow rate of 9,000 cfm \pm 10% for each FRVS ventilation unit.

In the LAR, the licensee stated that the technical justification for the proposed changes addresses the information requested by GL 91-04. For non-calibration SRs, GL 91-04 instructs licensees to perform evaluations and confirmations as described in Section 3.1.1 of this SE to support the change in surveillance intervals to accommodate a 24-MFC. As part of the LAR, the licensee provided a summary of the evaluation to address the guidance in GL 91-04.

As part of the licensee's review of the surveillance history, no failures of the TS functions were identified that would have been solely detected by the periodic performance of these SRs. The licensee states the impact, if any, on system availability is minimal from the proposed SR interval change from 18 to 24 months. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed change and the supporting document and determined that the proposed increase in frequency of SRs 4.6.5.3.1.c.1, 4.6.5.3.1.c.2, 4.6.5.3.1.c.3, and 4.6.5.3.1.e.1 meets the guidance of GL 91-04. The NRC staff finds the proposed interval extensions for the above SRs acceptable because 1) the effect on safety would be small, 2) historical data does not contradict this conclusion, and 3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed changes.

3.1.2.1.18 TS 3/4.6.5.3 FRVS Recirculation - Subsystem

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.6.5.3.2 Each of the six FRVS recirculation units shall be demonstrated OPERABLE:
 - c. In accordance with the Surveillance Frequency Control Program or upon determination that the HEPA filters could have been damaged by structural maintenance or adversely affected by any foreign materials (1) after any structural maintenance on the HEPA filters or housings by:
 1. Verifying that the subsystem satisfies the in-place penetration testing acceptance criteria of less than 0.05% and uses the test

procedure guidance in Regulatory Positions C.5.a and C.5.c of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rates are 30,000 cfm \pm 10% for each FRVS recirculation unit.

2. Verifying a subsystem flow rate of 30,000 cfm \pm 10% for each FRVS recirculation unit during system operation when tested in accordance with ANSI N510-1980.
- e. In accordance with the Surveillance Frequency Control Program by:
 1. Verifying that the pressure drop across the exhaust duct is less than 8 inches Water Gauge in the recirculation filter train while operating the filter train at a flow rate of 30,000 cfm \pm 10% for each FRVS recirculation unit.

In the LAR, the licensee stated that the technical justification for the proposed changes addresses the information requested by GL 91-04. For non-calibration SRs, GL 91-04 instructs licensees to perform evaluations and confirmations as described in Section 3.1.1 of this SE to support the change in surveillance intervals to accommodate a 24-MFC. As part of the LAR, the licensee provided a summary of the evaluation to address the guidance in GL 91-04.

As part of the licensee's review of the surveillance history, no failures of the TS functions were identified that would have been solely detected by the periodic performance of these SRs. The licensee states the impact, if any, on system availability is minimal from the proposed SR interval change from 18 to 24 months. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed change and the supporting document and determined that the proposed increase in frequency of SRs 4.6.5.3.2.c.1, 4.6.5.3.2.c.2, and 4.6.5.3.2.e.1 meets the guidance of GL 91-04. The NRC staff finds the proposed interval extensions for the above SRs acceptable because 1) the effect on safety would be small, 2) historical data does not contradict this conclusion, and 3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed changes.

3.1.2.1.19 TS 3/4.7.1 Service Water Systems

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, on a STAGGERED TEST BASIS, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.7.1.2 At least the above required station service water system loops shall be demonstrated OPERABLE:
 - b. In accordance with the Surveillance Frequency Control Program, by verifying that:
 1. Each automatic valve servicing non-safety related equipment actuates to its isolation position on an isolation test signal.

In the LAR, the licensee stated that the technical justification for the proposed changes addresses the information requested by GL 91-04. For non-calibration SRs, GL 91-04 instructs licensees to perform evaluations and confirmations as described in Section 3.1.1 of this SE to support the change in surveillance intervals to accommodate a 24-MFC. As part of the LAR, the licensee provided a summary of the evaluation to address the guidance in GL 91-04.

As part of the licensee's review of the surveillance history, no failures of the TS functions were identified that would have been solely detected by the periodic performance of these SRs. The licensee states the impact, if any, on system availability is minimal from the proposed SR interval change from 18 to 24 months. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed change and the supporting document and determined that the proposed increase in frequency of SR 4.7.1.2 meets the guidance of GL 91-04. The NRC staff finds the proposed interval extensions for the above SR acceptable because 1) the effect on safety would be small, 2) historical data does not contradict this conclusion, and 3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed changes.

3.1.2.1.20 TS 3/4.7.2 Control Room Systems

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.7.2.1.1 Each control room emergency filtration subsystem shall be demonstrated OPERABLE:
 - c. In accordance with the Surveillance Frequency Control Program or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the subsystem filter train by:
 1. Verifying that the subsystem satisfies the in-place penetration testing acceptance criteria of less than 0.05% and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, and the system filter train flow rate is 4000 cfm \pm 10%.
 2. Verifying within 31 days after removal, that a laboratory test of a sample of the charcoal adsorber, when obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows the methyl iodide penetration less than 0.5% when tested in accordance with ASTM D3803-1989 at a temperature of 30°C and a relative humidity 70%.
 3. Verifying a subsystem filter train flow rate of 4000 cfm \pm 10% during subsystem operation when tested in accordance with ANSI N510-1980.
 - e. In accordance with the Surveillance Frequency Control Program by:
 1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 7.5 inches Water Gauge while operating the filter train subsystem at a flow rate of 4000 cfm \pm 10%.
 4. Verifying that the heaters dissipate 13 \pm 1.3 Kw when tested in accordance with ANSI N510-1980 and verifying humidity is maintained less than or equal to 70% humidity through the carbon adsorbers by performance of a channel calibration of the humidity control instrumentation.

In the LAR, the licensee stated that the technical justification for the proposed changes addresses the information requested by GL 91-04. For non-calibration SRs, GL 91-04 instructs licensees to perform evaluations and confirmations as described in Section 3.1.1 of this SE to support the change in surveillance intervals to accommodate a 24-MFC. As part of the LAR, the licensee provided a summary of the evaluation to address the guidance in GL 91-04.

As part of the licensee's review of the surveillance history, no failures of the TS functions were identified that would have been solely detected by the periodic performance of these SRs. The licensee states the impact, if any, on system availability is minimal from the proposed SR interval change from 18 to 24 months. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed change and the supporting document and determined that the proposed increase in frequency of SRs 4.7.2.1.1.c.1, 4.7.2.1.1.c.2, 4.7.2.1.1.c.3, 4.7.2.1.1.e.1, and 4.7.2.1.1.e.4 meets the guidance of GL 91-04. The NRC staff finds the proposed interval extensions for the above SRs acceptable because 1) the effect on safety would be small, 2) historical data does not contradict this conclusion, and 3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed changes.

3.1.2.1.21 TS 3/4.7.4 Reactor Core Isolation Cooling System

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.7.4 The RCIC system shall be demonstrated OPERABLE:
 - c. In accordance with the Surveillance Frequency Control Program by:
 1. Performing a system functional test which includes simulated automatic actuation and restart and verifying that each automatic valve in the flow path actuates to its correct position. Actual injection of coolant into the reactor vessel may be excluded.
 3. Verifying that the suction for the RCIC system is automatically transferred from the condensate storage tank to the suppression pool on a condensate storage tank water level-low signal.

In the LAR, the licensee stated that the technical justification for the proposed changes addresses the information requested by GL 91-04. For non-calibration SRs, GL 91-04 instructs licensees to perform evaluations and confirmations as described in Section 3.1.1 of this SE to support the change in surveillance intervals to accommodate a 24-MFC. As part of the LAR, the licensee provided a summary of the evaluation to address the guidance in GL 91-04.

As part of the licensee's review of the surveillance history, no failures of the TS functions were identified that would have been solely detected by the periodic performance of these SRs. The licensee states the impact, if any, on system availability is minimal from the proposed SR interval change from 18 to 24 months. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed change and the supporting document and determined that the proposed increase in frequency of SRs 4.7.4.c.1 and 4.7.4.c.3 meets the guidance of GL 91-04. The NRC staff finds the proposed interval extensions for the above SRs acceptable because 1) the effect on safety would be small, 2) historical data does not contradict this

conclusion, and 3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed changes.

3.1.2.1.22 TS 3/4.7.7 Main Turbine Bypass System

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.7.7 The main turbine bypass system shall be demonstrated OPERABLE:
 - b. In accordance with the Surveillance Frequency Control Program by:
 - 1. Performing a system functional test which includes simulated automatic actuation and verifying that each automatic valve actuates to its correct position.
 - 2. Demonstrating TURBINE BYPASS SYSTEM RESPONSE TIME meets the following requirements when measured from the initial movement of the main turbine stop or control valve:
 - a. 80% of turbine bypass system capacity shall be established in less than or equal to 0.3 second.
 - b. Bypass valve opening shall start in less than or equal to 0.1 second.

In the LAR, the licensee stated that the technical justification for the proposed changes addresses the information requested by GL 91-04. For non-calibration SRs, GL 91-04 instructs licensees to perform evaluations and confirmations as described in Section 3.1.1 of this SE to support the change in surveillance intervals to accommodate a 24-MFC. As part of the LAR, the licensee provided a summary of the evaluation to address the guidance in GL 91-04.

As part of the licensee's review of the surveillance history, no failures of the TS functions were identified that would have been solely detected by the periodic performance of these SRs. The licensee states the impact, if any, on system availability is minimal from the proposed SR interval change from 18 to 24 months. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed change and the supporting document and determined that the proposed increase in frequency of SRs 4.7.7.b.1 and 4.7.7.b.2 meets the guidance of GL 91-04. The NRC staff finds the proposed interval extensions for the above SRs acceptable because 1) the effect on safety would be small, 2) historical data does not contradict this conclusion, and 3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed changes.

3.1.2.1.23 TS 3/4.8.1 A.C. Sources

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.8.1.1.2 Each of the above required diesel generators shall be demonstrated OPERABLE:
 - k. In accordance with the Surveillance Frequency Control Program by:

1. Verifying the diesel generator operates for at least 24 hours. During the first 22 hours of this test, the diesel generator shall be loaded to between 4000 and 4400 kW and during the remaining 2 hours of this test, the diesel generator shall be loaded to between 4652 and 4873 kW. The diesel generator shall achieve ≥ 3950 volts and ≥ 58.8 Hz in ≤ 10 seconds following receipt of the start signal and subsequently achieve steady state voltage ≥ 3828 and ≤ 4580 volts and frequency of 60 ± 1.2 Hz.
2. Within 5 minutes after completing 4.8.1.1.2.k.1, verify each diesel generator starts and achieves ≥ 3950 volts and ≥ 58.8 Hz in ≤ 10 seconds after receipt of the start signal, and subsequently achieves steady state voltage ≥ 3828 and ≤ 4580 volts and frequency of 60 ± 1.2 Hz.

-OR-

Operate the diesel generator between 4000 kW and 4400 kW for two hours. Within five minutes of shutting down the diesel generator, verify each diesel generator starts and achieves ≥ 3950 volts and ≥ 58.8 Hz in ≤ 10 seconds after receipt of the start signal, and subsequently achieves steady state voltage ≥ 3828 and ≤ 4580 volts and frequency of 60 ± 1.2 Hz. This test shall continue for at least five minutes.

In the LAR, the licensee stated that the proposed changes to SR performance interval increases are in accordance with GL 91-04.

The licensee provided evaluations to address GL 91-04 as follows:

- (a) Evaluate the effect on safety of the change in surveillance intervals to support a conclusion that the effect on safety is small. In the LAR, the licensee stated that each non-calibration SR frequency being changed has been evaluated with respect to the effect on plant safety. The methodology utilized to justify the conclusion that extending the testing interval has a minimal effect on safety was based on the fact that the function/feature is:
 - (1) Tested on a more frequent basis during the operating cycle by other plant programs;
 - (2) Designed to have redundant counterparts or be single failure proof; or
 - (3) Highly reliable.

