



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

November 17, 2022

Ms. Cheryl A. Gayheart
Regulatory Affairs Director
Southern Nuclear Operating Co., Inc.
3535 Colonnade Parkway
Birmingham, AL 35243

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT, UNITS 1 AND 2 – REGULATORY
AUDIT IN SUPPORT OF REVIEW OF THE APPLICATION TO RELAX
REQUIRED NUMBER OF FULLY TENSIONED REACTOR PRESSURE
VESSEL HEAD CLOSURE STUDS (EPID L-2022-LLA-0120)

Dear Ms. Gayheart:

By letter dated August 19, 2021, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22231B055), Southern Nuclear Operating Company (SNC, the licensee) submitted a license amendment request (LAR) for Edwin I. Hatch Nuclear Plant (Hatch), Units 1 and 2. The LAR proposes to relax the required number of fully tensioned reactor pressure vessel (RPV) head closure studs in Technical Specification (TS) Table 1.1-1, "MODES" of Hatch, Units 1 and 2.

The U.S. Nuclear Regulatory Commission (NRC) staff has identified the need for a regulatory audit to further examine the SNC evaluations and calculations performed by Dominion Engineering, Inc. (DEI) that determined the impact of out-of-service studs on RPV closure stresses, stud stresses, closure flange separation, and fatigue usage. These calculations were part of the LAR submittal and are documented in C-037-2201-00-01, Revision 0, "Hatch Unit 1 Operation with One Stud Out of Service Evaluation" (Enclosure 2 to the application) and C-037-2201-00-02, Revision 0, "Hatch Unit 2 Operation with Two Studs Out of Service Evaluation" (Enclosure 3 to the application).

Additionally, NRC staff will examine other SNC non-docketed information with the intent to gain understanding, to verify information, or to identify information that will require docketing to support the basis of the licensing or regulatory decision.

The NRC staff will conduct the audit virtually via Teams using a licensee-established electronic portal available to NRC staff from approximately November 30, 2022, through January 31, 2023, with formal audit meetings to be scheduled during this period as needed. The detailed audit plan is enclosed with this letter.

C. Gayheart

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If you have any questions, please contact me at (301) 415-5905 or by e-mail at Dawnmathews.Kalathiveetil@nrc.gov.

Sincerely,

/RA/

John G. Lamb, Senior Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-321 and 50-366

Enclosure:
Audit Plan

cc: Listserv

REGULATORY AUDIT PLAN
BY THE OFFICE OF NUCLEAR REACTOR REGULATION
TO SUPPORT THE REVIEW OF THE LICENSE AMENDMENT REQUEST
TO RELAX THE REQUIRED NUMBER OF FULLY TENSIONED
REACTOR PRESSURE VESSEL HEAD CLOSURE STUDS IN
TECHNICAL SPECIFICATION TABLE 1.1-1, "MODES"
SOUTHERN NUCLEAR OPERATING COMPANY
EDWIN I. HATCH NUCLEAR PLANT, UNITS 1 AND 2
DOCKET NOS. 50-321 AND 50-366

1.0 BACKGROUND

By application dated August 19, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22231B055), Southern Nuclear Operating Company (SNC, the licensee) submitted a license amendment request (LAR) to the United States Nuclear Regulatory Commission (NRC) to amend Renewed Operating License Nos. DPR-57 and NPF-5 for the Edwin I. Hatch Nuclear Plant (Hatch), Units 1 and 2, respectively. Specifically, the proposed LAR would relax the required number of fully tensioned reactor pressure vessel (RPV) head closure studs in Technical Specification Table 1.1-1, "MODES" of the Hatch units.

The NRC staff from the Office of Nuclear Reactor Regulation (NRR) has initiated its review of the LAR in accordance with NRR Office Instruction LIC-101, "License Amendment Review Procedures." The licensee included with the application SNC evaluations and calculations performed by Dominion Engineering, Inc. (DEI) that determined the impact of out-of-service studs on RPV closure stresses, stud stresses, closure flange separation, and fatigue usage. These calculations are documented in C-037-2201-00-01, Revision 0, "Hatch Unit 1 Operation with One Stud Out of Service Evaluation" (Enclosure 2 to the application) and C-037-2201-00-02, Revision 0, "Hatch Unit 2 Operation with Two Studs Out of Service Evaluation" (Enclosure 3 to the application).

