

10 CFR 50.75(f)(3)

RA-16-029

April 5, 2016

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

Oyster Creek Nuclear Generating Station
Renewed Facility Operating License No. DPR-16
NRC Docket Nos. 50-219 and 72-15

Subject: Response to Request for Additional Information Regarding
Preliminary Decommissioning Cost Estimate

- References:
- 1) Letter from James Barstow (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission – Submittal of Preliminary Decommissioning Cost Estimate and Spent Fuel Management Plan, dated December 30, 2014 (ML14365A067)
 - 2) Letter from Keith R. Jury (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "Permanent Cessation of Operations at Oyster Creek Nuclear Generating Station," dated January 7, 2011 (ML110070507)
 - 3) Electronic Mail Request from John Lamb (U.S. Nuclear Regulatory Commission) to David Helker and Richard Gropp (Exelon Generation Company, LLC) – Draft Request for Information Regarding Oyster Creek Preliminary Decommissioning Cost Estimate, dated February 12, 2016
 - 4) Letter from U.S. Nuclear Regulatory Commission to Bryan C. Hanson (Exelon Generation Company, LLC) – Request for Additional Information Regarding Preliminary Decommissioning Cost Estimate and Spent Fuel Management Program, dated March 7, 2016 (ML16060A172)

By letter dated December 30, 2014 (Reference 1), Exelon Generation Company, LLC (Exelon) submitted a preliminary decommissioning cost estimate pursuant to 10 CFR 50.75(f)(3) and spent fuel management plan pursuant to 10 CFR 50.54(bb) for Oyster Creek Nuclear Generating Station (OCNGS).

In accordance with 10 CFR 50.75, "*Reporting and recordkeeping for decommissioning planning*," paragraph (f)(3), "*Each power reactor licensee shall at or about 5 years prior to the projected end of operations submit a preliminary decommissioning cost estimate which includes an up-to-date assessment of the major factors that could affect the cost to decommission.*"

The preliminary cost estimate information provided in the December 30, 2014, submittal reflected anticipated costs that would be updated at various times as deemed appropriate by OCNGS and in accordance with regulatory requirements. The preliminary decommissioning cost estimate Exelon submitted assumed that OCNGS permanently terminates operations on December 31, 2019, in accordance with the Reference 2 letter.

In a U.S. Nuclear Regulatory Commission (NRC) electronic mail message dated February 12, 2016 (Reference 3), the NRC indicated that it had reviewed the information submitted in the Reference 1 letter pertaining to the preliminary decommissioning cost estimate and requested additional clarifying information to support its continued review. The Reference 3 electronic mail message identified three draft NRC questions, which were further discussed during a February 22, 2016, teleconference between Exelon and NRC representatives.

Subsequently, by letter dated March 7, 2016 (Reference 4), the NRC formally issued the Request for Additional Information (RAI) containing clarifying information that was discussed during the February 22, 2016, teleconference. The NRC is requesting that Exelon respond to the RAI within 30 days of the date of the letter.

Accordingly, the attachment to this letter provides Exelon's response to the request for information contained in the Reference 4 letter.

There are no regulatory commitments contained in this submittal.

If you have any questions concerning this submittal, please contact Richard Gropp at (610) 765-5557.

Respectfully,



David T. Gudger
Manager, Licensing and Regulatory Affairs
Exelon Generation Company, LLC

Attachment: Response to Request for Additional Information Regarding
Preliminary Decommissioning Cost Estimate

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

ATTACHMENT

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In accordance with 10 CFR 50.75, "Reporting and recordkeeping for decommissioning planning," paragraph (f)(3), "Each power reactor licensee shall at or about 5 years prior to the projected end of operations submit a preliminary decommissioning cost estimate which includes an up-to-date assessment of the major factors that could affect the cost to decommission."

The preliminary cost estimate information provided in the December 30, 2014, submittal reflected anticipated costs that would be updated at various times as deemed appropriate by OCNGS and in accordance with regulatory requirements. The preliminary decommissioning cost estimate Exelon submitted assumed that OCNGS permanently terminates operations on December 31, 2019, in accordance with a January 7, 2011, letter (Reference 2).

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The NRC questions in the March 7, 2016, letter are identified below followed by Exelon's response.

Request for Additional Information (RAI) 1

As required by 10 CFR 50.75(f)(5) and 10 CFR 50.82(a)(8)(iv), in part, cost estimates shall include plans for adjusting decommissioning costs and associated funding levels during operations and over the storage or surveillance period following cessation of operations.

