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

September 5, 2019

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: CLINTON POWER STATION, UNIT 1 – PROPOSED ALTERNATIVE TO THE REQUIREMENTS OF THE ASME CODE (EPID L-2019-LLR-0053)

Dear Mr. Hanson:

By letter dated May 23, 2019, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19143A305), Exelon Generation Company, LLC (EGC, the licensee), submitted a request for the use of an alternative to the requirements of certain American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code), requirements at Clinton Power Station (CPS), Unit 1.

Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(z)(1), the licensee requested to use alternative rules for testing certain pressure relief/safety valves on the basis that the alternative provides an acceptable level of quality and safety.

The U.S. Nuclear Regulatory Commission (NRC or Commission) staff has reviewed the subject request and concludes, as set forth in the enclosed safety evaluation, that EGC has adequately addressed the regulatory requirements set forth in 10 CFR 50.55a(z)(1). The NRC staff finds that the proposed alternative RR-2202 provides an acceptable level of quality and safety. Therefore, the NRC staff authorizes the proposed alternative RR-2202 for the fourth 10-year inservice testing (IST) interval at CPS, Unit 1, which is currently scheduled to start on July 1, 2020, and end on June 30, 2030.

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

If you have any questions, please contact the Senior Project Manager, Joel S. Wiebe, at (301) 415-6606 or Joel.Wiebe@nrc.gov.

Sincerely,

/RA/

Lisa M. Regner, Acting Branch Chief
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-461

Enclosure:
Safety Evaluation

cc: Listserv

UNITED STATES
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REQUEST TO USE PROPOSED ALTERNATIVE RR-2202

REGARDING THE TESTING OF CERTAIN PRESSURE RELIEF/SAFETY VALVES

EXELON GENERATION COMPANY, LLC

CLINTON POWER STATION, UNIT 1

DOCKET NO. 50-461

1.0 INTRODUCTION

By letter dated May 23, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19143A305), Exelon Generation Company, LLC (EGC, the licensee), submitted a request to the U.S. Nuclear Regulatory Commission (NRC) to use an alternative test plan in lieu of certain inservice testing (IST) requirements of the 2012 Edition of the American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code) for the inservice testing (IST) program at Clinton Power Station (CPS), Unit 1, during the fourth 10-year IST program interval.

Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Section 50.55a(z)(1), the licensee requested to use proposed alternative RR-2202 on the basis that the alternative provides an acceptable level of quality and safety.

2.0 REGULATORY EVALUATION

As required by 10 CFR 50.55a(f), "Inservice Testing Requirements," IST of certain ASME Code Class 1, 2, and 3 components must meet the requirements of the ASME OM Code and applicable addenda, except where alternatives have been authorized pursuant to 10 CFR, paragraphs 50.55a(z)(1) or 10 CFR 50.55a(z)(2).

In proposing alternatives, a licensee must demonstrate that the proposed alternatives provide an acceptable level of quality and safety (10 CFR 50.55a(z)(1)) or compliance would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety (10 CFR 50.55a(z)(2)).

3.0 TECHNICAL EVALUATION

3.1 The Licensee's Request for Alternative

3.1.1 Applicable ASME OM Code

The request is an alternative test plan in lieu of certain IST requirements of the 2012 Edition of the ASME OM Code for the IST program at CPS, Unit 1, for the fourth interval which is currently scheduled to start on July 1, 2020, and end on June 30, 2030.

ASME OM Code Requirements:

> ISTA-3130 "Application of Code Cases", (b) states that "Code Cases shall be applicable to the edition and addenda specified in the test plan."
>
> Appendix I, paragraph I-1320, "Test Frequencies, Class 1 Pressure Relief Valves" (a) "*5Year Test Interval"* states that, Class 1 pressure relief valves shall be tested at least once every five years, starting with initial electric power generation. No maximum limit is specified for the number of valves to be tested within each interval; however, a minimum of 20% of the valves from each valve group shall be tested within any 24 month interval. This 20% shall consist of valves that have not been tested during the current 5-year interval, if they exist. The test interval for any individual valve shall not exceed 5 years.
>
> ASME OM Code Case OMN-17, "Alternative Rules for Testing ASME Class 1 Pressure Relief/Safety Valves," from the 2009 Edition of ASME OM Code, allows a six-year test interval plus an additional six months grace period coinciding with a refueling outage, in order to accommodate extended shutdown periods.

