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

June 14, 2012

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

SUBJECT: OYSTER CREEK NUCLEAR GENERATING STATION - RELIEF REQUEST TO EXTEND THE FOURTH INSERVICE INSPECTION INTERVAL (TAC NO. ME7219)

Dear Mr. Pacilio:

By letter dated September 30, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML112730210), as supplemented by letter dated April 4, 2012 (ADAMS Accession No. ML12095A249), Exelon Generation Company, LLC (Exelon), submitted Relief Request R-41 for Oyster Creek Nuclear Generating Station (Oyster Creek). Relief Request R-41 seeks relief from the American Society of Mechanical Engineers (ASME) *Boiler and Pressure Vessel Code*, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.55a, "Codes and standards," paragraph (a)(3)(i). Relief Request R-41 proposes to extend the Inservice Inspection interval by 3 months from October 14, 2012, to January 14, 2013.

The U.S. Nuclear Regulatory Commission (NRC) staff determined that the proposed alternative provides an acceptable level of quality and safety. Therefore, the NRC staff authorizes the use of Relief Request R-41 to extend the end of the fourth 10-year interval until January 14, 2013, at Oyster Creek. All other ASME Code, Section XI requirements for which relief was not specifically requested and approved remain applicable, including third-party review by the Authorized Nuclear Inservice Inspector.

If you have any questions regarding this letter, please feel free to contact John G. Lamb, Senior Project Manager, at (301) 415-3100 or John.Lamb@nrc.gov.

Sincerely,

Meena Khanna, 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/encl: Distribution via Listserv

UNITED STATES
NUCLEAR REGULATORY COMMISSION
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SAFETY EVALUATION RELATED TO

RELIEF REQUEST TO EXTEND THE FOURTH INSERVICE INSPECTION INTERVAL

FOR

OYSTER CREEK NUCLEAR GENERATING STATION

EXELON GENERATING COMPANY, LLC

DOCKET NO. 50-219

1.0 INTRODUCTION

By letter dated September 30, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML112730210), as supplemented by letter dated April 4, 2012 (ADAMS Accession No. ML12095A249), Exelon Generation Company, LLC (Exelon), submitted Relief Request R-41 for Oyster Creek Nuclear Generating Station (Oyster Creek, OCNGS, or licensee). Relief Request R-41 seeks relief from the American Society of Mechanical Engineers (ASME) *Boiler and Pressure Vessel Code*, (ASME Code) Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," in accordance with Title 10 of the *Code of Federal Regulations*
(10 CFR), Section 50.55a, "Codes and standards," paragraph (a)(3)(i). Relief Request R-41 proposes to extend the Inservice Inspection (ISI) interval by 3 months from October 14, 2012, to January 14, 2013.

Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 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.

2.0 REGULATORY EVALUATION

10 CFR 50.55a(g) specifies that ISI of nuclear power plant components shall be performed in accordance with the requirements of the ASME Code, Section XI, except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i).
10 CFR 50.55a(g)(6)(i) states that the Commission may grant such relief and may impose such alternative requirements as it determines is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest, given the consideration of the burden upon the licensee. 10 CFR 50.55a(a)(3) states that alternatives to the requirements of paragraph (g) may be used, when authorized by the Nuclear Regulatory Commission (NRC), if (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.

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2, and 3 components (including supports) shall meet the requirements, except the design and access provisions and preservice examination requirements, set forth in the ASME Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," to the extent practical within the limitations of design, geometry, and materials of construction of the components. The regulations require that ISI of components and system pressure tests conducted during the first 10-year interval and subsequent intervals comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) 12 months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein.

The applicable ASME Code of Record for the fourth 10-year ISI interval at OCNGS is the 1995 Edition with the 1996 Addenda. Section XI paragraph IWA-2430(b), "Inspection Intervals," requires the inspection interval to be determined by calendar years following placement of the plant into commercial service. Section XI paragraph IWA-2430(d)(1) allows each inspection interval to be reduced or extended by as much as one year, provided successive intervals are not altered by more than one year from the original pattern of intervals. Section XI paragraph IWA-2432, "Inspection Program B," requires that the 1st Inspection Interval and each Successive Inspection Interval consist of a 10-year duration, except as modified by IWA-2430(d).

3.0 TECHNICAL EVALUATION

3.1 Licensee's Proposed Alternative

As an alternative to the fourth 10-year interval duration requirements of IWA-2430(b) and (d) and IWA-2432, Exelon proposes to modify the interval end date of OCNGS fourth ISI interval to conclude on January 14, 2013. The OCNGS fifth 10-year inspection interval would then start January 15, 2013, and conclude January 14, 2023. OCNGS believes that since the extension of the fourth 10-year interval requested is short and the distribution/sequencing of examinations remains unchanged, that the proposed alternative provides an acceptable level of quality and safety.

The components affected by the proposed alternative include Class 1, 2 and 3 components and their supports. The licensee submitted the following specific list of components and supports which remain to be examined in the 4th inspection interval in its April 4, 2012, letter.

