Entergy

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GNRO-2015/00026

May 27, 2015

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

SUBJECT: Application to Revise Technical Specifications for Permanent Extension of Type C Leak Rate Testing Frequency and Reduction of Type B and C Grace Intervals
Grand Gulf Nuclear Station
Docket No. 50-416
License No. NPF-29

Dear Sir or Madam:

Pursuant to 10 CFR 50.90, Entergy Operations, Inc. (Entergy) hereby requests an amendment to Operating License No. NPF-29 for Grand Gulf Nuclear Station (GGNS), Unit 1. The proposed amendment revises GGNS Technical Specifications (TS) 5.5.12, "10 CFR 50, Appendix J, Testing Program," to allow for a permanent extension to the Type C containment isolation valve leakage rate testing frequency. Specifically, the proposed change would allow an extension from the current 60 month frequency to a 75 month frequency. The proposed change would also adopt a more conservative grace interval of 9 months, as opposed to the current 15 months, for Type B and Type C tests in accordance with Nuclear Energy Institute (NEI) Topical Report NEI 94-01, revision 3-A. The Nuclear Regulatory Commission (NRC) determined that the guidance provided in NEI 94-01 is an acceptable approach for implementing the performance-based requirements of Option B to 10 CFR Part 50, Appendix J.

This license amendment request (LAR), additionally, proposes an administrative change to TS 5.5.12 by including a reference to NEI 94-01 for Type B and C testing. The LAR proposes a change to surveillance requirement (SR) 3.6.5.1.1 and TS Bases for SR 3.6.5.1.1 by deleting the information regarding the performance of the next Type A test no later than November 23, 2008, as that testing has already been performed. This LAR does not alter the Type A testing frequencies nor any other requirements as specified in the existing GGNS TS. Attachment 1 to this letter is an evaluation of the proposed change which contains a description of the proposed changes, the supporting technical analyses and the significant hazards considerations determination. The markup and retyped TS pages

are included as Attachments 2 and 3. The markup and retyped TS Bases pages are included as Attachments 4 and 5 for information purposes only.

Entergy has determined that the proposed amendment does not increase the probability of an accident, does not create a new or different kind of accident and does not reduce any margin to safety pursuant to 10 CFR 50.92(c). Entergy has also determined that preparation of an environmental assessment or impact statement is not required for NRC review pursuant to 10 CFR 51.22(b).

Grand Gulf Nuclear Station requests approval of this proposed change no later than February 1, 2016, with an implementation date of February 18, 2016. Deferral of Type C local leak rate tests (LLRTs) until 2018 will enable GGNS to optimize planning for and activities in the upcoming refueling outage, RF20. Fewer conflicts with planned work activities and Type C testing will minimize the duration of RF20. This proposed change is neither exigent nor an emergency nevertheless GGNS is requesting a prompt review.

In accordance with 10 CFR 50.91, a copy of this application, with attachments, is being provided to the designated Mississippi State Official.

There are no regulatory commitments in this submittal. If you have any questions regarding this license amendment request or require additional information, please contact Mr. James Nadeau at (601) 437-2103.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on May 27, 2015.

Sincerely,

Thomas Carter
For K. J. Mulligan

Kevin Mulligan
Site Vice President

KJM/ss

Attachments: 1. Evaluation of the Proposed Change
2. Proposed Technical Specification 5.5.12, Surveillance Requirement 3.6.5.1.1 and Operating License (Markup)
3. Proposed Technical Specification 5.5.12 and Surveillance Requirement 3.6.5.1.1 (Clean)
4. Proposed Technical Specification Bases for Surveillance Requirement 3.6.5.1.1 (Markup) – For Information Only
5. Proposed Technical Specification Bases for Surveillance Requirement 3.6.5.1.1 (Clean) – For Information Only

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Attachment 1
GNRO-2015/00026
Evaluation of the Proposed Change

EVALUATION OF THE PROPOSED CHANGE

Subject: Application to Revise Technical Specifications for Permanent Extension of Type C Leak Rate Testing Frequency and Reduction of Type B and C Grace Intervals

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Attachments: 2. Proposed Technical Specification 5.5.12, Surveillance Requirement 3.6.5.1.1 and Operating License (Markup)
3. Proposed Technical Specification 5.5.12 and Surveillance Requirement 3.6.5.1.1 (Clean)
4. Proposed Technical Specification Bases for Surveillance Requirement 3.6.5.1.1 (Markup) For Information Only
5. Proposed Technical Specification Bases for Surveillance Requirement 3.6.5.1.1. (Clean) For Information Only

1.0 SUMMARY DESCRIPTION

Entergy Operations, Inc. (Entergy) requests an amendment to Operating License (OL) No. NPF-29 for the Grand Gulf Nuclear Station, Unit 1 (GGNS) to allow for permanent extension of the Type C Leakage Rate Testing frequencies. Specifically, the proposed change would amend GGNS Technical Specification (TS) Section 5.5.12, *10 CFR 50, Appendix J, Testing Program*, by including a reference to the guidelines provided in Nuclear Energy Institute (NEI) Topical Report NEI 94-01, Revision 3-A (Reference 2) [Nuclear Regulatory Commission (NRC)-approved version specified in the 10 CFR Part 50, Appendix J Program Plan] as the implementation document used by GGNS to implement the performance-based leakage testing program in accordance with 10 CFR Part 50, Appendix J, Option B for Type B and Type C tests.

The proposed change would allow the extension of the containment isolation valve leakage test (Type C) from its current 60-month frequency to 75 months in accordance with NEI 94-01, Revision 3-A (Reference 2). The proposed change would also adopt a more conservative grace interval of 9 months as opposed to the current 15 month interval for Type B and Type C tests in accordance with NEI 94-01, Revision 3-A. This license amendment request (LAR) also proposes an administrative change to TS 5.5.12 and surveillance requirement (SR) 3.6.5.1.1 approved by the NRC in Amendment No. 164, by deleting the information regarding the performance of the next Type A test no later than November 23, 2008, as this has already occurred. This LAR does not impact the Type A testing frequency and requirements as specified in the existing GGNS TS.

The associated TS Bases for SR 3.6.5.1.1 is also being revised to reflect this administrative change for removing the information related to the past Type A testing date of November 23, 2008.

2.0 DETAILED DESCRIPTION

The GGNS TS 5.5.12, "10 CFR 50, Appendix J, Testing Program," currently states, in part:

"This program establishes the leakage rate testing program of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be implemented in accordance with the Safety Evaluation issued by the Office of Nuclear Reactor Regulation dated April 26, 1995 (GNRI-95/00087) as modified by the Safety Evaluation issued for Amendment No. 135 to the Operating License, except that the next Type A test performed after the November 24, 1993 Type A test shall be performed no later than November 23, 2008. Consistent with standard scheduling practices for Technical Specifications required surveillances, intervals for the recommended surveillance frequency for Type A, B and C testing may be extended by up to 25 percent of the test interval, not to exceed 15 months. The calculated peak containment internal pressure for the design basis loss of coolant accident, Pa, is 14.8 psig."

The proposed changes to GGNS TS 5.5.12, 10 CFR 50, Appendix J Testing Program, will be (1) the administrative change to delete the performance of the next Type A test no later than November 23, 2008, that was previously NRC approved via Amendment No. 164, and (2) to include the addition of a reference to the guidelines contained in NEI Topical Report, NEI 94-01,

Revision 3-A for Type B and Type C local leakage rate testing. The proposed change will revise TS 5.5.12, as follows, to state, in part:

"This program establishes the leakage rate testing program of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be implemented in accordance with the Safety Evaluation issued by the Office of Nuclear Reactor Regulation dated April 26, 1995 (GNRI-95/00087) as modified by the Safety Evaluation issued for Amendment No. 135 to the Operating License. For Type B and C local leak rate testing, this program shall be in accordance with the guidelines contained in NEI 94-01, Revision 3-A, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J, dated July 2012. Consistent with standard scheduling practices for Technical Specifications required surveillances, intervals for the recommended surveillance frequency for Type A testing may be extended by up to 25 percent of the test interval, not to exceed 15 months. The calculated peak containment internal pressure for the design basis loss of coolant accident, Pa, is 14.8 psig.

Surveillance Requirements, SR 3.6.5.1.1, Drywell, currently states, in part:

SR 3.6.5.1.1	SURVEILLANCE	FREQUENCY
	Verify that bypass leakage is less than or equal to the bypass leakage limit.	
	However, during the first unit startup following drywell bypass leak rate testing performed in accordance with this SR, the acceptance criterion is leakage ≤ 10% of the bypass leakage limit.	120 months, except that the next drywell bypass leak rate test performed after the November 24, 1993 test shall be performed no later than November 23, 2008

The TS SR 3.6.5.1.1 is being revised for consistency with the deletion of the Type A test information related to performance no later than November 23, 2008, as approved in TS Amendment 164, as this has occurred in the past and is no longer necessary information for inclusion in the TS. This administrative change has no impact on the testing requirements for the GGNS 10 CFR 50, Appendix J, Testing Program. This LAR does not impact the Type A testing frequency and requirements as specified in the existing GGNS TS. The proposed change will revise TS SR 3.6.5.1.1 to state, in part, as follows:

SR 3.6.5.1.1.	SURVEILLANCE	FREQUENCY
	Verify that bypass leakage is less than or equal to the bypass leakage limit.	
	However, during the first unit startup following drywell bypass leak rate testing performed in accordance with this SR, the acceptance criterion is leakage ≤ 10% of the bypass leakage limit.	120 months~~, except that the next drywell bypass leak rate test performed after the November 24, 1993 test shall be performed no later than November 23, 2008~~

The mark-ups of TS 5.5.12 and SR 3.6.5.1.1 are provided in Attachment 2. The retyped TS pages for TS 5.5.12 and SR 3.6.5.1.1 are provided in Attachment 3.

