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

January 23, 2018

Vice President, Operations
Entergy Operations, Inc.
Grand Gulf Nuclear Station
P.O. Box 756
Port Gibson, MS 39150

SUBJECT: GRAND GULF NUCLEAR STATION, UNIT 1 – RELIEF REQUEST GG-ISI-020 PROPOSING AN ALTERNATIVE FOR THE FOURTH 10-YEAR INSERVICE INSPECTION PROGRAM BY USING BOILING WATER REACTOR VESSEL AND INTERNALS PROJECT GUIDELINES IN LIEU OF SPECIFIC AMERICAN SOCIETY OF MECHANICAL ENGINEERS CODE REQUIREMENTS (CAC NO. MF9460; EPID L-2017-LLR-0017)

Dear Sir or Madam:

By letter dated March 15, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17074A625), as supplemented by letter dated October 12, 2017 (ADAMS Accession No. ML17285A516), Entergy Operations, Inc. (the licensee), requested changes to the inspection program for the fourth 10-year inservice inspection (ISI) interval for its reactor vessel internals components for Grand Gulf Nuclear Station, Unit 1 (GGNS). In this relief request, the licensee proposed to use Boiling Water Reactor Vessel and Internals Project (BWRVIP) guidelines as an alternative to certain requirements of Section XI of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) for ISI of reactor pressure vessel interior surfaces, attachments, and core support structures. These proposed alternatives were requested for the fourth 10-year ISI interval which began on June 2, 2017, and will end on June 1, 2027.

The U.S. Nuclear Regulatory Commission (NRC) staff reviewed the licensee's submittals and concluded, as set forth in the enclosed safety evaluation, that the licensee has adequately addressed all of the regulatory requirements set forth in Title 10 of the *Code of Federal Regulations*, Section 50.55a(z)(1), and is in compliance with the ASME Code requirements. Therefore, the NRC authorizes the licensee's proposed alternative for inspection of its reactor vessel internals components by using BWRVIP guidelines as an alternative to certain requirements of ASME Code, Section XI, for GGNS through the end of the fourth 10-year ISI interval, which ends on June 1, 2027.

All other ASME Code, Section XI, requirements for which relief was not specifically requested and approved by the NRC staff remain applicable, including third-party review by the Authorized Nuclear Inservice Inspector.

If you have any questions, please contact the Project Manager, Siva P. Lingam, at 301-415-1564 or via e-mail at Siva.Lingam@nrc.gov.

Sincerely,

Robert J. Pascarelli, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-416

Enclosure:
Safety Evaluation

cc: Listserv

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

# SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

# RELIEF REQUEST GG-ISI-020 PROPOSING AN ALTERNATIVE FOR THE FOURTH 10-YEAR INSERVICE INSPECTION PROGRAM BY USING BOILING WATER REACTOR VESSEL AND INTERNALS PROJECT GUIDELINES

# ENTERGY OPERATIONS, INC.

# GRAND GULF NUCLEAR STATION, UNIT 1

# DOCKET NO. 50-416

## 1.0 INTRODUCTION

By letter dated March 15, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17074A625), as supplemented by letter dated October 12, 2017 (ADAMS Accession No. ML17285A516), Entergy Operations, Inc. (the licensee), requested changes to the inspection program for the fourth 10-year inservice inspection (ISI) interval for its reactor vessel internal (RVI) components for Grand Gulf Nuclear Station, Unit 1 (GGNS).

The licensee proposed to use Boiling Water Reactor Vessel and Internals Project (BWRVIP) guidelines as an alternative to certain requirements of Section XI of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) for ISI of reactor pressure vessel interior surfaces, attachments, and core support structures (RVI components). These proposed alternatives were requested for the fourth 10-year ISI interval, which began on June 2, 2017, and will end on June 1, 2027.

