From:	Richard Guzman
To:	Loomis, Thomas R:(Constellation Nuclear)
Cc:	Reynolds, Ronnie J:(Constellation Nuclear); Hipo Gonzalez
Subject:	Verbal Authorization for NMP1 Relief Request I5R-14 Proposed Alternative Associated with N2E Safe-End-to-Nozzle DM Weld Repair with a Laminar Indication (EPID L-2023-LLR-0017)
Date:	Friday, April 14, 2023 1:41:34 PM
Attachments:	image001.png

Mr. Loomis,

In accordance with NRR Office Instruction LIC-102, “Review of Relief Requests, Proposed Alternatives, and Requests to Use Later Code Editions and Addenda,” (ADAMS Accession No. ML18351A218) the NRR staff has provided verbal authorization for Nine Mile Point Nuclear Station, Unit 1 (NMP1) Relief Request I5R-14 as described in Constellation Energy Generation, LLC (CEG, the licensee) letter dated April 13, 2023 (ML23103A404). The proposed alternative, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(z)(1), requested to use the flaw acceptance criteria of American Society of Mechanical Engineers (ASME), Section XI, “Rules for Inservice Inspection of Nuclear Power Plants,” 2013 Edition, Non-Mandatory Appendix Q, Section Q-4100, *Weld Overlay Repair of Classes 1, 2, and 3 Austenitic Stainless Steel Piping Weldments*, and permit a laminar flaw to remain in place for the upcoming operating cycle at NMP1.

Below is the script for the verbal authorization of Relief Request I5R-14 that was provided at approximately 1:00pm EDT on April 14, 2023, by Matthew Mitchell and Hipolito Gonzalez and a list of attendees on the call. As was communicated, the NRC staff finds that the licensee’s proposed alternative I5R-14 will provide an acceptable level of quality and safety in accordance with 10 CFR 50.55a(z)(1). Accordingly, the NRC staff concludes that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(z)(1). Therefore, as of April 14, 2023, the NRC authorizes the use of Relief Request I5R-14 at NMP1 until the end of the next refueling outage (N1R28).

This e-mail communication will be added to ADAMS as a publicly available official agency record, documenting the staff’s approval. The NRC staff’s formal safety evaluation will be transmitted via separate correspondence within approximately 150 days.

Please contact me if you have any questions regarding this licensing action.

Richard V. Guzman
Senior Project Manager
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission

Docket No. 50-220
Enclosure: Verbal Authorization Script and List of Attendees

==========

VERBAL AUTHORIZATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELIEF REQUEST I5R-14 PROPOSED ALTERNATIVE ASSOCIATED WITH

N2E SAFE END-TO-NOZZLE DISSIMILAR METAL WELD REPAIR

WITH A LAMINAR INDICATION

NINE MILE POINT NUCLEAR STATION, UNIT 1

CONSTELLATION ENERGY GENERATION, LLC

DOCKET NO. 50-220

Technical Evaluation read by Matthew Mitchell, Chief of the Piping and Head Penetrations Branch, Division of New and Renewed Licenses, NRR

By letter dated April 13, 2023, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML23103A404), Constellation Energy Generation, LLC (CEG, the licensee) requested an alternative to specific requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, "Rules for Inservice Inspection of Nuclear Power Plants," and ASME Code Case N-740-2 *Full Structural Dissimilar Metal Weld Overlay for Repair or Mitigation of Class 1, 2, and 3 Items Section XI, Division 1*, the use of which was verbally approved under licensee Relief Request I5R-11 by the U.S. Nuclear Regulatory Commission (NRC) staff on March 31, 2023 (ADAMS Accession No. ML23090A130), for Nine Mile Point Nuclear Station, Unit 1 (NMP1). The licensee submitted Relief Request I5R-14 for NRC review and approval to support the examination and acceptance of a weld overlay that has been installed to act as a leakage barrier on the recirculation inlet nozzle N2E safe end-to-nozzle dissimilar metal weld, in lieu of repairing as required by ASME Code, Section XI. Pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(z)(1), the licensee submitted Relief Request I5R-14 on the basis that it will provide an acceptable level of quality and safety for NMP1's next cycle of operation. The licensee requested approval of Relief Request I5R-14 until the end of the next refueling outage (N1R28).

During the acceptance examination of the weld overlay installed under Relief Request I5R-11, a laminar indication with a length exceeding 10% of the pipe circumference (91.3 inches) was identified, which does not meet the acceptance criteria of Code Case N-740-2. The laminar indication was measured at 13.4 percent of the pipe circumference with an area of 3.66 square inches. As an alternative, the licensee seeks to use the acceptance criteria of ASME Code Section XI, 2013 Edition, Nonmandatory Appendix Q, *Weld Overlay Repair of Classes 1, 2, and 3 Austenitic Stainless Steel Piping Weldments,* which permits laminar flaws with an area of up to 7.5 square inches.

The axial indication that was mitigated by the application of the weld overlay under Relief Request I5R-11 is located 14 inches clockwise from top dead center and is confined to the

original weld material. The laminar flaw in question is 0.3 inches wide and 12.2 inches long and located sufficiently far from the original flaw to not impact the ability to examine the required NDE volume including the susceptible material. The licensee performed a bounding analysis of the laminar flaw by assuming a 0.3-inch wide laminar flaw 360 degrees around the pipe, taking into account internal pressure and a bending moment. The analysis shows an insignificant difference in the applied stress with and without the laminar flaw. Hence, the laminar flaw has no impact on the material performance of the weld overlay.

Therefore, the NRC staff has determined that the proposed alternative will provide an acceptable level of quality and safety in accordance with 10 CFR 50.55a(z)(1) because the axial flaw is not near the laminar flaw, the licensee's analysis shows that the laminar flaw does not significantly increase applied stresses, and Appendix Q provides appropriate acceptance criteria for laminar flaws for the one operating cycle duration requested under Relief Request I5R-14.

Authorization read by Hipolito Gonzalez, Chief of Plant Licensing Branch I, Division of Operating Reactor Licensing, NRR

As chief of the Plant Licensing Branch I, Office of Nuclear Reactor Regulation, I concur with the conclusions of the Piping and Head Penetrations Branch.

As set forth above, the NRC staff determines that the proposed alternative provides acceptable 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)(1). Therefore, as of April 14, 2023, the NRC authorizes the use of Relief Request I5R-14 at Nine Mile Nuclear Station Unit 1 until the end of the next refueling outage (N1R28).

All other requirements in ASME Code, Section XI for which relief was not specifically requested and approved in this relief request 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 question(s) regarding the proposed alternative while preparing the subsequent written safety evaluation.

==========

NRC Participants

Hipo Gonzalez
Matthew Mitchell
Richard Guzman

Constellation Energy Group Participants

Thomas Loomis
Mathew Rice
Jason Pulliam
Michael Salley
Mark Weis

David Barton
David Gudger
Robert Beaumont
Jacky Shoulders
Matthew Rossi
Sailaja Mokkapati
Dick Mattson
Jody Morgan
Vasilios Peter Zeppos
Heather Malikowski
Michael Briggs
Jonathan Shaver
Hayne Gersbach
Jennifer Bianculli
Paul Touvannas
Peter Orphanos
Angel Reyes-Cruz
Alan Raush