



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

January 24, 2022

LICENSEE: Florida Power & Light Company
FACILITY: St. Lucie Plant, Unit No. 2
SUBJECT: SUMMARY OF JANUARY 14, 2022, TELECONFERENCE WITH FLORIDA POWER & LIGHT COMPANY REGARDING VERBAL AUTHORIZATION OF REQUEST FOR ALTERNATIVE TO THE REQUIREMENTS OF THE ASME CODE FOR EXAMINATION OF REACTOR VESSEL CLOSURE HEAD CONTROL ELEMENT DRIVE MECHANISM (CEDM) HOUSING #27 CANOPY SEAL WELD. (EPID L-2022-LLR-0007)

On January 14, 2022, the U.S. Nuclear Regulatory Commission (NRC) staff held a teleconference with representatives of Florida Power & Light Company (FPL, the licensee). The purpose of the call was to discuss FPL's emergent request for an alternative to certain requirements of the American Society of Mechanical Engineers Boiler & Pressure Vessel Code (ASME Code), Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," for the St. Lucie Plant, Unit No. 2 facility (St. Lucie Unit 2).

On January 6, 2022, the licensee underwent recent repositioning of the St. Lucie Unit 2 control element assemblies (CEA's) to verify operability per Technical Specification surveillance Requirements. While doing so, the licensee found that CEA #27 could not be withdrawn. Troubleshooting efforts determined that the inability to withdraw CEA #27 was not electrical, and that the CEDM internal drive motor would require replacement.

By letter dated January 12, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22013A798, as supplemented by letter dated January 14, 2022 (ADAMS Accession No. ML22014A114), the licensee requested relief from the requirements of the ASME Code, Section XI, paragraph IWA-4000 on the basis that complying with the specified ASME Code repair would result in hardship or unusual difficulty, without a compensating increase in the level of quality and safety. Pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(z)(2), the licensee submitted Relief Request (RR) Number RR-20 on the basis that compliance with the specified ASME Code repair would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Specifically, in lieu of performing a liquid penetrant (PT) examination of the subject canopy seal weld and proposed weld overlay in accordance with the ASME Code, Section III, NB-5270/NB-5271, the licensee proposed to perform an enhanced remote visual examination of the final weld surface that would be conducted using a video camera with a minimum of 5X magnification. Lighting and acuity will be verified using ASME Code Section XI, Table IWA-2211-1, requirements for VT-1 note (2).

The NRC staff reviewed the licensee's submittal and determined that the alternative examination is acceptable because the proposed enhanced VT-1 examination is capable of identifying any significant flaws and the canopy seal weld is a secondary leakage barrier that provides no structural function. In addition, required VT-2 inservice leakage examinations at the

conclusion of each refueling outage, the licensee's boric acid control program, and the licensee reactor coolant system (RCS) leakage detection program, would identify leakage in the canopy seal weld if it were to occur. The NRC staff determined that the licensee's performance monitoring would allow for sufficient time to take correction action before the leakage could become significant.

The NRC staff concludes that the proposed alternative provides reasonable assurance of the structural integrity and leak tightness of the subject weld. The NRC staff found that complying with the required PT examination requirement of the ASME Code, Section III, as required by ASME Code Section XI, IWA-4000, 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). At the conclusion of the discussion, NRC management communicated to the licensee that, as of January 14, 2022, the NRC authorizes the use of Relief Request RR-20 until the end of the fourth 10-year inservice inspection interval.

During the call with the licensee at 12:00 p.m. Eastern Standard Time on January 14, 2022, the NRC staff verbally authorized FPL to use Relief Request RR-20 for St. Lucie 2 in accordance with the regulations at 10 CFR 50.55a(z)(2). Participants in the phone call are listed below, and the script used for the verbal authorization is enclosed.

Name	Organization
A. Buford	NRC
D. Wrona	NRC
S. Cumblidge	NRC
J. Tsao	NRC
E. Haywood	NRC
N. Jordan	NRC
W. Godes	FPL
J. Mack	FPL
S. Catron	FPL
S. Boggs	FPL
T. Falkiewicz	FPL

Please direct any inquiries to me at 301-415-7410 or Natreon.Jordan@nrc.gov.

/RA/

Natreon J. Jordan, Project Manager
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-389

Enclosure:
Verbal Authorization

cc: Listserv

VERBAL AUTHORIZATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELIEF REQUEST RR-20

ALTERNATIVE EXAMINATION OF CANOPY SEAL WELD

CONTROL ROD DRIVE MECHANISM NUMBER 27 HOUSING

ST. LUCIE PLANT, UNIT NO. 2

FLORIDA POWER & LIGHT COMPANY

DOCKET NO. 50-389

Technical Evaluation read by Stephen Cumblidge, Acting Chief of Piping and Head Penetrations Branch, Division of New and Renewed Licenses, NRR

By letter dated January 12, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22013A798, as supplemented by letter dated January 14, 2022 (ADAMS Accession No. ML22014A114), Florida Power and Light (the licensee) requested relief from the requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, paragraph IWA-4000, at St. Lucie Nuclear Plant Unit 2 (St. Lucie Unit 2). The licensee submitted Relief Request (RR) Number 20 (RR-20) for U.S. Nuclear Regulatory Commission (NRC) review and approval for an alternative examination of the repair/replacement of the St. Lucie Unit 2 Reactor Vessel Closure Head (RVCH) Control Element Drive Mechanism (CEDM) Number 27 middle canopy seal weld. IWA-4000 requires repairs or replacements be performed in accordance with the owners original Construction Code. For St Lucie Unit 2, the applicable code requirement is ASME Code Section III, NB-5270/NB-5271.

Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(z)(2), the licensee submitted RR-20 on the basis that compliance with the specified ASME Code repair would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

In lieu of performing a liquid penetrant (PT) examination of the subject canopy seal weld in accordance with NB-5270/NB-5271, the licensee proposed to perform an enhanced remote visual examination that will be conducted using a video camera with a minimum of 5X magnification. Lighting and acuity will be verified using ASME Code Section XI, Table IWA-2211-1, requirements for VT-1 note (2).

The NRC staff determines that the alternative examination is acceptable because the proposed enhanced VT-1 examination is capable of identifying any significant flaws and the canopy seal weld is a secondary leakage barrier that provides no structural function. In addition, required VT-2 inservice leakage examinations at the conclusion of each refueling outage, the licensee's boric acid control program, and the licensee RCS leakage detection program, would identify leakage in the canopy seal weld if it were to occur, allowing for sufficient time to take corrective action before the leakage could become significant.

Enclosure

The NRC staff finds that performing the Code required PT examination would result in a hardship without a compensating increase in quality and safety because the required PT examination would require hands-on access in a highly congested area with significant radiation exposure to workers.

Based on the above evaluation, the NRC staff finds that the licensee's proposed alternative will provide structural integrity and leak tightness of the canopy seal weld.

Authorization read by David Wrona, Chief of Plant Licensing Branch II-2, Division of Operating Reactor Licensing, NRR

As chief of the Plant Licensing Branch II-2, Office of Nuclear Reactor Regulation, I concur with the conclusions of the Piping and Head Penetrations Branch.

The NRC staff concludes that the proposed alternative provides a reasonable assurance of the structural integrity and leak tightness of the subject weld. The NRC staff finds that complying with the required PT examination requirement of the ASME Code, Section III, as required by ASME Code Section XI, IWA-4000, 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 January 14, 2022, the NRC authorizes the use of RR-20 until the end of the fourth 10-year inservice inspection interval.

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.

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ADAMS Accession No.: ML22020A405

***by e-mail**

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