## 2.0 REGULATORY EVALUATION

The ISI of ASME Code Class 1, 2, and 3 components is to be performed in accordance with Section XI of the ASME Code and applicable edition and addenda as required by Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(g), except where specific relief has been granted by the U.S. Nuclear Regulatory Commission (NRC) pursuant to 10 CFR 50.55a(g)(6)(i). Pursuant to 10 CFR 50.55a(z), "Alternatives to codes and standards requirements," alternatives to the requirements of paragraph 10 CFR 50.55a(g) may be used, when authorized by the NRC if (i) the proposed alternatives would provide an acceptable level of quality and safety or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2, and 3 components (including supports) must meet the requirements, except the design and access provisions and the preservice examination requirements, set forth in the ASME Code, Section XI to the extent practical within the limitations of design, geometry, and materials of construction of the components. The regulations require that inservice examination of components and system pressure tests conducted during the first 10-year interval and subsequent intervals comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(a)(1)(ii), 12 months prior to the start of the 120-month interval, subject to the conditions listed in 10 CFR 50.55a(b)(2).

The regulations in 10 CFR 50.55a(g)(4)(iv) state that inservice examination of components and system pressure tests may meet the requirements set forth in subsequent editions and addenda that are incorporated by reference in paragraph 10 CFR 50.55a(a), subject to the conditions listed in 10 CFR 50.55a(b) and subject to Commission approval. Portions of editions or addenda may be used provided that all related requirements of the respective editions or addenda are met. The applicable ASME Code of record for the fourth 10-year ISI interval for GGNS, is the ASME Code, Section XI, 2007 Edition through 2008 Addenda.

## 3.0 LICENSEE'S EVALUATION

### The Components for Which an Alternative is Requested

The ASME Code, Section XI, Class 1, Examination Categories B-N-1 and B-N-2, Code Item Numbers B13.10 (Vessel Interior), B13.20 (Interior Attachments within Beltline Region), B13.30 (Interior Attachments beyond Beltline Region), and B13.40 (Core Support Structure).

### Examination Requirements for Which an Alternative is Requested

The ASME Code, Section XI, requires the visual examination (VT) of certain RVI components. These examinations are included in Table IWB-2500-1, Categories B-N-1 and B-N-2, and identified with the following item numbers:

- B13.10 - Examine accessible areas of the reactor vessel interior each period using a technique which meets the requirements for a VT-3 examination, as defined in paragraph IWA-2213 of the ASME Code, Section XI.

- B13.20 - Examine interior attachment welds within the beltline region each interval using a technique which meets the requirements for a VT-1 examination as defined in paragraph IWA-2211 of the ASME Code, Section XI.

- B13.30 - Examine interior attachment welds beyond the beltline region each interval using a technique which meets the requirements for a VT-3 examination, as defined in paragraph IWA-2213 of the ASME Code, Section XI.

- B13.40 - Examine surfaces of the core support structure each interval using a technique which meets the requirements for a VT-3 examination, as defined in paragraph IWA-2213 of the ASME Code, Section XI.

These examinations are performed to assess the structural integrity of the reactor pressure vessel interior surfaces, attachments, and core support structures.

Licensee's Basis for Requesting an Alternative and Justification for Granting Relief

In Proposed Alternative Request GG-ISI-020, the licensee, in lieu of ASME Code, Section XI, requirements, submitted an alternative inspection program per the BWRVIP guidelines for B-N-1 and B-N-2 reactor pressure vessel interior surfaces, attachments, and core support structures at GGNS. The licensee stated that implementation of the alternative inspection program will maintain an acceptable level of quality and safety of the affected welds and components and will not adversely impact the health and safety of the public. As part of its justification for the relief, the licensee stated that boiling-water reactors (BWRs) now examine the reactor pressure vessel interior surfaces, attachments, and core support structures in accordance with BWRVIP guidelines. The proposed alternative includes examination methods, examination volume, frequency, training, successive and additional examinations, flaw evaluations, and reporting. These inspection and evaluation (I&E) guidelines have been written to address the examination of safety-significant RVI components and to examine and evaluate the examination results for these components using appropriate methods and reexamination frequencies. The BWRVIP guidelines were developed based on inspection data gathered during many inspections across the BWR industry.

Alternative Examination

In lieu of the requirements of the applicable edition and addenda of the ASME Code, Section XI, the licensee proposed to examine the GGNS RVI components in accordance with BWRVIP guideline requirements. The licensee included only the RVI components that are categorized under the jurisdiction of the ASME Code, Section XI (code components). The following reports include BWRVIP I&E guidelines for the reactor pressure vessel interior surfaces, attachments, and core support structures. Furthermore, the licensee clarified that not all RVI components listed in the following BWRVIP reports are ASME Code, Section XI components.

