



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

November 5, 2015

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 - RELIEF FROM THE REQUIREMENTS OF THE ASME CODE CONCERNING SNUBBER INSPECTION INTERVAL FOR THE THIRD 10-YEAR INTERVAL INSERVICE INSPECTION PROGRAM (CAC NO. MF5334)(RS-14-295)

Dear Mr. Hanson:

By letter dated December 1, 2014, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14335A539), as supplemented by letter dated May 1, 2015 (ADAMS Accession No. ML15121A284), Exelon Generation Company, LLC (the licensee) submitted a request to the U.S. Nuclear Regulatory Commission (NRC) for the use of alternatives to certain American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, requirements at Clinton Power Station (CPS), Unit 1.

Specifically, pursuant to Section 50.55a(z)(1) to Title 10 of the *Code of Federal Regulations* (10 CFR), the licensee requested to use a proposed alternative in the third 10-year interval inservice inspection program to test snubbers every 2 calendar years or every other refueling outage in lieu of the requirements of ASME Code, Section XI, and ISTD-5200.

The submittal cited 10 CFR 50.55a(a)(3)(i), which covered the relief request (RR) for alternatives on the basis that the proposed alternative would provide an acceptable level of quality and safety. On November 5, 2014, the NRC reorganized 10 CFR 50.55a (79 FR 65776), and RRs that had been previously covered by 10 CFR 50.55a(a)(3)(i) are now covered in the equivalent 10 CFR 50.55a(z)(1).

The 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)(1).

B. Hanson

- 2 -

If you have any questions, please contact Ms. Eva Brown at 301-415-2315 or via e-mail at [Eva.Brown@nrc.gov](mailto:Eva.Brown@nrc.gov).

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Poole', with a long horizontal flourish extending to the right.

Justin C. Poole, Acting Chief  
Plant Licensing Branch III-2 and  
Planning and Analysis Branch  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-461

Enclosure:  
Safety Evaluation

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELIEF REQUEST NO. I3R-11 FOR THE THIRD 10-YEAR INTERVAL

INSERVICE INSPECTION PROGRAM

EXELON GENERATION COMPANY, LLC

CLINTON POWER STATION, UNIT NO. 1

DOCKET NO. 50-461

1.0 INTRODUCTION

By letter dated December 1, 2014, as supplemented by letter dated May 1, 2015, (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML14335A539 and ML15121A284 respectively), Exelon Generation Company, LLC (the licensee), submitted Relief Request (RR) I3R-11 for Clinton Power Station, Unit 1 (CPS). The licensee proposed an alternative test plan in lieu of inservice examination and testing requirements of the 2004 Edition of the American Society of Mechanical Engineers Boiler and Pressure Vessel (ASME Code), Section XI, and Code for Operation and Maintenance of Nuclear Power Plants (OM Code), for the inservice inspection (ISI) program at CPS, Unit 1, for the third 10-year ISI program interval. The third 10-year ISI program interval at CPS, Unit 1, began on July 1, 2010, and is scheduled to end on June 30, 2020.

The submittal cited Section 50.55a(a)(3)(i) to Title 10 *Code of Federal Regulations* (10 CFR), which covered RR for alternatives on the basis that the proposed alternative would provide an acceptable level of quality and safety. On November 5, 2014, the NRC reorganized 10 CFR 50.55a (79 FR 65776), and RRs that had been previously covered by 10 CFR 50.55a(a)(3)(i) are now covered in the equivalent 10 CFR 50.55a(z)(1).

Specifically, pursuant to 10 CFR, Section 50.55a(z)(1), the licensee requested to use a proposed alternative in RR I3R-11 to test snubbers every 2 calendar years or every other refueling outage in lieu of the requirements of ASME Code, Section XI, and ISTD-5200 on the basis that the alternative provides an acceptable level of quality and safety.

ENCLOSURE

## 2.0 REGULATORY EVALUATION

Section 50.55a(g)(4) to 10 CFR requires that throughout the service life of a boiling or pressurized water-cooled nuclear power facility, components (including supports) must meet the requirements, to the extent practical within the limitations of design, geometry, and materials of construction of the components.

Section 50.55a(g)(4)(ii) to 10 CFR requires that inservice examination of components and system pressure tests conducted during successive 120-month inspection intervals must comply with the requirements of the latest edition and addenda of the ASME Code 12 months before the start of the 120-month inspection interval

Section 50.55a(b)(3)(v)(A) to 10 CFR allows the optional use of Subsection ISTD, "Preservice and Inservice Examination and Testing of Dynamic Restraints (Snubbers) in Light-Water Reactor Nuclear Power Plants." If a licensee chooses to use Subsection ISTD, the licensee must make the appropriate changes to technical specifications (TS) or licensee-controlled documents (e.g., the Technical Requirements Manual).

The ASME OM Code establishes the requirements of preservice and inservice examination and testing of snubbers to assess their operational readiness in light-water reactor nuclear power plants. ASME OM, Subsection ISTD provides inservice visual examination and testing requirements for snubbers: (1) ISTD-4200 provides for inservice visual examination; (2) ISTD-5200 provides for inservice functional testing; and (3) ISTD-6200 provides for Service Life Monitoring (SLM).

Subsection ISTD-5200, Inservice Operational Readiness Testing, states, in part, that snubbers shall be tested for operational readiness during each fuel cycle.

Subsection ISTD-5240, Test Frequency, states that tests of snubbers from the facility shall be performed every refueling fuel cycle. Snubber testing may begin no earlier than 60 days before a scheduled refueling outage.

