



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

September 17, 2014

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

SUBJECT: OYSTER CREEK NUCLEAR GENERATING STATION - REQUEST FOR
ADDITIONAL INFORMATION REGARDING THE FOURTH 10-YEAR INTERVAL
INSERVICE INSPECTION PROGRAM PLAN REQUESTS FOR RELIEF
(TAC NOS. MF3406 AND MF3407)

Dear Mr. Pacilio:

By letter dated January 7, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14028A579), Exelon Generation Company, LLC (Exelon or the licensee) submitted Requests for Relief R-44 and R-45 from the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI for Oyster Creek Nuclear Generating Station (Oyster Creek). The requests for relief apply to the fourth 10-year inservice inspection interval, in which the licensee adopted the 1995 Edition through the 1996 Addenda of ASME Code Section XI as the code of record.

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the Relief Requests R-44 and R-45, and has determined that a request for additional information (RAI) is needed to complete its technical review. The NRC staff's RAI is contained in the enclosure. A draft of these questions was previously sent to Mr. Dave Helker of your staff on August 28, 2014, with an opportunity to have a teleconference to ensure that the licensee understood the questions and their regulatory basis, as well as to verify that the information was not previously docketed.

A conference call was held on September 10, 2014, and Mr. Tom Loomis of your staff agreed that Exelon would respond to the RAI in 75 days from the date of the letter. Please note that if you do not respond to the RAI within 75 days from the date of the letter, or provide an acceptable alternate date in writing, the NRC staff may reject your LAR under the provisions of Title 10 of the *Code of Federal Regulations*, Section 2.108, "Denial of application for failure to supply information."

M. Pacilio

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If you have any questions regarding this letter, please feel free to contact me at (301) 415-3100.

Sincerely,

A handwritten signature in black ink, appearing to read "John G. Lamb". The signature is fluid and cursive, with the first name "John" being the most prominent part.

John G. Lamb, Senior Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-219

Enclosure:
Request for Additional Information

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION
RELATED TO RELIEF REQUESTS R-44 AND R-45
OYSTER CREEK NUCLEAR GENERATING STATION
EXELON GENERATION COMPANY, LLC
DOCKET NO. 50-219

By letter dated January 7, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14028A579), Exelon Generation Company, LLC (Exelon or the licensee) submitted Requests for Relief R-44 and R-45 from the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code), Section XI for Oyster Creek Nuclear Generating Station (Oyster Creek). The requests for relief apply to the fourth 10-year inservice inspection (ISI) interval, in which the licensee adopted the 1995 Edition through the 1996 Addenda of ASME Code Section XI as the code of record.

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the Relief Requests R-44 and R-45, and has determined that a request for additional information (RAI) is needed to complete its technical review. The NRC staff's RAIs are listed below.

1.0 SCOPE

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Paragraph 50.55a(g)(5)(iii), the licensee has submitted the subject requests for relief for limited examinations in multiple ASME Code Examination Categories. The ASME Code requires that 100 percent of the examination volumes, or surface areas, described in Tables IWB-2500 and IWC-2500 be performed during each interval. The licensee stated that 100 percent of the ASME Code-required volumes, or surface areas, are impractical to obtain at Oyster Creek.

The regulations in 10 CFR 50.55a(g)(5)(iii) state, in part, that when licensees determine that conformance with ASME Code requirements is impractical at their facility, the licensee shall submit information to support this determination. The NRC staff will evaluate such requests based on impracticality, and may impose alternatives, giving due consideration to public safety and the burden imposed on the licensee.

2.0 REQUEST FOR ADDITIONAL INFORMATION (RAI)

2.1 Request for Relief R-44, Part A, Examination Category B-A, Items B1.12, B1.21, B1.22, and B1.40, Pressure Retaining Welds in Reactor Vessels

- 2.1.1 The ASME Code states that essentially 100% of the "accessible length" of the subject welds must be examined. Please state the accessible length of each of the reactor pressure vessel circumferential and meridional head welds, and clarify whether the

Enclosure

volumetric coverage percentages obtained are applicable to the accessible length, as opposed to the entire length of the weld.

- 2.1.2 Fully clarify the wave modality and insonification angles used for all ultrasonic examinations, if not already provided.

- 2.2 Request for Relief R-44, Part B, Examination Category B-D, Items B3.90 and B3.100, Full Penetration Welded Nozzles in Vessels

- 2.2.1 Fully clarify the wave modality and insonification angles used for all ultrasonic examinations, if not already provided.

