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

October 30, 2020

Mr. Bryan C. Hanson
Senior Vice President
Exelon Generation Company, LLC
President and Chief Nuclear Officer (CNO)
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: U.S. NUCLEAR REGULATORY COMMISSION'S ANALYSIS OF EXELON GENERATION COMPANY, LLC'S INITIAL AND UPDATED DECOMMISSIONING FUNDING PLANS FOR ZION INDEPENDENT SPENT FUEL STORAGE INSTALLATION

Dear Mr. Hanson:

By letter dated October 17, 2013, Exelon Generation Company, LLC (Exelon) submitted, for U.S. Nuclear Regulatory Commission (NRC) staff review and approval, an initial decommissioning funding plans (DFP) for the Independent Spent Fuel Storage Installations (ISFSI) at Zion Nuclear Power Station, Units 1 and 2 (Zion) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13291A125). By letter dated October 17, 2016, Exelon submitted for NRC staff review and approval, an updated DFP for the ISFSI at Zion (ADAMS Accession No. ML16291A505).[1] The NRC issued Requests for Additional Information (RAIs) dated March 8, 2018, regarding Exelon's DFP Update for the ISFSIs listed above. By letter dated May 2, 2018, ECG responded to the RAI concerning the 2016 DFP update (ADAMS Accession No. ML18124A197). In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR), Sections 72.30(b) and (c), and using NUREG-1757, Vol. 3, Rev. 1, "Consolidated Decommissioning Guidance," the NRC staff reviewed the initial and updated DFPs submitted by Exelon, including the initial and updated decommissioning cost estimates (DCEs) and the method of assuring funds for decommissioning.

Pursuant to 10 CFR 72.30(b), each holder of, or applicant for, a license under Part 72 must submit for NRC review and approval a DFP containing information on how reasonable assurance will be provided that funds will be available to decommission its ISFSI. The DFP must contain a detailed DCE, in an amount reflecting: (1) the cost of an independent contractor to perform all decommissioning activities, (2) an adequate contingency factor, and (3) the cost of meeting the 10 CFR 20.1402 unrestricted use criteria (or the cost of meeting the 10 CFR 20.1403 restricted use criteria, provided the licensee can demonstrate its ability to meet these criteria). The licensee's DFP must also identify and justify using the key assumptions contained in the DCE. Further, the DFP must describe the method of assuring funds for ISFSI decommissioning, including means for adjusting cost estimates and associated funding levels periodically over the life of the ISFSI. Additionally, the DFP must specify the volume of onsite subsurface material containing residual radioactivity that will require remediation to meet the

[1] ZionSolutions, LLC is the general licensee of the Zion ISFSI ADAMS Accession No. ML080310521). However, EGC retains responsibility for final decommissioning of the ISFSI and retains control over the decommissioning funds that are allocated for the Zion ISFSI (ADAMS Accession No. ML13291A125).

criteria for license termination, and contain a certification that financial assurance for ISFSI decommissioning has been provided in the amount of the DCE.

The NRC staff reviewed and analyzed the information submitted by Exelon on how reasonable assurance will be provided that funds will be available to decommission the ISFSI, including the amount of the DCE and the method of assuring funds for decommissioning.

In its initial DFP, Exelon estimated that the total cost to decommission the ISFSI at Zion for unrestricted use is $14,183,135, in 2013 dollars. Based on its analysis of Exelon's submittals, the staff finds that the submitted DCE: is based on reasonable costs of a third-party contractor; includes an adequate contingency factor; and is based on reasonable and documented assumptions. Therefore, the NRC finds that the DCE adequately estimated the cost, in 2013, to carry out required ISFSI decommissioning activities prior to license termination, and that the DCE is acceptable.

In its 2013 DFP, Exelon relied on prepayment as financial assurance for ISFSI decommissioning, a method authorized by 10 CFR 72.30(e). The NRC staff finds that the aggregate dollar amount of the licensee's financial instrument provided adequate financial assurance to cover its 2013 cost estimates, and therefore, that these financial instruments are acceptable.

The NRC staff reviewed the Initial DFP submitted by Exelon, including the Initial DCE and the method of assuring funds for decommissioning, in accordance with 10 CFR 72.30(b) and NUREG-1757, Vol. 3, Rev. 1, "Consolidated Decommissioning Guidance." Based on its review, the NRC staff finds that the Initial DFP contained the information required by 10 CFR 72.30(b) and that Exelon provided reasonable assurance that funds will be available to decommission the ISFSI at Zion.