2.0 REGULATORY AUDIT BASIS

Per NRR's Office Instruction LIC-111, "Regulatory Audits," Revision 1 (ML19226A274) dated October 31, 2019, a regulatory audit is a planned, licensing- or regulatory-related activity that includes the examination of primarily non-docketed information with the intent to gain understanding, to verify information, or to identify information that will require docketing to support the basis of the licensing or regulatory decision. The NRC staff will perform the audit to support its evaluation of whether SNC's LAR can be approved per Title 10 of the *Code of Federal Regulations*, Section 50.90, "Application for amendment of license, construction permit, or early site permit."

The NRC staff is requesting an audit of the finite element analyses (FEA) documented in the DEI calculations included as Enclosures 2 and 3 to the application. This audit is to gain an understanding of the stresses in the studs in the preload and preload plus pressure conditions. The change in the stresses in the studs from the preload to the preload plus pressure condition reported in the two DEI calculations is not consistent with the NRC staff's understanding of the expected change in stud stresses in a bolted joint for these conditions. The audit is also to gain a better understanding of the FEA simulation of the case of studs failing in service. Details of the specific information the NRC staff will review during the audit are in Section 4 of this audit plan.

3.0 REGULATORY AUDIT SCOPE AND METHODOLOGY

The focus of the NRC staff's audit will be on: (1) Part 1 - DEI calculations C-037-2201-00-01, Revision 0, and C-037-2201-00-02, Revision 0, as described below, and (2) Part 2 - the actions undertaken by the licensee to remove/repair Unit 2 stud #33 since the 2017 approved relief request and the upcoming Spring 2023 Outage.

Part 1:

Table 3 in each of the two DEI calculations in the enclosures to the application lists the maximum membrane stress stud stress for the preload condition (Load Case A1) and preload plus pressure condition (Load Case A2). The NRC staff noted that the maximum membrane stud stress decreased going from Load Case A1 to Load Case A2. The NRC staff expected the maximum membrane stud stress to increase based on the NRC staff's understanding of the expected change in stud stresses in a bolted joint for these two load conditions. To understand the reason(s) for the decrease, the NRC staff would like an overview of the FEA developed to analyze the various load cases (including scope of model, modelling assumptions, nodalization, and locations evaluated for maximum stress), and a detailed review of the FEA runs for Load Cases A1 and A2. Specifically for Load Cases A1 and A2, the NRC will review the following aspects of the FEA run for each case:

- Boundary conditions applied to the models for both cases
- Stress and displacement results for both cases
- Simulation of the load transfer between head and vessel flanges
- Other aspects that will help the NRC staff understand the reason for the decrease in stud stress. For example, Section 5.2.3 in each of the two DEI calculations states that Load Case A2 represents the operating conditions with the vessel at design pressure and with intact studs. "Operating conditions" implies that Load Case A2 is at operating temperature and therefore includes thermal stress. The NRC staff would like to review Load Case A2 minus the thermal stress to understand the thermal contribution.

Section 5.2.3 in each of the two DEI calculations in the enclosures describes Cases C1 and C2, which are for studs failing in service. To gain a better understanding of the FEA simulation of the case of studs failing in service, the NRC staff will review the following aspects of the FEA run for Case C1 (and/or C2):

- The starting load state when all studs are preloaded with the specified initial strain
- The corresponding load state when one (or two) studs are assumed to fail in service

Please note that during the discussion of the information requested above, the NRC staff may request clarifications to understand the impact on the overall stress analysis.

Part 2:

During the audit, NRC staff will also review information related to the following items.