3.1.2 Licensee's Request RR-2202

Alternative testing is requested for the following valves:

Table 1

Valve ID	Function	Class	Cat
1B21-F041A	Main Steam Safety Relief Valve (SRV)	1	C
1B21-F041B	Main Steam SRV	1	C
1B21-F041C	Main Steam SRV	1	C
1B21-F041D	Main Steam SRV	1	C
1B21-F041F	Main Steam SRV	1	C
1B21-F041G	Main Steam SRV	1	C
1B21-F041L	Main Steam SRV	1	C
1B21-F047A	Main Steam SRV	1	C
1B21-F047B	Main Steam SRV	1	C
1B21-F047C	Main Steam SRV	1	C
1B21-F047D	Main Steam SRV	1	C
1B21-F047F	Main Steam SRV	1	C
1B21-F051B	Main Steam SRV	1	C
1B21-F051C	Main Steam SRV	1	C
1B21-F051D	Main Steam SRV	1	C
1B21-F051G	Main Steam SRV	1	C

The licensee states, in part:

Reason for Request

ISTA-3130(b) states, "Code Cases shall be applicable to the edition and addenda specified in the test plan." ASME has approved Code Case OMN-17, Revision 0. This Code Case is unconditionally approved for use in Regulatory Guide (RG) 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code," Revision 2. The Clinton Power Station (CPS) Code-of-Record for the 4th IST interval is the ASME OM Code-2012. However, Code Case OMN-17 indicates in the Inquiry (Applicability) section that it is applicable for use in lieu of the ASME OM Code 1995 Edition through the OMb-2006 Addenda. CPS will be implementing the ASME Code OM-2012 and proposes to also implement Code Case OMN-17 for extending the test frequencies of the Class 1 Main Steam Line SRVs to a 72-month (6-year) test interval, with the allowed 6-month grace period, providing all the requirements of the Code Case continue to be satisfied. The previously authorized request 2202 for the CPS 3rd interval (i.e., Reference 1) provided alternative testing requirements equivalent to Code Case OMN-17.

Proposed Alternative

The proposed alternative to ISTA-3130(b) would allow CPS, Unit No. 1, to implement Code Case OMN-17, although the Code Case Inquiry (Applicability) statement addresses only the 1995 Edition through the 2006 Addenda and ISTA-3130(b) requires applicability to the edition specified in the test plan, which would be the ASME OM Code-2012. Code Case OMN-17 was issued in 2007 and first published in the ASME OM Code-2009 Edition. A review of the 2012 Edition of the OM Code and Code Case OMN-17 confirmed that there are no changes in the applicable Code sections referenced within the Code Case when comparing the 2009 edition to the 2012 edition.

RG 1.192, Revision 2, Table 1, "Acceptable OM Code Cases," lists Code Case OMN-17 (2012 Edition) as acceptable to the NRC for application in a licensee's IST program without conditions.

Using the provisions of this request as an alternative to the requirements of ISTA-3130(b) will continue to provide assurance of the Main Steam SRVs' operational readiness and provides an acceptable level of quality and safety pursuant to 10 CFR 50.55a(z)(1).

The request upon approval, will be applied to the CPS fourth 10-year IST interval, which begins on July 1, 2020, and is scheduled to end on June 30, 2030.

3.1.3 NRC Staff Evaluation

ASME published Code Case OMN-17, “Alternative Rules for Testing ASME Class 1 Pressure Relief/Safety Valves,” in the 2009 Edition of the OM Code. Code Case OMN-17 allows extension of the test frequency for SRVs from 5 years to 6 years with a 6-month grace period. The code case imposes a special maintenance requirement to disassemble and inspect each SRV to verify that parts are free from defects resulting from time-related degradation or maintenance-induced wear prior to the start of the extended test interval. The NRC staff

recognizes that although Mandatory Appendix I, paragraph I-1320(a), of the ASME OM Code does not require that SRVs be routinely refurbished when tested on a 5-year interval, routine refurbishment provides additional assurance that set-pressure drift during subsequent operation is minimized.

The NRC staff finds that extending the test interval of SRVs listed in Table 1 to 72 months with a 6-month grace period is acceptable. Extending the test interval should not adversely affect the operational readiness of the SRVs, because the SRVs will be disassembled, inspected, and reworked to defect free condition prior to the start of the extended test interval. The additional maintenance which is beyond what is required by OM Code Mandatory Appendix I when testing SRVs on a 5-year interval justifies extension of the test interval for up to 72 months plus a six-month grace period while providing an acceptable level of quality and safety.

4.0 CONCLUSION

As set forth above, the NRC staff finds that the proposed alternative described in request RR-2202 provides an acceptable level of quality and safety for components listed in Table 1. Accordingly, the NRC staff concludes that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(z)(1). Therefore, the NRC staff authorizes the proposed alternative RR-2202 for the fourth 10-year IST interval at CPS, Unit 1, which is currently scheduled to start on July 1, 2020, and end on June 30, 2030.

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

Principle Contributor: MFarnan, NRR

Date of issuance: September 5, 2019

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