A markup of TS Bases for SR 3.6.5.1.1 is provided in Attachment 4 for informational purposes only. The retyped TS Bases for SR 3.6.5.1.1 is provided in Attachment 5 for informational purposes only.

There are no regulatory commitments being made in this LAR.

3.0 TECHNICAL EVALUATION

3.1 Justification for the Technical Specification Change

3.1.1 Chronology of Testing Requirements of 10 CFR 50, Appendix J

The testing requirements of 10 CFR 50, Appendix J, provide assurance that leakage from the containment, including systems and components that penetrate the containment, does not exceed the allowable leakage values specified in the TS. 10 CFR 50, Appendix J, also ensures that periodic surveillance of reactor containment penetrations and isolation valves is performed so that proper maintenance and repairs are made during the service life of the containment and the systems and components penetrating primary containment. The limitation on containment leakage provides assurance that the containment would perform its design function following an accident up to and including the plant design basis accident. Appendix J identifies three types of required tests: (1) Type A tests, intended to measure the primary containment overall integrated leakage rate; (2) Type B tests, intended to detect local leaks and to measure leakage across pressure-containing or leakage limiting boundaries (other than valves) for primary containment penetrations; and (3) Type C tests, intended to measure containment isolation valve leakage rates. Types B and C tests identify the vast majority of potential containment leakage paths. Type A tests identify the overall (integrated) containment leakage rate and serve to ensure continued leakage integrity of the containment structure by evaluating those structural parts of the containment not covered by Types B and C testing.

In 1995, 10 CFR 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors," was amended to provide a performance-based Option B for the containment leakage testing requirements. Option B requires that test intervals for Type A, Type B, and Type C testing be determined by using a performance-based approach. Performance-based test intervals are based on consideration of the operating history of the component and resulting risk from its failure. The use of the term "performance-based" in 10 CFR 50 Appendix J refers to both the performance history necessary to extend test intervals as well as to the criteria necessary to meet the requirements of Option B.

Also in 1995, Regulatory Guide (RG) 1.163 (Reference 1) was issued. The RG endorsed Nuclear Energy Institute (NEI) 94-01, Revision 0 (Reference 4), with certain modifications and additions. Option B, in concert with RG 1.163 and NEI 94-01, Revision 0, allows licensees with a satisfactory ILRT performance history (i.e., two consecutive, successful Type A tests) to reduce the test frequency for the containment Type A (ILRT) test from three tests in 10 years to one test in 10 years. This relaxation was based on an NRC risk assessment contained in NUREG-1493, (Reference 5) and Electric Power Research Institute (EPRI) TR-104285 (Reference 6) both of which showed that the risk increase associated with extending the ILRT surveillance interval was very small. In addition to the 10-year ILRT interval, provisions for extending the test interval an additional 15 months were considered in the establishment of the intervals allowed by RG 1.163

and NEI 94-01, but that this "should be used only in cases where refueling schedules have been changed to accommodate other factors."

In 2008, NEI 94-01, Revision 2-A (Reference 3), was issued. This document describes an acceptable approach for implementing the optional performance-based requirements of Option B to 10 CFR 50, Appendix J, subject to the limitations and conditions noted in Section 4.0 of the NRC Safety Evaluation Report (SER) on NEI 94-01. The NRC SER was included in the front matter of this NEI report. NEI 94-01, Revision 2-A, includes provisions for extending Type A ILRT intervals to up to fifteen years and incorporates the regulatory positions stated in Regulatory Guide 1.163 (September 1995). It delineates a performance-based approach for determining Type A, Type B, and Type C containment leakage rate surveillance testing frequencies. Justification for extending test intervals is based on the performance history and risk insights.

In 2012, NEI 94-01, Revision 3-A (Reference 2), was issued. This document describes an acceptable approach for implementing the optional performance-based requirements of Option B to 10 CFR 50, Appendix J, and includes provisions for extending Type A ILRT intervals to up to fifteen years. NEI 94-01 has been endorsed by RG 1.163 (Reference 1) and NRC SERs of June 25, 2008 (Reference 7) and June 8, 2012 (Reference 8) as an acceptable methodology for complying with the provisions of Option B to 10 CFR Part 50. The regulatory positions stated in RG 1.163, as modified by NRC SERs of June 25, 2008, and June 8, 2012, are incorporated in this document. It delineates a performance-based approach for determining Type A, Type B, and Type C containment leakage rate surveillance testing frequencies. Justification for extending test intervals is based on the performance history and risk insights. Extensions of Type B and Type C test intervals are allowed based upon completion of two consecutive periodic as-found tests where the results of each test are within a licensee's allowable administrative limits. Intervals may be increased from 30 months up to a maximum of 120 months for Type B tests (except for containment airlocks) and up to a maximum of 75 months for Type C tests. If a licensee considers extended test intervals of greater than 60 months for Type B or Type C tested components, the review should include the additional considerations of as-found tests, schedule and review as described in NEI 94-01, Revision 3-A, Section 11.3.2.

NEI 94-01, Revision 3-A, Section 10.1 concerning the use of grace in the deferral of Type B and Type C LLRTs past intervals of up to 120 months for the recommended surveillance frequency for Type B testing and up to 75 months for Type C testing, states:

"Consistent with standard scheduling practices for Technical Specifications Required Surveillances, intervals of up to 120 months for the recommended surveillance frequency for Type B testing and up to 75 months for Type C testing given in this section may be extended by up to 25 percent of the test interval, not to exceed nine months.

Notes: For routine scheduling of tests at intervals over 60 months, refer to the additional requirements of Section 11.3.2.

Extensions of up to nine months (total maximum interval of 84 months for Type C tests) are permissible only for non-routine emergent conditions. This provision (nine month extension) does not apply to valves that are restricted and/or limited to 30-month intervals in Section 10.2 (such as BWR MSIVs) or to valves held to the base interval (30 months) due to unsatisfactory LLRT performance."

3.1.2 Current GGNS 10 CFR 50, Appendix J Requirements

Title 10 CFR Part 50, Appendix J was revised, effective October 26, 1995, to allow licensees to choose containment leakage testing under either Option A, "Prescriptive Requirements," or Option B, "Performance Based Requirements." On April 6, 1998, the NRC approved License Amendment No. 135 for GGNS authorizing the implementation of 10 CFR Part 50, Appendix J, Option B for Types A, B and C tests (Reference 13). Current Technical Specification 5.5.12 requires that a program be established to comply with the containment leakage rate testing requirements of 10 CFR 50.54(o) and 10 CFR Part 50, Appendix J, Option B, as modified by approved exemptions. The program is required to be in accordance with the guidelines contained in the Safety Evaluation issued by the Office of Nuclear Reactor Regulation dated April 26, 1995 (Reference 10) as modified by the Safety Evaluation issued for Amendment No. 135 to the Operating License [except that the next Type A test performed after the November 24, 1993, Type A test was to be performed no later than November 23, 2008]. The differences between Amendment No. 135 and guidance provided in RG 1.163 are delineated in the NRC's SE for Amendment No. 135. RG 1.163 endorses, with certain exceptions, NEI 94-01, Revision 0, (Reference 4) as an acceptable method for complying with the provisions of Appendix J, Option B.

3.1.3 GGNS 10 CFR 50 Appendix J, Option B Licensing History

April 26, 1995
The NRC granted exemption to GGNS from the requirements of 10 CFR Part 50, Appendix J, Section III.D, to permit the selection of containment leakage rate testing intervals for components on the basis of performance (Reference 10). GGNS proposed changes to the frequency of performing Types A, B, and C tests including changes to the frequency of leakage rate testing of air locks. The exemption was to remain in effect until Refueling Outage 9.

Exemption from Section III.D.1(a):
Type A tests shall be performed on a 10-year interval provided that the two previous consecutive Type A tests, performed on the test interval specified in Appendix J (three tests, at approximately equal intervals, in a 10-year period), have been successful.

If a Type A test is failed, and the failure is not due to a Type B or C component, acceptable performance shall be re-established by performing a Type A test within 48-months of the unsuccessful Type A test. Following a successful Type A test, the surveillance frequency may be returned to once per 10 years.

In addition, the licensee must perform general inspections of the accessible interior and exterior surfaces of the containment structures, as specified in Section V.A of Appendix J, at the Type A test interval specified in Appendix J, even when no Type A test is required during that outage.

This exemption shall be valid from the beginning of Refueling Outage 7 to the first startup following Refueling Outage 9.

Exemption from Sections III.D.2 and III.D.3 of Appendix J:
Type B and C testing shall be performed according to the following algorithm. After two successful consecutive tests, performed at the Appendix J test interval of no more than two years, a Type B or C component may be tested once every 5 years. If this test or a subsequent

test is a failure, the test interval for this component shall revert to a 2-year interval until the component passes two consecutive tests. The 5-year interval may then be resumed.

Main steam isolation valves, feedwater valves and containment system supply and exhaust isolation valves shall remain on a 2-year test interval. Any change will require prior review and approval by the NRC. The exemption shall be valid from the beginning of Refueling Outage 7 to the first startup following Refueling Outage 9.

