



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

April 13, 2020

Vice President, Operations
Entergy Nuclear Operations, Inc.
Indian Point Energy Center
450 Broadway, GSB
P.O. Box 249
Buchanan, NY 10511-0249

SUBJECT: INDIAN POINT NUCLEAR GENERATING UNIT NO. 3 – ISSUANCE OF RELIEF
REQUEST IP3-IST-RR-001 - ALTERNATIVE TO CERTAIN REQUIREMENTS
OF THE ASME CODE FOR EXTENSION OF THE FOURTH 10-YEAR
INSERVICE TEST INTERVAL (EPID L-2019-LLR-0094)

Dear Sir or Madam:

By letter dated September 24, 2019 (Agencywide Documents Access and Management System Accession No. ML19267A380), Entergy Nuclear Operations, Inc. (the licensee) submitted a proposed alternative to the requirements of the American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code), associated with inservice testing at Indian Point Nuclear Generating Unit No. 3 (Indian Point 3).

Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(z)(2), the licensee requested to use proposed alternative IP3-IST-RR-001 on the basis that the ASME OM Code requirements present an undue hardship without a compensating increase in the level of quality or safety.

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the subject request and concludes, as set forth in the enclosed safety evaluation, that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(z)(2). Therefore, the NRC staff authorizes the proposed alternative for Indian Point 3 for the extension of the fourth 10-year inservice test program interval, which begins on July 21, 2020, and is scheduled to end no later than April 30, 2021.

All other ASME OM Code requirements for which relief was not specifically requested and approved remain applicable.

If you have any questions concerning this matter, please contact the Indian Point 3 Project Manager, Richard Guzman, at (301) 415-1030 or Richard.Guzman@nrc.gov.

Sincerely,

/RA/

James G. Danna, Chief
Plant Licensing Branch 1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-286

Enclosure:
Safety Evaluation

cc: Listserv



UNITED STATES
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO RELIEF REQUEST IP3-IST-RR-001

FOR EXTENSION OF THE FOURTH 10-YEAR INSERVICE TEST INTERVAL

ENTERGY NUCLEAR OPERATIONS, INC.

INDIAN POINT NUCLEAR GENERATING UNIT NO. 3

DOCKET NO. 50-286

1.0 INTRODUCTION

By letter dated September 24, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19267A380), Entergy Nuclear Operations, Inc. (Entergy or the licensee) submitted a proposed alternative to the requirements of the American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code), associated with inservice testing at Indian Point Nuclear Generating Unit No. 3 (IP3).

Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(z)(2)), the licensee requested to use the proposed alternative in Relief Request IP3-IST-RR-001 on the basis that the ASME OM Code requirements present an undue hardship without a compensating increase in the level of quality or safety.

2.0 REGULATORY EVALUATION

Pursuant to 10 CFR 50.55a(f)(4), "Inservice testing standards requirements for operating plants," throughout the service life of a boiling or pressurized water-cooled nuclear power facility, pumps and valves that are within the scope of the ASME OM Code must meet the inservice test requirements (except design and access provisions) set forth in the ASME OM Code and addenda that become effective subsequent to editions and addenda specified in 10 CFR 50.55a(f)(2) and (3) and that are incorporated by reference in 10 CFR 50.55a(a)(1)(iv) to the extent practical, within the limitations of design, geometry, and materials of construction of the components.

Pursuant to 10 CFR 50.55a(z), "Alternatives to codes and standards requirements," alternatives to the requirements of 10 CFR 50.55a(f) may be used, when authorized by the U.S. Nuclear Regulatory Commission (NRC), if the licensee demonstrates (1) the proposed alternatives would provide 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.

Based on the above, and subject to the following technical evaluation, the NRC staff finds that regulatory authority exists for the licensee to request, and the NRC to authorize, the alternative requested by the licensee.

3.0 TECHNICAL EVALUATION

3.1 Components Affected

All components within the scope of the IP3 inservice test (IST) program.

3.2 Applicable Code Edition and Addenda

The applicable ASME OM Code edition for the IP3 fourth 10-year IST program interval is the 2001 Edition through 2003 Addenda of the ASME OM Code.

3.3 Duration of Proposed Alternative

The IP3 fourth 10-year IST program interval began on July 21, 2009, and is scheduled to end on July 20, 2020 (including the 1-year extension allowed in ISTA-3120). The licensee submitted the proposed alternative for implementation between July 21, 2020, and the permanent IP3 shutdown date, currently scheduled for no later than April 30, 2021.

3.4 Reason for Request

The IP3 fourth IST program interval ends on July 20, 2020, with the 1-year extension allowed in the ASME OM Code. The licensee states that IP3 is planning to permanently cease power operation no later than April 30, 2021. There are no refueling outages scheduled prior to April 30, 2021. The licensee states that updating its fifth IST program interval to the 2012 Edition of the ASME OM Code will require significant personnel resources and procedure and process changes, with minimal impact on the actual pump and valve testing during the planned remaining 9 months of operation.