In verifying the licensee's statement (1) above, the NRC staff requested identification of SRs that are tested on a more frequent basis. In the letter dated September 26, 2024, the licensee stated, in part, that the following SRs are performed on a more frequent basis to demonstrate diesel generator (DG) operability:

- SR 4.8.1.1.2.a is performed every 31 days on a Staggered Test Basis in accordance with the SFCP by:

1. Verifying the fuel level in the fuel oil day tank.
 2. Verifying the fuel level in the fuel oil storage tank.
 3. Verifying the fuel transfer pump starts and transfers fuel from the storage system to the fuel oil day tank.
 4. Verifying each diesel generator starts from standby conditions and achieves steady state voltage ≥ 3828 and ≤ 4580 volts and frequency of 60 ± 1.2 Hz.
 5. Verifying the diesel generator is synchronized, loaded to between 4000 and 4400 kw and operates with this load for at least 60 minutes.
 6. Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.
 7. Verifying the pressure in all diesel generator air start receivers to be greater than or equal to 325 psig.
 8. Verifying the lube oil pressure, temperature and differential pressure across the lube oil filters to be within manufacturer's specifications.
- SR 4.8.1.1.2.b is performed every 31 days in accordance with the SFCP by visually examining a sample of lube oil from the diesel engine to verify absence of water.
 - SR 4.8.1.1.2.c is performed every 31 days in accordance with the SFCP and after each operation of the diesel where the period of operation was greater than or equal to 1 hour by checking for and removing accumulated water from the fuel oil day tank.
 - SR 4.8.1.1.2.d is performed every 92 days in accordance with the SFCP by removing accumulated water from the fuel oil storage tanks.
 - SR 4.8.1.1.2.e is performed every 9 months in accordance with the SFCP by performing a functional test on the emergency load sequencer to verify operability.
 - SR 4.8.1.1.2.f is performed in accordance with the surveillance interval specified in the Diesel Fuel Oil Testing Program and prior to the addition of new fuel oil to the storage tank, samples shall be taken to verify fuel oil quality. Sampling and testing of new and stored fuel oil shall be in accordance with the Diesel Fuel Oil Testing Program contained in TS 6.8.4.e. TS 6.8.4.e.b is performed 31 days following sampling and addition to storage tanks and TS 6.8.4.e.c is performed every 92 days.
 - SR 4.8.1.1.2.g is performed every 184 days in accordance with the SFCP by verifying each diesel generator starts from standby conditions and achieves ≥ 3950 volts and ≥ 58.8 Hz in ≤ 10 seconds after receipt of the start signal, and subsequently achieves steady state voltage ≥ 3828 and ≤ 4580 volts and frequency of 60 ± 1.2 Hz.

The NRC staff finds that the above identified SRs that are tested on a more frequent basis would help to ensure that the DGs are available to support their safety function. Therefore, the NRC staff finds that the licensee adequately addressed the GL 91-04 recommendation Item (a).

- (b) Confirm that historical maintenance and surveillance data do not invalidate the conclusion that the effect on safety is small.

The LAR states that for each component having a surveillance interval extended, historical surveillance test data and associated maintenance records were reviewed in evaluating the effect on safety. The licensee's review identified one unique failure associated with SR 4.8.1.1.2.k.1 and indicated that this failure is not indicative of a repetitive time-based failure mechanism.

The NRC staff finds that the licensee's justification for the failure associated with SR 4.8.1.1.2.k.1 is acceptable, and this failure does not invalidate the conclusion that the effect on safety is small. Therefore, the NRC staff finds that the licensee adequately addressed the GL 91-04 recommendation Item (b).

- (c) Confirm that the performance of surveillances at the bounding surveillance interval limit provided to accommodate a 24-month fuel cycle would not invalidate any assumption in the plant licensing basis.

The LAR states, in part, that the impact of each affected SR change against the assumptions in the HCGS licensing basis were reviewed. The licensee further stated that in some cases, the change to a 24-month fuel cycle may require a change to licensing basis information as described in the UFSAR. However, no changes requiring NRC review and approval were identified by the licensee.

The NRC staff finds that the licensee adequately addressed the GL 91-04 recommendation Item (c) by reviewing the HCGS licensing basis and determining that the result has no impact on any assumption in the plant licensing basis.

In conclusion, the NRC staff finds that the proposed increased interval for SR 4.8.1.1.2.k.1/2 acceptable because the effect on safety would be small and proposed change would not invalidate any assumption in the plant licensing basis.

3.1.2.1.24 TS 3/4.8.4 Electrical Equipment Protective Devices

The LAR proposes to increase the interval of the following non-calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.8.4.1 Each of the primary containment penetration conductor overcurrent protective devices shown in Table 3.8.4.1-1 shall be demonstrated OPERABLE:
 - a. In accordance with the Surveillance Frequency Control Program:
 - 2. By selecting and functionally testing a representative sample of at least 10% of each type of lower voltage circuit breakers. Circuit breakers selected for functional testing shall be selected on a

rotating basis. Testing of these circuit breakers shall consist of injecting a current with a value between 150% and 300% of the pickup of the long-time delay trip element and verifying that the circuit breaker operates within the time delay bandwidth for that current specified by the manufacturer. The instantaneous element shall be tested by injecting a current in excess of 120% of the pickup value of the element and verifying that the circuit breaker trips instantaneously with no intentional time delay. Molded case circuit breaker testing shall also follow this procedure except that generally, no more than two trip elements, time delay and instantaneous, will be involved. Circuit breakers found inoperable during functional testing shall be restored to OPERABLE status prior to resuming operation. For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all breakers of that type have been functionally tested.

- SR 4.8.4.2.1 The thermal overload protection bypass circuit for each of the above required MOVs shall be demonstrated OPERABLE:
 - a. In accordance with the Surveillance Frequency Control Program by the performance of a CHANNEL FUNCTIONAL TEST for:
 2. A representative sample of at least 25% of those thermal overload protection devices which are bypassed continuously and temporarily placed in force only when the MOVs are undergoing periodic or maintenance testing.
 3. A representative sample of at least 25% of those thermal overload protection devices which are in force during normal manual (momentary push button contact) MOV operation and bypassed during remote manual (push button held depressed) MOV operation.

In the LAR, the licensee stated that it had reviewed the requested SR performance interval increases in accordance with GL 91-04.

In the LAR, the licensee provided evaluations to address the GL 91-04 recommendations as follows:

- (a) Evaluate the effect on safety of the change in surveillance intervals to support a conclusion that the effect on safety is small. In the LAR, the licensee stated that each non-calibration SR frequency being changed has been evaluated with respect to the effect on plant safety. The methodology utilized to justify the conclusion that extending the testing interval has a minimal effect on safety was based on the fact that the function/feature is:
 - (1) Tested on a more frequent basis during the operating cycle by other plant programs;

- (2) Designed to have redundant counterparts or be single failure proof; or
- (3) Highly reliable.

In verifying the licensee's statement (1) above, the NRC staff requested identification of SRs that are tested on a more frequent basis. In the letter dated September 26, 2024, the licensee stated that there is no other periodic testing associated with SR 4.8.4.1.a.2 and SR 4.8.4.2.1.a. The licensee further stated that based on the inherent system and component reliability as shown by the failure history provided in Attachment 3 of the LAR, the impact of this change on safety, if any, is small.

The NRC staff finds that the above identified SRs that are tested on a more frequent basis would help ensure the DGs are available to support their safety function. Therefore, the NRC staff finds that the licensee adequately addressed the GL 91-04 recommendation Item (a).

- (b) Confirm that historical maintenance and surveillance data do not invalidate the conclusion that the effect on safety is small. The LAR states that for each component having a surveillance interval extended, historical surveillance test data and associated maintenance records were reviewed in evaluating the effect on safety. The licensee's review identified two unique failures associated with SR 4.8.4.1.a.2 and indicated that these failures are not indicative of a repetitive time-based failure mechanism.

The NRC staff finds that the licensee's justification for the failures associated with SR 4.8.4.1.a.2 is acceptable, and this failure does not invalidate the conclusion that the effect on safety is small. Therefore, the NRC staff finds that the licensee adequately addressed the GL 91-04 recommendation Item (b).

- (c) Confirm that the performance of surveillances at the bounding surveillance interval limit provided to accommodate a 24-month fuel cycle would not invalidate any assumption in the plant licensing basis. The LAR states, in part, that the impact of each affected SR change against the assumptions in the HCGS licensing basis was reviewed. The licensee further stated that in some cases, the change to a 24-month fuel cycle may require a change to licensing basis information as described in the UFSAR. However, no changes requiring NRC review and approval were identified by the licensee.

The NRC staff finds that the licensee adequately addressed the GL 91-04 recommendation Item (c) by reviewing HCGS licensing basis and determining that the result has no impact on any assumption in the plant licensing basis.

In conclusion, the NRC staff finds that the proposed increased interval for SR 4.8.4.1.a.2 and SR 4.8.4.2.1.a.2/3 is acceptable because the effect on safety would be small and proposed change would not invalidate any assumption in the plant licensing basis.

3.1.2.2 Non-Calibration Changes for 36-Month Frequency Extensions

3.1.2.2.1 TS 3/4.3.3 Emergency Core Cooling System Actuation Instrumentation

The LAR proposes to increase the interval of the following non-calibration SRs from once every 36 months to once every 48 months, for a maximum interval of 60 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.3.1 Each ECCS actuation instrumentation channel shall be demonstrated OPERABLE by the performance of the [CHANNEL FUNCTIONAL TEST] operations for the OPERATIONAL CONDITIONS and at the frequencies shown in Table 4.3.3.1-1. [Trip Functions 1.g and 2.f]
- SR 4.3.3.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed in accordance with the Surveillance Frequency Control Program. [Trip Functions 1.g, 5.a and b]
- SR 4.3.3.3 The ECCS RESPONSE TIME of each ECCS trip function shall be demonstrated to be within the limit in accordance with the Surveillance Frequency Control Program. ECCS actuation instrumentation is eliminated from response time testing. [UFSAR Table 7.3-17 Trip Functions 1, 2, and 4]

GL 91-04 identifies three steps to evaluate non-calibration changes. In Section 4.1.1, “Non-Calibration Changes,” of the LAR, the licensee summarized the Hope Creek evaluations for those three steps, as described in Section 3.1.1 of this SE.

The following non-calibration trip functions in TS Table 4.3.3.1-1, “Emergency Core Cooling System Actuation Instrumentation Surveillance Requirements,” are detected by periodic performance of SRs 4.3.3.1, 4.3.3.2, and 4.3.3.3:

SR Number	Trip Functions
SR 4.3.3.1	Trip Function 1.g, Core Spray System, Manual Initiation
	Trip Function 2.f, Low Pressure Coolant Injection Mode of RHR System, Manual Initiation
SR 4.3.3.2	Trip Function 1.g, Core Spray System, Manual Initiation
	Trip Function 5.a, Loss of Power, 4.16 kv Emergency Bus Under-voltage (Loss of Voltage)
	Trip Function 5.b, Loss of Power, 4.16 kv Emergency Bus Under-voltage (Degraded Voltage)
SR 4.3.3.3	UFSAR Table 7.3-17 Trip Function 1, Core Spray System
	UFSAR Table 7.3-17 Trip Function 2, Low Pressure Injection mode of RHR System
	UFSAR Table 7.3-17 Trip Function 4, High Pressure Coolant Injection System

As stated in Section 2.1.2, “Non-Calibration Changes for 36-Month Frequency Extensions,” of Attachment 3 of LAR, the licensee reviewed the surveillance histories of these non-calibration SRs. For each SR of functional units above, the licensee summarized its evaluation of the effect on safety, and stated:

A review of the surveillance history verified that this instrumentation had no previous failures of the TS functions. As such, the impact, if any, on system availability is minimal from the proposed change to a 48-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed interval changes of non-calibration SRs 4.3.3.1, 4.3.3.2, and 4.3.3.3 for 36-month frequency extensions and noted that they meet the guidance in GL 91-04. The NRC staff finds that the proposed interval extensions for these non-calibration SRs are acceptable because (1) the historical data does not contradict this conclusion (no failures of the TS function that would have been detected solely by the periodic performance of this SR were reported), (2) the effect on safety, if any, would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.1.2.2.2 TS 3/4.3.4 Recirculation Pump Trip Actuation Instrumentation

The LAR proposes to increase the interval of the following non-calibration SRs from once every 36 months to once every 48 months, for a maximum interval of 60 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.4.2.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed in accordance with the Surveillance Frequency Control Program.

GL 91-04 identifies three steps to evaluate non-calibration changes. In Section 4.1.1, "Non-Calibration Changes," of the LAR, the licensee summarized the Hope Creek evaluations for those three steps, as described in Section 3.1.1 of this SE.

The Logic System functional tests in TS 3/4.3.4, "Recirculation Pump Trip Actuation Instrumentation Surveillance Requirements," in accordance with SFCP, are detected by periodic performance of SR 4.3.4.2.2.

As stated in Section 2.1.2 of Attachment 3 of LAR, the licensee reviewed the surveillance history of the non-calibration SR of the Logic system functional tests above. For this SR, the licensee summarized the evaluation of the effect on safety, and stated:

A review of the surveillance history verified that this instrumentation had no previous failures of the TS functions. As such, the impact, if any, on system availability is minimal from the proposed change to a 48-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed interval change of non-calibration SR 4.3.4.2.2, for 36-month frequency extensions and noted that it meets the guidance of GL 91-04. The NRC staff finds that the proposed interval extension in this non-calibration SR is acceptable because (1) the historical data does not contradict this conclusion (no failures of the TS function that would have been detected solely by the periodic performance of this SR were reported), (2) the effect on safety, if any, would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.1.2.2.3 TS 3/4.5.1 ECCS – Operating

The LAR proposes to increase the interval of the following non-calibration SRs from once every 36 months to once every 48 months, for a maximum interval of 60 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.5.1 The emergency core cooling systems shall be demonstrated OPERABLE by:
 - c. In accordance with the Surveillance Frequency Control Program:
 - 1. For the [CSS and LPCI systems], performing a system functional test which includes simulated automatic actuation of the system throughout its emergency operating sequence and verifying that each automatic valve in the flow path actuates to its correct position. Actual injection of coolant into the reactor vessel may be excluded from this test.
 - 2. For the HPCI system, verifying that:
 - a) The system develops a flow of at least 5600 gpm against a test line pressure corresponding to a reactor vessel pressure of ≥ 200 psig, when steam is being supplied to the turbine at $200 + 15, -0$ psig.