Exemption from Section III.D.2 (b)(i) and (b)(iii):
Air locks may be leakage rate tested at intervals of no more than 2 years. If an air lock fails a leakage rate test, the air lock shall then be required to pass two consecutive leakage rate tests at a test interval of 6 months prior to returning to the 2-year test interval. Following opening of an air lock door when containment integrity is required, the air lock shall be tested at least every 30 days. If an air lock fails a leakage rate test following opening of an air lock door when containment integrity is required, the air lock shall be required to pass two consecutive leakage rate tests at a test interval of 72 hours prior to returning to the 30-day interval. Since the Grand Gulf air lock doors have testable seals, testing the seals fulfills the 30-day test requirement. This exemption shall be valid from the beginning of Refueling Outage 7 to the first startup following Refueling Outage 9.

August 1, 1996
The NRC issued License Amendment No. 126 for GGNS (Reference 11). The amendment revised and deleted surveillance requirements, notes, and action statements involved with the requirements for the drywell leak rate testing, and the air lock leakage and interlock testing in TS 3.6.5.1 (Drywell), 3.6.5.2 (Drywell air lock), and 3.6.5.3 (Drywell Isolation Valves).

October 18, 1996
The NRC approved License Amendment No. 128 for GGNS (Reference 12). The amendment revised the TS to modify the frequency requirements in surveillance requirement (SR) 3.6.1.3.5 on the leakage rate testing for each containment purge isolation valve with resilient seals to permit these valves to be leakage rate tested on a performance basis in accordance with 10 CFR 50, Appendix J.

April 6, 1998
The NRC approved License Amendment No. 135 for GGNS (Reference 13). The amendment revised the TS to permit the implementation of the containment leak rate testing provisions of 10 CFR Part 50, Appendix J, Option B. Specifically, this revision established a 10 CFR 50, Appendix J, Testing Program, and added this program to the TS. This program references the NRC's SER on the GGNS' exemption to Appendix J, dated April 26, 1995 (Reference 10), as a method acceptable to the NRC for complying with Option B. This included changes to existing TS SRs 3.6.1.1.1, 3.6.1.2.1, 3.6.1.3.5, 3.6.1.3.8, 3.6.1.3.9, and addition of the "10 CFR Part 50, Appendix J, Testing Program" as TS 5.5.12. The applicable TS Bases were also modified.

As stated in the NRC's SE for Amendment No.135 (Reference 13), the NRC's April 26, 1995, SER (Reference 10) limited the test intervals for Types B and C testing to 5 years. GGNS had opted to extend the Type B test interval to 10 years and keep the Type C interval at its present value of 5 years. This was consistent with RG 1.163.

In addition, according to Reference 13, GGNS also opted to use alternative testing or analysis in lieu of as-found tests when maintenance is performed. RG 1.163 does not endorse use of

alternative testing or analysis in lieu of as-found testing. However, GGNS stated it was current practice to use valve operation test and evaluation system (VOTES) testing in lieu of a local leakage rate test (LLRT) for maintenance that does not affect leak-tightness, which GGNS defined as maintenance that affects only the valve actuator. GGNS stated that an LLRT would only be performed if VOTES test detected a degraded thrust value, which could indicate seat leakage. This position is consistent with Appendix J, Option B and was acceptable to the NRC.

In addition, GGNS also proposed that following opening of an air lock door when containment integrity is required, the air locks shall be tested at least every 30 days. This 30-day test requirement may be satisfied by testing the air lock door seals. The NRC found this acceptable, since the differences between the GGNS proposal and the testing mandated by NEI 94-01 are not significant.

The NRC determined that the use of the guidance of the April 26, 1995, SER is consistent with the intent of RG 1.163 (Reference 1) and was therefore acceptable. (Reference 13)

March 14, 2001
The NRC approved License Amendment No. 145 for GGNS (Reference 14). The amendment consisted of changes to the facility OL and TS for a full-scope implementation of the alternative source term (AST). Among these changes was a revision to TS SR 3.6.1.3.8, Main Steam Isolation Valve (MSIV) Leakage Rate, increasing the maximum allowable leak rate to less than or equal to 100 standard cubic feet per hour (scfh) through each main steam line and total leakage rate through all four main steam lines of less than or equal to 250 scfh. The primary containment leakage rate (L_a) was also revised to 0.682 percent of primary containment air weight per day. (Reference 14)

January 28, 2004
The NRC approved License Amendment No. 164 regarding the one-time extension of the integrated leak rate test (ILRT) and drywell bypass test interval for GGNS (Reference 15). The amendment changes the administrative TS 5.5.12 regarding containment integrated leakage rate testing (ILRT) and TS 3.6.5.1.1 regarding drywell bypass leak rate testing (DWBT). The change would allow for a one-time extension of the interval from 10 to 15 years for performance of the next ILRT and DWBT. This change would add an exception to the commitment to implement the containment ILRT program in accordance with the Safety Evaluation (SE) issued by the Office of Nuclear Reactor Regulation dated April 26, 1995 (Reference 10), as modified by the SE issued for Amendment No. 135 to the Operating License. Specifically, GGNS revised TS 5.5.12 by adding to the end of the second sentence the following:

", except that the next Type A test performed after the November 24, 1993 Type A test shall be performed no later than November 23, 2008."

In addition, GGNS also revised TS 3.6.5.1.1 by adding an exception to the Frequency requirement of 120 months that states:

", except that the next drywell bypass leak rate test performed after the November 24, 1993 test shall be performed no later than November 23, 2008."

These changes represented a one-time deferral of the ILRT and the DWBT by up to five additional years.

July 12, 2005
The NRC approved License Amendment No. 168 for GGNS (Reference 16). The amendment revised the air lock surveillance test acceptance criteria to be consistent with the NRC approved industry TS Task Force (TSTF) change to the Standard TS, TSTF-52, entitled, "Implement 10 CFR Part 50, Appendix J, Option B." In summary, GGNS proposed to adopt the containment air lock leakage rate specified as a percentage of the maximum allowable primary containment leakage La, in the ISTS rather than the absolute leakage rate previously specified in the GGNS TS.

August 24, 2007
The NRC approved License Amendment No. 176 for GGNS (Reference 17). This amendment revised the GGNS TS to allow certain types of relief valves to be used to isolate a containment penetration flow path without being deactivated under specific criteria. The NRC has allowed similar types of penetrations and valves to be excluded from the scope of Appendix J containment leakage testing through issuance of 10 CFR 50.69, "Risk-Informed Categorization and Treatment of Structures, Systems, and Components for Nuclear Power Reactors." The basis for these approvals was that containment leakage through these types of penetrations and valves were determined to not contribute in a significant way to diminishing safety or increasing risk. (Reference 17)

July 18, 2012
The NRC approved License Amendment No.191 for GGNS to increase the maximum steady-state reactor core power level by approximately 15% from the original licensed thermal power level of 3,833 MWt [i.e., extended power uprate (EPU)]. The license was also amended to include a new license condition 2.C.(44) which states, in part, that leak rate tests associated with SRs required by TS 5.5.12 are not required to be performed until their next scheduled performance dates. New License Condition 2.C.(44) states that the leak rate tests, required in Refueling Outage 18, will be performed at the EPU calculated peak containment pressure or within EPU drywell bypass leakage limits, as appropriate. (Reference 18)

December 26, 2013
The NRC approved License Amendment No. 197 for GGNS (Reference 19). The amendment revised the TS for GGNS to support operation with 24-month fuel cycles. Specifically, the amendment revised the frequency of certain TS surveillance requirements from 18 months to 24 months in accordance with Generic Letter 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. (Reference 19)

3.2 System Descriptions

GGNS is designed with a General Electric Company boiling water reactor (BWR) enclosed by a Mark III type containment. The drywell is enclosed within the primary containment and is designed to divert the energy released during a design-basis, large-break loss of coolant accident (LOCA). The drywell communicates with the primary containment through a series of horizontal vents in the drywell wall. The vents are covered both inside and outside the drywell by water from the annular shaped suppression pool. The pool forms a seal between the drywell and the primary containment. The drywell contains the reactor coolant system and other high energy piping systems. The GGNS Updated Final Safety Analysis Report (UFSAR), Section 6.2 describes the primary containment in detail.

3.2.1 Containment Building Description

The Containment structure is designed to house the primary nuclear system and is part of the containment system whose functional requirement is the control of the release of radioactivity from a primary nuclear system. The containment consists of three basic parts: a flat circular foundation mat, a right circular cylinder, and a hemispherical dome. The containment cylindrical wall, dome, and foundation mat are constructed of cast-in-place, conventionally reinforced concrete. For the most part, the Containment wall and foundation mat are separated by a 2-inch gap (which is filled with a compressible joint filler material) from the auxiliary building, to preclude significant interaction of these Category I structures during seismic disturbances.

3.2.2 Dimensions of Containment:

- Inside diameter (ID): 124 ft. 0 in. (based on cylindrical wall inside radius of 62 ft.)
- Height of cylinder (top of foundation mat to dome spring line): 144 ft. 9 in.
- Inside radius of cylindrical wall: 62 ft. 0 in.
- Thickness of cylindrical walls: 3 ft. 6 in. (4 ft. 0 in. only in localized areas)
- Inside radius of dome: 62 ft. 0 in.
- Thickness of dome: 2 ft. 6 in.
- Foundation mat thickness: 9 ft. 6 in.
- Containment internal design pressure: 15 psig
- Containment design temperature: 210 °F

3.2.3 Containment Penetrations and Attachments

Two personnel airlocks (Upper and Lower) and an equipment hatch provide access to the Containment structure. Containment airlocks are tested in accordance with 10 CFR Part 50 Appendix J, Option B.

