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RS-23-041

10 CFR 50.55a

March 14, 2023

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Dresden Nuclear Power Station, Units 2 and 3
Renewed Facility Operating License Nos. DPR-19 and DPR-25
NRC Docket Nos. 50-237 and 50-249

Subject: Response to Request for Additional Information for Alternative Request RV-23H

References:

1. Letter from P. R. Simpson (Constellation Energy Generation, LLC (CEG)) to U.S. NRC, "Submittal of Relief Requests Associated with the Sixth Inservice Testing Interval," dated November 1, 2022 (ADAMS Accession No. ML22305A578)

2. Email from S. Arora (U.S. NRC) to M. Mathews (CEG), "Dresden Units 2 and 3 - Request for Additional Information for Alternative Request RV-23H (EPID: L-2022-LLR-0077)," dated February 17, 2023 (ADAMS Accession No. ML23052A065)

In Reference 1, CEG requested approval of relief requests associated with the upcoming sixth Inservice Testing (IST) interval at Dresden Nuclear Power Station (DNPS), Units 2 and 3.

As documented in Reference 2, the NRC found that additional information was required to support its review of Request RV-23H as described in Reference 1. The requested information is provided in the attachment.

There are no regulatory commitments contained within this letter. CEG continues to seek approval of the Reference 1 requests by November 1, 2023.

Should you have any questions concerning this letter, please contact Mr. Mitchel Mathews at (630) 657-2819.

Respectfully,

Patrick R. Simpson
Sr. Manager – Licensing
Constellation Energy Generation, LLC

Attachment: Response to NRC Request for Additional Information

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Dresden Nuclear Power Station

REQUEST FOR ADDITIONAL INFORMATION REGARDING

ALTERNATIVE REQUEST RV-23H

PROPOSED ALTERNATIVE TO HIGH PRESSURE COOLANT INJECTION DRAIN POT

SOLENOID VALVE REQUIREMENTS

IN ACCORDANCE WITH 10 CFR 50.55a(z)(1)

SIXTH 10-YEAR INSERVICE TESTING PROGRAM INTERVAL

DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3

DOCKET NOS. 50-237 AND 50-249

EPID L-2022-LLR-0077

Background:

By a letter dated November 1, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22305A578), Constellation (the licensee) submitted to the U.S. Nuclear Regulatory Commission (NRC) Alternative Request RV-23H regarding certain inservice testing (IST) requirements of the 2017 Edition of the American Society of Mechanical Engineers (ASME) Operation and Maintenance of Nuclear Power Plants, Division 1, OM Code: Section IST (OM Code) for the IST Program at Dresden Nuclear Power Station (Dresden), Units 2 and 3 associated with the Sixth 10-Year IST Program interval.

Specifically, the licensee requested to conduct a functional verification test on the drain pot level limit switches and the associated control room annunciators at least once every 2 years as an alternative to the requirements in ASME OM Code, Subsection ISTC, paragraph ISTC-5151, "Valve Stroke Testing," paragraph ISTC-5152, "Stroke Test Acceptance Criteria," and paragraph ISTC-5153, "Stroke Test Corrective Action," for the High Pressure Coolant Injection (HPCI) Drain Pot Solenoid Valves at Dresden.

Regulatory Requirements:

The NRC regulations in Section 55a, "Codes and standards," in Part 50, "Domestic Licensing of Production and Utilization Facilities," in Title 10, "Energy," of the Code of Federal Regulations (10 CFR 50.55a) in paragraph (z), "Alternatives to codes and standards requirements," state the following:

> *Alternatives to the requirements of paragraphs (b) through (h) of this section or portions thereof may be used when authorized by the Director, Office of Nuclear Reactor Regulation. A proposed alternative must be submitted and authorized prior to implementation. The applicant or licensee must demonstrate that:*

(1) Acceptable level of quality and safety. The proposed alternative would provide an acceptable level of quality and safety; or

(2) Hardship without a compensating increase in quality and safety. Compliance with the specified requirements of this section would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

EMIB-RAI-1:

As an alternative to the ASME OM Code requirements for the HPCI drain pot solenoid valves at Dresden, the licensee proposes in Alternative Request RV-23H for the Sixth 10-Year IST Program interval that a "functional verification test will be conducted on the drain pot level limit switches and the associated control room annunciators at least once every 2 years." In the Proposed Alternative and Basis for Use section, the licensee states, in part:

> *"Using the provisions of this request (i.e., quarterly exercising and semi-annual functional testing combined with the enhanced maintenance activities) as an alternative to the specific requirements of ISTC-5150 identified above will provide adequate indication of valve performance and continue to provide an acceptable level of quality and safety…"*

Upon review of Alternative Request RV-23H, the NRC staff requests the licensee to clarify the basis for the 2-year functional verification test schedule in Alternative Request RV-23H for the Sixth 10-Year IST Program interval in comparison to the statement, "provisions of this request (i.e., quarterly exercising and semi-annual functional testing combined with the enhanced maintenance activities) as an alternative to the specific requirements of ISTC-5150."

Constellation Energy Generation, LLC (CEG) Response to EMIB-RAI-1

Dresden Nuclear Power Station (DNPS) relief RV-23H for alternative testing of high pressure coolant injection (HPCI) system valves 2-2301-32 and 3-2301-32 was authorized for the 5th Inservice Testing (IST) Program interval in ML13297A515 based on the alternative functional verification testing occurring semi-annually (i.e., every six months). The original 6th interval Request RV-23H referenced the 5th interval RV-23H authorization as precedent; however, the proposed frequency in the 6th interval request is not the same as the fifth interval (i.e., every refueling outage, or once every two (2) year functional test for the 6th interval versus semi-annually for the 5th interval). The cited reference to semi-annual functional testing in EMIB-RAI-1 was erroneously included in Constellation Energy Generation, LLC's (CEG's) November 1, 2022, request. The testing for 2(3)-2301-32 for which IST Program credit is proposed for the DNPS, Units 2 and 3, 6th IST interval is a quarterly exercise and a two-year, or biennial functional test.

As stated in the 6th interval relief request, a review of the Corrective Action Program, work history, and inservice testing history of the HPCI drain pot valves did not identify any cases where these valves failed to stroke-open since they were added to the IST Program scope in November 1994, which includes testing at an extended frequency during the last 10-year interval. Additionally, no defects were noted when these solenoid valves were last replaced on

March 3, 2020, on Unit 2, and March 23, 2015, on Unit 3. Therefore, it is concluded that the proposed testing frequency of each associated unit refuel outage for 2(3)-2301-32, combined with their excellent maintenance history, will continue to assure Constellation Energy Generation, LLC of the operational readiness of 2(3)-2301-32, and provide an acceptable level of quality and safety.

Moreover, performance of this test while online exposes personnel to an industrial safety hazard since the test requires connecting to and draining the drain pot level switch volume which may contain hot, pressurized steam. Performance of this test at the Code required 92-day frequency increases the radiation dose received by the individuals performing the test and requires increased contamination controls compared to the proposed frequency.

Given that these solenoid valves have had no performance issues since their inclusion in the IST Program, extending the test frequency to every two years, would minimize the vulnerabilities associated with testing the 2(3)-2301-32 valves, as well as provide a reduction of future occupational dose accumulation. As a result, it is concluded that extending the test frequency from 92 days to two years for the 6th interval is justified.