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

August 7, 2013

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: OYSTER CREEK NUCLEAR GENERATING STATION - RELIEF FROM THE REQUIREMENTS OF THE ASME CODE, RELIEF REQUEST NO. I5R-06 (TAC NO. ME9493)

Dear Mr. Pacilio:

By letter dated August 28, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12243A287), Exelon Generation Company (Exelon, the licensee), submitted Request for Relief (RR) I5R-06 for the U.S. Nuclear Regulatory Commission's (NRC's) approval. The licensee proposed an alternative to certain requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code), Section XI. RR I5R-06 is requested for the fifth 10-year inservice inspection (ISI) interval of the Oyster Creek Nuclear Generating Station (Oyster Creek), which commenced on January 15, 2013. The 2007 Edition through the 2008 Addenda of the ASME Code, Section XI, is the current Code of record at Oyster Creek. Specifically, pursuant to Title 10 of the *Code Federal Regulations* (10 CFR), paragraph 50.55a(a)(3)(i), the licensee requested to use the proposed alternative on the basis that the alternative provides an acceptable level of quality and safety.

The NRC staff has reviewed the subject request and has concluded, as set forth in the enclosed safety evaluation, that the proposed alternative described in RR I5R-06 provides an acceptable level of quality and safety. Accordingly, the staff concludes that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(a)(3)(i), and is in compliance with the ASME Code's requirements.

Therefore, the NRC staff authorizes the alternative described in RR I5R-06 for the fifth ISI interval at Oyster Creek, which began on January 15, 2013, and ends on January 14, 2023. All other ASME Code requirements for which relief was not specifically requested and approved in the subject request remain applicable, including a third-party review by the Authorized Nuclear Inservice Inspector.

If you have any questions regarding this matter, please contact the Senior Project Manager, John G. Lamb, at (301) 415-3100 or by e-mail at John.Lamb@nrc.gov.

Sincerely,

Veronica Rodriguez, Acting Chief
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-219

Enclosure:
Safety Evaluation

cc w/enclosure: Distribution via Listserv

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REQUEST FOR RELIEF I5R-06

FOR THE FIFTH 10-YEAR INSERVICE INSPECTION INTERVAL

OYSTER CREEK NUCLEAR GENERATING STATION

EXELON NUCLEAR

DOCKET NO. 50-219

1.0 INTRODUCTION

By letter dated August 28, 2012, (Agencywide Documents Access and Management System (ADAMS), Accession No. ML 12243A287), Exelon Generation Company (Exelon, the licensee) proposed Request for Relief (RR) No. I5R-06 from certain requirements of the American Society of Mechanical Engineers (ASME), Boiler and Pressure Vessel Code (Code), under the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR), paragraph 50.55a(a)(3)(i), for the fifth 10-year Inservice Inspection (ISI) Program for Oyster Creek Nuclear Generating Station (OCNGS).

2.0 REGULATORY EVALUATION

ISI of the ASME Code Class 1, 2, and 3 components is to be performed in accordance with Section XI of the ASME Code, and applicable addenda, as required by paragraph 50.55a(g) of 10 CFR, except where specific relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i). The regulations in 10 CFR 50.55a(a)(3), state, in part, that alternatives to the requirements of paragraph (g) may be used, when authorized by the U.S. Nuclear Regulatory Commission (NRC), if the licensee demonstrates that: (i) the proposed alternatives would provide an acceptable level of quality and safety, or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

The licensee has proposed alternatives from ASME Code requirements pursuant to 10 CFR 50.55a(a)(3)(i). The ASME Code of record for the OCNGS fifth 10-year ISI interval program is the 2007 Edition through the 2008 Addenda of Section XI of the ASME Code. The fifth 10-year ISI interval began on January 15, 2013 and is projected to end on January 14, 2023.

Enclosure

3.0 TECHNICAL EVALUATION

RR I5R-06

3.1 ASME Code Component(s) Affected (as stated by the licensee)

Code Class:	2
Reference:	Table IWC-2500-1
Examination Category:	C-H
Item Number:	C7.10
Description:	Continuous Pressure Monitoring of the Control Rod Drive (CRD) System Accumulators
Component Number:	CRD Accumulators and Associated Piping
Drawing Number:	GE197E871 Sh.1

3.2 ASME Code Requirements (as stated by the licensee)

[ASME Code, Section XI,] Table IWC-2500-1, Examination Category C-H, Item Number C7.10, requires all Class 2 pressure retaining components be subject to a system leakage test with a VT-2 visual examination in accordance with IWC-5220. This pressure test is to be conducted once each inspection period.