3.5 Licensee's Proposed Alternative Request IP3-IST-RR-001

In IP3-IST-RR-001, the licensee requested an alternative to the IST requirements of the ASME OM Code, as incorporated by reference in 10 CFR 50.55a.

In particular, subparagraph (f)(3), "Successive Inservice Test Intervals," in paragraph ISTA-3200, "Administrative Requirements," in the 2001 Edition of the ASME OM Code, states, in part, that the test plan for each successive inservice test interval shall comply with the edition and addenda of the sections that have been adopted by the regulatory authority 12 months prior to the start of the inservice test interval, or subsequent editions and addenda that have been adopted by the regulatory authority.

Subparagraph (d) in paragraph ISTA-3120, "Inservice Test Interval," in the 2001 Edition of the ASME OM Code states, in part, that each IST program interval may be extended or decreased by as much as 1 year.

As of the date of this safety evaluation, the NRC regulations in 10 CFR 50.55a(f)(4)(ii) state, in part, that inservice tests to verify operational readiness of pumps and valves whose function is required for safety, conducted during successive 120-month intervals, must comply with the

requirements of the latest edition and addenda of the ASME OM Code incorporated by reference in 10 CFR 50.55a(a)(1)(iv) 12 months before the start of the 120-month interval (or the optional ASME Code Cases listed in NRC Regulatory Guide (RG) 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," or RG 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code," as incorporated by reference in 10 CFR 50.55a(a)(3)(ii) and (iii), respectively, subject to the conditions listed in 10 CFR 50.55a(b).

The NRC regulations in 10 CFR 50.55a(a)(1)(iv)(C)(1) currently identify the 2012 Edition of the ASME OM Code as the latest approved edition.

The licensee has requested to use the proposed alternative described below for all components within the scope of the IP3 IST program. In IP3-IST-RR-001, the licensee states:

In accordance with 10 CFR 50.55a(a)(z)(2), Entergy Nuclear Operations, Inc. (Energy) proposes to continue implementation of the testing requirements specified in the 2001 Edition with the 2003 Addenda of the OM Code by extending the fourth ten-year interval from July 21, 2020 to the permanent plant shutdown date, currently scheduled for no later than April 30, 2021. This proposal is an alternative to the requirements of ISTA-3200(f)(3) and 10 CFR 50.55a(f)(4)(ii), Applicable IST Code: Successive 120-month intervals, requirements for determining the OM Code Edition and Addenda.

In implementing this proposal, Entergy will comply with all NRC conditions as specified in 10 CFR 50.55a applicable for the 2001 Edition through the 2003 Addenda of the OM Code, including the augmented requirements of (f)(4) and (f)(6)(ii). Code Cases that were adopted per RG 1.192 will continue to be those cases applicable to the 2001 Edition through the 2003 Addenda. In summary, Entergy will continue to implement the current IP3 IST Program Fourth Interval with all applicable Conditions specific to the 2001 Edition through the 2003 Addenda in 10 CFR 50.55a.

There are many changes which occurred in the ASME OM Code between the 2001 with 2003 Addenda and the 2012 Edition. However, none are necessary to ensure an acceptable level of quality and safety nor were these changes made to address a deficiency in the OM Code that adversely impacted safety.

In summary, Entergy proposes to extend the IP3 Fourth IST Program Interval from July 21, 2020 to the permanent plant shutdown date, currently scheduled for no later than April 30, 2021. This extension, if approved, would allow IP3 to continue to implement the requirements of the OM Code, 2001 Edition with the 2003 Addenda, in lieu of the OM Code, 2012 Edition until the permanent plant shutdown. If the decision to permanently shutdown IP3 is later changed, an updated IST Program, developed in accordance with the applicable Edition and Addenda of the OM Code then in effect per 10 CFR 50.55a, will be implemented.

Implementation of this request will provide adequate detection of component degradation and will continue to provide reasonable assurance of the operational readiness of affected IP3 components. Therefore, compliance with the requirements of ISTA-3200(f)(3) and 10 CFR 50.55a(f)(4)(ii) would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety pursuant to 10 CFR 50.55a(z)(2).