- 2.3 Request for Relief R-44, Part C, Examination Category B-F, Item B5.10, Pressure Retaining Dissimilar Metal Welds in Vessel Nozzles

- 2.3.1 The licensee has provided only general information regarding the impracticality of obtaining ASME Code-required volumetric examinations for Category B-F, Item B5.10 welds. The statements "OD [outside diameter] safe end configuration," and "Nozzle OD configuration," are inadequate to explain the bases for not obtaining the ASME Code-required examination volumes.

Please submit detailed and specific information to support the bases for limited examination coverage for each weld in ASME Code, Category B-F, and therefore, demonstrate impracticality. Include detailed descriptions (written and/or sketches, as necessary) of the interferences to applied nondestructive examination techniques, if not already provided.

- 2.3.2 Please confirm that the required surface examinations were performed for the Category B-F, Item B5.10 welds, whether these surface examinations were full ASME Code examinations (>90% coverage per Code Case N-460), and describe any indications that were detected.

- 2.4 Request for Relief R-45, Part D, Examination Category B-J, Item B9.11, Pressure Retaining Welds in Piping

- 2.4.1 State the materials of construction and the wall thicknesses for all Category B-J welds and base materials.

- 2.4.2 Please confirm that the required surface examinations were performed for the Category B-J, Item B9.11 welds, whether these surface examinations were full ASME Code examinations (>90% coverage per Code Case N-460), and describe any indications that were detected.

- 2.4.3 Fully clarify the wave modality and insonification angles used for all ultrasonic examinations, if not already provided. If applicable, state whether shear wave only techniques were used to examine any austenitic weld. The longitudinal wave method has been shown capable of detecting planar inside diameter (ID) surface-breaking flaws on the far-side of austenitic welds. If longitudinal examination methods were not

employed, please justify why these techniques were not used as part of a best effort examination to maximize coverage.

2.5 Request for Relief R-45, Part E, Examination Category B-M-1, Item B12.40, Pressure Retaining Welds in Valve Bodies

2.5.1 Please state the materials of construction for all valve body welds in Category B-M-1.

2.5.2 Fully clarify the wave modality and insonification angles used for all ultrasonic examinations, if not already provided.

2.6 Request for Relief R-45, Part F, Examination Category C-B, Item C2.21, Pressure Retaining Nozzle Welds in Class 2 Vessels

2.6.1 The description associated with Category C-B component, Item C2.21, lists the ASME examination type (nozzle to head weld); however, it is not clear to what actual component the nozzle is welded to, or what system is involved. For request for relief Category C-B, Item C2.21 (nozzle-to-head welds), please state the actual component and to what system this weld is associated.

2.6.2 Please state the materials of construction and the wall thicknesses for all welds in Examination Category C-B.

2.6.3 Please confirm that the required surface examinations (liquid penetrant or magnetic particle) were performed for the subject welds, whether these surface examinations were full ASME Code examinations (>90% coverage per Code Case N-460), and describe any indications that were detected.

2.7 Request for Relief R-45, Part G, Examination Category C-F-1, Item C5.11, Pressure Retaining Welds in Austenitic Stainless Steel or High Alloy Piping

2.7.1 Fully clarify the wave modality and insonification angles used for all ultrasonic examinations. State whether shear wave only techniques were used to examine any austenitic weld. The longitudinal wave method has been shown capable of detecting planar ID surface-breaking flaws on the far-side of austenitic welds. If longitudinal examination methods were not employed please justify why these techniques were not used as part of a best effort examination to maximize coverage.

2.7.2 Please confirm that the required surface examinations (liquid penetrant or magnetic particle) were performed for the subject welds, whether these surface examinations were full ASME Code examinations (>90% coverage per Code Case N-460), and describe any indications that were detected.

2.8 Request for Relief R-45, Part H, Examination Category C-F-2, Item C5.81, Pressure Retaining Welds in Carbon or Low Alloy Steel Piping

For ASME Code Category C-F-2, Item C5.81, Weld NQ-2-0215, only a surface examination is required per IWC-2500. From the drawing and description provided by

the licensee, it is unclear why a full surface examination could not be completed on this weld as there are no obstructions or access restrictions listed or shown that would prevent full access to the surface of the weld. The licensee's drawing appears to indicate that an ultrasonic testing examination, not a surface examination, was performed.

- 2.8.1 Please confirm that the required surface examination (liquid penetrant or magnetic particle) was performed for the subject weld, whether these surface examinations were full ASME Code examinations (>90% coverage per Code Case N-460), and describe any indications that were detected.

M. Pacilio

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If you have any questions regarding this letter, please feel free to contact me at (301) 415-3100.

Sincerely,

/RA/

John G. Lamb, Senior Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-219

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