Each containment airlock door has two inflatable seals that are maintained at a nominal pressure of 70 psig. Opening an airlock door, however, requires for its seals to be deflated. Before the other door on the same airlock can be opened, this door must be closed and its seals must be re-inflated up to the 60 psig nominal interlock setpoint. This interlock ensures the pressure integrity of containment is maintained up to 56 psig when the airlocks are in use.

For the containment personnel locks, the airlock design incorporates provisions for testing between the door seals and between the doors (reference UFSAR Figure 6.2-85). The provisions are (a.) Testing of annulus between seals and (b) overall airlock pressure test. Both tests can be run at a pressure of P_a.

Personnel air lock and equipment hatch openings penetrate the drywell cylindrical wall as shown on UFSAR Figures 3.8-58 and 3.8-61. Each of the two doors on the personnel air lock is fitted with two inflatable rubber seals to ensure the leak-tightness of the lock. The pressure within the seals can be monitored during normal operation to further ensure the integrity of the lock.

A horizontal fuel transfer tube penetration is provided at one end of the refueling pool to transfer fuel elements between the Containment and the Auxiliary Building. The location of the transfer tube penetration is shown on UFSAR Figure 3.8-1.

Piping penetrating the containment has been equipped with test connections and test vents or has other provisions to allow periodic leak rate testing to ensure that leakage is within the acceptable limit as defined by the Technical Specifications and Appendix J of 10 CFR 50, as described in UFSAR 6.2.6.

Typical mechanical and control systems penetrations are shown on UFSAR Figure 3.8-60. These penetrations are detailed and designed to be leak-tight. During normal operation, the leakage past these penetrations will be negligible.

3.3 Traditional Engineering Considerations

3.3.1. Containment Leakage Rate Testing Program - Types B and C Testing Program

GGNS Types B and C testing program requires testing of electrical penetrations, airlocks, hatches, flanges, and containment isolation valves in accordance with 10 CFR Part 50, Appendix J, Option B, TS 5.5.12, and applicable portions of RG 1.163 (Reference 1), as modified by approved exemptions. The results of the test program are used to demonstrate that proper maintenance and repairs are made on these components throughout their service life. The Types B and C testing program provides a means to protect the health and safety of plant personnel and the public by maintaining leakage from these components below appropriate limits. Per the TS 5.5.12 program requirements, the allowable maximum pathway total Types B and C leakage is 0.6 L_a where 0.6 L_a equals approximately 198,000 sccm.

As discussed in NUREG-1493 (Reference 5), Types B and C tests can identify the vast majority of all potential containment leakage paths. Types B and C testing will continue to provide a high degree of assurance that containment integrity is maintained.

A review of the Types B and C test results from 2005 through 2014 for GGNS has shown an exceptional amount of margin between the actual As-Found (AF) and As-left (AL) outage summations and the regulatory requirements as described below:

- The As-Found minimum pathway leak rate average for GGNS shows an average of 8.58% of 0.6 L_a with a high of 12.35% of 0.6 L_a or 0.074 L_a.

- The As-Left maximum pathway leak rate average for GGNS shows an average of 28.49% of 0.6 L_a with a high of 47.0% of 0.6 L_a or 0.282 L_a.

Table 3.3.1-1 provides the LLRT data trend summaries for GGNS since 2005 and encompasses previous ILRTs. This summary shows that there has been no As-Found failure that resulted in exceeding the TS 5.5.12 limit of 0.6 L_a (198,000 sccm) and demonstrates a history of successful tests. The As-Found minimum pathway summations represent the high quality of maintenance of Types B and C tested components while the As-Left maximum pathway summations represent the effective management of the Containment Leakage Rate Testing Program by the program owner.

Table 3.3.1-1, Types B and C LLRT Combined As-Found/As-Left Trend Summary

RFO	2005	2007	2008	2010	2012	2014
AF Min Path (sccm)	5918	12,885	18,984	18,057	24,453	21,595
Fraction of L_a (%)	1.79	3.9	5.75	5.47	7.41	6.54
AL Max Path (sccm)	20,288	18,389	57,793	69,850	93,069	79,014
Fraction of L_a (%)	6.15	5.57	17.51	21.17	28.2	23.94
AL Min Path (sccm)	3,027	2,189	23,457	25,065	30,415	35,054
Fraction of L_a (%)	0.92	0.66	7.11	7.60	9.22	10.62

The following Table 3.3.1-2 identifies the components that have not demonstrated acceptable performance during the previous two outages for GGNS:

Table 3.3.1-2: Types B and C LLRT Program Implementation Review

Component [Penetration No.]	As-Found SCCM	Admin Limit SCCM	As-Left SCCM	Cause of Failure	Corrective Action	Scheduled Interval
2012 RF18						
1G36F101 RWCU Backwash Xfer Pump Disch [49]	1834	1040	1834	Not Determined	Evaluated for continued service	Interval remained at 24 months
1G36F106 RWCU Backwash Xfer Pump Disch [49]	4820	1040	4820	Not Determined	Evaluated for continued service	Interval remained at 24 months
1E12F028B Low Pressure Core Injection From RHR B [21]	8250	4680	5300	Suspect Valve Internals	(1)	Interval set to 24 months
1P71F149 Chilled Water Return [39]	1470	100	4	Valve Internals	(2)	Interval set to 24 months
1E12F028A Low Pressure Core Injection From RHR A [20]	5185	4680	2738	Torque Switch Setting and Pressure Seal	Increased Torque Switch Setting and Tightened Pressure Seal Bonnet Bolts	Interval set to 24 months
1E51F063 Steam Supply to RCIC Turbine [17]	47,500	2600	10	Seat Leakage	WO 00311944 Reworked valve seats	Interval set to 24 months
1B21F016 Main Steam Line Drain [19]	110	780	2450	Disk Damaged	(3)	Interval set to 24 months

NOTES:

(1) Replaced Stem and pressure seal. Leakage dropped to 5300 sccm. Suspect Valve Internals required rework. 60-hour duration for internal valve work. Evaluated for continued service. WO 00310025 to repair valve during RF19.

(2) WO 310720-01 performed a viper Test and regulator air pressure increased to 105 psi. Determined the issue is the valve internals. WO 310720-02 scheduled for April 22, 2012, to rework valve internals. FSAR 6.2.3.2 and ER-GG-2003-0261 requires that the leakage remain below 100 sccm. Mode 3 restraint. The decision was made to do valve work and while the valve was apart to rebuild the actuator and its instruments (WO 310720). The valve was disassembled and the seat in the valve and the seat on the disk were found to have scratches, which would not allow for a leak tight seal. The valve seats were machined with an EFCO seat repair tool and the disk was replaced with a new one. The new disk was machined to fit the valve seat. There was 100% blueing with a narrow seat profile.

(3) WO 00313297 torqued the bonnet bolts. Evaluated for continued service. WO 00235386 to repair/replace valve during RF19.

Table 3.3.1-2: Types B and C LLRT Program Implementation Review (continued)

2014 RF19						
Component [Penetration No.]	**As-found SCCM**	**Admin Limit SCCM**	**As-left SCCM**	**Cause of Failure**	**Corrective Action**	**Scheduled Interval**
1B21F016 Main Steam Line Drain [19]	7000	780	200	Valve identified as degraded in RF18, disk damaged	Valve replaced under WO 311176-01	Interval remained at 24 months
1G36F106 RWCU Backwash Xfer Pump Disch [49]	9500	1040	370	Valve identified as degraded in RF18	Valve repaired under WO 00235386	Interval remained at 24 months
1E12F028B Low Pressure Core Injection From RHR B [21]	8800	4680	4160	Valve identified as degraded in RF18	Valve repaired under WO 00310025 (4)	Interval remained at 24 months
1P71F149 Chilled Water Return [39]	1270	100	0	Disk and seat had scratches	Valve was replaced in WO 375211	Interval remained at 24 months

Note:

(4) During the post-LLRT for 1E12F028B under WO 00310025, 1E12F028B passed the LLRT with leakage of 4160 sccm against an acceptance criterion of 4680 sccm. Although the post LLRT passed the acceptance criteria, this valve should be repaired or replaced in RF20.

3.3.2 Type B and Type C Tested Components on Extended Intervals

The percentage of the total number of GGNS Type B tested components (78) that are on 120-month extended performance-based test interval is 65%.

The percentage of the total number of GGNS Type C tested components (151) that are on 60-month extended performance-based test interval is 58%.

3.4 NRC SER Limitations and Conditions

3.4.1 Limitations and Conditions Applicable to NEI 94-01, Revision 3-A

The NRC staff found that the guidance in NEI TR 94-01, Revision 3, was acceptable for referencing by licensees in the implementation for the optional performance-based requirements of 10 CFR Part 50, Appendix J, Option B. However, the NRC staff identified two conditions on the use of NEI TR 94-01, Revision 3 (Reference NEI 94-01 Revision 3-A, NRC SER 4.0, Limitations and Conditions):

Topical Report Condition 1

NEI TR 94-01, Revision 3, is requesting that the allowable extended interval for Type C LLRTs be increased to 75 months, with a permissible extension (for non-routine emergent conditions) of nine months (84 months total). The staff is allowing the extended interval for Type C LLRTs be increased to 75 months with the requirement that a licensee's post-outage report include the margin between the Type B and Type C leakage rate summation and its regulatory limit. In addition, a corrective action plan shall be developed to restore the margin to an acceptable level. The staff is also allowing the non-routine emergent extension out to 84-months as applied to Type C valves at a site, with some exceptions that must be detailed in NEI TR 94-01, Revision 3. At no time shall an extension be allowed for Type C valves that are restricted categorically (e.g., BWR MSIVs), and those valves with a history of leakage, or any valves held to either a less than maximum interval or to the base refueling cycle interval. Only non-routine emergent conditions allow an extension to 84 months.