In the LAR, the licensee stated that the technical justification for the proposed changes addresses the information requested by GL 91-04. For non-calibration SRs, GL 91-04 instructs licensees to perform evaluations and confirmations as described in Section 3.1.1 of this SE to support the change in surveillance intervals to accommodate a 24-MFC. In the LAR, the licensee provided a summary of the evaluation to address the guidance in GL 91-04.

As part of the licensee's review of the surveillance history for SRs 4.5.1.c.1 and 4.5.1.c.2.a, no failures of the TS functions were identified. As such, the licensee determined that the impact, if any, on system availability is minimal from the proposed change to a 48-month testing frequency.

The NRC staff finds the proposed interval extensions from 36 months to 48 months for SRs 4.5.1.c.1 and 4.5.1.c.2.a acceptable as it meets the guidance of GL 91-04 in that (1) the effect on safety would be small, (2) historical data do not contradict this conclusion, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.1.2.2.4 TS 3/4.7.1 Service Water Systems

The LAR proposes to increase the interval of the following non-calibration SRs from once every 36 months to once every 48 months, for a maximum interval of 60 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.7.1.1 At least the above required safety auxiliaries cooling system subsystems shall be demonstrated OPERABLE:
 - b. In accordance with the Surveillance Frequency Control Program by verifying that:
 - 2) Each pump starts automatically when its associated diesel generator automatically starts.

In the LAR, the licensee stated that the technical justification for the proposed changes addresses the information requested by GL 91-04. For non-calibration SRs, GL 91-04 instructs licensees to perform evaluations and confirmations as described in Section 3.1.1 of this SE to support the change in surveillance intervals to accommodate a 24-MFC. As part of the LAR, the licensee provided a summary of the evaluation to address the guidance in GL 91-04.

As part of the licensee's review of the surveillance history, no failures of the TS functions were identified that would have been solely detected by the periodic performance of these SRs. The licensee states the impact, if any, on system availability is minimal from the proposed SR interval change from 36 to 48 months. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed change and the supporting document and determined that the proposed increase in frequency of SRs 4.7.1.1.b.2 and 4.7.1.2.b.2 is consistent with the intent of GL 91-04. The NRC staff finds the proposed interval extensions for the above SRs acceptable because 1) the effect on safety would be small, 2) historical data does not contradict this conclusion, and 3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed changes.

3.1.2.2.5 TS 3/4.7.4 Reactor Core Isolation Cooling System

The LAR proposes to increase the interval of the following non-calibration SRs from once every 36 months to once every 48 months, for a maximum interval of 60 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.7.4 The RCIC system shall be demonstrated OPERABLE:
 - c. In accordance with the Surveillance Frequency Control Program by:
 - 2) Verifying that the system will develop a flow of greater than or equal to 600 gpm in the test flow path when steam is supplied to the turbine at a pressure of 150 + 15, - 0 psig.

In the LAR, the licensee stated that the technical justification for the proposed changes addresses the information requested by GL 91-04. For non-calibration SRs, GL 91-04 instructs licensees to perform evaluations and confirmations as described in Section 3.1.1 of this SE to support the change in surveillance intervals to accommodate a 24-MFC. As part of the LAR, the licensee provided a summary of the evaluation to address the guidance in GL 91-04.

As part of the licensee's review of the surveillance history, no failures of the TS functions were identified that would have been solely detected by the periodic performance of these SRs. The licensee states the impact, if any, on system availability is minimal from the proposed SR interval change from 36 to 48 months. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed change and the supporting document and determined that the proposed increase in frequency of SR 4.7.4.c.2 is consistent with the intent of GL 91-04. The NRC staff finds the proposed interval extensions for the above SR acceptable because 1) the effect on safety would be small, 2) historical data does not contradict this conclusion, and 3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed changes.

3.1.2.2.6 TS 3/4.8.1 A.C. Sources

The LAR proposes to increase the interval of the following non-calibration SR from once every 36 months to once every 48 months, for a maximum interval of 60 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.8.1.1.2 Each of the above required diesel generators shall be demonstrated OPERABLE:
 - h. In accordance with the Surveillance Frequency Control Program, during shutdown, by:
 - 2) Verifying the diesel generator capability to reject a load of greater than or equal to that of the RHR pump motor for each diesel generator while maintaining voltage ≥ 3828 and ≤ 4580 volts and frequency at 60 ± 1.2 Hz.
 - 3) Verifying the diesel generator capability to reject a load of 4430 kW without tripping. The generator voltage shall not exceed 4785 volts during and following the load rejection.
 - 4) Simulating a loss of offsite power by itself, and:
 - b) Verifying the diesel generator starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds after receipt of the start signal, energizes the auto connected shutdown loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the shutdown loads. After energization, the steady state voltage and frequency of the emergency busses shall be maintained ≥ 3828 and ≤ 4580 volts and 60 ± 1.2 Hz during this test.
 - 5) Verifying that on an ECCS actuation test signal, without loss of offsite power, the diesel generator starts on the auto-start signal and operates on standby for greater than or equal to 5 minutes. The diesel generator shall achieve ≥ 3950 volts and ≥ 58.8 Hz in ≤ 10 seconds following receipt of the start signal and subsequently achieve steady state voltage ≥ 3828 and ≤ 4580 volts and frequency of 60 ± 1.2 Hz.
 - 6) Simulating a loss of offsite power in conjunction with an ECCS actuation test signal, and:
 - b) Verifying the diesel generator starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds after receipt of the start signal, energizes the auto connected shutdown loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After energization, the steady state voltage and frequency of the emergency busses shall be maintained ≥ 3828 and ≤ 4580 volts and 60 ± 1.2 Hz during this test.
 - 7) Verifying that all automatic diesel generator trips, except engine overspeed, generator differential current, generator overcurrent, bus differential current and low lube oil pressure are automatically bypassed upon loss of voltage on the emergency bus concurrent with an ECCS actuation signal.
 - 9) Verifying that the auto-connected loads to each diesel generator do not exceed the continuous rating of 4430 kW.
 - 10) Verifying the diesel generator's capability to:
 - a) Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power,

- b) Transfer its loads to the offsite power source,
 - c) Be restored to its standby status, and
 - d) Diesel generator circuit breaker is open.
- 11) Verifying that with the diesel generator operating in a test mode and connected to its bus, a simulated ECCS actuation signal overrides the test mode by (1) returning the diesel generator to standby operation, and (2) automatically energizes the emergency loads with offsite power.

In the LAR, the licensee stated that the GL 91-04 guidance was used to evaluate certain SRs with frequencies that had already been extended to 36 months under the SFCP but now seek extension to 48 months. The NRC staff used the guidance in GL 91-04 to review the licensee's proposed change as documented below. For non-calibration SRs, GL 91-04 recommends that the licensees should perform evaluations and confirmations, including the following, to support the change in surveillance intervals to accommodate a 24-MFC:

- (a) Evaluate of the effect on safety of the change in surveillance intervals to support a conclusion that the effect on safety is small.
- (b) Confirm that historical maintenance and surveillance data do not invalidate the conclusion that the effect on safety is small.
- (c) Confirm that the performance of surveillances at the bounding surveillance interval limit provided to accommodate a 24-month fuel cycle would not invalidate any assumption in the plant licensing basis.

In the LAR, the licensee provided evaluations to address GL 91-04 above recommendations as follows:

- (a) Evaluate of the effect on safety of the change in surveillance intervals to support a conclusion that the effect on safety is small. In the LAR, the licensee stated that each non-calibration SR frequency being changed has been evaluated with respect to the effect on plant safety. The methodology utilized to justify the conclusion that extending the testing interval has a minimal effect on safety was based on the fact that the function/feature is:
 - (1) Tested on a more frequent basis during the operating cycle by other plant programs;
 - (2) Designed to have redundant counterparts or be single failure proof; or
 - (3) Highly reliable.

In verifying the licensee's statement (1) above, the NRC staff requested identification of SRs that are tested on a more frequent basis. In the letter dated September 26, 2024, the licensee stated, in part, that the following SRs are performed on a more frequent basis to demonstrate DG operability:

- SR 4.8.1.1.2.a is performed every 31 days on a Staggered Test Basis in accordance with the SFCP by:

1. Verifying the fuel level in the fuel oil day tank.
 2. Verifying the fuel level in the fuel oil storage tank.
 3. Verifying the fuel transfer pump starts and transfers fuel from the storage system to the fuel oil day tank.
 4. Verifying each diesel generator starts from standby conditions and achieves steady state voltage ≥ 3828 and ≤ 4580 volts and frequency of 60 ± 1.2 Hz.
 5. Verifying the diesel generator is synchronized, loaded to between 4000 and 4400 kw and operates with this load for at least 60 minutes.
 6. Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.
 7. Verifying the pressure in all diesel generator air start receivers to be greater than or equal to 325 psig.
 8. Verifying the lube oil pressure, temperature and differential pressure across the lube oil filters to be within manufacturer's specifications.
- SR 4.8.1.1.2.b is performed every 31 days in accordance with the SFCP by visually examining a sample of lube oil from the diesel engine to verify absence of water.
 - SR 4.8.1.1.2.c is performed every 31 days in accordance with the SFCP and after each operation of the diesel where the period of operation was greater than or equal to 1 hour by checking for and removing accumulated water from the fuel oil day tank.
 - SR 4.8.1.1.2.d is performed every 92 days in accordance with the SFCP by removing accumulated water from the fuel oil storage tanks.
 - SR 4.8.1.1.2.e is performed every 9 months in accordance with the SFCP by performing a functional test on the emergency load sequencer to verify operability.
 - SR 4.8.1.1.2.f is performed in accordance with the surveillance interval specified in the Diesel Fuel Oil Testing Program and prior to the addition of new fuel oil to the storage tank, samples shall be taken to verify fuel oil quality. Sampling and testing of new and stored fuel oil shall be in accordance with the Diesel Fuel Oil Testing Program contained in Specification 6.8.4.e. TS 6.8.4.e.b is performed 31 days following sampling and addition to storage tanks and TS 6.8.4.e.c is performed every 92 days.
 - SR 4.8.1.1.2.g is performed every 184 days in accordance with the SFCP by verifying each diesel generator starts from standby conditions and achieves ≥ 3950 volts and ≥ 58.8 Hz in ≤ 10 seconds after receipt of the start signal, and subsequently achieves steady state voltage ≥ 3828 and ≤ 4580 volts and frequency of 60 ± 1.2 Hz.

The NRC staff finds that the above identified SRs that are tested on a more frequent basis would help ensure the DGs are available to support their safety function. Therefore, the NRC staff finds that the licensee adequately addressed the GL 91-04 recommendation Item (a).

- (b) Confirm that historical maintenance and surveillance data do not invalidate the conclusion that the effect on safety is small. The LAR states that for each component having a surveillance interval extended, historical surveillance test data and associated maintenance records were reviewed in evaluating the effect on safety. The licensee's review identified no failure associated with SR 4.8.1.1.2 for A.C. Sources.

The NRC staff finds that the licensee adequately addressed the GL 91-04 recommendation Item (b).

- (c) Confirm that the performance of surveillances at the bounding surveillance interval limit provided to accommodate a 24-month fuel cycle would not invalidate any assumption in the plant licensing basis. The LAR states, in part, that the impact of each affected SR change against the assumptions in the HCGS licensing basis were reviewed. The licensee further stated that in some cases, the change to a 24-month fuel cycle may require a change to licensing basis information as described in the UFSAR. However, no changes requiring NRC review and approval were identified by the licensee.

The NRC staff finds that the licensee adequately addressed the GL 91-04 recommendation Item (c) by reviewing HCGS licensing basis and determining that the result has no impact on any assumption in the plant licensing basis.

In conclusion, the NRC staff finds that the proposed increased interval for SR 4.8.1.1.2 for A.C. Sources acceptable because the effect on safety would be small and proposed change would not invalidate any assumption in the plant licensing basis.

3.1.2.2.7 TS 6.16 Control Room Envelope Habitability Program

The LAR requests a revision to TS 6.16 that increases the testing interval from once every 36 to 48 months, on a STAGGERED TEST BASIS, for a maximum interval of 60 months, including the 25 percent extension afforded by TS SR 4.0.2. The proposed change increases the trending and assessment interval from every 36 to 48 months, for a maximum interval of 60 months, including the 25 percent extension afforded by TS SR 4.0.2.

