Exelon Generation

10 CFR 50.55a

RA-17-084

December 19, 2017

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Oyster Creek Nuclear Generating Station
Renewed Facility Operating License No. DPR-16
NRC Docket No. 50-219

Subject: Submittal of Relief Request for Extension of Torus Examinations in Accordance with 10 CFR 50.55a(z)(1)

Pursuant to 10 CFR 50.55a, "Codes and standards," paragraph (z)(1), Exelon Generation Company, LLC (EGC), is requesting relief from the current examination requirements of Containment Shell (Torus) performed in accordance with American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI "Rules for Inservice Inspection of Nuclear Power Plant Components", Subsection IWE on the basis that the proposed alternative would provide an acceptable level of quality and safety.

The relief request as described in the attachment to this letter proposes an alternative to the inspection frequency of torus examinations for the current (second) 10-Year Containment Inservice Inspection (CISI) interval. The alternative requests a 16-month extension of the ASME Section XI examination for the torus visual inspections currently required to be performed in the OC1R27 Refuel Outage (September 2018).

Exelon requests approval of the proposed relief request by July 31, 2018 in order to utilize the proposed change in the Fall 2018 Refueling Outage which is currently scheduled to start in mid-September 2018.

This letter contains no new regulatory commitments. If you have any questions regarding this letter, please contact David Distel at 610-765-5517.

Respectfully submitted,

James Barstow
Director - Licensing & Regulatory Affairs
Exelon Generation Company, LLC

Attachment: 10 CFR 50.55a Request Number I5R-11, Relief Request for Extension of Torus Examinations in Accordance with 10 CFR 50.55a(z)(1)

cc: NRC Regional Administrator - Region I
NRC Senior Resident Inspector – Oyster Creek Nuclear Generating Station
NRC Project Manager, NRR – Oyster Creek Nuclear Generating Station
Manager, Bureau of Nuclear Engineering – New Jersey Department of Environmental Protection
Mayor of Lacey Township, Forked River, NJ

Attachment 1

Oyster Creek Nuclear Generating Station

10 CFR 50.55a Request Number I5R-11, Relief Request for Extension of Torus Examinations in Accordance with 10 CFR 50.55a(z)(1)

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1. ASME CODE COMPONENTS AFFECTED:

Code Class:	MC
Reference:	IWA-2432, IWE-2412, Table IWE-2500-1
Examination Category:	E-A, Containment Surfaces
Item Number:	E1.11, E1.12 and E1.20
Description:	Visual Examination of Containment Shell (Torus) and Vent System
Component Number:	Unit 1, TORUS, VENTSYS-001

2. APPLICABLE CODE EDITION AND ADDENDA:

The current (second) 10-Year Containment Inservice Inspection (CISI) interval at Oyster Creek Nuclear Generating Station is based on the 2001 Edition through 2003 Addenda of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code, Section XI, Division I, Subsection IWE.

3. APPLICABLE CODE REQUIREMENT:

Oyster Creek second 10-Year CISI interval is established in accordance with Inspection Program B as outlined in ASME Code Section XI, Paragraphs IWA-2432 and IWE-2412.

Paragraph IWA-2432, "Inspection Program B," requires that each inspection interval consist of a 10-Year duration, except as modified by IWA-2430(d) which 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.

Paragraph IWE-2412, "Inspection Program B" requires the examinations specified in Table IWE-2500-1 to be completed during each successive inspection interval, in accordance with Table IWE-2412-1.

Table IWE-2412-1 divides the 10-Year Inspection Interval to three Inspection Periods. Per Appendix B of Oyster Creek Second 10-Year Containment (IWE) Inservice Inspection Program (Reference 2), the Torus is considered Examination Category E-A (Item Number E1.11 & E1.12) and the Torus Vent System is considered Examination Category E-A (Item Number E1.20).

In order to comply with Table IWE-2500-1 Oyster Creek Nuclear Generating Station is required to perform a Visual examination of 100% of the Torus surface areas and 100% of the Torus Vent System during the third Inspection Period.

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4. REASON FOR REQUEST:

Oyster Creek is currently in the last (third) period of Second CISI Interval (Reference 2) which will end on September 10, 2019. During the OC1R27 Refueling Outage (September 2018) Oyster Creek is required to perform visual examination (VT-3) on submerged and vapor areas of the Torus including the Vent System. Oyster Creek performed the required first and second period examinations during refueling outages OC1R23 and OC1R25 in the Fall of 2010 and 2014, respectively.

