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

December 14, 2023

Mr. David P. Rhoades
Senior Vice President
Constellation Energy Generation, LLC
President and Chief Nuclear Officer
Constellation Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT; LASALLE COUNTY STATION, UNITS 1 AND 2; LIMERICK GENERATING STATION, UNITS 1 AND 2; NINE MILE POINT NUCLEAR STATION, UNITS 1 AND 2; AND PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3 – REVISION TO APPROVED ALTERNATIVES TO USE BOILING WATER REACTOR VESSEL AND INTERNALS PROJECT GUIDELINES (EPID L-2023-LLR-0041)

Dear Mr. Rhoades:

By application dated August 4, 2023 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML23216A004), Constellation Energy Generation, LLC (the licensee) submitted a request in accordance with paragraph 50.55a(z)(1) of Title 10 of the *Code of Federal Regulations* (10 CFR) to revise previously authorized alternatives to the requirements of 10 CFR 50.55a, "Codes and standards," for James A. FitzPatrick Nuclear Power Plant (FitzPatrick); LaSalle County Station (LaSalle), Units 1 and 2; Limerick Generating Station (Limerick), Units 1 and 2; Nine Mile Point Nuclear Station (NMP), Units 1 and 2; and Peach Bottom Atomic Power Station (Peach Bottom), Units 2 and 3 (the facilities).

The U.S. Nuclear Regulatory Commission (NRC) staff previously authorized the licensee to use specified Boiling Water Reactor Vessel and Internals Project (BWRVIP) guidelines as an alternative to requirements in 10 CFR 50.55a and the American Society of Mechanical Engineers Boiler and Pressure Vessel (ASME Code) for each of the subject facilities. The licensee requested to revise these alternatives to allow the use of BWRVIP-25, Revision 1-A, "BWR Vessel and Internals Project: BWR Core Plate Inspection and Flaw Evaluation Guidelines," BWRVIP-42, Revision 1-A: "BWRVIP Vessel and Internals Project: Low Pressure Coolant Injection (LPCI) Coupling Inspection and Flaw Evaluation Guidelines," BWRVIP-139, Revision 1-A: "Steam Dryer Inspection and Flaw Evaluation Guidelines," and BWRVIP-183, Revision 0-A: "Top Guide Grid Beam Inspection and Flaw Evaluation Guidelines," as applicable, in lieu of the currently authorized versions of these guidelines. Specifically, pursuant to 10 CFR 50.55a(z)(1), the licensee requested to use the revised alternatives on the basis that they will provide an acceptable level of quality and safety.

The NRC staff has reviewed the proposed revisions to the previously authorized alternatives and concludes, as set forth in the enclosed safety evaluation, that the licensee has adequately addressed all the regulatory requirements set forth in 10 CFR 50.55a(z)(1). Therefore, the staff

revises its previous authorizations for alternatives to the requirements in 10 CFR 50.55a and the ASME BPV Code as follows:

FitzPatrick:	The May 30, 2018, authorization for FitzPatrick (ML18039A854) is revised to allow the use of BWRVIP-25, Revision 1-A, and BWRVIP-183, Revision 0-A, instead of BWRVIP-25, Revision 0, and BWRVIP-183, Revision 0, respectively.
LaSalle:	The November 17, 2017, authorization for LaSalle (ML17305B279) is revised to allow the use of BWRVIP-25, Revision 1-A, and BWRVIP-42, Revision 1-A, instead of BWRVIP-25, Revision 0, and BWRVIP-42, Revision 1, respectively.
Limerick:	The November 21, 2016, authorization for Limerick (ML16301A401) is revised to allow the use of BWRVIP-25, Revision 1-A, BWRVIP-42, Revision 1-A, and BWRVIP-139, Revision 1-A, instead of BWRVIP-25, Revision 0, BWRVIP-42, Revision 1, and BWRVIP-139, Revision 0-A, respectively.
NMP:	The December 13, 2018, authorization for NMP (ML18318A275) is revised to allow the use of BWRVIP-25, Revision 1-A, instead of BWRVIP-25, Revision 0.
Peach Bottom:	The July 18, 2018, authorization for Peach Bottom (ML18179A394) is revised to allow the use of BWRVIP-25, Revision 1-A, instead of BWRVIP-25, Revision 0.