The licensee proposes changing Item d of TS 6.16 from:

Measurement, at designated locations, of the CRE [control room envelope] pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of operation by one train of the Control Room Emergency Filtration System, operating at the flow rate required by Surveillance Requirement 4.7.2.1.c.1, at a Frequency of 36 months on a STAGGERED TEST BASIS. The results shall be trended and used as part of the 36 month assessment of the CRE boundary.

to:

Measurement, at designated locations, of the CRE pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of

operation by one train of the Control Room Emergency Filtration System, operating at the flow rate required by Surveillance Requirement 4.7.2.1.c.1, at a Frequency of 48 months on a STAGGERED TEST BASIS. The results shall be trended and used as part of the 48 month assessment of the CRE boundary.

As part of the licensee's review of the surveillance history, no failures of the TS functions were identified that would have been solely detected by the periodic performance of these tests. The licensee states the impact, if any, on system availability is minimal from the proposed test interval change from 36 to 48 months. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed change and the supporting document and determined that the proposed change for TS 6.16 is consistent with the intent of GL 91-04. The NRC staff finds the proposed interval extensions for the above SR acceptable because 1) the effect on safety would be small, 2) historical data does not contradict this conclusion, and 3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed changes.

3.2 Calibration Changes

3.2.1 GL 91-04 Regulatory Guidance and Licensee Evaluation

GL 91-04 identifies seven steps to evaluate calibration changes. The licensee provided the following general evaluations for those seven steps.

- Step 1: Confirm that instrument drift as determined by as-found and as-left calibration data from surveillance and maintenance records has not, except on rare occasions, exceeded acceptable limits for a calibration interval.

Licensee Evaluation of Step 1: The licensee states that the effect of the proposed calibration SR interval changes on the associated TS instrumentation was evaluated by performing a review of the SR test history for the affected instrumentation including where appropriate, an instrument drift study. In performing the historical evaluation, the recorded channel calibration data for associated instruments for at least five operating cycles were retrieved for the 18-month SR extensions. For the 36-month extensions, two operating cycles were retrieved. By obtaining this past recorded calibration data, an acceptable basis for drawing conclusions about the expectation of satisfactory performance can be made.

The Surveillance Failure Analysis identified no SR failures that would call into question the acceptability of the proposed extension of surveillance intervals. Furthermore, the drift evaluations for the calibration SRs do not result in any changes to TS Allowable Values (AV).

- Step 2: Confirm that the values of drift for each instrument type (make, model, and range) and application have been determined with a high probability and a high degree of confidence. Provide a summary of the methodology and assumptions used to determine the rate of instrument drift with time based upon historical plant calibration data.

Licensee Evaluation of Step 2: The licensee provided a listing of the instrument make, model, and range affected by this submittal in Attachment 4 of the LAR. The effect of longer calibration intervals on the TS instrumentation was evaluated by performing an instrument drift study. By obtaining past recorded calibration data, analyses were performed to determine a statistically valid representation of instrument drift.

The methodology used to perform the drift analysis is consistent with the methodology utilized by other utilities requesting transition to a 24-MFC. The methodology is also based on TR-103335 and is summarized in Attachment 5 of the LAR.

- Step 3: Confirm that the magnitude of instrument drift has been determined with a high probability and a high degree of confidence for a bounding calibration interval of 30 month for each instrument type (make, model number, and range) and application that performs a safety function. Provide a list of the channels by TS section that identifies these instrument applications.

Licensee Evaluation of Step 3: The licensee states that in accordance with the methodology described in Attachment 5 of the LAR, the magnitude of instrument drift has been determined with a high probability and a high degree of confidence (typically 95/95) for a bounding calibration interval of 30 months for the 18-month extensions (and 60-months for the 36-month extensions) for each instrument make, model, and range. For instruments not in service long enough to establish a projected drift value, or where an insufficient number of calibrations have been performed to utilize the statistical methods (i.e., fewer than 30 calibrations for any given group of instruments), the proposed allowance to apply 1.25 grace to SRs with frequency of 24 months is based on justification obtained from analysis using the method presented in Attachment 5 of the LAR. The list of affected channels by TS section, including instrument make, model, and range, is provided in Attachment 4 of the LAR.

- Step 4: Confirm that a comparison of the projected instrument drift errors has been made with the values of drift used in the setpoint analysis. If this results in revised setpoints to accommodate larger drift errors, provide proposed TS changes to update trip setpoints. If the drift errors result in revised safety analysis to support existing setpoints, provide a summary of updated analysis conclusions to confirm that safety limits and safety analysis assumptions are not exceeded.

Licensee Evaluation of Step 4: The licensee states that the projected 30-month (and 60-month) drift values were compared to the design allowances as calculated in the associated instrument setpoint analyses. Required changes in drift values were incorporated into the setpoint calculations, and the analysis of the setpoint, Allowable Value, and/or analytical limit was reviewed. No changes to any TS setpoints or AVs were required. No safety analysis revisions were required to support the existing TS setpoints.

- Step 5: Confirm that the projected instrument errors caused by drift are acceptable for control of plant parameters to effect a safe shutdown with the associated information.

Licensee Evaluation of Step 5: The licensee states that Attachment 3 of the amendment request discusses the evaluation of impact of drift on instrument setpoint and uncertainty calculations associated with increasing the calibration interval from 18 to 24 months (and 36 to 48 months). This evaluation includes instrumentation used for safe shutdown. The revised setpoint and uncertainty calculations change calibration information if needed to

accommodate 24-month and 48-month calibration intervals. The changes in calibration information provide assurance that the instrumentation will perform with the required accuracy to effect a safe shutdown. The calibration information is implemented through plant calibration procedures.

- Step 6: Confirm that all conditions and assumptions of the setpoint and safety analyses have been checked and are appropriately reflected in the acceptance criteria of plant SR procedures for channel checks, channel functional tests, and channel calibrations.

Licensee Evaluation of Step 6: The licensee states that as discussed in the Evaluation of Step #5, the revised setpoint and uncertainty calculations result in changes to calibration information which are implemented through plant calibration procedures. The affected calibration surveillance procedures will be revised as part of implementation, prior to the first 24-month (or 48-month) cycle of operation. Existing plant processes ensure that the conditions and assumptions of the setpoint and safety analyses have been checked and are appropriately reflected in the acceptance criteria of plant surveillance procedures for channel checks, channel functional tests and channel calibrations.

- Step 7: Provide a summary description of the program for monitoring and assessing the effects of increased calibration surveillance intervals on instrument drift and its effect on safety.

Licensee Evaluation of Step 7: The licensee states that instruments with TS calibration SR intervals extended to 24 months (and 48 months) will be monitored and trended in accordance with station procedures including recording of as-found and as-left calibration data.

As required by plant procedures, out of tolerance conditions are entered into the corrective action program. This approach will identify occurrences of instruments found outside of their Allowable Value and instruments whose performance is not as assumed in the drift or setpoint analysis. When the as-found conditions are outside the Allowable Value, an evaluation will be performed in accordance with the corrective action program to evaluate the effect, if any, on plant safety.

The staff finds the explanation of the seven steps above acceptable per the guidance of GL 91-04. The justification for each SR is explained below.

3.2.2 Calibration SR Interval Changes Evaluation

In Section 2.2 of the LAR Attachment 3, the licensee provided the evaluation of the proposed calibration changes. The licensee states that the projected drift values for many of the instruments analyzed from the historical as-found/as-left evaluation shows sufficient margin between the current plant setpoint and the Allowable Value to compensate for the drift, therefore no revisions to any TS setpoints were required and the safety limits and safety analysis assumptions remain bounding.

The NRC staff reviewed the evaluations related to all calibration changes proposed by the licensee. NRC staff finds the changes meet the guidance of GL 91-04 as explained under the following individual items.

3.2.2.1 Calibration Changes for 18-Month Frequency Extensions

3.2.2.1.1 TS 3/4.3.1 Reactor Protection System Instrumentation

The LAR proposes to increase the interval of the following calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.1.1 Each reactor protection system instrumentation channel shall be demonstrated OPERABLE by the performance of the [CHANNEL CALIBRATION] operations for the OPERATIONAL CONDITIONS and at the frequencies shown in Table 4.3.1.1-1. [Functional Units 1.a, 7, and 8.a and b]

GL 91-04 identifies seven steps to evaluate calibration SR changes. In Section 4.1.2, "Calibration Changes" of the LAR, the licensee summarized the HCGS evaluations for those seven steps, as described in Section 3.2.1 of this SE. The licensee also used the methodology of TR-103335 to evaluate the interval of the calibration SR changes.

The following calibration functional units in TS Table 4.3.1.1-1, "Reactor Protection System Instrumentation Surveillance Requirements," are detected by periodic performance of SR 4.3.1.1:

SR Number SR 4.3.1.1	Functional Unit
	Functional Unit 1.a, Intermediate Range Monitors, Neutron Flux – High
	Functional Unit 7, Drywell Pressure - High
	Functional Unit 8.a, Scram Discharge Volume Water Level High, Float Switch
	Functional Unit 8.b, Scram Discharge Volume Water Level High, Level Transmitter/Trip Unit

As stated in Section 2.2.1, "Calibration Changes for 18-Month Frequency Extensions," of Attachment 3 of LAR, the licensee reviewed the surveillance histories of these calibration SRs. Except for SR 4.3.1.1, Function Unit 1.a, for each SR of functional units above, the licensee summarized the evaluation of the effect on safety, and stated:

A review of surveillance test history verified that the instrumentation had no previous failures of the TS function that would have been detected solely by the periodic performance of this SR. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The licensee's evaluation of SR 4.3.1.1 Functional Unit 1.a

Section 2.2.1 of Attachment 3 of LAR, states that the licensee performed a review of the surveillance test history and verified that SR 4.3.1.1 Functional Unit 1.a had one failure that "was a unique failure that is not indicative of a repetitive time-based failure mechanism." The licensee further stated, in part, that:

During performance, the Mean Square Analog (MSA) module was found with evidence of overheating (discoloration). All data obtained was high out of specification. The Intermediate Range Monitor (IRM) had been identified to have had a step change in displayed power level from ~1% to ~6% over a 3 - 4 day period with no changes in plant power. IRM 'B' is inoperative without this card. The physical condition of R8, R12, VR1, and VR2 showed discoloration specific to exact placement on circuit board. R8 appeared to have a crack in the middle of it and solder joints appear to be damaged on resistors in question as well.

The licensee concluded:

No other previous failures of the TS function were identified that would have been detected solely by the periodic performance of this SR. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

Based on the description above, the NRC staff finds that this failure (1) was detected by the periodic performance of this SR; (2) was a unique failure that was not indicative of a repetitive time-based failure mechanism; and (3) the impact of this change on safety, if any, is small. Therefore, the proposed change to increase the interval of the SR 4.3.1.1 Functional Unit 1.a is consistent with the GL 91-04 guidance.

The NRC staff reviewed the proposed interval changes of calibration SR 4.3.1.1, for 18-month frequency extension and noted that it meets the guidance in GL 91-04. The NRC staff finds that the proposed interval extension of this calibration SR is acceptable because (1) the historical data does not contradict this conclusion (no failures that were indicative of a repetitive time-based failure mechanism were reported), (2) the effect on safety, if any, would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.2.2.1.2 TS 3/4.3.2 Isolation Actuation Instrumentation

The LAR proposes to increase the interval of the following calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.2.1 Each isolation actuation instrumentation channel shall be demonstrated OPERABLE by the performance of the [CHANNEL CALIBRATION] operations for the OPERATIONAL CONDITIONS and at the frequencies shown in Table 4.3.2.1-1. [Trip Functions 1.b and c, 2.b, c, and d, 3.b, e, and f, 4.a, b, c, and d, 5.a through i, and 6.a through i]

GL 91-04 identifies seven steps to evaluate calibration SR changes. In Section 4.1.2, "Calibration Changes" of the LAR, the licensee summarized the HCGS evaluations for those seven steps, as described in Section 3.2.1 of this SE. The licensee also used the methodology of TR-103335 to evaluate the interval of the calibration SR changes.