The First CISI Interval was extended an additional 1-year from September 9, 2008 to September 9, 2009 in accordance with ASME Section XI, IWA-2430. The Second CISI Interval started on September 10, 2009 and ends on September 10, 2019. The Second CISI Interval cannot be further extended by application of IWA-2430(d) because it causes successive intervals to be altered by more than one year from the original pattern of intervals.

Oyster Creek plans to permanently shutdown on December 31, 2019 (Reference 1). Exelon Generation Company, LLC (EGC) has evaluated the extensive resources required for planning and execution of torus desludging as well as the worker radiation dose exposures resulting from performance of torus inspections. EGC has established a technical basis for extending torus inspections from 48 months to 64 months (Reference 3) and concludes that the proposed alternative as described herein provides an acceptable level of quality and safety.

5. PROPOSED ALTERNATIVE AND BASIS FOR USE:

Proposed Alternative

EGC proposes an alternative to the inspection frequency of Torus and Vent System visual examinations for the current (second) 10-Year Containment Inservice Inspection (CISI) Interval. The alternative requests a 16-month extension of the ASME Section XI examinations currently required to be performed in the OC1R27 Refuel Outage (September 2018). This request would extend the torus inspections to January 31, 2020. The proposed alternative would provide an acceptable level of quality and safety.

No alternatives to the examination processes required by ASME Code are proposed. This deferral will allow planning and execution resources to be applied to other plant activities that will improve nuclear safety and safe plant operations, and will avoid unnecessary radiation dose exposures resulting from performance of these inspections in the OC1R27 Refuel Outage.

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Basis for Use

EGC's request is based on a MPR calculation 0083-0338-CALC-001, "Torus Pit Geometry and Coating Chips Generation Evaluation for Oyster Creek Nuclear Generating Station," (Reference 3). This calculation provides a technical basis for extending torus inspections from 48 months to 64 months by evaluating Torus structural integrity and Emergency Core Cooling System (ECCS) strainer head loss.

Torus structural integrity is evaluated by estimating the maximum pit depths at 48 months and 64 months after the most recent inspection using data from OC1R25 and OC1R23 refueling outages. Estimated maximum pit depths are compared to Torus pitting acceptance criteria (Reference 4). Both vapor and submerged areas of the Torus are considered for evaluation. Results of the MPR calculation estimated the maximum pit depth of 0.080 inch at 48 months and 0.107 inch at 64 months which is significantly less than the Torus pitting acceptance criteria (0.173 inch).

ECCS strainer head loss is evaluated by estimating the total weight of the fractured and cracked torus coating blisters at 48 months and 64 months after the most recent inspection using data from OC1R25 and OC1R23 refueling outages. Estimated total weight of the fractured and cracked torus coating blisters are compared to the ECCS strainer acceptance criteria. Results of the MPR calculation estimated the total weight of the fractured and cracked torus coating blisters to be 2.28 lbs. at 48 months and 2.56 lbs. at 64 months which is significantly less than the ECCS strainer acceptance criteria (10 lbs.).

Based on the results of MPR calculation, it is concluded that the Torus structural integrity and ECCS strainer acceptance criteria are predicted to be met in both the vapor and submerged areas of the Torus if the inspection is extended from 48 months to 64 months. Therefore, extending the torus inspections by 16 months will provide an acceptable level of quality and safety.

6. DURATION OF PROPOSED ALTERNATIVE:

The proposed alternative is requested to extend torus visual examinations from the OC1R27 Refuel Outage (September 2018) to January 31, 2020. In Reference 1, EGC had previously notified the NRC of EGC's plans to permanently shut down Oyster Creek and cease operation no later than December 31, 2019. EGC believes that the deferred inspection will not be required to be performed at the January 31, 2020 milestone because Oyster Creek will cease operations and submit the certifications required by 10 CFR 50.82(a)(1). The requested inspection deferral does, however, preserve the requirement to perform the inspection in the event that permanent cessation of operation occurs after December 31, 2019.

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7. PRECEDENTS:

None.

8. REFERENCES:

1. Exelon Generation Company, LLC letter to USNRC, "Permanent Cessation of Operations at Oyster Creek Nuclear Generating Station," dated January 7, 2011

2. Oyster Creek Second 10-Year Containment (IWE) Inservice Inspection Program Plan, ER-OC-330-2006, Revision 1, dated July 26, 2011

3. MPR Calculation 0083-0338-CALC-001, "Torus Pit Geometry and Coating Chips Generation Evaluation for Oyster Creek Nuclear Generating Station," Revision 3

4. MPR-2974 "Oyster Creek Nuclear Generation Station Torus Pitting Inspection Evaluation Criteria," Revision 0