- The NRC authorized relief requests, in 2017 and 2019 (ML17205A345 and ML19035A550, respectively), from inspection of RPV stud #33 based on impracticality. The 2017 authorization was a contingency in case the two planned stud removal techniques were not successful during refueling outage 2R24. Similarly, the 2019 authorized relief, through the end of the current ISI interval (December 31, 2025), if attempts to remove RPV stud #33 was not successful during the Hatch Unit No. 2 refueling outage 2R25. Please provide a summary of all attempts to inspect and/or remove stud #33 since the 2017 authorization, including techniques applied for removal of each attempt, results achieved, and acceptance criteria for terminating removal efforts. Also, please provide post-tensioning values for the as-left condition of stud #33 for each outage.
- In its LAR dated August 19, 2022, the licensee states that Table 1.1-1 is proposed to be revised to address the increased possibility that a RPV head closure stud cannot be fully tensioned and avert the possible need for an exigent or emergency license amendment during the Spring 2023 Refueling Outage. Please describe the technical basis supporting the assertion that stud #33 or any other stud cannot be fully tensioned. Please provide any estimated calculations or inspection results that would indicate that the known flaw on stud #33 would propagate to a point such that sufficient tensioning is not achievable.
- In its LAR dated August 19, 2022, the licensee requests approval of operation of Hatch, Unit 2, with two RPV studs less than fully tensioned and Unit 1 with one stud less than fully tensioned. Based on the 2017 and 2019 relief requests, the NRC acknowledges the prior impracticality assessment regarding stud #33. Based on review of Section 2.3 of the SNC submittal, the NRC has concerns regarding the basis for the need regarding the request to allow a second stud to be less than fully tensioned in Hatch, Unit 2, and the basis for any vessel studs to be less than fully tensioned in Hatch, Unit 1. Please provide justification to have additional studs less than fully tensioned when there is no apparent degradation or inspection supporting the need.
- In its 2019 relief request, the licensee told the NRC that it planned to remove stud #33 and requested relief as a contingency. In its LAR, the licensee states that, "There were no attempts to remove the stud during the 2021 refueling outage (2R26)," but asserts that these amendments are needed to "avert the possible need for an exigent or emergency license amendment during the Spring 2023 Refueling Outage." Because this condition has existed for more than six years, and the licensee has had opportunities to remove/repair stud #33, the NRC has concerns that the entry conditions for an exigent or emergency amendment may be challenging to address. Please provide outage-specific repair plans for stud #33 that are expected to be completed during the spring 2023 refueling outage for Hatch, Unit 2.

4.0 INFORMATION AND OTHER MATERIAL NECESSARY FOR THE AUDIT

The NRC staff will request information and an audit meeting(s) throughout the audit period. The NRC staff will use an "audit items list" to identify the information (e.g., methodology, process information, and calculations) to be audited. The NRC staff will provide the final audit items list as an enclosure to the audit summary report, which will be publicly available. Attachment 1 to this audit plan includes the initial audit items list. Initial audit questions are contained in Attachment 2.

Throughout the audit period, the NRC staff will provide SNC with audit questions and audit-related requests so that the licensee can better prepare for audit discussions with NRC staff. Any information accessed through the licensee's portal will not be held or retained in any way by NRC staff. The NRC staff requests the licensee to have the requested audit information in Part 1 of Section 3.0 to be readily available and accessible for the NRC staff's review during in person meetings at DEI's Reston office and in Part 2 of Section 3.0 to be readily available and accessible for the NRC staff's review via a web-based portal.

The NRC plans to review the inputs and analytical methods use by SNC and Dominion Engineering, Inc. with the expectation of NRC staff performing independent confirmatory analysis of the licensee's evaluation and calculations supporting the request. The NRC notes that, by letter dated October 27, 2022, SNC submitted a supplement to its 2019 relief request concerning a calculation error.

5.0 AUDIT TEAM

The audit team will consist of the following NRC staff from NRR.

- Dawnmathews Kalathiveettil, Plant Licensing Branch 2-1 (LPL2-1)
- John Lamb, LPL2-1
- Michael Markley, LPL2-1
- David Dijamco, Vessels and Internals Branch (NVIB)
- Angie Buford, NVIB
- Kaihwa (Robert) Hsu, Mechanical Engineering and Inservice Testing Branch (EMIB)
- Stewart Bailey, EMIB
- Ravi Grover, Technical Specifications Branch (STSB)
- Victor Cusumano, STSB

6.0 LOGISTICS

The audit will start on November 30, 2022, and in-person meetings will be held on December 1 and 2, 2022, with additional in-person meetings to be decided later. The in-person meetings will be held at DEI's office location in Reston, Virginia.