3.3 Licensee's Basis for Relief Request (as stated by the licensee)

Pursuant to 10 CFR 50.55a(a)(3)(i), relief is requested on the basis that the proposed alternative provides an acceptable level of quality and safety.

As required by an [OCNGS] operating procedure, the Control Rod Drive (CRD) system accumulator pressure must be greater than or equal to 940 psig [pounds per square inch gauge] to be considered operable. The accumulator pressure is continuously monitored by system instrumentation. Since the accumulators are isolated from the source of make-up nitrogen, the continuous monitoring of the CRD accumulators functions as a pressure decay type test. When an accumulator trouble alarm is received in the control room, action is taken to repair the accumulator in accordance with the [OCNGS] operating procedure. If the accumulator cannot be repaired within 8 hours, then the control rod is declared inoperable.

Since monitoring the nitrogen side of the accumulators is continuous, any leakage from the accumulator would be detected by normal system instrumentation. An additional VT-2 visual examination performed once per inspection period would not provide an increase in safety, system reliability, or structural integrity. In addition, performance of a VT-2 visual examination would require applying a leak detection solution to 137 accumulators resulting in additional radiation exposure without any added benefit in safety. This inspection would thus not be consistent with [as low as reasonable achievable (ALARA)] practices. Relief is requested from the VT-2 visual examination requirements specified in [ASME Code, Section XI,] Table

IWC-2500-1 for the nitrogen side of the CRD system accumulators on the basis that [OCNGS] operating procedure exceeds the [ASME Code] requirement for a VT-2 visual examination.

3.4 Licensee's Proposed Alternative Examination (as stated by the licensee)

As an alternate to the VT-2 visual examination requirements of Table IWC-2500-1, [OCNGS] will perform continuous pressure decay monitoring and corrective actions as discussed in the [OCNGS] operating procedure for the nitrogen side of the CRD accumulators including attached piping.

3.5 NRC Staff Evaluation

The ASME Code requires that a VT-2 visual examination be performed on all Class 2 pressure retaining components once during each inspection period. The VT-2 visual examination is a check for leakage of typically water-filled systems that must be performed at normal operating system pressure. However, the CRD system accumulators and associated piping are nitrogen-filled components that are maintained at a constant gas pressure in order to respond to a demand for CRD actuation. As such, a standard VT-2 visual examination would not provide an adequate means to identify potential leakage. In order to test these components for potential leakage, a soap bubble test applied to all surfaces of the subject components would be necessary.

As an alternative, the licensee has proposed to implement the VT-2 visual examination requirements of ASME Code, Section XI, Table IWC-2500-1, and will perform continuous pressure decay monitoring and corrective actions as discussed in the OCNGS operating procedure for the nitrogen side of the CRD accumulators including attached piping. The OCNGS operating procedure requires that the CRD system accumulator pressure must be greater than or equal to 940 psig to be considered operable. The licensee continuously monitors the accumulator pressure by the system instrumentation. The accumulators are isolated from the source of make-up nitrogen, the continuous monitoring by the licensee of the CRD accumulators functions as a pressure decay type test. When the licensee receives an accumulator trouble alarm in the control room, it takes action to repair the accumulator in accordance with the OCNGS. The licensee noted that if the accumulator could not be repaired within 8 hours, the control rod is declared inoperable.

The continuous on-line monitoring of the CRD system accumulators and required corrective actions, if leakage is detected, provides reasonable assurance that adequate pressure for CRD actuation is maintained. As such, the licensee's proposed alternative provides an acceptable level of quality and safety.

3.6 Duration of Relief

RR I5R-06 is requested for the fifth 10-year ISI interval of OCNGS, which commenced on January 15, 2013.

4.0 CONCLUSION

As set forth above, the NRC staff has determined that authorizing alternatives pursuant to 10 CFR 50.55a(a)(3)(i) for RR I5R-06 provides an acceptable level of quality and safety. Accordingly, the staff concludes that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(a)(3)(i). Therefore, the NRC staff authorizes the alternatives to the specified ASME Code, Section XI, contained in RR No. I5R-06 for the duration of the OCNGS fifth 10-year ISI interval.

All other ASME Code, Section XI requirements for which relief was not specifically requested and approved in the subject requests for relief remain applicable, including third-party review by the Authorized Nuclear Inservice Inspector.

Principle Contributor: T. McLellan

Date: August 7, 2013

If you have any questions regarding this matter, please contact the Senior Project Manager, John G. Lamb, at (301) 415-3100 or by e-mail at John.Lamb@nrc.gov.

Sincerely,

/ra/

Veronica Rodriguez, Acting Chief
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-219

Enclosure:
Safety Evaluation

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