The current preliminary decommissioning cost estimate submittal shows adequate funds would be available in the decommissioning trust throughout decommissioning and license termination based on a SAFSTOR approach. However, the licensee did not provide plans for adjusting cost estimates and funding levels during SAFSTOR. Provide a description addressing the means by which decommissioning cost estimates and associated funding over the period of storage described in your December 30, 2014, submittal will be adjusted. Regulatory Guide 1.159, "Assuring the Availability of Funds for Decommissioning Nuclear Reactors," dated October 2011, Section 1.4, "Adjustments to Cost Estimates," and Section 2.1, "Guidance Applicable to all methods of Financial Assurance," provide an acceptable

means for adjusting decommissioning cost estimates and associated funding, which considers use of the Consumer Price Index, Producer Price Index, or other inflation index methodology to account for inflation. Adjustments to decommissioning funding must reflect new estimates.

Response

During the SAFSTOR period, the site-specific decommissioning cost estimate will be periodically updated and adjusted as deemed appropriate by OCNGS and in compliance with applicable regulatory requirements. Currently, Exelon performs a comprehensive update to site-specific decommissioning cost estimates at least once every 5 years in accordance with Regulatory Guide 1.159, Revision 2, Section 1.4.3, "Frequency of Adjustment." In addition, an escalation study is performed on an annual basis and the cost estimate is adjusted to account for inflation, as described in the response to RAI 2 below.

In accordance with 10 CFR 50.82(a)(8)(v), decommissioning funding assurance will be reviewed and reported to the NRC annually during the SAFSTOR period. The latest site-specific decommissioning cost estimate will be adjusted for inflation, in accordance with applicable regulatory requirements, and will be used to demonstrate funding assurance. If the funding assurance demonstration shows the decommissioning trust fund is not sufficient, then an alternate funding mechanism allowed by 10 CFR 50.75(e) and the guidance provided in Regulatory Guide 1.159 (applicable revision at the time) will be put in place at an appropriate time.

Request for Additional Information (RAI) 2

In your December 30, 2014, submittal, you provided detailed decommissioning costs in 2011 dollars. NRC staff determined that you applied an approximate 2.25 percent annual increase to your 2011 decommissioning cost estimate of \$873,828,000 to escalate decommissioning costs into 2014 dollars (\$934,208,000). Provide an explanation as to how you made that adjustment.

Response

The cost estimate was increased from 2011 dollars to 2014 dollars in two steps. The first step increased the cost estimate to June 30, 2014, dollars and the second step increased the cost estimate to December 31, 2014, dollars.

The first step was performed by the vendor that prepared the OCNGS decommissioning cost estimate using actual escalation indices applied to the five component parts of Total Cost (Labor, Equipment and Material, Energy, Low-Level Radioactive Waste Disposal, and Other Costs). The component parts were then summed to determine the Total Cost in June 30, 2014, dollars.

- Labor cost escalation was based on the Employment cost index, Total Private Compensation.

- Equipment and Material cost escalation was based on the Producer Price Index, Machinery and Equipment.
- Energy cost escalation was based on the Producer Price Index, Fuels and Related Products and Power.
- Low-Level Radioactive Waste Disposal cost escalation was based upon published Barnwell, South Carolina disposal rates.
- Other cost escalation was based on the Consumer Price Index, Services.

The second step was performed by Exelon using a forecasted average annual escalation rate of 2.3571% (based on the most recent data at the time of the submittal). This rate was calculated by the vendor that prepared the OCNGS decommissioning cost estimate using forecasted indices from a subcontractor with expertise in economic forecasting. The subcontractor does not forecast low-level radioactive waste disposal rates. The Consumer Price Index plus 1% was used for this component in the calculation of the forecasted average annual escalation rate based on vendor experience with historical rates.

This methodology is used to update the escalation rates on an annual basis based on data as of June 30 of the analysis year and to adjust the decommissioning cost estimate as appropriate.

Request for Additional Information (RAI) 3

As required by 10 CFR 50.82(a)(3):

Decommissioning will be completed within 60 years of permanent cessation of operations. Completion of decommissioning beyond 60 years will be approved by the Commission only when necessary to protect public health and safety.

In your submission, you indicate radiological decommissioning activities beyond this 60 year period. Explain or correct your proposed decommissioning plan to the radiological costs beyond this 60 year period.

Response

Exelon intends to complete Radiological Decommissioning of OCNGS within the 60-year requirement of 10 CFR 50.82(a)(3). Completion of Radiological Decommissioning within this time period is reflected in the decommissioning cost estimate for OCNGS submitted on December 30, 2014. There is a total of \$229k (2014 dollars) of Radiological Decommissioning costs included in the submitted cost estimate that occur after the 60 year decommissioning period of the plant (\$148k in 2080 and \$81k in 2081, 2014 dollars). These costs represent the administrative expenses associated with submitting a final report to the NRC following license termination, and do not include any physical decommissioning work. This cost is shown as Item 5b.1.4 on Appendix E, Page 17 of Attachment 1 of the December 30, 2014, submittal (\$215k in 2011 dollars).

References

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