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

April 17, 2020

Mr. Bryan C. Hanson
Senior Vice President
Exelon Generation Company, LLC
President and Chief Nuclear Officer (CNO)
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: BYRON STATION, UNIT NOS. 1 AND 2; DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3; JAMES A. FITZPATRICK NUCLEAR POWER PLANT; LASALLE COUNTY STATION, UNITS 1 AND 2; LIMERICK GENERATING STATION, UNITS 1 AND 2; AND QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2 – REQUEST TO USE PROVISIONS IN THE 2013 EDITION OF THE ASME BOILER AND PRESSURE VESSEL CODE FOR PERFORMING NON-DESTRUCTIVE EXAMINATIONS (EPID L-2019-LLR-0080)

Dear Mr. Hanson:

By application dated August 27, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19239A208), Exelon Generation Company, LLC (Exelon) submitted a request in accordance with paragraph 50.55a(g)(4)(iv) of Title 10 of the *Code of Federal Regulations* (10 CFR) to use a later edition of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) at Byron Station, Unit Nos. 1 and 2 (Byron); Dresden Nuclear Power Station, Units 2 and 3 (Dresden); James A. FitzPatrick Nuclear Power Plant (FitzPatrick); LaSalle County Station, Units 1 and 2 (LaSalle); Limerick Generating Station, Units 1 and 2 (Limerick); and Quad Cities Nuclear Power Station, Units 1 and 2 (Quad Cities). Specifically, Exelon requested approval to use the provisions in the 2013 Edition of the ASME Code, Section XI, for nondestrictive examination (NDE) activities associated with inservice inspection (ISI) examinations at these facilities.

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the subject request and concludes, as set forth in the enclosed safety evaluation, that Exelon has adequately addressed the requirements in 10 CFR 50.55a(g)(4)(iv). Therefore, the NRC staff approves the use of the NDE-related provisions in the 2013 Edition of the ASME Code, Section XI, identified in the application, subject to the conditions and limitations in 10 CFR 50.55a(b), at Byron, Dresden, FitzPatrick, LaSalle, Limerick, and Quad Cities. For each facility, this approval is for the remainder of the current 10-year ISI intervals, as specified in the application.

If you have any questions, please contact Blake Purnell at 301-415-1380 or via e-mail at Blake.Purnell@nrc.gov .

Sincerely,

/RA Robert F. Kuntz for/

Nancy L. Salgado, Chief
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. STN 50-454, STN 50-455,
50-237, 50-249, 50-333, 50-373, 50-374,
50-352, 50-353, 50-254, and 50-265

Enclosure:
Safety Evaluation

cc: Listserv

UNITED STATES
NUCLEAR REGULATORY COMMISSION
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REQUEST TO USE PROVISIONS IN

THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

BOILER AND PRESSURE VESSEL CODE

BYRON STATION, UNIT NOS. 1 AND 2

DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

LASALLE COUNTY STATION, UNITS 1 AND 2

LIMERICK GENERATING STATION, UNITS 1 AND 2

QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2

EXELON GENERATION COMPANY, LLC

DOCKET NOS. STN 50-454, STN 50-455, 50-237, 50-249,

50-333, 50-373, 50-374, 50-352, 50-353, 50-254, and 50-265

1.0 INTRODUCTION

By application dated August 27, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19239A208), Exelon Generation Company, LLC (Exelon) submitted a request in accordance with paragraph 50.55a(g)(4)(iv) of Title 10 of the *Code of Federal Regulations* (10 CFR) to use a later edition of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) at Byron Station, Unit Nos. 1 and 2 (Byron); Dresden Nuclear Power Station, Units 2 and 3 (Dresden); James A. FitzPatrick Nuclear Power Plant (FitzPatrick); LaSalle County Station, Units 1 and 2 (LaSalle); Limerick Generating Station, Units 1 and 2 (Limerick); and Quad Cities Nuclear Power Station, Units 1 and 2 (Quad Cities) (collectively, the facilities). Specifically, Exelon requested approval to use the provisions in the 2013 Edition of the ASME Code, Section XI, for nondestructive examination (NDE) activities associated with inservice inspection (ISI) examinations at these facilities.