The following calibration trip functions in TS Table 4.3.2.1-1, "Isolation Actuation Instrumentation Surveillance Requirements," are detected by periodic performance of SR 4.3.2.1:

SR Number	Trip Function
SR 4.3.2.1	Trip Function 1.b, Primary Containment Isolation Drywell Pressure - High
	Trip Function 1.c, Primary Containment Reactor Building Exhaust Radiation - High
	Trip Function 2.b, Secondary Containment Isolation Drywell Pressure - High
	Trip Function 2.c, Secondary Containment Isolation Refueling Floor Exhaust Radiation - High
	Trip Function 2.d, Secondary Containment Isolation Building Exhaust Radiation - High
	Trip Function 3.b, Main Steam Line Radiation – High, High
	Trip Function 3.e, Condenser Vacuum - Low
	Trip Function 3.f, Main Steam Line Tunnel Temperature - High
	Trip Function 4.a, RWCU [Reactor Water Cleanup System Isolation] Δ Flow - High
	Trip Function 4.b, RWCU Δ Flow – High, Timer
	Trip Function 4.c, RWCU Area Ventilation Δ Temperature - High
	Trip Function 4.d, RWCU Area Ventilation Δ Temperature - High
	Trip Function 5.a, RCIC Steam Line Delta Pressure (Flow) - High
	Trip Function 5.b, RCIC Steam Line Δ Pressure (Flow) - High, Timer
	Trip Function 5.c, RCIC Steam Line Δ Pressure - Low
	Trip Function 5.d, RCIC Reactor Core Isolation Cooling Isolation, RCIC Turbine Exhaust Diaphragm Pressure - High
	Trip Function 5.e, RCIC Pump Room Temperature - High
	Trip Function 5.f, RCIC Pump Room Ventilation Ducts Δ Temperature - High
	Trip Function 5.g, RCIC Pipe Routing Area Temperature - High
	Trip Function 5.h, RCIC Torus Compartment Temperature - High
	Trip Function 5.i, Drywell Pressure - High
	Trip Function 6.a, HPCI [Pressure Coolant Injection System Isolation] Steam Line Δ Pressure (Flow) - High
	Trip Function 6.b, HPCI Steam Line Δ Pressure (Flow) - High, Timer
	Trip Function 6.c, HPCI Steam Supply Pressure - Low
	Trip Function 6.d, HPCI Turbine Exhaust Diaphragm Pressure - High
	Trip Function 6.e, HPCI Pump Room Temperature - High
	Trip Function 6.f, HPCI Pump Room Ventilation Ducts Δ Temperature - High
	Trip Function 6.g, HPCI Pipe Routing Area Temperature - High
	Trip Function 6.h, HPCI Torus Compartment Temperature - High
	Trip Function 6.i, Drywell Pressure - High

As stated in Section 2.2.1 of Attachment 3 of the LAR, the licensee reviewed the surveillance histories of these calibration SRs. Except for SR 4.3.2.1 of Trip Functions 5.c and 5.d, for each SR of the trip functions above, the licensee summarized the evaluation of the effect on safety, and stated:

A review of the surveillance history verified that this instrumentation had no previous failures of the TS functions. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The licensee's evaluation of SR 4.3.2.1 of Trip Function 5.c

Section 2.2.1 of Attachment 3 of LAR states that the licensee performed a review of the surveillance test history and verified that SR 4.3.2.1 Functional Unit 5.c had two failures that "would not have prevented the performance of the required safety function of the equipment". The licensee stated, in part, that:

A review of the surveillance history identified two failures that would not have prevented the performance of the required safety function of the equipment. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

Based on the description above, the NRC staff finds that these failures (1) were detected by the periodic performance of this SR; (2) would not have prevented the performance of the required safety function of the equipment; and (3) the impact of this change on safety, if any, is small. Therefore, the proposed change to increase the interval of the SR 4.3.2.1 Functional Unit 5.c is consistent with the GL 91-04 guidance.

The licensee's evaluation of SR 4.3.2.1 of Trip Function 5.d

Section 2.2.1 of Attachment 3 of LAR states that the licensee performed a review of the surveillance test history and verified that SR 4.3.2.1 Functional Unit 5.d had one failure that "would not have prevented the performance of the required safety function of the equipment". The licensee further stated, in part, that:

A review of the surveillance history identified one failure that would not have prevented the performance of the required safety function of the equipment. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

Based on the description above, the NRC staff finds that this failure (1) was detected by the periodic performance of this SR; (2) would not have prevented the performance of the required safety function of the equipment; and (3) the impact of this change on safety, if any, is small. Therefore, the proposed change to increase the interval of the SR 4.3.2.1 Functional Unit 5.d is consistent with the GL 91-04 guidance.

The NRC staff reviewed the proposed interval change of calibration SR 4.3.2.1 for the 18-month frequency extension and determined that it meets the guidance in GL 91-04. The NRC staff finds that the proposed interval extension for this calibration SR is acceptable because (1) the historical data does not contradict this conclusion (no failures that would have prevented the performance of the required safety function were reported), (2) the effect on safety, if any, would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.2.2.1.3 TS 3/4.3.3 Emergency Core Cooling System Actuation Instrumentation

The LAR proposes to increase the interval of the following calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.3.1 Each ECCS actuation instrumentation channel shall be demonstrated OPERABLE by the performance of the [CHANNEL CALIBRATION] operations for the OPERATIONAL CONDITIONS and at the frequencies shown in Table 4.3.3.1-1. [Trip Functions 1.b and d, 2.b through d, 3.b, c, and f, and 4.b, d, and e]

GL 91-04 identifies seven steps to evaluate calibration SR changes. In Section 4.1.2, “Calibration Changes” of the LAR, the licensee summarized the HCGS evaluations for those seven steps, as described in Section 3.2.1 of this SE. The licensee also used the methodology of TR-103335 to evaluate the interval of the calibration SR changes.

The following calibration trip functions in TS Table 4.3.3.1-1, “Emergency Core Cooling System Actuation Instrumentation Surveillance Requirements,” are detected by periodic performance of SR 4.3.3.1:

SR Number	Trip Functions
SR 4.3.3.1	Trip Function 1.b, Core Spray System - Drywell Pressure - High
	Trip Function 1.d, Core Spray System - Core Spray Pump Discharge Flow - Low (Bypass)
	Trip Function 2.b, Low Pressure Coolant Injection [LPCI] Mode of Residual Heat Removal System - Drywell Pressure - High
	Trip Function 2.c, Reactor Vessel Pressure - Low (Permissive)
	Trip Function 2.d, LPCI Pump Discharge Flow - Low (Bypass)
	Trip Function 3.b, High Pressure Coolant Injection System - Drywell Pressure - High
	Trip Function 3.c, Condenser Vacuum - Low
	Trip Function 3.f, HPCI Pump Discharge Flow - Low (Bypass)
	Trip Function 4.b, Automatic Depressurization System - Drywell Pressure - High
	Trip Function 4.d, Core Spray Pump Discharge Pressure - High
	Trip Function 4.e, RHR LPCI Mode Pump Discharge Pressure – High

As stated in Section 2.2.1 of Attachment 3 of LAR, the licensee reviewed the surveillance histories of these calibration SRs. Except for SR 4.3.3.1 of Trip Function 2.b, for each SR of the trip functions above, the licensee summarized the evaluation of the effect on safety, and stated:

A review of the surveillance history verified that this instrumentation had no previous failures of the TS functions. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The licensee's evaluation of SR 4.3.3.1 of Trip Function 2.b

Section 2.2.1 of Attachment 3 of the LAR states that the licensee performed a review of the surveillance test history and verified that SR 4.3.3.1 Functional Unit 2.b had two failures that "would not have prevented the performance of the required safety function of the equipment". The licensee further stated, in part, that:

A review of the surveillance history identified two failures that would not have prevented the performance of the required safety function of the equipment. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

Based on the description above, the NRC staff finds that these failures (1) were detected by the periodic performance of this SR; (2) would not have prevented the performance of the required safety function of the equipment; and (3) the impact of this change on safety, if any, is small. Therefore, the proposes to increase the interval of the SR 4.3.3.1 Trip Function 2.b is consistent with the GL 91-04 guidance.

The NRC staff reviewed the proposed interval change of calibration SR 4.3.3.1 for 18-month frequency extension and determined that it meets the guidance in GL 91-04. The NRC staff finds that the proposed interval extension of this calibration SR is acceptable because (1) the historical data does not contradict this conclusion (no failures that would have prevented the performance of the required safety function were reported), (2) the effect on safety, if any, would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.2.2.1.4 TS 3/4.3.5 Reactor Core Isolation Cooling System Actuation Instrumentation

The LAR proposes to increase the interval of the following calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.5.1 Each RCIC system actuation instrumentation channel shall be demonstrated OPERABLE by the performance of the [CHANNEL CALIBRATION] operations at the frequencies shown in Table 4.3.5.1-1. [Functional Unit c]

GL 91-04 identifies seven steps (i.e., actions) to evaluate calibration SR changes. In Section 4.1.2, "Calibration Changes" of the LAR, the licensee summarized the HCGS

evaluations for those seven steps, as described in Section 3.2.1 of this SE. The licensee also used the methodology of TR-103335 to evaluate the interval of the calibration SR changes.

The following calibration Function Unit c in TS Table 4.3.5.1-1, "Reactor Core Isolation Cooling System Actuation Instrumentation Surveillance Requirements," is detected by periodic performance of SR 4.3.5.1:

SR Number	Functional Unit
SR 4.3.5.1	Functional Unit c, Condensate Storage Tank Level - Low

As stated in Section 2.2.1 of Attachment 3 of LAR, the licensee reviewed the surveillance history of the calibration SR of Functional Unit c above. For this SR, the licensee summarized the evaluation of the effect on safety, and stated:

A review of the surveillance history verified that this instrumentation had no previous failures of the TS functions. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed interval change of calibration SR 4.3.5.1 for 18-month frequency extension and noted that it meets the guidance in GL 91-04. The NRC staff finds that the proposed interval extension for this calibration SR is acceptable because (1) the historical data does not contradict this conclusion (no failures of the TS function that would have been detected solely by the periodic performance of this SR were reported), (2) the effect on safety, if any would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.2.2.1.5 TS 3/4.3.6 Control Rod Block Instrumentation

The LAR proposes to increase the interval of the following calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.6 Each of the above required control rod block trip systems and instrumentation channels shall be demonstrated OPERABLE by the performance of the [CHANNEL CALIBRATION] operations for the OPERATIONAL CONDITIONS and at the frequencies shown in Table 4.3.6-1. The provisions of Specification 4.0.4 are not applicable for entry into OPERATIONAL CONDITION 2 from OPERATIONAL CONDITION 1 for the Source Range Monitors or the Intermediate Range Monitors. [Trip Unit 1.a and c, 3.b and d, 4.b and d, and 5.a]

GL 91-04 identifies seven steps to evaluate calibration SR changes. In Section 4.1.2, "Calibration Changes" of the LAR, the licensee summarized the HCGS evaluations for those seven steps, as described in Section 3.2.1 of this SE. The licensee also used the methodology of TR-103335 to evaluate the interval of the calibration SR changes.

The following calibration trip functions in TS Table 4.3.6-1, "Control Rod Block Instrumentation Surveillance Requirements," are detected by periodic performance of SR 4.3.6:

SR Number	Trip Function
SR 4.3.6	Trip Function 1.a, Rod Block Monitor - Upscale
	Trip Function 1.c, Rod Block Monitor - Downscale
	Trip Function 3.b, Source Range Monitor - Upscale
	Trip Function 3.d, Source Range Monitor - Downscale
	Trip Function 4.b, Intermediately Range Monitor - Upscale
	Trip Function 4.d, Intermediately Range Monitor - Downscale
	Trip Function 5.a, Scram Discharge Volume - Water Level High (Float Switch)

As stated in Section 2.2.1 of Attachment 3 of the LAR, the licensee reviewed the surveillance history of these calibration SRs. Except Trip Functions 4.b and 4.d, for each of the SR of the trip functions above, the licensee summarized the evaluation of the effect on safety, and stated:

A review of the surveillance history verified that this instrumentation had no previous failures of the TS functions. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The licensee's evaluation of SR 4.3.6 of Trip Function 4.b

Section 2.2.1 of Attachment 3 of the LAR states that the licensee performed a review of the surveillance history and verified that SR 4.3.6 of Trip Function 4.b had one failure that "was a unique failure that is not indicative of a repetitive time-based failure mechanism." The licensee further stated, in part, that:

During performance, the MSA module was found with evidence of overheating (discoloration). All data obtained was high out of specification. The IRM had been identified to have had a step change in displayed power level from ~1% to ~6% over a 3 - 4 day period with no changes in plant power. IRM 'B' is inoperative without this card. The physical condition of R8, R12, VR1, and VR2 showed discoloration specific to exact placement on circuit board. R8 appeared to have a crack in the middle of it and solder joints appear to be damaged on resistors in question as well.

The licensee concluded:

No other previous failures of the TS function were identified that would have been detected solely by the periodic performance of this SR. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

Based on the description above, the NRC staff finds that this failure (1) was detected by the periodic performance of this SR; (2) was a unique failure that is not indicative of a repetitive time-based failure mechanism; and (3) the impact of this change on safety, if any, is small. Therefore, the proposed change to increase the interval of the SR 4.3.6 Trip Function 4.b is consistent with the GL 91-04 guidance.

The licensee's evaluation of SR 4.3.6 of Trip Function 4.d

Section 2.2.1 of Attachment 3 of the LAR states that the licensee performed a review of the surveillance history and verified that SR 4.3.6 of Trip Function 4.d had one failure that "was a unique failure that is not indicative of a repetitive time-based failure mechanism." The licensee further stated, in part, that:

During performance, the MSA module was found with evidence of overheating (discoloration). All data obtained was high out of specification. The IRM had been identified to have had a step change in displayed power level from ~1% to ~6% over a 3 - 4 day period with no changes in plant power. IRM 'B' is inoperative without this card. The physical condition of R8, R12, VR1, and VR2 showed discoloration specific to exact placement on circuit board. R8 appeared to have a crack in the middle of it and solder joints appear to be damaged on resistors in question as well.