Pursuant to 10 CFR 72.30(c), at the time of license renewal and at intervals not to exceed 3 years, the DFP required to be submitted by 10 CFR 72.30(b) must be resubmitted with adjustments as necessary to account for changes in costs and the extent of contamination. The DFP must update the information submitted with the original or prior approved plan. In addition, the DFP must also specifically consider the effect of the following events on decommissioning costs, as required by 10 CFR 72.30(c)(1)-(4): (1) spills of radioactive material producing additional residual radioactivity in onsite subsurface material, (2) facility modifications, (3) changes in authorized possession limits, and (4) actual remediation costs that exceed the previous cost estimate.

In the updated DFP, Exelon estimated that the total cost to decommission the ISFSI at Zion Nuclear Power Station, Units 1 and 2 for unrestricted use was $15,944,119, in 2016 dollars. The updated decommissioning cost estimate (DCE) considered the requirements of 10 CFR 72.30(c)(1)-(4) and in its May 2, 2018 RAI response, the licensee provided a narrative on each requirement. In summary, the licensee explained that no changes in any of the factors listed in 10 CFR 72.30(c)(1)-(4) have occurred to warrant revision of the previously submitted decommissioning costs. Based on its review of Exelon's submittal, the staff finds that the updated DCE is based on reasonable costs of a third-party contractor; includes an adequate contingency factor; and is based on reasonable and documented assumptions. Therefore, the NRC staff concludes that the updated DCEs adequately estimate the cost, at this time, to carry out required ISFSI decommissioning activities prior to license termination, and that the updated DCEs are acceptable.

The NRC staff reviewed the DFP update submitted by Exelon, including the updated DCE and the method of assuring funds for decommissioning, in accordance with 10 CFR 72.30(c) and NUREG-1757, Vol. 3, Rev. 1, "Consolidated Decommissioning Guidance." Based on its review, the NRC staff finds that the DFP update contain the information required by 10 CFR 72.30(c) and Exelon has provided reasonable assurance that funds will be available to decommission its ISFSIs. Therefore, the NRC staff finds that the DCE adequately estimate the cost, at this time, to carry out required ISFSI decommissioning activities prior to license termination, and that the DCE is reasonable.

Exelon currently relies on prepayment as financial assurance for ISFSI decommissioning, a method authorized by 10 CFR 72.30(e). The NRC staff finds that the aggregate dollar amount of the licensee's financial instrument provides adequate financial assurance to cover its cost estimates, and therefore, that these financial instruments are acceptable.

The NRC staff finds that the initial and updated DFPs contain the information required by 10 CFR 72.30(b) and (c) and that Exelon has provided reasonable assurance that funds will be available to decommission the ISFSIs at Zion Nuclear Power Station, Units 1 and 2. In addition to the NRC staff's review of EGC's initial and updated DFPs, the NRC staff completed an environmental review. The NRC will publish a summary of the results of the environmental review for the Zion ISFSI in the *Federal Register* in November 2020.[2] The environmental assessment and finding of no significant impacts for the Zion ISFSI and related documents will be available at *https://www.regulations.gov* under the Docket ID: NRC-2020-0132. The NRC staff determined there were no environmental impacts from the NRC staff's review and approval of EGC's initial and updated DFPs (ADAMS Accession No. ML20213B188).

If you have any questions regarding this matter, please contact me at (301) 415-5722 or John.McKirgan@nrc.gov.

Sincerely,

John B. McKirgan

Digitally signed by John B. McKirgan
Date: 2020.10.30 10:21:07 -04'00'

John McKirgan, Chief

Storage and Transportation Licensing Branch
Division of Fuel Management
Office of Nuclear Material Safety
and Safeguards

Docket No(s).: 72-1037
License No.: SFGL-54
CAC No.: 001028
EPID No(s): L-2017-FPR-0075

[2] This FRN also included results for Braidwood Station, Units 1 and 2; Byron Station, Units 1 and 2; Dresden Nuclear Power Station, Units 1, 2, and 3; LaSalle County Station, Units 1 and 2; Limerick Generating Station, Units 1 and 2; Oyster Creek Nuclear Generating Station; Quad Cities Nuclear Power Station, Units 1 and 2; Calvert Cliffs Nuclear Power Plant, Units 1 and 2; Clinton Power Station, Unit 1; Nine Mile Point Nuclear Station, Units 1 and 2; Peach Bottom Atomic Power Station, Units 1, 2, and 3; R. E. Ginna Nuclear Power Plant; Salem Generating Station, Units 1 and 2; and Zion Nuclear Power Station, Units 1 and 2.

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DOCUMENT DATED: October 30, 2020

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ADAMS Accession No.: ML20279A558 ***via email**

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