Response to Condition 1:

Condition 1 presents three (3) separate issues that are required to be addressed as follows:

- ISSUE 1 - The allowance of an extended interval for Type C LLRTs of 75 months carries the requirement that a licensee's post-outage report include the margin between the Type B and Type C leakage rate summation and its regulatory limit.
- ISSUE 2 - In addition, a corrective action plan shall be developed to restore the margin to an acceptable level.
- ISSUE 3 - Use of the allowed 9-month extension for eligible Type C valves is only authorized for non-routine emergent conditions.

Response to Condition 1, ISSUE 1

The post-outage report shall include the margin between the Type B and Type C Minimum Pathway Leak Rate (MNPLR) summation value, as adjusted to include the estimate of applicable Type C leakage understatement, and its regulatory limit of 0.60 L_a.

Response to Condition 1, ISSUE 2

When the total Types B and C MNPLR leakage summation value, as adjusted to include the estimate of applicable Type C leakage understatement, *is greater* than the GGNS administrative leakage summation limit of 0.50 La (a newly created value designed to comply with NEI 94-01, Rev 3-A), but less than the regulatory limit of 0.6 L_a, then an analysis and determination of a *corrective action plan* shall be prepared to restore the leakage summation value to less than the GGNS administrative limit. The corrective action plan shall focus on those components which have contributed the most to the increase in the leakage summation value and what manner of timely corrective action, as deemed appropriate, which best focuses on the prevention of future component leakage performance issues so as to maintain an acceptable level of margin.

Response to Condition 1, ISSUE 3

GGNS will apply the 9-month grace period only to eligible Type B and Type C components and only for non-routine emergent conditions. Such occurrences will be documented in the record of tests. See Section 3.4.2.

Topical Report Condition 2

The basis for acceptability of extending the ILRT interval out to once per 15 years was the enhanced and robust primary containment inspection program and the local leakage rate testing of penetrations. Most of the primary containment leakage experienced has been attributed to penetration leakage and penetrations are thought to be the most likely location of most containment leakage at any time. The containment leakage condition monitoring regime involves a portion of the penetrations being tested each refueling outage, nearly all LLRTs being performed during plant outages. For the purposes of assessing and monitoring or trending overall containment leakage potential, the as-found minimum pathway leakage rates for the just tested penetrations are summed with the as-left minimum pathway leakage rates for penetrations tested during the previous 1 or 2 or even 3 refueling outages. Type C tests involve valves, which in the aggregate, will show increasing leakage potential due to normal wear and tear, some predictable and some not so predictable. Routine and appropriate maintenance may extend this increasing leakage potential. Allowing for longer intervals between LLRTs means that more leakage rate test results from farther back in time are summed with fewer just tested penetrations and that total used to assess the current containment leakage potential. This leads to the possibility that the LLRT totals calculated understate the actual leakage potential of the penetrations. Given the required margin included with the performance criterion and the considerable extra margin most plants consistently show with their testing, any understatement of the LLRT total using a 5-year test frequency is thought to be conservatively accounted for. Extending the LLRT intervals beyond 5 years to a 75-month interval should be similarly conservative provided an estimate is made of the potential understatement and its acceptability determined as part of the trending specified in NEI TR 94-01, Revision 3, Section 12.1.

When routinely scheduling any LLRT valve interval beyond 60-months and up to 75-months, the primary containment leakage rate testing program trending or monitoring must include an estimate of the amount of understatement in the Type B and C total, and must be included in a

licensee's post-outage report. The report must include the reasoning and determination of the acceptability of the extension, demonstrating that the LLRT totals calculated represent the actual leakage potential of the penetrations.

Response to Condition 2:

Condition 2 presents two (2) separate issues that are required to be addressed as follows:

- ISSUE 1 - Extending the Type C, LLRT intervals beyond 5 years to a 75-month interval should be similarly conservative provided an estimate is made of the potential understatement and its acceptability determined as part of the trending specified in NEI TR 94-01, Revision 3, Section 12.1.

- ISSUE 2 - When routinely scheduling any LLRT valve interval beyond 60-months and up to 75-months, the primary containment leakage rate testing program trending or monitoring must include an estimate of the amount of Type C understatement in the Type B and C total, and must be included in a licensee's post-outage report. The report must include the reasoning and determination of the acceptability of the extension, demonstrating that the LLRT totals calculated represent the actual leakage potential of the penetrations.

Response to Condition 2, ISSUE 1

The change in going from a 60-month extended test interval for Type C tested components to a 75-month interval, as authorized under NEI 94-01, Revision 3-A, represents an increase of 25% in the LLRT periodicity. As such, GGNS will conservatively apply a potential leakage understatement *adjustment factor* of 1.25 to the actual As-Left leak rate, which will increase the As-Left leakage total for each Type C component changing to the 75-month extended test interval. This will result in a combined conservative Type C total for all 75-month LLRTs being "carried forward" and will be included whenever the total leakage summation is required to be updated (either while on-line or following an outage).

When the potential leakage understatement adjusted leak rate total for those Type C components being tested on a 75-month extended interval is summed with the non-adjusted total of those Type C components being tested at less than the 75-month interval and the total of the Type B tested components, if the MNPLR *is greater* than the GGNS administrative leakage summation limit of *0.50 La*, but less than the regulatory limit of 0.6 La, then an analysis and corrective action plan shall be prepared to restore the leakage summation value to less than the GGNS administrative leakage limit. The corrective action plan shall focus on those components which have contributed the most to the increase in the leakage summation value and what manner of timely corrective action, as deemed appropriate, best focuses on the prevention of future component leakage performance issues.

Response to Condition 2, ISSUE 2

If the potential leakage understatement adjusted leak rate MNPLR is less than the GGNS administrative leakage summation limit of 0.50 La, then the acceptability of the 75-month LLRT extension for all affected Type C components has been adequately demonstrated and the calculated local leak rate total represents the actual leakage potential of the penetrations.

In addition to Condition 1, Issues 1 and 2, which deal with the MNPLR Types B and C summation margin, NEI 94-01, Revision 3-A, also has a margin related requirement as contained in Section 12.1, Report Requirements.

A post-outage report shall be prepared presenting results of the previous cycle's Type B and Type C tests, and Type A, Type B and Type C tests, if performed during that outage. The technical contents of the report are generally described in ANSI/ANS-56.8-2002 and shall be available on-site for NRC review. The report shall show that the applicable performance criteria are met, and serve as a record that continuing performance is acceptable. The report shall also include the combined Type B and Type C leakage summation, and the margin between the Type B and Type C leakage rate summation and its regulatory limit. Adverse trends in the Type B and Type C leakage rate summation shall be identified in the report and a corrective action plan developed to restore the margin to an acceptable level.

At GGNS, in the event an *adverse trend* in the aforementioned potential leakage understatement adjusted Type B and C summation is identified, then an analysis and determination of a corrective action plan shall be prepared to restore the trend and associated margin to an acceptable level. The corrective action plan shall focus on those components which have contributed the most to the adverse trend in the leakage summation value and what manner of timely corrective action, as deemed appropriate, best focuses on the prevention of future component leakage performance issues.

Formal guidance of what constitutes an adverse trend is not provided in the NRC's SER for Revision 3-A. However, based on an analysis of the GGNS historical performance data, when three (3) consecutive instances of MNPLR leakage summation increase have occurred, various forms of corrective action were initiated to identify the cause and schedule repairs of the offending component(s). This was deemed both an effective and appropriate trigger point for identifying and subsequently restoring the trend to an acceptable performance level.

3.4.2 Use of Grace in the Deferral of Type B and Type C Testing

NEI 94-01, Revision 3-A, Section 10.1, concerning the use of grace in the deferral of Type B and Type C LLRTs past intervals of up to 120 months for the recommended surveillance frequency for Type B testing and up to 75 months for Type C testing, states:

"Consistent with standard scheduling practices for Technical Specifications Required Surveillances, intervals of up to 120 months for the recommended surveillance frequency for Type B testing and up to 75 months for Type C testing given in this section may be extended by up to 25 percent of the test interval, not to exceed nine months.

Notes: For routine scheduling of tests at intervals over 60 months, refer to the additional requirements of Section 11.3.2.

Extensions of up to nine months (total maximum interval of 84 months for Type C tests) are permissible only for non-routine emergent conditions. This provision (nine month extension) does not apply to valves that are restricted and/or limited to 30 month intervals in Section 10.2 (such as BWR MSIVs) or to valves held to the base interval (30 months) due to unsatisfactory LLRT performance."

In consideration of the above requirement regarding the use of schedular grace as stated in NEI 94-01, Revision 3-A, the above requirement shall only be applicable to Types B and C testing. The schedular grace for Type A testing will remain as currently stated in the GGNS TS 5.5.12, which was previously NRC approved via License Amendment No. 135, delineated below:

"Consistent with standard scheduling practices for Technical Specifications required surveillances, intervals for the recommended surveillance frequency for Type A... testing may be extended by up to 25 percent of the test interval, not to exceed 15 months."