The NRC staff authorizes the use of these revised alternatives for the remainder of the current 10-year inservice inspection intervals, as specified in the original authorizations.

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

If you have any questions, please contact Scott Wall at 301-415-2855 or via e-mail at Scott.Wall@nrc.gov.

Sincerely,

Jeffrey A. Whited

Digitally signed by Jeffrey A. Whited
Date: 2023.12.14 14:19:44 -05'00'

Jeffrey A. Whited, Chief
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-333, 50-373, 50-374, 50-352, 50-353, 50-220, 50-410, 50-277, and 50-278

Enclosure:
Safety Evaluation

cc: Listserv

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

PROPOSED REVISION TO APPROVED ALTERNATIVES TO USE

BOILING WATER REACTOR VESSEL AND INTERNALS PROJECT GUIDELINES

JAMES A. FITZPATRICK NUCLEAR POWER PLANT;

LASALLE COUNTY STATION, UNITS 1 AND 2;

LIMERICK GENERATING STATION, UNITS 1 AND 2;

NINE MILE POINT NUCLEAR STATION, UNITS 1 AND 2

PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3; AND

CONSTELLATION ENERGY GENERATION, LLC

DOCKET NOS. 50-333, 50-373, 50-374, 50-352,

50-353, 50-220, 50-410, 50-277, AND 50 278

1.0 INTRODUCTION

By application dated August 4, 2023 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML23216A004), Constellation Energy Generation, LLC (the licensee) submitted a request in accordance with paragraph 50.55a(z)(1) of Title 10 of the *Code of Federal Regulations* (10 CFR) to revise previously authorized alternatives to the requirements of 10 CFR 50.55a, "Codes and standards," for James A. FitzPatrick Nuclear Power Plant (FitzPatrick); LaSalle County Station (LaSalle), Units 1 and 2; Limerick Generating Station (Limerick), Units 1 and 2; Nine Mile Point Nuclear Station (NMP), Units 1 and 2; and Peach Bottom Atomic Power Station (Peach Bottom), Units 2 and 3 (the facilities).

The U.S. Nuclear Regulatory Commission (NRC) staff previously authorized the licensee to use specified Boiling Water Reactor Vessel and Internals Project (BWRVIP) guidelines as an alternative to requirements in 10 CFR 50.55a and the American Society of Mechanical Engineers Boiler and Pressure Vessel (ASME Code) for each of the subject facilities. Specifically, the licensee is currently authorized to use specified BWRVIP guidelines as an alternative to the requirements for inservice inspection (ISI) of reactor pressure vessel interior surfaces, attachments, and support structures. The licensee requested to revise these authorized alternatives to allow the use of BWRVIP-25, Revision 1-A, "BWR Vessel and Internals Project: BWR Core Plate Inspection and Flaw Evaluation Guidelines," BWRVIP-42, Revision 1-A: "BWRVIP Vessel and Internals Project: Low Pressure Coolant Injection (LPCI) Coupling Inspection and Flaw Evaluation Guidelines," BWRVIP-139, Revision 1-A: "Steam Dryer Inspection and Flaw Evaluation Guidelines," and BWRVIP-183, Revision 0-A: "Top Guide

Grid Beam Inspection and Flaw Evaluation Guidelines," as applicable, instead of the currently authorized versions of these guidelines. Pursuant to 10 CFR 50.55a(z)(1), the licensee requested to revise these alternatives on the basis that they will provide an acceptable level of quality and safety.

2.0 REGULATORY EVALUATION

The regulations in 10 CFR 50.55a(g)(4) state, in part, that ASME Code Class 1, 2, and 3 components (including supports) must meet the requirements, except the design and access provisions and the preservice examination requirements, set forth in section XI of the applicable editions and addenda of the ASME Code to the extent practical within the limitations of design, geometry, and materials of construction, of the components.

The regulations in 10 CFR 50.55a(z) state, in part, that alternatives to the requirements in paragraphs (b) through (h) of 10 CFR 50.55a may be authorized by the NRC if the licensee demonstrates that: (1) the proposed alternative provides an acceptable level of quality and safety, or (2) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

On May 30, 2018 (ML18039A854), the NRC staff authorized the use of specific BWRVIP guidelines at FitzPatrick, including Revision 0 to BWRVIP-25 and Revision 0 to BWRVIP-183, for the fifth 10-year ISI interval (ending on June 15, 2027), as an alternative to the requirements in 10 CFR 50.55a and the ASME Code.

