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

July 10, 2018

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: BRAIDWOOD STATION, UNITS 1 AND 2; BYRON STATION, UNIT NOS. 1 AND 2; CALVERT CLIFFS NUCLEAR POWER PLANT, UNITS 1 AND 2; CLINTON POWER STATION, UNIT NO. 1; 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; NINE MILE POINT NUCLEAR STATION, UNITS 1 AND 2; PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3; QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2; R. E. GINNA NUCLEAR POWER PLANT; AND THREE MILE ISLAND NUCLEAR STATION, UNIT 1 — SUPPLEMENTAL INFORMATION NEEDED FOR ACCEPTANCE OF REQUESTS TO USE ASME CODE CASES N-878, N-879, AND N-880 (EPIDS L-2018-LLR-0076 AND L-2018-LLR-0077)

Dear Mr. Hanson:

By applications dated May 30, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML18151A023 and ML18151A028), Exelon Generation Company, LLC (Exelon, the licensee) submitted two separate requests for proposed alternatives to the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.55a, "Codes and standards," and the American Society of Mechanical Engineers Boiler and Pressure Vessel (ASME Code) for Braidwood Station, Units 1 and 2; Byron Station, Unit Nos. 1 and 2; Calvert Cliffs Nuclear Power Plant, Units 1 and 2; Clinton Power Station, Unit No. 1; 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; Nine Mile Point Nuclear Station, Units 1 and 2; Peach Bottom Atomic Power Station, Units 2 and 3; Quad Cities Nuclear Power Station, Units 1 and 2; R. E. Ginna Nuclear Power Plant; and Three Mile Island Nuclear Station, Unit 1. One proposed alternative would allow the licensee to use ASME Code Case N-879, "Use of Micro-Alloyed Carbon Steel Bar in Patented Mechanical Joints and Fittings, Classes 1, 2, and 3 Section III, Division 1." The other proposed alternative would allow the licensee to use ASME Code Cases N-878, "Alternative to QA [Quality Assurance] Program Requirements of IWA-4142, Section XI, Division 1," and N-880, "Alternative to Procurement Requirements of IWA-4143 for Small Nonstandard Welded Fittings, Section XI, Division 1."

Pursuant to 10 CFR 50.55a(z)(1) and 50.55a(z)(2), the applicant shall demonstrate that the proposed alternatives would provide an acceptable level of quality and safety, or that compliance with the specified requirements of 10 CFR 50.55a would result in hardship or unusual difficulty without a compensating increase in the level of quality or safety.

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed your application and concluded that the information delineated in the enclosure to this letter is necessary to enable the staff to make an independent assessment regarding the acceptability of the proposed alternative in terms of regulatory requirements and the protection of public health and safety and the environment.

In order to make the application complete, the NRC staff requests that Exelon supplement the application to address the information requested in the enclosure by July 27, 2018. This will enable the NRC staff to begin its detailed technical review. If the information responsive to the NRC staff's request is not received by the above date, the application will not be accepted for review pursuant to 10 CFR 2.101, and the NRC will cease its review activities associated with the application. If the application is subsequently accepted for review, you will be advised of any further information needed to support the staff's detailed technical review by separate correspondence.

The information requested and associated time frame in this letter were discussed with Mr. Tom Loomis and other members of your staff on July 10, 2018.

If you have any questions, please contact me at (301) 415-1380.

Sincerely,

BL Purnell

Blake Purnell, Project Manager
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. STN 50-456, STN 50-457,
STN 50-454, STN 50-455, 50-317,
50-318, 50-461, 50-237, 50-249,
50-333, 50-373, 50-374, 50-352,
50-353, 50-220, 50-410, 50-277,
50-278, 50-254, 50-265, 50-244,
and 50-289

Enclosure:
Supplemental Information Needed

cc: Distribution via Listserv

SUPPLEMENTAL INFORMATION NEEDED

PROPOSED ALTERNATIVES TO USE ASME CODE CASES N-878, N-879, AND N-880

EXELON GENERATION COMPANY, LLC

DOCKET NOS. STN 50-456, STN 50-457, STN 50-454, STN 50-455, 50-317, 50-318, 50-461, 50-237, 50-249, 50-333, 50-373, 50-374, 50-352, 50-353, 50-220, 50-410, 50-277, 50-278, 50-254, 50-265, 50-244, AND 50-289

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The U.S. Nuclear Regulatory Commission staff has reviewed your applications and concluded that the information below is necessary for the staff to make an independent assessment regarding the acceptability of the proposed alternatives.

Proposed alternative to use Code Case N-879

1. Provide the applicable Edition and Addenda of ASME Code Section III, or other code of construction, for each applicable piping system in each nuclear unit included in the request.

2. Provide a list of each applicable system in each nuclear unit included in the request, including design and operating pressure, temperature, and environment.

3. Provide a description of the mechanical joint/fitting design, including the thickness and a drawing or sketch.

4. Provide the technical basis for the use of the proposed material that bounds all the conditions to which the components fabricated from the proposed material will be exposed.

Enclosure

5. Provide the maximum tensile strength for the proposed material, and discuss applicable fracture toughness requirements.

6. Provide welding preheat and post-weld heat treatment to be used for the joints and fittings, including a technical justification for the values that are selected.

7. Provide the specification and classification for weld filler material, and a justification for its selection.

8. Provide the P Number for the proposed material.

9. Provide information regarding the structural integrity and qualification methods used for the mechanical joints and fittings made of micro-alloyed carbon steel bar that will be used in ASME Code safety-related Section III, Division 1, Class 1, 2, and 3 systems.

10. For the locations where the mechanical joints with the proposed material will be used, provide a table describing the change in design margins for various load combinations (e.g., normal, upset, emergency, and faulted conditions), including the cumulative usage factor using in the fatigue analysis when applicable to the locations for the nuclear plant units.

Proposed alternative to use Code Cases N-878 and N-880

11. The application requests an alternative to specific ASME Code requirements to permit the procurement of material from a material supplier that does not possess ASME accreditation as a Quality System Certificate Holder or an NPT Certificate Holder. The proposed alternative was requested in accordance with 10 CFR 50.55a(z)(2) and claims that possession of Quality System Certificate or an NPT Certificate would result in a hardship or unusual difficulty. The application states: "Without the use of these Code Cases in some situations, outage times could be increased, and plant and contractor personnel will receive significantly higher radiation doses, due to longer exposure times in the vicinity of the piping joint installation."

    Explain how the dose to personnel is affected by whether or not a material supplier possesses a Quality System Certificate or an NPT Certificate. Alternatively, justify that the proposed alternative to use Code Cases N-878 and N-880 would provide an acceptable level of quality and safety in accordance with 10 CFR 50.55a(z)(1).

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ADAMS Accession No. ML18186A545 *by email

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