3.5 NRC Information Notices (INs)

3.5.1 NRC Information Notice 92-20, Inadequate Local Leak Rate Testing

NRC IN 92-20 was issued to alert licensees to problems with local leak rate testing of two-ply stainless steel bellows used on piping penetrations at some plants. Specifically, local leak rate testing could not be relied upon to accurately measure the leakage rate that would occur under accident conditions since, during testing, the two plies in the bellows were in contact with each other, restricting the flow of the test medium to the crack locations. Any two-ply bellows of similar construction may be susceptible to this problem. GGNS has only one bellows that may be subject to the failure mechanism described in this IN. This is the expansion bellows (1G41G515) associated with the horizontal fuel transfer tube (Containment Penetration No. 4). GGNS conducted several tests to verify the adequacy of the local leak rate testing for this bellows and determined the following:

- The bellows have been tested locally every refueling outage until the bellows were placed on an extended test frequency (currently 5 years). The acceptance criteria are very low for this penetration (50 sccm) and the tests have always demonstrated zero leakage.

- During refueling outage 5 (1992), a visual inspection of the exterior surface of the bellows was done while under LLRT test pressure of 11.5 psig. No indications were found of cracks or gouges and the bellows were described as being in good condition.

- Tests were done to verify that air could pass through each of the bellows halves from one test connection to the other and that there were no obstructions to the flow.

- During refueling outage 6 (1993), tests were done to confirm that the bellows annulus was vented to the containment atmosphere. This ensured that the annulus was being subjected to ILRT test pressure (about 12 psig). This was the fourth ILRT with all results being well below the acceptance limits. In addition, a visual inspection using liquid leak detection fluid was done of the exterior of the bellows while attempting to pressurize the bellows with air.

This testing provides a high degree of confidence that the test methods currently being used are adequate to detect leakage across the bellows assembly. It is also worthwhile to note that the bellows are not subjected to large or rapid temperature changes or other operationally induced stresses.

3.5.2 Information Notice (IN) 2014-07, "Degradation of Leak Chase Channel Systems for Floor Welds of Metal Containment Shell and Concrete Containment Metallic Liner"

The NRC issued this IN to inform addressees of issues concerning degradation of floor weld leak-chase channel systems of steel containment shell and concrete containment metallic liner that could affect leak-tightness and aging management of containment structures.

IN 2014-07 described the leak chase channel system as follows:

It consists of steel channel sections that are fillet welded continuously over the entire bottom shell or liner seam welds and subdivided into zones, each zone with a test connection. Each test connection consists of a small carbon or stainless steel tube (less than 1-inch (2.5 centimeters) diameter) that penetrates through the back of the channel and is seal-welded to the channel steel. The tube extends up through the concrete floor slab to a small steel access (junction) box embedded in the floor slab. The steel tube, which may be encased in a pipe, projects up through the bottom of the access box with a threaded coupling connection welded to the top of the tube, allowing for pressurization of the leak-chase channel.

IN 2014-07 describes operating experience that is concerned about the omission of code-required exams that were masked by other components and were therefore not included in the IWE database. GGNS is not at risk as the leak chase system of the containment is included in the Containment Inservice Inspection (CISI) program. No new actions were required to address this IN.

A leak chase channel system has been provided at the seam welds that are inaccessible for inspection during plant operation. The leak chase channel system and the test connections are not normally accessible because they are submerged in the suppression pool. The inspections of ASME Table IWE-2500-1, Examination Category E-A, Item 1.12 "Wetted Surfaces of Submerged Areas," are only required once an inspection interval (10 years). The Leak Chase Channel components accessible from the Suppression Pool were last inspected during the 2007 refueling outage and no recordable indications were identified. The leak chase channel components are scheduled for inspection again during the 2016 refueling outage.

3.6 Conclusion

NEI 94-01, Revision 3-A (Reference 2), and the conditions and limitations specified therein, describe an NRC-accepted approach for implementing the performance-based requirements of 10 CFR Part 50, Appendix J, Option B. It incorporated the regulatory positions stated in RG 1.163 (Reference 1) and includes provisions for extending Type A intervals to 15 years and Type C test intervals to 75 months. NEI 94-01, Revision 3-A delineates a performance-based approach for determining Type A, Type B, and Type C containment leakage rate surveillance test frequencies. GGNS is adopting the guidance of NEI 94-01, Revision 3-A, and the conditions and limitations specified therein, for the GGNS, 10 CFR Part 50, Appendix J, Testing Program plan for only the Type B and Type C local leakage rate testing. For Type A testing, leakage testing will continue to be performed in accordance with the specifications provided in TS 5.5.12, as previously approved by the NRC via License Amendment No. 135. [Note: The conditions and limitations specified in NEI-94-01, Revision 2-A (Reference 3) were reviewed and determined to be not applicable to this GGNS Type B and Type C LLRT license amendment request; thereby, were excluded from discussion.]

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

The proposed change has been evaluated to determine whether applicable regulations and requirements continue to be met. The requirements to perform testing of the primary reactor containment are set forth in 10 CFR 50.54(o) and 10 CFR 50, Appendix J. Both of these sections address criteria established in 10 CFR 50, Appendix A in General Design Criteria (GDC): GDC 50 (Containment Design Basis); GDC 51 (Fracture Prevention of Containment Pressure Boundary); GDC 52 (Capability for Containment Leakage Rate Testing); and, GDC 53 (Provisions for Containment Testing and Inspection). A discussion of the GGNS conformance with these GDC is provided in the GGNS Updated Final Safety Analysis Report (UFSAR) Chapter 3.1. Entergy has determined that the proposed change does not require any additional exemptions or relief from regulatory requirements and does not affect conformance with any GDC as described in the UFSAR. However, this change does propose a permanent extension of the frequency for performance of the Type C local leakage rate testing of selected components and a reduction in the grace interval for Type B and Type C testing from 15 months to 9 months in accordance with the guidelines established in NEI 94-01, Revision 3-A.

10 CFR 50.54(o) requires primary reactor containments for water-cooled power reactors to be subject to the requirements of Appendix J to 10 CFR Part 50, "Leakage Rate Testing of Containment of Water Cooled Nuclear Power Plants." Appendix J specifies containment leakage testing requirements, including the types required to ensure the leak-tight integrity of the primary reactor containment and systems and components which penetrate the containment. In addition, Appendix J discusses leakage rate acceptance criteria, test methodology, frequency of testing and reporting requirements for each type of test.

The adoption of the Option B performance-based containment leakage rate testing for Type A, Type B and Type C testing did not alter the basic method by which Appendix J leakage rate testing is performed; however, it did alter the frequency at which Type A, Type B, and Type C containment leakage tests must be performed. Under the performance-based option of 10 CFR Part 50, Appendix J, the test frequency is based upon an evaluation that reviewed "as-found" leakage history to determine the frequency for leakage testing which provides assurance that leakage limits will be maintained. The proposed change to the Type C test frequency and the reduction in the grace interval for Type B and Type C testing will not directly result in an increase in containment leakage.

The NRC staff reviewed NEI TR 94-01, Revision 3, and determined that it described an acceptable approach for implementing the optional performance-based requirements of Option B to 10 CFR Part 50, Appendix J, as modified by the conditions and limitations summarized in Section 4.0 of the associated Safety Evaluation. This guidance included provisions for extending Type C LLRT intervals up to 75 months. Type C testing ensures that individual containment isolation valves are essentially leak-tight. In addition, aggregate Type C leakage rates support the leakage tightness of primary containment by minimizing potential leakage paths. The NRC staff, therefore, found that this guidance, as modified to include two limitations and conditions, was acceptable for referencing by licensees proposing to amend their TS in regards to containment leakage rate testing. Any applicant may reference NEI TR 94-01, Revision 3, as modified by the associated SER and approved by the NRC, in a licensing action to satisfy the requirements of 10 CFR Part 50, Appendix J, Option B.

10 CFR 50.36(c)(3), "Surveillance requirements," states, in part, that TS shall include the "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." This proposed change makes an administrative change to the drywell TS SR 3.6.5.1.1, to remove only the date-related information for the next Type A test performance, as the test dates have already passed. This information had previously been placed in the GGNS TS via license amendment No. 164. Therefore, this 10 CFR 50.36 requirement continues to be met by this change.

10 CFR 50.36(c)(5), "Administrative controls," requires that "provisions relating to organization and management, procedures, recordkeeping, review and audit, and reporting necessary to assure operation of the facility in a safe manner" will be included in the TS. 10 CFR 50, Appendix J, Option B, Section V.B, "Implementation" requires that the implementation document used to develop a performance-based leakage testing program be included by general reference in the TS. The Appendix J Testing Program is included in the Administrative Controls section of the GGNS TS, as TS 5.5.12, "10 CFR 50, Appendix J, Testing Program." This LAR does not remove this administrative control requirement, but simply revises the administrative controls TS 5.5.12, to include the new reference for the Type B and Type C testing, extending the frequency for performing the Type C LLRTs from 60 months to 75 months in accordance with the guidelines specified in NEI 94-01, Revision 3-A. In addition, the TS revision will incorporate the extension of 9 months allowed via the guidelines in NEI 94-01, Revision 3-A for Type B and Type C testing. The schedular grace for Type A testing will remain as currently stated in the GGNS TS 5.5.12, which was previously NRC approved via License Amendment No. 135. Therefore, this 10 CFR 50.36 requirement continues to be met by this change.

4.2 Precedent

None.

4.3 Significant Hazards Consideration

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

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

Response: No.