- BWRVIP-03, "BWR Vessel and Internals Project, Reactor Pressure Vessel and Internals Examination Guidelines"
- BWRVIP-18, Revision 1-A, "BWR Core Spray Internals Inspection and Flaw Evaluation Guidelines"
- BWRVIP-25, "BWR Core Plate Inspection and Flaw Evaluation Guidelines"
- BWRVIP-26-A, "BWR Vessel and Internals Project, Top Guide Inspection and Flaw Evaluation Guidelines"
- BWRVIP-27-A, "BWR Standby Liquid Control System/Core Plate $\Delta P$ Inspection and Flaw Evaluation Guidelines"
- BWRVIP-38, "BWR Vessel and Internals Project, Shroud Support Inspection and Flaw Evaluation Guidelines"
- BWRVIP-41, "Revision 3, "BWR Jet Pump Assembly Inspection and Flaw Evaluation Guidelines"
- BWRVIP-47-A, "BWR Vessel and Internals Project, BWR Lower Plenum Inspection and Flaw Evaluation Guidelines"
- BWRVIP-48-A, "BWR Vessel and Internals Project, Vessel ID Attachment Weld Inspection and Flaw Evaluation Guidelines"
- BWRVIP-76, Revision 1-A, "BWR Core Shroud Inspection and Flaw Evaluation Guidelines"
- BWRVIP-94, "BWR Vessel and Internals Project, Program Implementation Guide"

- BWRVIP-138, Revision 1-A, "BWR Vessel and Internals Project, Updated Jet Pump Beam Inspection and Flaw Evaluation"
- BWRVIP-100-A, "BWR Vessel and Internals Project, Updated Assessment of the Fracture Toughness of Irradiated Stainless Steel for BWR Core Shrouds"

The licensee further indicated that the BWRVIP has established reporting protocol for examination results and deviations, and that the NRC has agreed with the BWRVIP approach in principle and has issued safety evaluations (SEs) for many of these guidelines.

In Table 1 of Enclosure 1 of Proposed Alternative Request No. GG-ISI-020, the licensee provided a comparison of the ASME Code, Section XI, examination requirements for the B-N-1 and B-N-2 categories of the RVI components with the above current BWRVIP I&E guidelines. In Enclosures 2 and 3 of the proposed alternative request, the licensee provided additional information regarding the BWRVIP inspection guidelines for the following components of the reactor pressure vessel interior surfaces, attachments, and core support structures and their subcomponents representing each of the ASME Code, Section XI, Item Numbers B13.10, B13.20, B13.30, and B13.40:

- Reactor Vessel Interior (B13.10)
- Interior Attachments within Beltline (B13.20)
- Interior Attachments beyond Beltline (B13.30)
- Core Support Structure (B13.40)

The licensee stated that the examples for each of the above components demonstrated that the inspection techniques that are recommended by the BWRVIP inspection guidelines meet or exceed the inspection techniques mandated by the ASME Code, Section XI, ISI program. For some inspections, such as the jet pump riser braces, the BWRVIP techniques provide enhanced detection capabilities, although with less frequent examinations. For other inspections, such as the core spray piping bracket welds, the inspection frequency is increased. The licensee stated the BWRVIP guidelines focus on specific and susceptible components, specify appropriate inspection methods capable of identifying real anticipated degradation mechanisms, and required reexamination at conservative intervals. The licensee concluded that implementation of the BWRVIP inspection guidelines for the GGNS, RVI components would provide an acceptable level of quality and safety. Furthermore, the licensee provided an inspection history in its submittal which included inspection methods, inspection dates, the results of the inspection and corrective actions related to the findings of the inspections of the RVI components at GGNS.

## 4.0 TECHNICAL EVALUATION

The NRC staff reviewed the information provided by the licensee in its submittal dated March 15, 2017, regarding its proposed alternatives to the ASME Code, Section XI ISI requirements and the technical bases for the licensee's proposed alternatives. The staff found the referenced BWRVIP reports to be acceptable, along with any additional conditions associated with the implementation of the subject BWRVIP reports outlined in the corresponding staff SE for that report.