To support the review schedule communicated to SNC when the NRC staff accepted the LAR for technical review, audit activities will be performed remotely and virtually using Microsoft Teams, teleconference, and a web-based portal or other virtual meeting space created by the licensee along with in-person meetings held at DEI's office location in Reston, Virginia. NRC information requests and communications with licensee staff will be coordinated through the NRC's licensing project manager.

A desktop audit will take place between November 30, 2022, and January 31, 2023. The NRC intends to establish a two-day in-person audit meeting at DEI's office location in Reston on December 1 and 2, 2022. The NRC staff may change and/or add more in-person audit dates and times when deemed necessary. The NRC staff will add virtual audit meeting dates as necessary. Audit questions are enclosed.

The NRC staff requests the licensee to have the information referenced in section 4.0 of this audit plan available and accessible for the NRC staff's review within one week of the date of this letter. The NRC staff requests that any supplemental information requested be available and accessible for the NRC staff's review within one week of the date of the NRC's notification to the licensee of the new requests. The NRC's licensing project manager will inform the licensee via routine communications when the NRC staff no longer needs access to the portal. The NRC staff requests the licensee to notify the review team when an audit item is added to its portal by sending an email to the NRC licensing project manager.

7.0 SPECIAL REQUESTS

The NRC requests access to requested Part 2 documents and information through a Web-based portal that allows the NRC staff to access documents over the Internet. The following conditions associated with the online portal must be maintained while the NRC staff and contractors have access to the online portal:

- The online portal will be password-protected. A separate password will be assigned to each member of the NRC staff participating in the audit.
- The online portal will prevent the NRC participants from printing, saving, downloading, or collecting any information directly from the online portal.
- Conditions of use of the online portal will be displayed on the login screen and will require acknowledgment by each user.

Username and password and/or other web-based portal access information should be provided directly to members of the NRC staff as needed. The NRC licensing project manager will provide the licensee with names and contact information of the NRC staff participating in the audit. All other communications should be coordinated through the NRC project manager.

8.0 DELIVERABLES

An audit summary will be prepared within 90 days of the completion of the audit. If information evaluated during the audit is needed to support a regulatory decision, the NRC staff will identify it in a formal request for information (RAI) using NRR Office Instruction LIC-115 and issue such RAIs separately from audit-related correspondence.

Initial Audit Items List

Item #	Audit Item
1	Boundary conditions applied to the models for Load Cases A1 and A2
2	Stress and displacement results for both cases
3	Simulation of the load transfer between head and vessel flanges
4	<p>Other aspects that will help the NRC staff understand the reason for the decrease in stud stress.</p> <p>For example, Section 5.2.3 in each of the two DEI calculations states that Load Case A2 represents the operating conditions with the vessel at design pressure and with intact studs. "Operating conditions" implies that Load Case A2 is at operating temperature and therefore includes thermal stress. The NRC staff would like to review Load Case A2 minus the thermal stress to understand the thermal contribution.</p>
5	The starting load state when all studs are preloaded with the specified initial strain
6	The corresponding load state when one (or two) studs are assumed to fail in service
7	Summary of all attempts to inspect and/or remove stud #33 since the 2017 authorization, including techniques applied for removal of each attempt, results achieved, and acceptance criteria for terminating removal efforts.
8	Post-tensioning values for the as-left condition of stud #33 for each outage
9	The technical basis supporting the assertion that stud #33 or any other stud cannot be fully tensioned. Any estimated calculations or inspection results that would indicate that the known flaw on stud #33 would propagate to a point such that sufficient tensioning is not achievable.
10	Justification to have additional studs less than fully tensioned when there is no apparent degradation or inspection supporting the need.
11	Outage-specific repair plans for stud #33 that are expected to be completed during the spring 2023 refueling outage for Hatch, Unit 2.