On November 17, 2017 (ML17305B279), the NRC staff authorized the use of specific BWRVIP guidelines at LaSalle, including Revision 0 to BWRVIP-25 and Revision 1 to BWRVIP-42, for the fourth 10-year ISI interval (ending on September 30, 2027), as an alternative to the requirements in 10 CFR 50.55a and the ASME Code.

On November 21, 2016 (ML16301A401), the NRC staff authorized the use of specific BWRVIP guidelines at Limerick, including Revision 0 to BWRVIP-25, Revision 1 to BWRVIP-42, and Revision 0-A to BWRVIP-139, for the fourth 10-year ISI interval (ending on January 31, 2027), as an alternative to the requirements in 10 CFR 50.55a and the ASME Code.

On December 13, 2018 (ML18318A275), the NRC staff authorized the use of specific BWRVIP guidelines at NMP, including Revision 0 to BWRVIP-25, for the fifth 10-year ISI interval at Unit 1 (ending on August 22, 2029) and for the fourth 10-year ISI interval at Unit 2 (ending on August 22, 2028), as an alternative to the requirements in 10 CFR 50.55a and the ASME Code.

On July 18, 2018 (ML18179A394), the NRC staff authorized the use of specific BWRVIP guidelines at Peach Bottom, including Revision 0 to BWRVIP-25, for the fifth 10-year ISI interval (ending on December 31, 2028), as an alternative to the requirements in 10 CFR 50.55a and the ASME Code.

3.0 TECHNICAL EVALUATION

The licensee requested that the previously approved alternatives discussed in section 2.0 of this safety evaluation (SE) be revised to allow use of Revision 1-A of BWRVIP-25, Revision 1-A of

BWRVIP-42, Revision 1-A of BWRVIP-139, and Revision 0-A of BWRVIP-183, as applicable, at its facilities. Specifically, the licensee proposed to use:

- Revision 1-A of BWRVIP-25 instead of Revision 0 at FitzPatrick, LaSalle, Limerick, NMP, and Peach Bottom;
- Revision 1-A of BWRVIP-42 instead of Revision 1 at LaSalle and Limerick;
- Revision 1-A of BWRVIP-139 instead of Revision 0-A at Limerick; and
- Revision 0-A of BWRVIP-183 instead of Revision 0 at FitzPatrick.

The licensee did not propose any other changes to these previously approved alternatives.

The NRC staff evaluated the licensee's proposed revision to its previously approved alternatives to determine whether the revised alternative would provide an acceptable level of quality and safety as compared to the ASME Code, section XI, requirements. The scope of the NRC staff's review was limited to only those changes associated with the BWRVIP-25, BWRVIP-42, BWRVIP-139, and BWRVIP-183, revisions.

On March 23, 2020, the NRC staff generically approved Revision 1 to BWRVIP-25 with certain conditions (ML19290G703). By letter dated October 7, 2020 (ML20290A785), Electric Power Research Institute (EPRI) submitted Revision 1-A to BWRVIP 25 that incorporates the staff's approval and associated conditions into the guideline as shown in the non-proprietary version (ML20290A786) and proprietary version (ML20290A787). The NRC staff determined that Revision 1-A to BWRVIP 25 provides an acceptable level of quality and safety as compared to the ASME Code, section XI, requirements based on the staff's previous approval of Revision 1 and the incorporation of the conditions of the approval into Revision 1 A.

On August 5, 2016, the NRC staff generically approved Revision 1 to BWRVIP 42 with certain conditions (ML16124A139). By letter dated February 28, 2018 (ML18075A050), EPRI submitted Revision 1-A to BWRVIP 42 that incorporates the staff's approval and associated conditions into the guideline as shown in the non-proprietary version (ML18075A051) and proprietary version (ML18075A052). The NRC staff determined that Revision 1-A to BWRVIP 42 provides an acceptable level of quality and safety as compared to the ASME Code, section XI, requirements based on the staff's previous approval of Revision 1 and the incorporation of the conditions of the approval into Revision 1 A.