Examination of Reactor Vessel Interior (Item B13.10)

The ASME Code requires a VT-3 examination of the reactor vessel interior, which is above and below the core beltline, and which is made accessible during normal refueling outages. For the first inspection interval, the ASME Code requires inspection at the first refueling outage and at approximately 3-year intervals thereafter. For the second and successive inspection intervals, the ASME Code requires inspection once each inspection period.

Portions of the various examinations required by the applicable BWRVIP guidelines (referenced in Section 3.0 of this SE) require access to the accessible areas of the reactor vessel during each refueling outage. According to the licensee, BWRVIP examination of core spray piping and spargers, top guide, jet pump welds and components, interior attachments, core shroud welds, shroud support, and lower plenum components provides access to the ASME Code defined Item B13.10 reactor vessel interior. Also according to the licensee, the remote camera systems used in these BWRVIP examinations provide an equivalent method of visual examination on a more frequent basis than that required by the ASME Code. During the BWRVIP examinations, evidence of wear, structural degradation, loose or missing or displaced parts, foreign materials, and corrosion product buildup can be observed. The licensee stated that the specified BWRVIP guideline requirements meet or exceed the ASME Code requirements for Item B13.10 examination of the reactor vessel interior.

The NRC staff verifies that the specified BWRVIP guideline requirements meet or exceed the ASME Code requirements for Item B13.10 examination of the reactor vessel interior, and finds that the licensee proposed alternative provides an acceptable level of quality and safety for the Item B13.10 components.

Examination of Interior Attachments within Beltline (Item B13.20)

The ASME Code requires a VT-1 examination of accessible reactor vessel interior attachment welds within the beltline during each inspection interval.

The licensee specifically listed the jet pump riser braces and lower surveillance specimen holder brackets as Item B13.20 components, which are to be examined in accordance with BWRVIP-48-A. The BWRVIP-48-A requires the lower surveillance specimen holder bracket attachment to be examined by VT-1 each inspection interval, which is the same level of inspection and frequency as required by the ASME Code. But BWRVIP-48-A requires an enhanced VT-1 (EVT-1) examination of 100 percent of the jet pump riser brace attachments during the first 12 years, and then 25 percent EVT-1 examination during each subsequent 6 years. The BWRVIP EVT-1 exams require the same character resolution as the ASME Code VT-1 exams, but with additional cleaning assessment and cleaning requirements. Therefore, the BWRVIP EVT-1 exams have enhanced flaw detection, but a less frequent examination schedule as compared to the ASME Code VT-1 exams.

The NRC staff finds that the licensee's proposed alternative provides an acceptable level of quality and safety for the Item B13.20 components.

Examination of Interior Attachments beyond Beltline (Item B13.30)

The ASME Code requires a VT-3 examination of accessible reactor vessel interior attachment welds beyond the beltline during each inspection interval.

The licensee specifically listed the steam dryer hold-down brackets, guide rod brackets, steam dryer support brackets, feedwater sparger brackets, core spray piping brackets, and upper surveillance specimen holder brackets as Item B13.30 components, which are to be examined in accordance with BWRVIP-48-A. The licensee also listed the shroud support plate-to-vessel weld as an Item B13.30 component, which is to be examined in accordance with BWRVIP-38. For the steam dryer hold-down brackets, the guide rod brackets, and the upper surveillance specimen holders, the BWRVIP requires a VT-3 examination each inspection interval, which is the same level and frequency as required by the ASME Code. For the steam dryer support brackets and the feedwater sparger brackets, the BWRVIP requires an EVT-1 examination each inspection interval, which is an enhanced level of inspection but the same frequency as compared to the ASME Code. For the core spray piping brackets, the BWRVIP requires an EVT-1 examination every four cycles, which is an enhanced level of inspection and an increased frequency as compared to the ASME Code. For the shroud support plate-to-vessel weld, the BWRVIP requires either an EVT-1 examination every 6 years, or an ultrasonic testing (UT) examination, which is an enhanced level of inspection and the same or increased frequency as compared to the ASME Code. The licensee stated that the BWRVIP-required examination provides a level of quality and safety equivalent or superior to the ASME Code requirements for the Item B13.30 components.