2.0 REGULATORY EVALUATION

Specific editions and addenda, or portions thereof, of the ASME Code, Section XI, have been incorporated by reference into 10 CFR 50.55a(a)(1)(ii), including the 2007 Edition and 2008

Addenda of the ASME Code, Section XI, currently in use at Exelon's facilities. The 2013 Edition of the ASME Code, Section XI, is also incorporated by reference into 10 CFR 50.55a(a)(1)(ii), except for Item Nos. B5.11 and B5.71 in Table IWB-2500-1 (B-F), subparagraph IWB-3112(a)(3), and subparagraph IWC-3112(a)(3). Use of the editions and addenda of the ASME Code, Section XI, incorporated by reference into 10 CFR 50.55a(a)(1)(ii), are subject to the conditions in 10 CFR 50.55a(b)(2).

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. ASME Code Class MC and CC pressure retaining components and their integral attachments 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, subject to the conditions listed in paragraphs (vi), (viii), and (ix) of 10 CFR 50.55a(b)(2), to the extent practical within the limitations of design, geometry, and materials of construction of the components.

Paragraph 10 CFR 50.55a(g)(4)(ii) requires, in part, that inservice examination of components and system pressure tests conducted during successive 10-year ISI intervals (i.e., after the initial 10-year interval) must comply with the latest edition and addenda of the ASME Code (or the optional ASME Code Cases) incorporated by reference in 10 CFR 50.55a(a) 12 months before the start of the 10-year interval subject to the conditions listed in 10 CFR 50.55a(b). The 2007 Edition and 2008 Addenda of Section XI of the ASME Code are applicable to the current 10-year ISI intervals at Exelon's facilities.

Paragraph 50.55a(g)(4)(iv) of 10 CFR states:

> Inservice examination of components and system pressure tests may meet the requirements set forth in subsequent editions and addenda that are incorporated by reference in paragraph (a) of this section [10 CFR 50.55a], subject to the conditions listed in paragraph (b) of this section, and subject to Commission approval. Portions of editions or addenda may be used, provided that all related requirements of the respective editions or addenda are met.

3.0 TECHNICAL EVALUATION

3.1 Exelon's Request

3.1.1 ASME Code Components Affected

For each facility, all Code Class 1, 2, 3, MC, and CC components, component supports, and welds located within the ASME Code, Section XI, boundaries may be affected by the proposed change.

3.1.2 Applicable Code Edition and Addenda

The 2007 Edition and 2008 Addenda of Section XI of the ASME Code are applicable to the current 10-year ISI intervals at Exelon's facilities. The table below lists the associated 10-year ISI interval, including the start and end dates, for each facility.

PLANT	ISI INTERVAL	START	END
Byron	4th	7/16/2016	7/15/2025
Dresden	5th	1/20/2013	1/19/2023
FitzPatrick	5th	8/1/2017	6/15/2027
LaSalle	4th	10/1/2017	9/30/2027
Limerick	4th	2/1/2017	1/31/2027
Quad Cities	5th	4/2/2013	4/1/2023

3.1.3 Proposed Alternative and Basis for Use

Exelon is requesting to use the following provisions in the 2013 Edition of the ASME Code, Section XI, for NDE activities associated with ISI examinations, in lieu of the associated provisions in the 2007 Edition and 2008 Addenda of Section XI:

(a) the general requirements in Article IWA-1000 and Subarticles IWA-2100, IWA-2200, and IWA-2300;
(b) the requirements for Class 1 components in Articles IWB-3000 and IWB-5000;
(c) Mandatory Appendices I through X; and
(d) Nonmandatory Appendices A through W, except for Appendix R (Nonmandatory Appendices F, I, and V do not exist in the 2007 Edition, 2008 Addenda, and 2013 Edition of Section XI).