The proposed amendment to the Technical Specifications (TS) involves the extension of the Grand Gulf Nuclear Station, Unit 1 (GGNS) Type C local leakage rate test interval to 75 months, by adopting the NRC-accepted guidelines of Nuclear Energy Institute (NEI) 94-01, Revision 3-A, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J." Revision 3-A of NEI 94-01 allows, based on previous valve leak test performance, the extension of the current Type C test interval of 60 months for selected components on a performance basis to no longer than 75 months. Extensions of up to nine months (total maximum interval of 84 months for Type C tests) are permissible only for non-routine emergent conditions. The proposed amendment also reduces the Type B and Type C grace interval from 15 months to a more conservative 9 months in accordance with NEI 94-01, Revision 3-A.

The proposed extension does not involve either a physical change to the plant or a change in the manner in which the plant is operated or controlled. The containment is designed to provide an essentially leak tight barrier against the uncontrolled release of radioactivity to the environment for postulated accidents. Type C testing ensures that individual containment isolation valves are essentially leak tight. In addition, aggregate Type C leakage rates support the leakage tightness of primary containment by minimizing potential leakage paths. The proposed amendment will not change the leakage rate acceptance requirements. As such, the containment will continue to perform its design function as a barrier to fission product releases. In addition, the containment and the testing requirements invoked to periodically demonstrate the integrity of the containment exist to ensure the plant's ability to mitigate the consequences of an accident, and do not involve the prevention or identification of any precursors of an accident. Therefore, this proposed extension does not involve a significant increase in the probability of an accident previously evaluated.

The proposed amendment also deletes the test dates associated with Type A testing extensions previously granted for GGNS in Amendment No. 164, thereby removing the dates from the TS 5.5.12 and associated drywell surveillance requirement (SR) 3.6.5.1.1. These Type A test exceptions are for activities that have already taken place so this deletion is solely an administrative action that has no effect on any component and no impact on how the unit is operated.

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

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

Response: No.

The proposed amendment to the TS involves the extension of the GGNS Type C test interval to 75 months. The proposed amendment also reduces the Type B and Type C grace interval from 15 months to a more conservative 9 months in accordance with NEI 94-01, Revision 3-A. The containment and the testing requirements to periodically demonstrate the integrity of the containment exist to ensure the plant's ability to mitigate the consequences of an accident do not involve any accident precursors or initiators. The proposed change does not involve a physical change to the plant (i.e., no new or different type of equipment will be installed) or a change to the manner in which the plant is operated or controlled.

The proposed amendment also deletes test dates associated with Type A testing extensions previously granted for GGNS in License Amendment No. 164, thereby removing the dates from the TS 5.5.12 and associated drywell SR 3.6.5.1.1, as these dates have already passed. Since these Type A tests are activities that have already taken place, this deletion is solely an administrative action that has no effect on any component and no impact on how the unit is operated or controlled.

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

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

Response: No.

The proposed amendment to TS 5.5.12 involves the extension of the GGNS Type C test interval to 75 months for selected components. The proposed amendment also reduces the Type B and Type C grace interval from 15 months to a more conservative 9 months in accordance with NEI 94-01, Revision 3-A. This amendment does not alter the manner in which safety limits, limiting safety system set points, or limiting conditions for operation are determined. The specific requirements and conditions of the TS 10 CFR 50, Appendix J, Testing Program for containment leak rate testing exist to ensure that the degree of containment structural integrity and leak-tightness that is considered in the plant safety analysis is maintained. The overall containment leak rate limit specified by TS is maintained.

The proposed change involves the extension of the surveillance interval for only the Type C containment leakage rate tests for GGNS. The proposed surveillance interval extension is bounded by the 75-month Type C test interval currently authorized within NEI 94-01, Revision 3-A. The design, operation, testing methods, and acceptance criteria for Types A, B, and C containment leakage tests specified in applicable codes and standards would continue to be met with the acceptance of this proposed change, since these are not affected by the proposed changes to the Type C test interval.

In addition, the proposed amendment deletes statements with dates associated with Type A testing extensions previously granted for GGNS in Amendment No. 164, as these tests dates have already passed; thereby removing the dates from the drywell TS 5.5.12 and associated drywell SR 3.6.5.1.1. Since these Type A tests are for activities that have already taken place, this deletion is an administrative action that has no effect on any component and no impact on how the unit is operated or maintained.

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

Based on the above, Entergy concludes that the proposed amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of no significant hazards consideration is justified.

4.4 Conclusion

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

5.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the

types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6.0 REFERENCES

1. Regulatory Guide 1.163, Performance-Based Containment Leak-Test Program, September 1995.

2. NEI 94-01, Revision 3-A, Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J, July 2012.

3. NEI 94-01, Revision 2-A, Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J, October 2008.

4. NEI 94-01, Revision 0, Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J, July 1995.

5. NUREG-1493, Performance-Based Containment Leak-Test Program, January 1995.

6. EPRI TR-104285, Risk Impact Assessment of Revised Containment Leak Rate Testing Intervals, August 1994.

7. Letter from M. J. Maxin (NRC) to J. C. Butler (NEI), Final Safety Evaluation for NEI Topical Report (TR) 94-01, Revision 2, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J," dated June 25, 2008; and EPRI Report No. 1009325, Revision 2, August 2007, "Risk Impact Assessment of Extended Integrated Leak Rate Testing Intervals" (TAC No. MC9663) (ML081140105).

8. Letter from S. Bahadur (NRC) to B. Bradley (NEI), "Final Safety Evaluation of Nuclear Energy Institute (NEI) Report 94-01, Revision 3, Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J (TAC No. ME2164)," dated June 8, 2012 (ML121030286).

9. Risk Impact Assessment of Extended Integrated Leak Rate Testing Intervals, Revision 2-A of 1009325, EPRI, Palo Alto, CA: 2008.

10. Letter from P. W. O'Connor (NRC) to C. R. Hutchinson (EOI), "Grand Gulf Nuclear Station, Unit 1 – Issuance of Exemption from the Requirements of 10 CFR Part 50, Appendix J, (TAC No. 87209)," dated April 26, 1995 (GNRI-95/00087) (ML021480397).

11. Letter from J. N. Donohew (NRC) to C. R. Hutchinson (EOI), "Issuance of Amendment No. 126 to Facility Operating License No. NPF-29 – Grand Gulf Nuclear Station, Unit 1 (TAC No. M94176)," dated August 1, 1996 (GNRI-96/00162) (ML021480466 & ML021490103).

12. Letter from J. N. Donohew (NRC) to J. J. Hagan (GGNS-EOI), "Issuance of Amendment No. 128 to Facility Operating License No. NPF-29 – Grand Gulf Nuclear Station, Unit 1 (TAC No M95338)," dated October 18, 1996 (GNRI-96/00212) (ML021490101).

13. Letter from J. N. Donohew (NRC) to J. J. Hagan (GGNS-EOI), "Issuance of Amendment No. 135 to Facility Operating License No. NPF-29 – Grand Gulf Nuclear Station, Unit 1 (TAC No. M99879)," dated April 6, 1998 (GNRI-98/00028) (ML021490221).

14. Letter from J. N. Donohew (NRC) to W. A. Eaton (GGNS-EOI), "Grand Gulf Nuclear Station, Unit 1 – Issuance of Amendment [No. 145] Re: Full-Scope Implementation of an Alternative Accident Source Term (TAC No. MA8065)," dated March 14, 2001 (GNRI-2001/00032) (ML010780172).

15. Letter from B. Vaidya (NRC) to G. A. Williams (GGNS-EOI), "Grand Gulf Nuclear Station, Unit 1 – Issuance of Amendment [No. 164] re: One-Time Extension of the Integrated Leak Rate Test and Drywell Bypass Test Interval (TAC No. MB8940)," dated January 28, 2004 (GNRI-2004/00013) (ML040300152).

16. Letter from B Vaidya (NRC) to G. A. Williams (GGNS-EOI), "Grand Gulf Nuclear Station, Unit 1 - Issuance of Amendment [No. 168] Re: Containment Air Lock Leak Rate Test Acceptance Criteria (TAC No. MC5539)," dated July 12, 2005 (GNRI-2005/00057) (ML051540277).

17. Letter from B Vaidya (NRC) to W. R. Brian (GGNS-EOI), "Grand Gulf Nuclear Station, Unit 1 - Issuance of Amendment [No. 176] Re: Change to Technical Specifications to Allow Certain Types of Relief Valves to be Used as Isolation Devices (TAC No. MD4676)," dated August 24, 2007 (GNRI-2007/00101) (ML072140501).

18. Letter from A. B. Wang (NRC) to GGNS-EOI, "Grand Gulf Nuclear Station, Unit 1 – Issuance of Amendment [No. 191] Re: Extended Power Uprate (TAC No. ME4679)," dated July 18, 2012 (GNRI-2012/00153) (ML121210020).

19. Letter from A. B. Wang (NRC) to C. R. Hutchinson (EOI), "Grand Gulf Nuclear Station, Unit 1 - Issuance of Amendment No. 197 Re: Revise Technical Specification Surveillance Requirement Frequencies from 18-to 24-Month Fuel Cycle Intervals (TAC No. ME9764)," dated December 26, 2013 (GNRI-2013/00187) (ML13343A109).

Attachment 2
GNRO-2015/00026
Proposed Technical Specification 5.5.12, Surveillance Requirement 3.6.5.1.1 and Operating License (Markup)

5.5 Programs and Manuals (continued)

5.5.11 Technical Specifications (TS) Bases Control Program

This program provides a means for processing changes to the Bases of these Technical Specifications.

a. Changes to the Bases of the TS shall be made under appropriate administrative controls and reviews.

b. Licensees may make changes to Bases without prior NRC approval provided the changes do not require either of the following:

1. A change in the TS incorporated in the license; or

2. A change to the updated FSAR or Bases that requires NRC approval pursuant to 10 CFR 50.59.

c. The Bases Control Program shall contain provisions to ensure that the Bases are maintained consistent with the UFSAR.

d. Proposed changes that do not meet the criteria of either Specification 5.5.11.b.1 or Specification 5.5.11.b.2 above shall be reviewed and approved by the NRC prior to implementation. Changes to the Bases implemented without prior NRC approval shall be provided to the NRC on a frequency consistent with 10 CFR 50.71(e).