AUDIT QUESTIONS
REGARDING LICENSE AMENDMENT REQUEST TO
RELAX THE REQUIRED NUMBER OF FULLY TENSIONED
REACTOR PRESSURE VESSEL HEAD CLOSURE STUDS IN
TECHNICAL SPECIFICATION TABLE 1.1-1, "MODES"
SOUTHERN NUCLEAR OPERATING COMPANY
EDWIN I. HATCH NUCLEAR POWER PLANT, UNITS 1 AND 2
DOCKET NOS. 50-321 AND 50-366

By application dated August 19, 2022 (Agencywide Documents Accession and Management System (ADAMS) Accession No. ML22231B055), Southern Nuclear Operating Company (SNC, the licensee) submitted a license amendment request (LAR) to the United States Nuclear Regulatory Commission (NRC) to amend Renewed Operating License Nos. DPR-57 and NPF-5 for the Edwin I. Hatch Nuclear Plant (Hatch), Units 1 and 2, respectively. Specifically, the proposed LAR would relax the required number of fully tensioned reactor pressure vessel (RPV) head closure studs in Technical Specification (TS) Table 1.1-1, "MODES" of the Hatch units.

The NRC staff has identified the need for a regulatory audit to examine the SNC's non-docketed information with the intent to gain understanding, to verify information, or to identify information that will require docketing to support the basis of the licensing or regulatory decision.

Question 1

Issue

In Section 2.4 of Enclosure 1 to the application, the licensee stated that for Hatch, Unit 2, the proposed change would revise the footnote in TS Table 1.1-1, "MODES," to state, "the required number of head closure bolts is at least 54 out of 56 bolts, with a minimum of nine bolts between the two out-of-service bolts." These changes are shown in Attachments 1 and 2 to the enclosure. However, in Section 5.1 of DEI Calculation C-037-2201-00-02 for Hatch, Unit 2, two adjacent de-tensioned studs (out of 56 studs) are modeled instead of two de-tensioned studs with a minimum of nine studs in between.

Request

For the primary stress evaluation in Section 5.1 of DEI Calculation C-037-2201-00-02 for Hatch, Unit 2, justify that the case of two adjacent de-tensioned studs bounds the case of two de-tensioned studs that are at least nine studs apart.

Question 2

Issue

Table 3 of DEI Calculation C-037-2201-00-02 for Hatch Unit 2, the “Stud Condition” column indicates Cases B1, C1, B2, and C2 are for one de-tensioned/failed stud, but the description of the cases in Section 5.2.3 of DEI Calculation C-037-2201-00-02 states the cases are for two de-tensioned studs separated by nine tensioned studs (Cases B1 and B2) and two studs that fail in service separated by nine tensioned studs (Cases C1 and C2).

Request

Clarify that the stud conditions that were analyzed in Table 3 of DEI Calculation C-037-2201-00-02 for Hatch, Unit 2, were for two de-tensioned studs separated by nine tensioned studs for Cases B1 and B2 and two studs (separated by nine tensioned studs) that fail in service for Cases C1 and C2.

Question 3

Issue

The NRC staff noted that the application did not discuss the impact of the proposed change to the Hatch TS Table 1.1-1 to have less than a full set of tensioned studs on the RPV threads-in-flange. Because these are the threads into which the studs are installed in the RPV flange, there could be a potential impact of the licensee’s proposed change on the RPV threads-in-flange. The NRC staff noted that American Society of Mechanical Engineers Section XI Code Case (CC) N-864 may be used by licensees to forgo the inservice inspection (ISI) examination of the RPV threads-in-flange for a certain number of ISI intervals without the need for an alternative request, because the code case is conditionally approved in Regulatory Guide (RG) 1.147, “Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1,” Revision 20, which is incorporated by reference in Title 10 of the *Code of Federal Regulations* 50.55a. The technical basis for CC N-864 is in EPRI Technical Report 3002007626, “Nondestructive Evaluation: Reactor Pressure Vessel Threads in Flange Examination Requirements,” March 2016 (ML16221A068). The analysis of the RPV threads-in-flange in the EPRI report assumes a full set of tensioned studs, and is therefore, inconsistent with the proposed change to the Hatch TS Table 1.1-1 to have less than a full set of tensioned studs. Therefore, if the licensee is using CC N-864 or will use CC N-864 in its ISI program for the Hatch RPV threads-in-flange, this inconsistency has to be addressed.

Request

- a. State whether CC N-864 is used now or will be used in the future in the ISI program for the Hatch RPV threads-in-flange.
- b. If CC N-864 is used now or will be used in the future in the ISI program, show that the impact of the proposed change during preload conditions is bounded by the maximum applied stress intensity factor for the “Preload” case in Table 6-1 of the EPRI report.