Exelon stated that it will comply with all applicable conditions and limitations specified in 10 CFR 50.55a(b) when using these provisions. In particular, Exelon stated that it will comply the conditions in paragraphs (xx)(B) and (xxvi) of 10 CFR 50.55a(b)(2) regarding system leakage testing following repair/replacement activities and pressure testing of mechanical joints, respectively.

For performance of the ISI examinations and tests, Exelon stated that it will continue to select, plan, and schedule the ISI examination activities in accordance with the applicable requirements of the 2007 Edition and 2008 Addenda of the ASME Code, Section XI, or an applicable NRC-approved alternative to these ISI requirements.

3.2 NRC Staff Evaluation

Based on the requirements in 10 CFR 50.55a(g)(4)(iv), the NRC staff considered the following criteria in its review of Exelon's application:

1. The proposed edition or addenda of the ASME Code are incorporated by reference in 10 CFR 50.55a(a).

2. The proposed edition or addenda of the ASME Code are subject to the conditions listed in 10 CFR 50.55a(b).

3. The licensee requested NRC approval to use the proposed edition or addenda of the ASME Code.

4. If only portions of editions or addenda are to be used, all related requirements of the respective editions or addenda are met.

Exelon is requesting to use the provisions in the 2013 Edition of the ASME Code, Section XI, for NDE activities associated with ISI examinations (see Section 3.1.3 of this safety evaluation). The 2013 Edition of the ASME Code, Section XI, is incorporated by reference into 10 CFR 50.55a(a)(1)(ii), except for Item Nos. B5.11 and B5.71 in Table IWB-2500-1 (B-F), subparagraph IWB-3112(a)(3), and subparagraph IWC-3112(a)(3). Exelon has not requested to use any of the excluded provisions. Therefore, the first criterion of 10 CFR 50.55a(g)(4)(iv) has been satisfied.

The conditions in paragraphs (xiv), (xviii)(A), (xviii)(D), (xix), (xxii), (xxvii), (xxviii), (xxxiii), (xxxiv), and (xxxvi) of 10 CFR 50.55a(b)(2) are applicable to the provisions in the 2013 Edition of the ASME Code, Section XI, that Exelon has requested to use. Exelon stated in the application that it will comply with all applicable conditions and limitations specified in 10 CFR 50.55a(b) when using these provisions. Therefore, the second criterion of 10 CFR 50.55a(g)(4)(iv) has been satisfied.

Exelon's August 27, 2019, application requests NRC approval to use a subsequent edition or addenda of the ASME Code. Therefore, the third criterion of 10 CFR 50.55a(g)(4)(iv) has been satisfied.

Exelon is requesting to use the provisions in the 2013 Edition of the ASME Code, Section XI, for NDE activities associated with ISI examinations. The specific provisions are listed in the application and identified in Section 3.1.3 of this safety evaluation. The NRC staff has reviewed the application and determined that Exelon has requested to use all the provisions in the 2013 Edition of the ASME Code, Section XI, applicable to NDE activities associated with ISI examinations. Therefore, the fourth criterion of 10 CFR 50.55a(g)(4)(iv) has been satisfied.

Based on the above, the NRC staff finds that the criteria contained in 10 CFR 50.55a(g)(4)(iv) are satisfied and that the Exelon's request to use the 2013 Edition of the ASME Code, Section XI, for the NDE activities relating to the ISI examinations is acceptable.

4.0 CONCLUSION

As set forth above, the NRC staff determined that the Exelon's request to use the provisions in the 2013 Edition of the ASME Code, Section XI, for NDE activities associated with ISI examinations is acceptable because the requirements in 10 CFR 50.55a(g)(4)(iv) are satisfied. Therefore, the NRC staff approves the use of the NDE-related provisions in the 2013 Edition of the ASME Code, Section XI, identified in the application, subject to the conditions and limitations in 10 CFR 50.55a(b), at Byron, Dresden, FitzPatrick, LaSalle, Limerick, and Quad Cities. For each facility, this approval is for the remainder of the current 10-year ISI intervals, as specified in the application.

Principal Contributor: Keith M. Hoffman, NRR

Date of issuance: April 17, 2020

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