The applicable ASME Code for snubber examination and testing at CPS is ASME OM Code and ASME Code, Section XI, 2004 Edition, IWF-5000. In accordance with 10 CFR 50.55a(b)(3)(v)(A), the licensee is using ASME OM Code, Subsection ISTD, in lieu of the IWF-5200(a) and (b), and IWF-5300(a) and (b) for inservice examination and testing snubbers at CPS.

Relief request I3R-11, dated December 1, 2014, cited 10 CFR 50.55a(a)(3)(i), which covered a RR for alternatives on the basis that the proposed alternative would provide an acceptable level of quality and safety. On November 5, 2014, the NRC reorganized 10 CFR 50.55a (79 FR 65776), and RRs that had been previously covered by 10 CFR 50.55a(a)(3)(i) are now covered in the equivalent 10 CFR 50.55a(z)(1).

### 3.0 TECHNICAL EVALUATION

#### 3.1 Reason for Request

The current ASME OM Code required a snubber functional testing frequency, in each fuel cycle; in effect every 2 calendar years.

Due to economic reasons, CPS will be transitioning to a 12-month fuel cycle beginning in the spring of 2015; requiring refueling outages every calendar year. CPS intends to alternately schedule one short outage that will focus primarily on refueling activities with minimal maintenance activities (i.e., "refueling only outages") and one more traditional refueling outage consisting of both refueling activities and maintenance activities (i.e., "refueling/maintenance outages").

In order to meet the ASME Code required frequency in ISTD-5200, CPS will have to perform snubber testing each calendar year. This in effect cuts the allowable testing interval of the snubbers in half (i.e., 12 months vs 24 months). The licensee indicates that this change in outage scheduling and its Code implications do not provide a compensating increase in level of quality or safety.

#### 3.2 Proposed Alternative

In lieu of the requirements of ASME Code, Section XI, and ISTD-5200, the proposed alternative is to test every 2 calendar years, or every other refueling outage.

The proposed alternative is that CPS maintain the current testing frequency of every 24 months by performing snubber testing every other refueling cycle, or every 2 calendar years. Use of this proposed alternative is intended to maintain the current adequate level of quality and safety and provide reasonable assurance of structural integrity of systems supported by snubbers.

#### 3.3 NRC Staff Evaluation

In lieu of the Article IWF-5000 of the ASME Section XI, CPS is using Subsection ISTD of the ASME OM Code, as allowed by 10 CFR 50.55a(b)(v)(A). The NRC staff reviewed the applicable requirements for preservice and inservice examination and testing of snubbers to determine if the proposed alternative meets the criteria of the ASME Code. The following subsections provide the inservice examination and testing requirements for snubbers: (1) ISTD-4200, Inservice Visual Examination; (2) ISTD-5200, Inservice Functional Testing; and (3) ISTD-6200, Service Life Monitoring (SLM). The ASME OM Code requires that each of these activities to be performed every refueling outage.

Currently, CPS is on a 24-month refuel cycle and has determined that a 12-month refueling cycle with an alternating "refueling only outage" followed by a "refueling/maintenance outage" cycle is financially beneficial. The NRC staff reviewed the proposed alternative and determined that a 12-month refueling cycle would require all snubbers at CPS to meet the Subsection ISTD requirements for visual examination, functional testing and SLM every refueling cycle (12 months). In lieu of this requirement, the licensee has proposed that CPS maintain the current testing frequency of every 24 months by performing snubber testing every other refueling cycle,

or every 2 calendar years. The licensee states that during "refueling only outage," CPS will focus primarily on refueling activities with minimum maintenance activities and one more traditional refueling outage consisting of both refueling and maintenance activities.

The licensee proposes to continue functional testing of snubbers every 24 months (original refueling cycle) instead of new refueling cycle (12 months). Based on current outage plan, CPS proposes treating the "refueling only outage" as a "refueling outage" in accordance with the ASME OM Code requirements and not a "refueling/maintenance outage." This guidance ensures that snubbers will be functionally tested at frequency of every 24 months as required by the ISTD-5200.

The NRC staff has reviewed the proposed alternative that snubbers will be functionally tested at a frequency of 24 months as required by the ISTD-5200. As this will not be a change to the current testing program and declining performance, the NRC staff finds that there should be no change in the level of quality or safety. Provided that no maintenance activities are conducted during the "refueling outage" that could affect snubber functionality, the NRC staff has concluded that maintaining the 24-month functional test interval for snubbers is acceptable.

#### 4.0 CONCLUSION

As set forth above, the NRC staff finds that the proposed alternative described in RR I3R-11 provides an acceptable level of quality and safety for all ASME Code Class 1, 2, and 3 snubbers. 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 in RR I3R-11, for the third ISI interval at CPS, Unit 1, which began on July 10, 2010, and is currently scheduled to end on June 30, 2020.

All other requirements of 10 CFR 50.55a and ASME Code, Section XI, and Subsection ISTD of the ASME OM Code, specifically frequency as described for (1) ISTD-4200, Inservice Visual Examination; Testing; and (3) ISTD-6200, Service Life Monitoring (SLM), for which relief was not specifically requested and approved, remain applicable.

Principal Contributor: Gurjendra Bedi

Date of issuance: November 5, 2015

B. Hanson

- 2 -

If you have any questions, please contact Ms. Eva Brown at 301-415-2315 or via e-mail at [Eva.Brown@nrc.gov](mailto:Eva.Brown@nrc.gov).

Sincerely,

*/RA/*

Justin C. Poole, Acting, Chief  
Plant Licensing Branch III-2 and  
Planning and Analysis Branch  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-461

Enclosure:  
Safety Evaluation

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