The licensee concluded:

No other previous failures of the TS function were identified that would have been detected solely by the periodic performance of this SR. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

Based on the description above, the NRC staff finds that this failure (1) was detected by the periodic performance of this SR; (2) was a unique failure that is not indicative of a repetitive time-based failure mechanism; and (3) the impact of this change on safety, if any, is small. Therefore, the proposed change to increase the interval of the SR 4.3.6 Trip Function 4.d is consistent with the GL 91-04 guidance.

The NRC staff reviewed the proposed interval change of calibration SR 4.3.6 for 18-month frequency extension and noted that it meets the guidance in GL 91-04. The NRC staff finds that the proposed interval extension for this calibration SR is acceptable because (1) the historical data does not contradict this conclusion (no failures that were indicative of a repetitive time-based failure mechanism were reported), (2) the effect on safety, if any, would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.2.2.1.6 TS 3/4.3.7 Monitoring Instrumentation

3.2.2.1.6.1 TS 3/4.3.7 Monitoring Instrumentation – SR 4.3.7.1

The LAR proposes to increase the interval of the following calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.7.1 Each of the above required radiation monitoring instrumentation channels shall be demonstrated OPERABLE by the performance of the [CHANNEL CALIBRATION] operations for the conditions and at the frequencies in accordance with the Surveillance Frequency Control Program. [Instrumentation 1, 2.a.1, 2.a.2, 2.b, 3, 4, 5]

GL 91-04 identifies seven steps to evaluate calibration SR changes. In Section 4.1.2, “Calibration Changes” of the LAR, the licensee summarized the HCGS evaluations for those seven steps, as described in Section 3.2.1 of this SE. The licensee also used the methodology of TR-103335 to evaluate the interval of the calibration SR changes.

The following calibration instrumentations in TS Table 4.3.7.1-1, “Radiation Monitoring Instrumentation Surveillance Requirements,” are detected by periodic performance of SR 4.3.7.1:

SR Number	Instrumentation
SR 4.3.7.1	Instrumentation 1, Control Room Ventilation Radiation Monitor
	Instrumentation 2.a.1, Area Monitors - Criticality Monitors - New Fuel Storage Vault
	Instrumentation 2.a.2, Area Monitors - Criticality Monitors - Spent Fuel Storage Pool
	Instrumentation 2.b, Area Monitors - Control Room Direct Radiation Monitor
	Instrumentation 3, Reactor Auxiliaries Cooling Radiation Monitor
	Instrumentation 4, Safety Auxiliaries Cooling Radiation Monitor
	Instrumentation 5, Off gas Pre-treatment Radiation Monitor

As stated in Section 2.2.1 of Attachment 3 of the LAR, the licensee reviewed the surveillance history of these calibration SRs. Except for Instrumentation 3, for each of the SRs of the instrumentations above, the licensee summarized the evaluation of the effect on safety, and stated:

A review of the surveillance history verified that this instrumentation had no previous failures of the TS functions. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The licensee's evaluation SR 4.3.7.1 Instrumentation 3

Section 2.2.1 of Attachment 3 of the LAR states that the licensee performed a review of the surveillance test history and verified that SR 4.3.7.1 Instrumentation 3 had five failures that "would not have prevented the performance of the required safety function of the equipment". The licensee further stated, in part, that:

A review of the surveillance history identified five failures that would not have prevented the performance of the required safety function of the equipment. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

Based on the description above, the NRC staff finds that these failures (1) were detected by the periodic performance of this SR; (2) would not have prevented the performance of the required safety function of the equipment; and (3) the impact of this change on safety, if any, is small. Therefore, the proposed change to increase the interval of the SR 4.3.7.1 Instrumentation 3 is consistent with the GL 91-04 guidance.

The NRC staff reviewed the proposed interval change of calibration SR 4.3.7.1 for 18-month frequency extension and noted that it meets the guidance in GL 91-04. The NRC staff finds that the proposed interval extensions of this calibration SR is acceptable because (1) the historical data does not contradict this conclusion (no failures that would have prevented the performance of the required safety function of the equipment were reported), (2) the effect on safety, if any, would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.2.2.1.6.2 TS 3/4.3.7 Monitoring Instrumentation – SR 4.3.7.4.3

The LAR proposes to increase the interval of the following calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.7.4.3 Each required instrumentation channel shall be demonstrated OPERABLE by performance of a CHANNEL CALIBRATION at the frequency specified in the Surveillance Frequency Control Program. [Instruments 4 through 13]

GL 91-04 identifies seven steps to evaluate calibration SR changes. In Section 4.1.2, "Calibration Changes" of the LAR, the licensee summarized the HCGS evaluations for those seven steps, as described in Section 3.2.1 of this SE. The licensee also used the methodology of TR-103335 to evaluate the interval of the calibration SR changes.

The following instruments, in accordance with SFCP, are detected by periodic performance of SR 4.3.7.4.3:

SR Number	Instrument
SR 4.3.7.4.3	Instrument 4, Suppression Chamber Water Level

SR Number	Instrument
	Instrument 5, Suppression Chamber Water Temperature
	Instrument 6, RHR System Flow
	Instrument 7, Safety Auxiliaries Cooling System Flow
	Instrument 8, Safety Auxiliaries Cooling System Temperature
	Instrument 9, RCIC System Flow
	Instrument 10, RCIC Turbine Speed
	Instrument 11, RCIC Turbine Bearing Oil Pressure Low Indication
	Instrument 12, RCIC High Pressure/Low Pressure Turbine Bearing Temperature High Indication
	Instrument 13, Condensate Storage Tank Level Low-Low Indication

As stated in Section 2.2.1 of Attachment 3 of the LAR, the licensee reviewed the surveillance history of these calibration SRs. Except for Instrument 5, for each of the SR of the instruments above, the licensee summarized the evaluation of the effect on safety, and stated:

A review of the surveillance history verified that this instrumentation had no previous failures of the TS functions. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The licensee's evaluation of SR 4.3.7.4.3 Instrument 5:

Section 2.2.1 of Attachment 3 of the LAR states that the licensee performed a review of the surveillance test history and verified that SR 4.3.7.4.3 Instrument 5 had one failure that "was identified as a unique failure which is not indicative of a repetitive time-based failure." The licensee further stated, in part, that:

During the performance of HC.IC-CC.SB-0013, a suppression pool water temperature, the Mux Board reference voltage RM-80 ADC calibration could not be completed. The board was replaced with a new one and the channel calibration was completed satisfactorily in this performance.

The licensee concluded:

No other previous failures of the TS function were identified that would have been detected solely by the periodic performance of this SR. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

Based on the description above, the NRC staff finds that this failure (1) was detected by the periodic performance of this SR; (2) was identified as a unique failure which is not indicative of a repetitive time-based failure; and (3) the impact of this change on safety, if any, is small. Therefore, the proposed change to increase the interval of the SR 4.3.7.4.3 Instrument 5 is consistent with the GL 91-04 guidance.

The NRC staff reviewed the proposed interval change of the calibration SR 4.3.7.4.3 for 18-month frequency extension and noted that it meets the guidance in GL 91-04. The NRC staff finds that the proposed interval extensions for this calibration SR is acceptable because (1) the historical data does not contradict this conclusion (no failures that were indicative of a repetitive time-based failure mechanism were reported), (2) the effect on safety, if any, would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.2.2.1.6.3 TS 3/4.3.7 Monitoring Instrumentation – SR 4.3.7.5

The LAR proposes to increase the interval of the following calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.7.5 Each of the above required accident monitoring instrumentation channels shall be demonstrated OPERABLE by performance of the [CHANNEL CALIBRATION] operations at the frequencies shown in Table 4.3.7.5-1. [Instruments 3, 4, 7, 11, 12, and 13]

GL 91-04 identifies seven steps to evaluate calibration SR changes. In Section 4.1.2, “Calibration Changes” of the LAR, the licensee summarized the HCGS evaluations for those seven steps, as described in Section 3.2.1 of this SE. The licensee also used the methodology of TR-103335 to evaluate the interval of the calibration SR changes.

The following n instruments in TS Table 4.3.7.5-1, “Accident Monitoring Instrumentation Surveillance Requirements,” are calibrated by periodic performance of SR 4.3.7.5:

SR Number	Instrument
SR 4.3.7.5	Instrument 3, Suppression Chamber Water Level
	Instrument 4, Suppression Chamber Water Temperature
	Instrument 7, Drywell Air Temperature
	Instrument 11, North Plant Vent Radiation Monitor
	Instrument 12, South Plant Vent Radiation Monitor
	Instrument 13, FRVS Vent Radiation Monitor

As stated in Section 2.2.1 of Attachment 3 of the LAR, the licensee reviewed the surveillance histories of these calibration SRs. Except for SR 4.3.7.5 Instrument 11, for each SR of the instruments listed above, the licensee summarized the evaluation of the effect on safety, and stated:

A review of the surveillance history verified that this instrumentation had no previous failures of the TS functions. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The licensee's evaluation of SR 4.3.7.5 Instrument 11:

Section 2.2.1 of Attachment 3 of LAR states that the licensee performed a review of the surveillance history and verified that SR 4.3.7.5 Instrument 11 had one failure, that "was a unique failure that is not indicative of a repetitive time-based failure mechanism." The licensee further stated, in part, that:

The input source Cd-109 has a result of 1.35E+2. The desired range is 1.56E+2 to 2.32E+2. Input source Ba-133 result is 2.06E+3, desired range is 2.46E+3 to 3.68E+3. These two points are out of range and are SR acceptance steps. Replaced bad parts. During the second and successful performance of the power supply replacement, check source value of 2.75E+2 was less than check source limit of 2.88E+2.

The licensee concluded:

No other previous failures of the TS function were identified that would have been detected solely by the periodic performance of this SR. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

Based on the description above, the NRC staff finds that this failure (1) was detected by the periodic performance of this SR; (2) was a unique failure that is not indicative of a repetitive time-based failure mechanism; and (3) the impact of this change on safety, if any, is small. Therefore, the proposed change to increase the interval of the SR 4.3.7.5 Instrument 11 is consistent with the GL 91-04 guidance.

The NRC staff reviewed the proposed interval change of calibration SR 4.3.7.5 for 18-month frequency extension and noted that it meets the guidance in GL 91-04. The NRC staff finds that the proposed interval extension for this calibration SR is acceptable because (1) the historical data does not contradict this conclusion (no failures that were indicative of a repetitive time-based failure mechanism were reported), (2) the effect on safety, if any, would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.2.2.1.6.4 TS 3/4.3.7 Monitoring Instrumentation – SR 4.3.7.6

The LAR proposes to increase the interval of the following calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.7.6 Each of the above required source range monitor channels shall be demonstrated OPERABLE by:
 - a. Performance of a:
 2. CHANNEL CALIBRATION in accordance with the Surveillance Frequency Control Program.

GL 91-04 identifies seven steps to evaluate calibration SR changes. In Section 4.1.2, "Calibration Changes" of the LAR, the licensee summarized the HCGS evaluations for those seven steps, as described in Section 3.2.1 of this SE. The licensee also used the methodology of TR-103335 to evaluate the interval of the calibration SR changes.

SR 4.3.7.6.a.2 CHANNEL CALIBRATION, in accordance with SFCP, is addressed by periodic performance of SR 4.3.7.6. As stated in Section 2.2.1 of Attachment 3 of the LAR, the licensee reviewed the surveillance history of the calibration SR above. For this SR, the licensee summarized the evaluation of the effect on safety, and stated:

A review of the surveillance history verified that this instrumentation had no previous failures of the TS functions. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed interval change of calibration SR 4.3.7.6 for 18-Month Frequency Extension and noted that it meets the guidance in GL 91-04. The NRC staff finds that the proposed interval extension for this calibration SR is acceptable because (1) historical data does not contradict this conclusion (no failures of the TS function that would have been detected solely by the periodic performance of this SR were reported), (2) the effect on safety, if any, would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.2.2.1.7 TS 3/4.3.10 Mechanical Vacuum Pump Trip Instrumentation

The LAR proposes to increase the interval of the following calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.10 Each channel of the Main Steam Line Radiation - High, High function for the mechanical vacuum pump trip shall be demonstrated OPERABLE by:
 - c. Performance of a CHANNEL CALIBRATION in accordance with the Surveillance Frequency Control Program.

GL 91-04 identifies seven steps to evaluate calibration SR changes. In Section 4.1.2, "Calibration Changes" of the LAR, the licensee summarized the HCGS evaluations for those seven steps, as described in Section 3.2.1 of this SE. The licensee also used the methodology of TR-103335 to evaluate the interval of the calibration SR changes.

The SR 4.3.10.c CHANNEL CALIBRATION, in accordance with the SFCP, is addressed by periodic performance of SR 4.3.10.

As stated in Section 2.2.1 of Attachment 3 of the LAR, the licensee reviewed the surveillance history of the calibration SR above. For this SR, the licensee summarized the evaluation of the effect on safety, and stated:

A review of the surveillance history verified that this instrumentation had no previous failures of the TS functions. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency.

Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed interval change of calibration SR 4.3.10 for 18-month frequency extension and noted that it meets the guidance in GL 91-04. The NRC staff finds that the proposed interval extension for this calibration SR is acceptable because (1) the historical data does not contradict this conclusion (no failures of the TS function that would have been detected solely by the periodic performance of this SR were reported), (2) the effect on safety, if any, would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.2.2.1.8 TS 3/4.4.3 Reactor Coolant Leakage System

The LAR proposes to increase the interval of the following calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.4.3.1 The reactor coolant system leakage detection systems shall be demonstrated OPERABLE by:
 - a. Drywell atmosphere gaseous radioactivity monitoring system-performance of a [CHANNEL CALIBRATION] in accordance with the Surveillance Frequency Control Program.
- SR 4.4.3.2.3 The high/low pressure interface valve leakage pressure monitors shall be demonstrated OPERABLE with alarm setpoints per Table 3.4.3.22 by performance of a [CHANNEL CALIBRATION] at the frequencies specified in the Surveillance Frequency Control Program.

In the LAR, the licensee stated that the technical justification for the proposed changes addresses the information requested by GL 91-04. For calibration changes, GL 91-04 identifies seven steps for evaluation as described in Section 3.2.1 of this SE to support the change in surveillance intervals to accommodate a 24-MFC.

As part of the licensee's review of the surveillance history for SRs 4.4.3.1 and 4.4.3.2.3, no failures of the TS functions that would have been detected solely by the periodic performance of these SRs were identified. As such, the licensee determined that the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency.

The NRC staff finds the proposed interval extension from 18 months to 24 months for SRs 4.4.3.1 and 4.4.3.2.3 is acceptable as its effect on safety is very small and it meets the guidance of GL 91-04.

3.2.2.1.9 TS 3/4.5.1 ECCS – Operating

The LAR proposes to increase the interval of the following calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.5.1 The emergency core cooling systems shall be demonstrated OPERABLE by:
 - c. In accordance with the Surveillance Frequency Control Program:

3. Performing a CHANNEL CALIBRATION of the CSS, and LPCI system discharge line "keep filled" alarm instrumentation.
4. Performing a CHANNEL CALIBRATION of the CSS header ΔP instrumentation and verifying the setpoint to be \leq the allowable value of 4.4 psid.
5. Performing a CHANNEL CALIBRATION of the LPCI header ΔP instrumentation and verifying the setpoint to be \leq the allowable value of 1.0 psid.

In the LAR, the licensee stated that the technical justification for the proposed changes addresses the information requested by GL 91-04. For calibration changes, GL 91-04 identifies seven steps for evaluation as described in Section 3.2.1 of this SE to support the change in surveillance intervals to accommodate a 24-MFC.

As part of the licensee's review of the surveillance history for SRs 4.5.1.c.3, 4.5.1.c.4, and 4.5.1.c.5, no failures of the TS functions that would have been detected solely by the periodic performance of these SRs were identified. As such, the licensee determined that the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency.

The NRC staff finds the proposed interval extension from 18 months to 24 months for SRs 4.5.1.c.3, 4.5.1.c.4, and 4.5.1.c.5 is acceptable as its effect on safety is very small and it meets the guidance of GL 91-04.

3.2.2.1.10 TS 3/4.8.4 Electrical Equipment Protective Devices

The LAR proposes to increase the interval of the following calibration SRs from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.8.4.4 The above specified RPS electric power monitoring channels shall be determined OPERABLE:
 - b. In accordance with the Surveillance Frequency Control Program by demonstrating the OPERABILITY of over-voltage, under-voltage, and underfrequency protective instrumentation by performance of a CHANNEL CALIBRATION including simulated automatic actuation of the protective relays, tripping logic and output circuit breakers and verifying the following setpoints.
 1. Over-voltage \leq 132 VAC, (Bus A), 132 VAC (Bus B)
 2. Under-voltage \geq 108 VAC, (Bus A), 108 VAC (Bus B)
 3. Under-frequency \geq 57 Hz. (Bus A and Bus B)
- SR 4.8.4.6 The above specified power range NMS electric power monitoring channels shall be determined OPERABLE:
 - b. In accordance with the Surveillance Frequency Control Program by demonstrating the OPERABILITY of over-voltage, under-voltage, and underfrequency protective instrumentation by performance of a CHANNEL CALIBRATION including simulated automatic actuation of the protective relays, tripping logic and output circuit breakers and verifying the following setpoints.
 1. Over-voltage \leq 132 VAC (BUS A), 132 VAC (BUS B)

2. Under-voltage ≥ 108 VAC (BUS A), 108 VAC (BUS B)
3. Under-frequency ≥ 57 Hz. -0, +2%

For calibration SRs, GL 91-04 recommends addressing instrument drift when proposing an increase in the surveillance interval for calibrating instruments that perform safety functions including providing the capability for safe shutdown.

In the LAR, the licensee stated that GL 91-04 identifies seven steps for the evaluation of instrumentation calibration changes. These seven steps are discussed in the LAR Enclosure (Attachment 5), which includes a summarized description of the methodology used by PSEG for each step. As discussed in Section 3.2 of this SE, the NRC staff finds the licensee's evaluation of the GL 91-04 seven steps is acceptable. The licensee further stated that the methodology used to perform the drift analysis is based on TR-103335.

The LAR further stated, in part, that the licensee's review of surveillance test history verified that the equipment had no previous failures of the TS function that would have been detected solely by the periodic performance of SR 4.8.4.4.b and SR 4.8.4.6.b. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

In the letter to EPRI dated December 1, 1997 (ML12255A333), the NRC staff found that the TR-103335 methodology is an acceptable method for evaluating the extension of calibration intervals to 24 months, with a maximum of 30 months, to support 24-MFC, in accordance with GL-91-04.

Based on the information the licensee provided and the discussion above, the NRC staff finds that the proposed interval change for SR 4.8.4.4.b and SR 4.8.4.6.b is consistent with guidance in GL 91-04 and acceptable.

3.2.2.2 Calibration Changes for 36-Month Frequency Extensions

3.2.2.2.1 TS 3/4.3.3 Emergency Core Cooling System Actuation Instrumentation

The LAR proposes to increase the interval of the following calibration SRs from once every 36 months to once every 48 months, for a maximum interval of 60 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.3.1 Each ECCS actuation instrumentation channel shall be demonstrated OPERABLE by the performance of the [CHANNEL CALIBRATION] operations for the OPERATIONAL CONDITIONS and at the frequencies shown in Table 4.3.3.1-1. [Trip Functions 5.a]

GL 91-04 identifies seven steps to evaluate calibration SR changes. In Section 4.1.2, "Calibration Changes" of the LAR, the licensee summarized the HCGS evaluations for those seven steps, as described in Section 3.2.1 of this SE. The licensee also used the methodology of TR-103335 to evaluate the interval of the calibration SR changes.

The following calibration Trip Function 5.a in TS Table 4.3.3.1-1, "Emergency Core Cooling System Actuation Instrumentation Surveillance Requirements," is detected by periodic performance of SR 4.3.3.1:

SR Number	Trip Function
SR 4.3.3.1	Trip Function 5.a, 4.16 kv Emergency Bus Under-voltage (Loss of Voltage)

As stated in Section 2.2.2, "Calibration Changes for 36-Month Frequency Extensions", of Attachment 3 of LAR, the licensee reviewed the surveillance history of the calibration SR of Trip Function 5.a above. For this SR, the licensee summarized the evaluation of the effect on safety, and stated:

A review of the surveillance history verified that this instrumentation had no previous failures of the TS functions. As such, the impact, if any, on system availability is minimal from the proposed change to a 48-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed interval change of calibration SR 4.3.3.1 for 36-month frequency extension and noted that it meets the guidance in GL 91-04. The NRC staff finds that the proposed interval extension of this calibration SR is acceptable because (1) the historical data does not contradict this conclusion (no failures of the TS function that would have been detected solely by the periodic performance of this SR were reported), (2) the effect on safety, if any, would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.2.2.2.2 TS 3/4.3.7 Monitoring Instrumentation

3.2.2.2.2.1 TS 3/4.3.7 Monitoring Instrumentation – SR 4.3.7.4.3

The LAR proposes to increase the interval of the following calibration SRs from once every 36 months to once every 48 months, for a maximum interval of 60 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.7.4.3 Each required instrumentation channel shall be demonstrated OPERABLE by performance of a CHANNEL CALIBRATION at the frequency specified in the Surveillance Frequency Control Program. [Instrument 2: Reactor Vessel Pressure]

GL 91-04 identifies seven steps to evaluate calibration SR changes. In Section 4.1.2, "Calibration Changes" of the LAR, the licensee summarized the HCGS evaluations for those seven steps, as described in Section 3.2.1 of this SE. The licensee also used the methodology of TR-103335 to evaluate the interval of the calibration SR changes.

The Instrument 2 CHANNEL CALIBRATION, in accordance with the SFCP, is detected by periodic performance of SR 4.3.7.4.3.

As stated in Section 2.2.2 of Attachment 3 of the LAR, the licensee reviewed the surveillance history of the calibration SR of Instrument 2 above. For this SR, the licensee summarized the evaluation of the effect on safety, and stated:

A review of the surveillance history verified that this instrumentation had no previous failures of the TS functions. As such, the impact, if any, on system availability is minimal from the proposed change to a 48-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed interval change of calibration SR 4.3.7.4.3 for 36-month frequency extension and noted that it meets the guidance in GL 91-04. The NRC staff finds that the proposed interval extension of this calibration SR is acceptable because (1) the historical data does not contradict this conclusion (no failures of the TS function that would have been detected solely by the periodic performance of this SR were reported), (2) the effect on safety, if any, would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.2.2.2.2.2 TS 3/4.3.7 Monitoring Instrumentation – SR 4.3.7.5

The LAR proposes to increase the interval of the following calibration SRs from once every 36 months to once every 48 months, for a maximum interval of 60 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.7.5 Each of the above required accident monitoring instrumentation channels shall be demonstrated OPERABLE by performance of the [CHANNEL CALIBRATION] operations at the frequencies shown in Table 4.3.7.5-1. [Instrument 1]

Instrument 1 in TS Table 4.3.7.5-1, "Accident Monitoring Instrumentation Surveillance Requirements," is calibrated by periodic performance of SR 4.3.7.5:

SR Number	Instrument
SR 4.3.7.5	Instrument 1, Reactor Vessel Pressure

GL 91-04 identifies seven steps to evaluate calibration SR changes. In Section 4.1.2, "Calibration Changes" of the LAR, the licensee summarized the HCGS evaluations for those seven steps, as described in Section 3.2.1 of this SE. The licensee also used the methodology of TR-103335 to evaluate the interval of the calibration SR changes.

As stated in Section 2.2.2 of Attachment 3 of the LAR, the licensee reviewed the surveillance history of the calibration SR Instrument 1 above. For this SR, the licensee summarized the evaluation of the effect on safety, and stated:

A review of the surveillance history verified that this instrumentation had no previous failures of the TS functions. As such, the impact, if any, on system availability is minimal from the proposed change to a 24-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed interval change of calibration SR 4.3.7.5 for 36-month frequency extension and noted that it meets the guidance in GL 91-04. The NRC staff finds that the proposed interval extension of this calibration SR is acceptable because (1) the historical data does not contradict this conclusion (no failures of the TS function that would have been

detected solely by the periodic performance of this SR were reported), (2) the effect on safety, if any, would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.2.2.2.3 TS 3/4.3.9 Feedwater/Main Turbine Trip System Actuation Instrumentation

The LAR proposes to increase the interval of the following calibration SRs from once every 36 months to once every 48 months, for a maximum interval of 60 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.9.1 Each feedwater/main turbine trip system actuation instrumentation channel shall be demonstrated OPERABLE by the performance of the [CHANNEL CALIBRATION] operations at the frequencies specified in the Surveillance Frequency Control Program. [Trip Functional Check 1]

GL 91-04 identifies seven steps to evaluate calibration SR changes. In Section 4.1.2, "Calibration Changes" of the LAR, the licensee summarized the HCGS evaluations for those seven steps, as described in Section 3.2.1 of this SE. The licensee also used the methodology of TR-103335 to evaluate the interval of the calibration SR changes.

The Calibration Functional Unit 1, "Reactor Vessel Water Level – High, Level 8", in accordance with the SFCP, is detected by periodic performance of SR 4.3.9.1.

As stated in Section 2.2.2 of Attachment 3 of the LAR, the licensee reviewed the surveillance history of the calibration SR Functional 1 above. For this SR the licensee summarized the evaluation of the effect on safety, and stated:

A review of the surveillance history verified that this instrumentation had no previous failures of the TS functions. As such, the impact, if any, on system availability is minimal from the proposed change to a 48-month testing frequency. Based on the inherent system and component reliability as shown by the failure history, the impact of this change on safety, if any, is small.