On August 3, 2011, and November 8, 2016, the NRC staff generically approved BWRVIP-139-A with certain conditions in the NRC SEs (ML111662165 and ML16180A462). By letter dated April 4, 2018 (ML18096A680), EPRI submitted the staff-approved Revision 1-A to BWRVIP-139 that incorporates the staff's approval and associated conditions into the guideline as shown in the non-proprietary version (ML18096A681) and proprietary version (ML18096A683). The NRC staff determined that Revision 1-A to BWRVIP-139 provides an acceptable level of quality and safety as compared to the ASME Code, section XI, requirements based on the staff's previous approval of Revision 1 and the incorporation of the conditions of the approval into Revision 1-A.

On December 31, 2015, the NRC staff generically approved Revision 0 to BWRVIP-183 with certain conditions (ML15309A275). By letter dated January 18, 2018 (ML18078A320), EPRI submitted the staff approved Revision 0-A to BWRVIP-183 that incorporates the staff's approval

and associated conditions into the guideline as shown in the non-proprietary version (ML18078A322) and proprietary version (ML18078A324). The NRC staff determined that Revision 0-A to BWRVIP-183 provides an acceptable level of quality and safety as compared to the ASME Code, section XI, requirements based on the staff's previous approval of Revision 0 and the incorporation of the conditions of the approval into Revision 0-A.

For each facility, the NRC staff considered whether circumstances existed that were not included in BWRVIP-25, Revision 1-A, BWRVIP-42, Revision 1-A, BWRVIP-139, Revision 1-A, or BWRVIP-183, Revision 0-A, including the associated NRC conditions on their use that would preclude the use of these guidelines at the licensee's facilities. The NRC staff found no such issues. As such, the NRC staff finds that use of (1) BWRVIP-25, Revision 1-A, at FitzPatrick, LaSalle, Limerick, NMP, and Peach Bottom, (2) BWRVIP-42, Revision 1-A, at LaSalle and Limerick, (3) BWRVIP-139, Revision 1-A, at Limerick, and (4) BWRVIP-183, Revision 0-A, at FitzPatrick, instead of the currently authorized versions of these guidelines, will provide an acceptable level of quality and safety as compared to the ASME Code, section XI, requirements.

4.0 CONCLUSION

As set forth above, the NRC staff determined that the licensee's proposed alternative to use Revision 1-A of BWRVIP-25, Revision 1-A of BWRVIP-42, Revision 1-A of BWRVIP-139, and Revision 0-A of BWRVIP-183, as applicable, will provide an acceptable level of quality and safety. Accordingly, the NRC staff concludes that the licensee has adequately addressed all the regulatory requirements set forth in 10 CFR 50.55a(z)(1). Therefore, the NRC staff approves the revision of the current authorizations specified in section 2.0 of this SE to allow the use of (1) BWRVIP-25, Revision 1-A, at FitzPatrick, LaSalle, Limerick, NMP, and Peach Bottom, (2) BWRVIP-42, Revision 1-A, at LaSalle and Limerick, (3) BWRVIP-139, Revision 1-A, at Limerick, and (4) BWRVIP-183, Revision 0-A, at FitzPatrick, instead of the currently authorized versions of these guideline, for the remainder of the current 10-year ISI intervals.

All other ASME Code requirements for which relief has not been specifically requested and approved remain applicable, including third-party review by the Authorized Nuclear Inservice Inspector. All other aspects of the previously authorized alternatives remain in effect and any components that were not included in those alternatives must continue to be inspected in accordance with the ASME Code, section XI, requirements.

Principal Contributors: Eric Palmer, NRR
Mike Benson, NRR
Scott Wall, NRR

Date of Issuance: December 14, 2023

SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT; LASALLE COUNTY STATION, UNITS 1 AND 2; LIMERICK GENERATING STATION, UNITS 1 AND 2; NINE MILE POINT NUCLEAR STATION, UNITS 1 AND 2; AND PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3 – REVISION TO APPROVED ALTERNATIVES TO USE BOILING WATER REACTOR VESSEL AND INTERNALS PROJECT GUIDELINES (EPID L-2023-LLR-0041) DATED DECEMBER 14, 2023

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