Enclosure 3 of the proposed alternative request documents the finding of indications on the steam dryer seismic support blocks. Because the licensee did not explain how these indications were repaired or dispositioned, the NRC staff issued a request for additional information (RAI) on September 14, 2017 (ADAMS Accession No. ML17257A142). In its RAI response dated October 12, 2017, the licensee referenced steam dryer visual inspection results for the first two scheduled refueling outages following steam dryer replacement during the extended refueling outage. These inspection results were submitted to the NRC on June 30, 2017 (ADAMS Accession No. ML17186A023), in accordance with the conditions of the GGNS operating license. The inspection results stated that indications were consistent with wear, handling, or construction damage. The inspection results also stated that the seismic support block was polished to remove metal slivers where necessary, and that all indications were scheduled for reinspection during the subsequent refueling outage. The NRC staff finds the licensee's response is acceptable, since it adequately explains how these indications were dispositioned.

The NRC staff finds that the licensee's proposed alternative provides an acceptable level of quality and safety for the Item B13.30 components.

Examination of Core Support Structure (Item B13.40)

The ASME Code requires a VT-3 examination of accessible surfaces of the core support structure during each inspection interval.

The licensee specifically listed the integrally welded core support structure, core shroud horizontal and vertical welds, and core shroud repairs as Item B13.40 components, which are to be examined according to the BWRVIP. For the integrally welded core support structure, BWRVIP-38 requires either EVT-1 or UT based on as-found conditions, to a maximum 6 years for one side EVT-1, and 10 years for UT where accessible. For the core shroud horizontal welds H1-H7, BWRVIP-76-R1-A requires either EVT-1 or UT based on as-found conditions, to a maximum of 10 years for UT when inspected from both sides of the welds. For the core shroud vertical welds, BWRVIP-76-R1-A requires either EVT-1 or UT, a maximum of 10 years based on inspection of horizontal welds. For core shroud repairs, BWRVIP-76-R1-A requires VT-3 in accordance with designer recommendations. Where the BWRVIP requires EVT-1 or UT

examination of these components, these examination methods are more effective in identifying defects than the VT-3 examination prescribed in the ASME Code. The BWRVIP examination frequency is equivalent or more frequent than that provided by the ASME Code for these components. The licensee stated that the BWRVIP-required examination provides a level of quality and safety equivalent or superior to the ASME Code requirements for the Item B13.40 components.

Enclosure 3 of the proposed alternative request documents the finding of four indications with characteristics associated with intergranular stress-corrosion cracking/irradiation-assisted stress-corrosion cracking during inspections of the core shroud welds H3 and H4. Because the licensee did not explain how these indications were repaired or dispositioned, the NRC staff issued an RAI dated September 14, 2017. In its RAI response dated October 12, 2017, the licensee stated that for weld H3, 0.6 percent of the total weld length was considered flawed, and that this weld met all the requirements for reinspection frequency screening per Table 2-1 of BWRVIP-76, Revision 1-A. For weld H4, the licensee stated that 0.2 percent of the total weld length was considered flawed, and that a site-specific analysis was performed due to the fluence at this weld. The NRC staff finds the licensee's response is acceptable since the licensee dispositioned the core shroud weld indications consistent with the requirements of BWRVIP-76, Revision 1-A. The NRC emphasizes that when inspections are performed in accordance with BWRVIP-76, Revision 1-A, in lieu of the ASME Code, all the requirements of BWRVIP-76, Revision 1-A, must be followed, including the reporting and evaluation submittal requirements of BWRVIP-76, Revision 1-A, Section 4 when applicable.

The NRC staff finds that the licensee's proposed alternative provides an acceptable level of quality and safety for the Item B13.40 components.

Welds Fabricated from E-308/309 (Furnace Sensitized) Stainless Steel or Inconel 182 Material

Guide BWRVIP-48-A, which provides RVI attachment weld inspection and flaw evaluation guidelines, was primarily written to provide guidelines for those vessel attachments that were determined to be safety-related. But BWRVIP-48-A also includes inspection guidelines for nonsafety-related bracket attachments that use weld material, which is highly susceptible to stress-corrosion cracking such as nickel-based Alloy 182, furnace-sensitized E308, or E309 stainless steel. In BWRVIP-48-A, it states that the inspection guidelines for these nonsafety-related bracket attachments address the concern that these susceptible welds might serve as initiation sites for crack growth into the vessel base material.