The NRC staff reviewed the proposed interval change of calibration SR 4.3.9.1 for 36-month frequency extension and noted that it meets the guidance in GL 91-04. The licensee finds that the proposed interval extensions of this calibration SR is acceptable because (1) the historical data does not contradict this conclusion (no failures of the TS function that would have been detected solely by the periodic performance of this SR were reported), (2) the effect on safety, if any would be small, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.2.3 Technical Variations to GL 91-04 Evaluation

In Section 2.3 of the LAR Attachment 3, the licensee provided an evaluation for the proposed non-calibration and calibration changes where technical variations to GL 91-04 exist. The licensee states that the implementation of ongoing trending is provided for each of these changes and concludes that adequate assurance that the impact on system availability, if any, from the change of the surveillance interval will be small.

The NRC staff reviewed the evaluations related to the changes proposed by the licensee. The NRC staff finds the changes to meet the intent of the guidance in GL 91-04 as explained below.

3.2.3.1 TS 3/4.4.2

The LAR proposes to increase the interval of the following non-calibration SR from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.4.2.2 At least 1/2 of the safety relief valve pilot stage assemblies shall be removed, set pressure tested and reinstalled or replaced with spares that have been previously set pressure tested and stored in accordance with manufacturer's recommendations in accordance with the Surveillance Frequency Control Program, and they shall be rotated such that all 14 safety relief valve pilot stage assemblies are removed, set pressure tested and reinstalled or replaced with spares that have been previously set pressure tested and stored in accordance with manufacturer's recommendations in accordance with the Surveillance Frequency Control Program. All safety relief valves will be recertified to meet a $\pm 1\%$ tolerance prior to returning the valves to service after setpoint testing.

As discussed in Attachment 3 of the LAR, HCGS originally installed 2-stage Target Rock SRVs upon initial plant startup. However, these SRVs have a demonstrated history of corrosion bonding at the pilot seat which results in the SRVs having as-found opening pressures higher than allowed by TS. In addition, there have been several instances of the 2-stage SRVs experiencing pilot stage leakage resulting in mid-cycle outages. Given the history of the 2-stage SRVs at HCGS, between the spring 2018 refueling outage and continuing through the spring 2021 refueling outage, HCGS replaced all of the 2-stage Target Rock SRVs with newer generation 3-stage Target Rock SRVs.

The licensee reviewed the available historical data from the fall 2019 refueling outage through the most recent outage in summer 2023 outage and found one failure out of the total seventeen pilot assemblies that have been removed and tested at various intervals over the given time period. The single failure was a pilot assembly installed in the fall 2019 refueling outage and was removed from service after 3 years. The failure was due to excessive drift (outside of the allowable ± 3 percent tolerance) in the negative or conservative direction which would have resulted in the actuation of the SRV at a lower opening pressure. All remaining SRV pilot assemblies tested from 2019 to 2023 and removed from service at various intervals were all found within the allowable ± 3 percent tolerance around the setpoint. The licensee stated that the upgraded SRVs have contributed to the reliability of the equipment, and the continuation of the ongoing trending program for the SRVs will provide adequate assurance that the impact on system availability, if any, from the change to a 24-month surveillance interval will be small.

The NRC staff finds the proposed interval extensions from 18 months to 24 months for SR 4.4.2.2 acceptable as it meets the guidance of GL 91-04 in that (1) the effect on safety would be small, (2) historical data do not contradict this conclusion, and (3) no assumptions in the plant licensing basis would be invalidated as a result of the proposed change.

3.2.3.2 TS 3/4.3.7 Monitoring Instrumentation

The LAR proposes to increase the interval of the following calibration SR from once every 18 months to once every 24 months, for a maximum interval of 30 months, including the 25 percent extension afforded by TS SR 4.0.2.

- SR 4.3.7.5 Each of the above required accident monitoring instrumentation channels shall be demonstrated OPERABLE by performance of the [CHANNEL CALIBRATION] operations at the frequencies shown in Table 4.3.7.5-1. [Instrument 14]

In Section 2.3.2 of Attachment 3 of the LAR, the licensee provided the evaluation for the proposed calibration changes of SR 4.3.7.5 Instrument 14, where technical variations to GL 91-04 exist.

Instrument 14 in TS Table 4.3.7.5-1, "Accident Monitoring Instrumentation Surveillance Requirements," is calibrated by periodic performance of SR 4.3.7.5:

SR Number	Instrument
SR 4.3.7.5	Instrument 14, Primary Containment Isolation Valve [PCIV] Position Indication

In Section 2.3.2 of Attachment 3 of the LAR, the licensee stated, in parts, that:

The testing that satisfies the CHANNEL CALIBRATION requirements of SR 4.3.7.5, Table 4.3.7.5-1 Instrument 14, Primary Containment Isolation Valve Position Indication, is performed at a frequency defined in the HCGS SFCP as once per refueling cycle and was assessed for a surveillance frequency extension from 18-months to 24-months. The acceptance criteria for this SR includes successful cycling of the inboard and outboard PCIVs.

For the surveillances that test the inboard PCIVs, at least five operating cycles of SR performances were retrieved consistent with the GL 91-04 guidance. These surveillances were generally performed between the fall 2013 Refueling Outage and the fall 2022 Refueling Outage. It has been concluded, based on engineering judgment, that three 30-month periods provide adequate performance test history.

For each of the testing activities below, the testing interval was changed to 18 months as part of the adoption of the Hope Creek the In-Service Testing (IST) 4th interval.

Testing Activities	Was changed to 18-month in
HC100034 – ST 18M OP-IS.BE-0101 CORE SPRY SUBSYS-A	July 2020
HC100035 – ST 18M OP-IS.BE-0102 CORE SPRY SUBSYS-B	June 2020
HC100105 – ST 18M HC.OP-IS.BH-0101 SLC I/S VLV TEST	February 2019

Testing Activities	Was changed to 18-month in
HC100145 – ST 18M OP-IS.EE-101(Q)TWCU SYS VLVS TEST	February 2019
HC100149 – ST18M OP-IS.SK-101(Q)PLANT LEAK DETECT V	February 2019

For inboard PCIV testing, the licensee's review identified no failures of any valves and any surveillance tests.

For the outboard PCIV testing, the licensee noted that: "Each of the testing activities above test the outboard containment isolation valves that have only recently been extended to an 18-month surveillance interval".

Regarding the outboard PCIVs surveillance frequency extension to 24 months, the licensee stated, in part, that:

For outboard PCIVs, testing has been performed at a periodicity more frequent than once per refueling cycle or have only been tested on a refueling cycle basis since the adoption of the HCGS IST Fourth (4th) 10-Year Interval, which results in an insufficient number of historical procedure performances at an 18-month frequency to provide the sole basis for extension to 24 months in accordance with the recommendations of GL 91-04.

The licensee stated that this extension frequency is justified because:

- 1) The performance of the outboard valves is expected to continue to match that of the inboard valves that have been tested at an 18-month frequency for at least five cycles with no failures;
- 2) The performance of valve testing to satisfy SR 4.3.7.5 in TS Table 4.3.7.5-1 Instrument 14 for the outboard valves has not resulted in any failures or required calibrations during the same three 30-month periods; and
- 3) Enables valve stroke testing to be conducted at a frequency consistent with allowable frequencies in the IST Program.

The licensee concluded:

HCGS will implement ongoing trending and monitoring of these outboard containment isolation valves in accordance with the provisions set forth in the HCGS SFCP procedure to ensure their continued reliable operation over the next two refueling cycles. The implementation of an ongoing trending program of the impacted outboard containment isolation valves will provide adequate assurance that the impact on system availability, if any, from the change to a 24-month surveillance interval will be small.

The NRC staff reviewed the proposed interval change of SR 4.3.7.5, Instrument 14, for 18-month frequency extension and found that it is consistent with allowable frequencies in the Hope Creek IST Program and met the guidance in GL 91-04. The NRC staff finds that the

proposed interval extensions for this calibration SR are acceptable because (1) the inboard valves were tested at an 18-month frequency with no failure report for at least five cycles, (2) the outboard valves were tested with no failure report or required calibrations during the same three 30-month periods, and (3) the implementation of ongoing trending for each of these changes will provide reasonable assurance of adequate protection of public health and safety.

3.3 Proposed License Condition

In Section 3.1.1 of the LAR, the licensee provided a proposed license condition to allow the use of the GL 91-04 methodology to extend the SR intervals included in the LAR on a one-time extension basis from 18 month and 36 month SR performance intervals to 24 month and 48 month intervals, respectively. The licensee stated that the proposed license condition would help accommodate the transition to 24-month fuel cycle by allowing the use of GL 91-04 methodology for the extended SR performance intervals in lieu of the Hope Creek SFCP process.

The NRC staff finds that the proposed license condition properly reflects that the TS SR interval changes requested in this amendment request were evaluated using the criteria in GL 91-04 and that any subsequent changes are subject to the provisions of the SFCP. Therefore, the NRC staff finds that the proposed license condition is acceptable and supports the licensee's transition to the longer SR intervals.

4.0 TECHNICAL CONCLUSION

The licensee provided an analysis of the non-calibration related SR changes and calibration related SR changes. The licensee's analysis for these SR changes was reviewed and found acceptable by the NRC staff. The NRC staff determined that the licensee's conclusion that previously documented failures would have no effect on safety with the proposed SR interval was acceptable and was consistent with the guidance of GL 91-04. The licensee's failure report was reviewed by the NRC staff and was found to be acceptable under the guidance of GL 91-04. The NRC staff finds that the requested extension of surveillance intervals from 18 months to 24 months and 36 months to 48 months, and the proposed changes to TS Table 1.1, are acceptable and the changes proposed in the LAR continue to meet 10 CFR 50.36(c)((3) and (c)(5) by providing surveillance requirements to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met, and providing administrative controls necessary to assure operation of the facility in a safe manner.

5.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION

The Commission may issue a license amendment before the expiration of the 60-day period for requests for hearing to be filed, provided that its final determination is that the amendment involves no significant hazards consideration. This amendment is being issued prior to the expiration of the 60-day period. Therefore, a final finding of no significant hazards consideration follows.

The Commission has made a final determination that the amendment request involves no significant hazards consideration. Under the Commission's regulations in 10 CFR 50.92, this means that operation of the facility in accordance with the proposed amendment does not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident

previously evaluated; or (3) involve a significant reduction in a margin of safety.

As required by 10 CFR 50.91(a), by letter dated May 20, 2024, the licensee provided its analysis of the issue of no significant hazards consideration, which is presented below,

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

Response: No.

The proposed TS changes involve a change in the surveillance testing intervals to facilitate a change in the operating cycle length. The proposed TS changes do not physically impact the plant. The proposed TS changes do not degrade the performance of, or increase the challenges to, any safety systems assumed to function in the accident analysis.

The proposed TS changes do not impact the usefulness of the surveillance and testing requirements in evaluating the operability of required systems and components, or the way in which the surveillances are performed. In addition, the frequency of surveillance testing is not considered initiators of any analyzed accident, nor do revisions to the frequency introduce any accident initiators. Therefore, the proposed change does not involve a significant increase in the probability of an accident previously evaluated.

The consequences of a previously evaluated accident are not significantly increased. The proposed changes to surveillance frequencies do not affect the performance of any equipment credited to mitigate the radiological consequences of an accident. Evaluation of the proposed TS changes demonstrated that the availability of credited equipment is not significantly affected because of other more frequent testing that is performed, the availability of redundant systems and equipment, and the high reliability of the equipment. Historical review of surveillance test results and associated maintenance records did not find evidence of failures that would invalidate the above conclusions.

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

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

Response: No.

The proposed TS changes involve a change in the surveillance testing intervals to facilitate a change in the operating cycle length. The proposed TS changes do not introduce any failure mechanisms of a different type than those previously evaluated, since there are no physical configuration or design changes being made to the facility.

No new or different equipment is being installed. No installed equipment

is being operated in a different manner. As a result, no new failure modes are being introduced.

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

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

Response: No.

The proposed TS changes involve a change in the surveillance testing intervals to facilitate a change in the operating cycle length. The impact of these changes on system availability is not significant, based on other more frequent testing that is performed, the existence of redundant systems and equipment, and overall system reliability.

The proposed changes do not significantly impact the condition or performance of structures, systems, and components relied upon for accident mitigation. The proposed changes do not result in any hardware changes or in any changes to the analytical limits assumed in accident analyses. Existing operating margin between plant conditions and actual plant setpoints is not significantly reduced due to these changes. The proposed changes do not significantly impact any safety analysis assumptions or results.

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

Based on its review of the licensee's no significant hazards consideration analysis, recited above, the NRC staff has determined that the proposed amendment involves no significant hazards consideration. Accordingly, the Commission has determined that this amendment involves no significant hazards consideration.

6.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New Jersey State Official was notified of the proposed issuance of the amendment on April 14, 2025. The State official had no comments.

7.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration (90 FR 24670), and there has been no public comment on such finding. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b)

no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

8.0 CONCLUSION

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

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M. Hamm, NRR

Date: July 17, 2025

SUBJECT: HOPE CREEK GENERATING STATION - ISSUANCE OF AMENDMENT
 NO. 237 RE: INCREASE CERTAIN SURVEILLANCE REQUIREMENT
 INTERVALS (EPID L-2024-LLA-0065) DATED JULY 17, 2025

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