5.5.12 10 CFR 50, Appendix J, Testing Program

This program establishes the leakage rate testing program of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be implemented in accordance with the Safety Evaluation issued by the Office of Nuclear Reactor Regulation dated April 26, 1995 (GNRI-95/00087) as modified by the Safety Evaluation issued for Amendment No. 135 to the Operating License; ~~except that the next Type A test performed after the November 24, 1993 Type A test shall be performed no later than November 23, 2008.~~ Consistent with standard scheduling practices for Technical Specifications required surveillances, intervals for the recommended surveillance frequency for Type A~~, B and C~~ testing may be extended by up to 25 percent of the test interval, not to exceed 15 months. The calculated peak containment internal pressure for the design basis loss of coolant accident, Pa, is 14.8 psig.

For Type B and Type C local leakage rate testing, this program shall be in accordance with the guidelines contained in NEI 94-01, Revision 3-A, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J," dated July 2012.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.5.1.1	Verify bypass leakage is less than or equal to the bypass leakage limit. However, during the first unit startup following drywell bypass leak rate testing performed in accordance with this SR, the acceptance criterion is leakage $\leq$ 10% of the bypass leakage limit.	24 months following 2 consecutive tests with bypass leakage greater than the bypass leakage limit until 2 consecutive tests are less than or equal to the bypass leakage limit AND 48 months following a test with bypass leakage greater than the bypass leakage limit AND ------NOTE----- SR 3.0.2 is not applicable for extensions > 12 months. ---------- 120 months; ~~except that the next drywell bypass leak rate test performed after the November 24, 1993 test shall be performed no later than November 23, 2008~~

(continued)

(b) SERI is required to notify the NRC in writing prior to any change in (i) the terms or conditions of any new or existing sale or lease agreements executed as part of the above authorized financial transactions, (ii) the GGNS Unit 1 operating agreement, (iii) the existing property insurance coverage for GGNS Unit 1 that would materially alter the representations and conditions set forth in the Staff's Safety Evaluation Report dated December 19, 1988 attached to Amendment No. 54. In addition, SERI is required to notify the NRC of any action by a lessor or other successor in interest to SERI that may have an effect on the operation of the facility.

C. The license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10CFR 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

Entergy Operations, Inc. is authorized to operate the facility at reactor core power levels not in excess of 4408 megawatts thermal (100 percent power) in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. ___ are hereby incorporated into this license. Entergy Operations, Inc. shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

During Cycle 19, GGNS will conduct monitoring of the Oscillation Power Range Monitor (OPRM). During this time, the OPRM Upscale function (Function 2.f of Technical Specification Table 3.3.1.1-1) will be disabled and operated in an "indicate only" mode and technical specification requirements will not apply to this function. During such time, Backup Stability Protection measures will be implemented via GGNS procedures to provide an alternate method to detect and suppress reactor core thermal hydraulic instability oscillations. Once monitoring has been successfully completed, the OPRM Upscale function will be enabled and technical specification requirements will be applied to the function; no further operating with this function in an "indicate only" mode will be conducted.

Attachment 3
GNRO-2015/00026
Proposed Technical Specification 5.5.12 and Surveillance Requirement 3.6.5.1.1 (Clean)

5.5 Programs and Manuals (continued)

5.5.11 Technical Specifications (TS) Bases Control Program

This program provides a means for processing changes to the Bases of these Technical Specifications.

a. Changes to the Bases of the TS shall be made under appropriate administrative controls and reviews.

b. Licensees may make changes to Bases without prior NRC approval provided the changes do not require either of the following:

1. A change in the TS incorporated in the license; or

2. A change to the updated FSAR or Bases that requires NRC approval pursuant to 10 CFR 50.59.

c. The Bases Control Program shall contain provisions to ensure that the Bases are maintained consistent with the UFSAR.

d. Proposed changes that do not meet the criteria of either Specification 5.5.11.b.1 or Specification 5.5.11.b.2 above shall be reviewed and approved by the NRC prior to implementation. Changes to the Bases implemented without prior NRC approval shall be provided to the NRC on a frequency consistent with 10 CFR 50.71(e).

5.5.12 10 CFR 50, Appendix J, Testing Program

This program establishes the leakage rate testing program of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be implemented in accordance with the Safety Evaluation issued by the Office of Nuclear Reactor Regulation dated April 26, 1995 (GNRI-95/00087) as modified by the Safety Evaluation issued for Amendment No. 135 to the Operating License. For Type B and Type C local leakage rate testing, this program shall be in accordance with the guidelines contained in NEI 94-01, Revision 3-A, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J," date July 2012. Consistent with standard scheduling practices for Technical Specifications required surveillances, intervals for the recommended surveillance frequency for Type A testing may be extended by up to 25 percent of the test interval, not to exceed 15 months. The calculated peak containment internal pressure for the design basis loss of coolant accident, Pa, is 14.8 psig.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.5.1.1	Verify bypass leakage is less than or equal to the bypass leakage limit. However, during the first unit startup following drywell bypass leak rate testing performed in accordance with this SR, the acceptance criterion is leakage $\leq$ 10% of the bypass leakage limit.	24 months following 2 consecutive tests with bypass leakage greater than the bypass leakage limit until 2 consecutive tests are less than or equal to the bypass leakage limit AND 48 months following a test with bypass leakage greater than the bypass leakage limit AND ------NOTE----- SR 3.0.2 is not applicable for extensions > 12 months. ---------- 120 months

(continued)

Attachment 4
GNRO-2015/00026
Proposed Technical Specification Bases for Surveillance Requirement 3.6.5.1.1 (Markup)
For Information Only

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.5.1.1 (continued)

the safety analysis. This Surveillance is performed at least once every 10 years on a performance based frequency. ~~This frequency is modified on a one-time basis until November 23, 2008.~~ The Frequency is consistent with the difficulty of performing the test, risk of high radiation exposure, and the remote possibility that sufficient component failures will occur such that the drywell bypass leakage limit will be exceeded. If during the performance of this required Surveillance the drywell bypass leakage rate is greater than the drywell bypass leakage limit the Surveillance Frequency is increased to every 48 months. If during the performance of the subsequent consecutive Surveillance the drywell bypass leakage rate is less than or equal to the drywell bypass leakage limit the 10 year Frequency may be resumed. If during the performance of two consecutive Surveillances the drywell bypass leakage is greater than the drywell bypass leakage limit the Surveillance Frequency is increased to at least once every 24 months. The 24 months Frequency is maintained until during the performance of two consecutive surveillances the drywell bypass leakage rate is less than or equal to the drywell bypass leakage limit, at which time the 10 year Frequency may be resumed. For two Surveillances to be considered consecutive the Surveillances must be performed at least 12 months apart.

Since the Frequency is performance based, the Frequency was concluded to be acceptable from a reliability standpoint (Ref. 3).

SR 3.6.5.1.2

The exposed accessible drywell interior and exterior surfaces are inspected to ensure there are no apparent physical defects that would prevent the drywell from performing its intended function. This SR ensures that drywell structural integrity is maintained. The Frequency was chosen so that the interior and exterior surfaces of the drywell can be inspected in conjunction with the inspections of the primary containment required by 10 CFR 50, Appendix J (Ref. 2). Due to the passive nature of the drywell structure, the specified Frequency is sufficient to identify

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Attachment 5
GNRO-2015/00026
Proposed Technical Specification Bases for Surveillance Requirement 3.6.5.1.1 (Clean)
For Information Only

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.5.1.1 (continued)

the safety analysis. This Surveillance is performed at least once every 10 years on a performance based frequency. The Frequency is consistent with the difficulty of performing the test, risk of high radiation exposure, and the remote possibility that sufficient component failures will occur such that the drywell bypass leakage limit will be exceeded. If during the performance of this required Surveillance the drywell bypass leakage rate is greater than the drywell bypass leakage limit the Surveillance Frequency is increased to every 48 months. If during the performance of the subsequent consecutive Surveillance the drywell bypass leakage rate is less than or equal to the drywell bypass leakage limit the 10 year Frequency may be resumed. If during the performance of two consecutive Surveillances the drywell bypass leakage is greater than the drywell bypass leakage limit the Surveillance Frequency is increased to at least once every 24 months. The 24 months Frequency is maintained until during the performance of two consecutive surveillances the drywell bypass leakage rate is less than or equal to the drywell bypass leakage limit, at which time the 10 year Frequency may be resumed. For two Surveillances to be considered consecutive the Surveillances must be performed at least 12 months apart.

Since the Frequency is performance based, the Frequency was concluded to be acceptable from a reliability standpoint (Ref. 3).

SR 3.6.5.1.2

The exposed accessible drywell interior and exterior surfaces are inspected to ensure there are no apparent physical defects that would prevent the drywell from performing its intended function. This SR ensures that drywell structural integrity is maintained. The Frequency was chosen so that the interior and exterior surfaces of the drywell can be inspected in conjunction with the inspections of the primary containment required by 10 CFR 50, Appendix J (Ref. 2). Due to the passive nature of the drywell structure, the specified Frequency is sufficient to identify

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