3.6 NRC Staff Evaluation

The licensee is proposing to extend the current fourth 10-year IST program interval at IP3 for 9 months past the current end date of July 20, 2020. The licensee indicates that IP3 is scheduled to permanently shutdown no later than April 30, 2021. The licensee has previously extended this interval by 1 year, which is the maximum extension allowed by ISTA-3120(d) in the 2001 Edition of the ASME OM Code. The licensee proposes to continue to apply the 2001 Edition of the ASME OM Code with the 2003 Addenda as its OM Code of record, rather than the required 2012 Edition of the ASME OM Code. The licensee states that it will also continue to comply with the 10 CFR 50.55a conditions applicable to the 2001 Edition through the 2003 Addenda of the ASME OM Code, the augmented requirements of 10 CFR 50.55a(f)(4) and (f)(6)(ii), and any OM Code cases currently being applied. If the decision to permanently shutdown IP3 is changed, the licensee will develop and implement an IST program in accordance with the edition of the ASME OM Code that is in effect per 10 CFR 50.55a.

The NRC staff reviewed the changes between the 2001 Edition with 2003 Addenda and the 2012 Edition of the ASME OM Code as part of the evaluation of the licensee's alternative request. There are a wide range of IST improvements to the ASME OM Code over that time period. For example, ASME incorporated Mandatory Appendix III, "Preservice and Inservice Testing of Active Electric Motor Operated Valve Assemblies in Light-Water Reactor Power Plants," in the 2009 Edition of the OM Code. Therefore, the staff evaluated the IST requirements and licensee commitments applicable to IP3 related to pumps, valves, and dynamic restraints to determine whether compliance with the requirements to update the IST program would result in hardship or unusual difficulty, without a compensating increase in the level of quality and safety in accordance with 10 CFR 50.55a(z)(2).

If the IP3 IST program is not updated in 2020, the licensee will continue to apply the IST requirements in the 2001 Edition through the 2003 Addenda of the ASME OM Code, as incorporated by reference in 10 CFR 50.55a. In addition, the licensee must satisfy the conditions specified in 10 CFR 50.55a that are applicable to the 2001 Edition through the 2003 Addenda of the ASME OM Code. For example, the NRC regulations in 10 CFR 50.55a(b)(3)(ii) require periodic verification of the design-basis capability of motor-operated valves.

Further, the licensee is required to satisfy the requirements in 10 CFR Part 50, Appendix A, "General Design Criteria for Nuclear Power Plants," and Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," for the capability of other power-operated valves to perform their safety functions, as discussed in NRC Regulatory Issue Summary 2000-03, "Resolution of Generic Safety Issue 158: Performance of Safety-Related Power-Operated Valves Under Design Basis Conditions," March 15, 2000 (ADAMS Accession No. ML003686003). With respect to commitments, the licensee is implementing its programs in response to Generic Letter 96-05, "Periodic Verification of Design-Basis Capability of Safety-Related Motor-Operated Valves," and Generic Letter 95-07, "Pressure Locking and Thermal Binding of Safety-Related Power-Operated Gate Valves." The currently NRC-approved alternative and relief requests for the fourth 10-year IST program interval will also be in effect until the end of the extended interval.

While there are significant changes between the 2001 Edition and 2012 Edition of the ASME OM Code, the NRC staff considers that the provisions in the 2001 Edition through the 2003 Addenda of the ASME OM Code, as incorporated by reference in 10 CFR 50.55a,

together with the current regulations and licensee commitments related to power-operated valves, will provide reasonable assurance of the capability of the pumps, valves, and snubbers within the scope of the IP3 IST program to perform their safety functions for the 9-month time period from July 21, 2020, to April 30, 2021. Therefore, the NRC staff finds that the licensee, in alternative request IP3-IST-RR-001, has satisfied the requirements in 10 CFR 50.55a(z)(2) in that compliance with the regulatory requirements to update the IST program at IP3 for this short time period would result in hardship or unusual difficulty, without a compensating increase in the level of quality and safety.

4.0 CONCLUSION

As set forth above, the NRC staff has determined that for alternative request IP3-IST-RR-001 for IP3, the proposed alternative provides reasonable assurance that the components in the scope of the IP3 IST program will be operationally ready during a 9-month extension of the current fourth 10-year IST program interval. Accordingly, the NRC staff concludes that the licensee has adequately addressed the regulatory requirements set forth in 10 CFR 50.55a(z)(2) for request IP3-IST-RR-001. Therefore, the NRC staff authorizes the use of alternative request IP3-IST-RR-001 for IP3 for the extension of the fourth 10-year IST program interval, which begins on July 21, 2020, and is scheduled to end no later than April 30, 2021.

All other ASME OM Code requirements for which relief was not specifically requested and approved in the subject request remains applicable.

Principal Contributor: R. Wolfgang

Date: April 13, 2020

SUBJECT: INDIAN POINT NUCLEAR GENERATING UNIT NO. 3 – ISSUANCE OF RELIEF REQUEST IP3-IST-RR-001 - ALTERNATIVE TO CERTAIN REQUIREMENTS OF THE ASME CODE FOR EXTENSION OF THE FOURTH 10-YEAR INSERVICE TESTING INTERVAL (EPID L-2019-LLR-0094) DATED APRIL 13, 2020

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