Question 4

Issue

Section 5.2.4.4 of DEI Calculations C-037-2201-00-01 and C-037-2201-00-02 states that “the increase in fatigue usage would be the square of the increase in stress”. However, the basis for the statement is not clear.

Request

Clarify the basis for the quoted statement above.

Question 5

Issue

The NRC staff needs explanation related to the load cases analyzed in the two DEI calculations included in the application, as described below.

- a. Table 3 in each of the two DEI calculations included in the application reports the maximum membrane stress stud stress for the preload condition (Load Case A1) and preload plus pressure condition (Load Case A2). The NRC staff noted that the maximum membrane stud stress decreased going from Load Case A1 to Load Case A2. The NRC staff expected the maximum membrane stud stress to increase based on the NRC staff's understanding of the expected change in stud stresses in a bolted joint for these two load conditions.
- b. The NRC staff is not clear about the cases of studs failing in service described as Cases C1 and C2 in Section 5.2.3 in each of the two DEI calculations.

Request

- a. Explain the decrease in stud stress going from the preload condition to the preload plus pressure condition.
- b. Explain the cases of studs failing in service described as Cases C1 and C2 in Section 5.2.3 in each of the two DEI calculations.

Question 6

The NRC authorized relief requests, in 2017 and 2019 (ML17205A345 and ML19035A550, respectively), from inspection of RPV stud #33 based on impracticality. The 2017 authorization was a contingency in case the two planned stud removal techniques were not successful during refueling outage 2R24. Similarly, the 2019 authorized relief, through the end of the current ISI interval (December 31, 2025), if attempts to remove RPV stud #33 was not successful during the Hatch Unit No. 2 refueling outage 2R25. Please provide a summary of all attempts to inspect and/or remove stud #33 since the 2017 authorization, including techniques applied for removal of each attempt, results achieved, and acceptance criteria for terminating removal efforts. Also, please provide post-tensioning values for the as-left condition of stud #33 for each outage.

Question 7

In its LAR dated August 19, 2022, the licensee states that Table 1.1-1 is proposed to be revised to address the increased possibility that a RPV head closure stud cannot be fully tensioned and avert the possible need for an exigent or emergency license amendment during the Spring 2023 Refueling Outage. Please describe the technical basis supporting the assertion that stud #33 or any other stud cannot be fully tensioned. Please provide any estimated calculations or inspection results that would indicate that the known flaw on stud #33 would propagate to a point such that sufficient tensioning is not achievable.

Question 8

In its LAR dated August 19, 2022, the licensee requests approval of operation of Hatch, Unit 2, with two RPV studs less than fully tensioned and Hatch, Unit 1, with one stud less than fully tensioned. Based on the 2017 and 2019 relief requests, the NRC understands the impracticality assessment regarding stud #33. Based on review of Section 2.3 of the SNC submittal, the NRC has concerns regarding the basis for the need regarding the request to allow a second stud to be less than fully tensioned in Hatch Unit 2 and the basis for any vessel studs to be less than fully tensioned in Hatch Unit 1. Please provide justification to have additional studs less than fully tensioned when there is no apparent degradation or inspection supporting the need.

Question 9

In its 2019 relief request, the licensee told the NRC that it planned to remove stud #33 and requested relief as a contingency. In its LAR, the licensee states that, "There were no attempts to remove the stud during the 2021 refueling outage (2R26)," but asserts that these amendments are needed to "avert the possible need for an exigent or emergency license amendment during the Spring 2023 Refueling Outage." Because this condition has existed for more than six years and the licensee has had opportunities to remove/repair stud #33, the NRC has concerns that the entry conditions for an exigent or emergency amendment may be challenging to address. Please provide outage-specific repair plans for stud #33 that are expected to be completed during the spring 2023 refueling outage for Hatch, Unit 2.

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT, UNITS 1 AND 2 – REGULATORY
 AUDIT IN SUPPORT OF REVIEW OF THE APPLICATION TO RELAX
 REQUIRED NUMBER OF FULLY TENSIONED REACTOR PRESSURE
 VESSEL HEAD CLOSURE STUDS (EPID L-2022-LLA-0120)
 DATED NOVEMBER 17, 2022

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