Exam Category	Exam Item No.	Components Examined	Number of Components Remaining
		Class 1 Items	
B-A	B1.12	Reactor Vessel Longitudinal Welds	12
B-A	B1.21	Reactor Vessel Head Circumferential Welds	1
B-A	B1.22	Reactor Vessel Head Meridional Welds	8
B-A	B1.30	Reactor Vessel Shell-to-Flange Welds	1
B-F	B5.10	Reactor Vessel Dissimilar Metal Welds Nozzle-to Safe End NPS 4" or Greater	5
B-F	B5.20	Reactor Vessel Dissimilar Metal Welds Nozzle-to Safe End Less Than NPS 4"	1

B-G-1	B6.20	Reactor Vessel Closure Head Studs in Place	32
B-G-1	B6.30	Reactor Vessel Closure Head Studs When Removed	4
B-G-1	B6.40	Reactor Vessel Threads in Flange	32
B-G-1	B6.50	Reactor Vessel Closure Washer, Bushings	64
Exam Category	**Exam Item No.**	**Components Examined**	**Number of Components Remaining**
B-J	B9.11	Piping Circumferential Welds NPS 4" or Greater	31
B-J	B9.21	Piping Circumferential Welds Less Than NPS 4"	2
B-J	B9.40	Piping Socket Welds	11
B-K	B10.10	Welded Attachments for Vessels	8
B-K	B10.20	Welded Attachments for Piping	2
B-K	B10.40	Welded Attachments for Valves	3
B-M-1	B12.40	Pressure Retaining Welds in Valve Bodies	1
B-O	B14.10	Reactor Vessel CRD Housing Welds	3
		Class 2 Items	
C-A	C1.10	Pressure Vessel Shell Circumferential Welds	1
C-B	C2.31	Pressure Vessel Reinforcing Plate Welds to Nozzle and Vessel	2
C-C	C3.10	Welded Attachments for Vessels	4
C-C	C3.20	Welded Attachments for Piping	4
C-C	C3.30	Welded Attachments for Pumps	3
C-F-1	C5.11	Stainless Steel Piping, Piping Circumferential Welds ≥ 3/8" Nominal Wall Thickness and > 4" NPS.	6
C-F-2	C5.51	Carbon Steel Piping, Piping Circumferential Welds ≥ 3/8" Nominal Wall Thickness and > 4" NPS.	16
		Class 3 Items	
D-A	D1.10	Welded Attachments Pressure Vessels	2
D-A	D1.20	Welded Attachments Piping	2
D-A	D1.30	Welded Attachments Pumps	2
		Component Supports – Class 1, 2 & 3	
F-A	F1.10	Class 1 Piping Supports	14
F-A	F1.20	Class 2 Piping Supports	15
F-A	F1.30	Class 3 Piping Supports	7
F-A	F1.40	Supports other than Piping Supports Class 1, 2 & 3	11

3.2 NRC Staff Evaluation

In the subject relief request, the licensee proposed an alternative to the ASME Code, Section XI, IWA-2432 requirements. The proposed alternative will increase the duration of the fourth 10-year ISI interval of OCNGS by 3 months beyond the scheduled end date of October 14, 2012. IWA-2430(d) permits the inspection interval to be reduced or extended by as much as one year, provided that successive intervals are not altered by more than one year from the original pattern of intervals. Increasing the interval by application of the extension guidance of IWA-2430(d) is not permitted for OCNGS because this would cause the successive intervals to be altered by more than 1 year from the original pattern required in IWA-2430(b).

This is because the OCNGS second interval was extended by 5 months and the OCNGS third interval was extended by 7 months, thereby reaching the maximum 12-month extension allowed by ASME Section XI. Therefore, to determine whether the proposed alternative will provide an acceptable level of quality and safety, the NRC staff's review focused on its effect on the implementation of the ASME Code required ISI activities and the affected components' integrity.

The licensee stated in the April 4, 2012, letter that it intends to schedule the fifth interval as a full 10-year interval beginning January 15, 2013, and ending January 14, 2023. With this schedule, the sequencing and scheduling of the examinations will be maintained. This will allow the "successive inspections" required by IWB-2420(a), IWC-2420(a), IWD-2420(a) and IWF-2420(a) for Class 1, 2, 3 and Component Supports, respectively, to be performed in the same sequence as established in the previous intervals to the extent practical. Also, the required percentage of examinations in each Examination Category will be completed in accordance with Tables IWB-2411-1, IWC-2411-1, IWD-2411-1 and IWF-2410-1 for Class 1, 2, 3 and Component Supports, respectively. Therefore, the scheduling of examinations for the fifth inspection interval will meet the ASME Section XI requirements and is found to be acceptable to the NRC staff.

The list of the affected components above includes passive components such as piping welds, component welds, bolting, component supports and integral attachments. The degradation mechanisms that generally manifest in such items develop over a long period of time. In the September 30, 2011, submittal the licensee stated that the requested extension is to include the OC1R24 outage into the fourth interval to allow for the completion of exams on the affected components and to generate the reports required by ASME Section XI to close out the interval. The OC1R24 outage is scheduled to start in late October 2012. Therefore, OCNGS would be operating approximately less than 3 weeks past the scheduled end of the fourth interval, prior to shutting down to commence the OC1R24 outage and to complete the remaining component examinations. The remainder of the 3-month extension would be spent performing the required examinations and preparing the reports as required by IWA-6000. As such, the 3-month extension of the OCNGS fourth inspection interval is expected to have no adverse effect on the affected components' structural integrity. Therefore, the NRC staff concludes that the 3-month extension to the fourth inspection interval provides an acceptable level of quality and safety.

4.0 CONCLUSIONS

As set forth above, the NRC staff has determined that the proposed alternative provides an acceptable level of quality and safety. Therefore, the NRC staff authorizes the use of Relief Request R-41 to extend the end of the fourth 10-year interval until January 14, 2013, at Oyster Creek Nuclear Generating Station. All other ASME Code, Section XI requirements for which relief was not specifically requested and approved remain applicable, including third-party review by the Authorized Nuclear Inservice Inspector.

Contributor: Keith Hoffman

Date: June 14, 2012

June 14, 2012

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
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Sincerely,
/RA/
Meena Khanna, 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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