In Table 2 of its submittal, the licensee provided a list of vessel attachment welds fabricated from either E-308/309 (furnace-sensitized) stainless steel or nickel-based Alloy 182 (commonly referred to as Inconel 182). The list provided by the licensee includes the inspections performed on these welds, whether indications have been identified, and whether repairs have been required. For all of these welds identified, except for the shroud support leg (weld H12), the licensee stated that no indications have been identified and no repairs have been required. For the shroud support leg (weld H12), the licensee stated that since shroud support welds H8 and H9 are structurally adequate, inspection of shroud support leg (weld H12) is not required. Because the licensee did not adequately explain why inspection of the shroud support leg is not required, the NRC staff issued an RAI dated September 14, 2017. In its RAI response dated October 12, 2017, the licensee stated that weld H12 is considered inaccessible and that jet pump disassembly or fuel support casting removal would be required to access weld H12. The licensee further stated that BWRVIP-47-A states that the BWRVIP has determined that removing or dismantling of internal components for the purpose of performing inspections is not

warranted to assure safe operation. Finally, the licensee stated that GGNS does not have any operating history on weld H12 inspections. The NRC staff finds the licensee's response is acceptable since the licensee dispositioned the shroud support welds consistent with the requirements of BWRVIP-48-A and BWRVIP-47-A.

Leakage Assessment

Revision 1-A of BWRVIP-18, BWRVIP-41, Revision 3, and BWRVIP-76, Revision 1-A, provide guidelines for flaw evaluation and leakage assessment for core spray, jet pump, and core shroud welds. The licensee stated that a plant-specific integrated leakage assessment has been performed for assumed cracks as no known cracks related to leakage were identified from the inspection history. The plant-specific integrated leakage assessment performed by the licensee concluded that the postulated leakage for these components would not increase the peak cladding temperature and thus meet the regulatory requirements specified in 10 CFR 50.46(b). The NRC staff finds the licensee's response is acceptable since the licensee performed the leakage assessment consistent with the requirements of BWRVIP-18, Revision 1-A, BWRVIP-41, Revision 3, and BWRVIP-76, Revision 1-A, and the licensee has complied with the peak cladding temperature criteria addressed in 10 CFR 50.46(b).

## 5.0 CONCLUSION

Based on the information provided in the licensee's March 15, 2017, submittal, as supplemented by the RAI responses dated October 12, 2017, the NRC staff concludes that the alternative proposed by the licensee will ensure that the integrity of the RVI components is maintained with an acceptable level of quality and safety.

Therefore, pursuant to 10 CFR 50.55a(z)(1), the licensee's proposed alternative for GGNS, is authorized for the fourth 10-year ISI interval.

All other requirements of ASME Code, Section XI for which an alternative has not been specifically requested remain applicable, including third party review by the Authorized Nuclear Inservice Inspector. Any ASME Code, Section XI, RVI components that are not included in this request for alternative will continue to be inspected in accordance with the ASME Code, Section XI requirements. The I&E guidelines addressed in the relevant BWRVIP reports should be implemented for the non-ASME Code, Section XI, RVI components at GGNS.

Principal Contributor: Joel Jenkins, NRR/DMLR/MVIB

Date: January 23, 2018

SUBJECT: GRAND GULF NUCLEAR STATION, UNIT 1 – RELIEF REQUEST GG-ISI-020 PROPOSING AN ALTERNATIVE FOR THE FOURTH 10-YEAR INSERVICE INSPECTION PROGRAM BY USING BOILING WATER REACTOR VESSEL AND INTERNALS PROJECT GUIDELINES IN LIEU OF SPECIFIC AMERICAN SOCIETY OF MECHANICAL ENGINEERS CODE REQUIREMENTS (CAC NO. MF9460; EPID L-2017-LLR-0017) DATED JANUARY 23, 2018

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