

NRR-DMPSPEm Resource

From: Poole, Justin
Sent: Thursday, May 9, 2019 2:40 PM
To: Browne, Kenneth
Cc: Thomas, Christine
Subject: Verbal Authorization for Seabrook Relief Request RA-19-001
Attachments: Seabrook Verbal Authorization script 5-9-2019.pdf

Mr. Browne,

In accordance with NRR Office Instruction LIC-102, "Relief Request Reviews," the NRR staff has provided verbal authorization for Seabrook Station, Unit No. 1 relief request RA-19-001 as described in your letter to the NRC dated May 7, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19127A384).

The script read this afternoon that provides verbal authorization is attached. The NRC staff intends to follow-up this verbal authorization with a written safety evaluation within approximately 150 days.

Please let me know if you have any questions. A copy of this email and attached verbal authorization will become publicly available in ADAMS.

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From: Poole, Justin

Created By: Justin.Poole@nrc.gov

Recipients:

"Thomas, Christine" <Christine.Thomas@nexteraenergy.com>
Tracking Status: None
"Browne, Kenneth" <Kenneth.J.Browne@nexteraenergy.com>
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VERBAL AUTHORIZATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
INSERVICE INSPECTION PROGRAM ALTERNATIVE RA-19-001
ALTERNATE REPAIR OF DEGRADED SERVICE WATER PIPING
SEABROOK STATION, UNIT NO. 1
NEXTERA ENERGY SEABROOK
DOCKET NO. 50-443
MAY 9, 2019

Technical Evaluation read by John Tsao, Acting Chief of the Piping and Head Penetration Branch, Office of Nuclear Reactor Regulation

By letter dated May 7, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19127A384), NextEra Energy Seabrook (the licensee) proposed an alternative to requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, IWA-4412, at Seabrook Station, Unit No. 1 (Seabrook).

Pursuant to Title 10 of the *Code of Federal Regulations* (CFR) 50.55a(z)(2), the licensee submitted Relief Request RA-19-001 for a temporary non-Code repair of leaking service water piping on the basis that compliance with the specified ASME Code requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

On May 1, 2019, with Seabrook in operation at 100 percent power, the licensee detected a pin hole leak on the 24-inch line 1-SW-1801-004-153-24" in the service water system. The initial leakage was three drops per minute which was increased to 10 drops per minute after preparation for the ultrasonic examination. The licensee subsequently detected additional wall thinning adjacent to the pin hole.

The licensee proposed to weld an encapsulation on the service water pipe covering the degraded area to prevent further leakage to the atmosphere. The encapsulation consists of an 8-inch by 4-inch concentric reducer, 4-inch weld neck flange and 4-inch blind face flange.

During installation of the proposed encapsulation, the U.S. Nuclear Regulatory Commission (NRC) staff finds that the licensee will perform welding in accordance with the ASME Code, Section IX and the encapsulation will satisfy the design requirements of ASME Code, Section III. The NRC staff finds that the licensee satisfactorily performed flaw evaluation in accordance with NRC-approved ASME Code Case N-513-3 "Evaluation Criteria for Temporary Acceptance of Flaws in Moderate Energy Class 2 or 3 Piping Section XI, Division 1." The licensee applied an acceptable factor of four on the corrosion rate of 30 mils per year to demonstrate structural integrity of the degradation area covered within the encapsulation. The NRC staff determines that the probability of pipe failure would not be likely. The NRC staff also finds that the licensee demonstrated that considering the flaw growth rate, the encapsulation will maintain structural integrity of the pipe up to the end of the next refueling outage (OR20) in Spring 2020. The licensee stated that the relief request would expire if the ongoing ultrasonic testing identify that the flaw progresses outside the encapsulated area to the point that the ASME Code minimum thickness of 0.105 inch is challenged.

The NRC staff finds it acceptable that the licensee will perform the required daily walkdown and pipe wall measurement in accordance with ASME Code Case, N-513-3. The NRC staff finds the licensee's hardship justification to be reasonable.

The NRC staff finds that the proposed encapsulation has sufficient margin with respect to the predicted growth of the flaw at the end of next refueling outage in Spring 2020 and is designed to support all the loadings of the pipe. Therefore, the NRC finds that Relief Request RA-19-001 will provide reasonable assurance that structural integrity of the subject service water piping and its intended safety function will be maintained up to the end of the next refueling outage (OR20) in Spring 2020.

Authorization read by James Danna, Chief of the Plant Licensing Branch I, Office of Nuclear Reactor Regulation

As Chief of the Plant Licensing Branch I in the Office of Nuclear Reactor Regulation, I concur with the conclusions of the Piping and Head Penetration Branch.

The NRC staff concludes that the proposed alternative provides reasonable assurance of structural integrity of the subject service water piping. The NRC staff finds that complying with IWA-4412 of the ASME Code, Section XI, would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Accordingly, the NRC staff concludes that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(z)(2). Therefore, as of May 9, 2019, the NRC authorizes the use of Relief Request RA-19-001 at Seabrook until the end of the next refueling outage (OR20) in Spring 2020, or until the flaw progresses outside the encapsulated area such that the pipe wall thickness is below 0.105 inch, whichever occurs first.

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

This verbal authorization does not preclude the NRC staff from asking additional clarification questions regarding the proposed alternative while preparing the subsequent written safety evaluation.