

RS-21-103

10 CFR 50.75(f)  
10 CFR 72.30(b)  
10 CFR 50.82(a)

September 28, 2021

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001Byron Station, Units 1 and 2  
Renewed Facility Operating License Nos. NPF-37 and NPF-66  
NRC Docket Nos. STN 50-454, STN 50-455, and 72-68Dresden Nuclear Power Station, Units 2 and 3  
Renewed Facility Operating License Nos. DPR-19 and DPR-25  
NRC Docket Nos. 50-237, 50-249, and 72-37

Subject: Updated Report on Status of Decommissioning Funding for Reactors and  
Independent Spent Fuel Storage Installations for Byron Station and Dresden  
Nuclear Power Station

- References:
1. Letter from Patrick R. Simpson (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "Report on Status of Decommissioning Funding for Reactors and Independent Spent Fuel Storage Installations," dated February 24, 2021 (RS-21-030)
  2. Letter from J. Bradley Fewell (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "Withdrawal of Certification of Permanent Cessation of Power Operations for Byron Station, Units 1 and 2, and Previously Submitted Licensing Actions in Support of Decommissioning," dated September 15, 2021 (RS-21-096)
  3. Letter from J. Bradley Fewell (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "Withdrawal of Certification of Permanent Cessation of Power Operations for Dresden Nuclear Power Station, Units 2 and 3, and Previously Submitted Licensing Actions in Support of Decommissioning," dated September 15, 2021 (RS-21-097)

Pursuant to 10 CFR 50.75, "Reporting and recordkeeping for decommissioning planning," paragraph (f), Exelon Generation Company, LLC (EGC) is submitting an updated report on the status of decommissioning funding for Byron Station Units 1 and 2 and Dresden Nuclear Power Station Units 2 and 3.

In EGCs 2021 report on the status of decommissioning funding as of December 31, 2020 (Reference 1), EGC confirmed that due to the decision to prematurely retire Byron Station, Units 1 and 2, those units did not meet the minimum funding assurance criteria. EGC explained that if additional sources of funds were required, EGC would provide the required minimum funding assurance for Byron Units 1 and 2 by no later than shutdown. Since that time, EGC has reversed its decision to prematurely retire Byron Station Units 1 and 2 and Dresden Nuclear Power Station Units 2 and 3 as provided in "Withdrawal of Certification of Permanent Cessation of Power Operations for Byron Station, Units 1 and 2, and Previously Submitted Licensing Actions in Support of Decommissioning," and "Withdrawal of Certification of Permanent Cessation of Power Operations for Dresden Nuclear Power Station, Units 2 and 3, and Previously Submitted Licensing Actions in Support of Decommissioning," (References 2 and 3). As such, this minimum funding assurance update is being provided.

Using the current license expiration dates as the shutdown dates, financial assurance for decommissioning is provided for Byron Station Units, 1 and 2 and Dresden Nuclear Power, Station Units 2 and 3. Byron Station, Units 1 and 2 now meet, and Dresden Nuclear Power Station Units 2 and 3 continue to meet, the minimum funding assurance criteria under 10 CFR 50.75, 10 CFR 50.82, and 10 CFR 72.30 as of December 31, 2020, using the NRC formula in 10 CFR 50.75(c) to calculate costs and based solely on the trust fund balances as of December 31, 2020 (see Attachments 2 and 3).

The cost estimates and other information required by 10 CFR 72.30(b) and (c) for decommissioning the independent spent fuel storage installations (ISFSIs) at Byron Station and Dresden Nuclear Power Station as provided in the "Report on Status of Decommissioning Funding for Reactors and Independent Spent Fuel Storage Installations" dated February 21, 2021 (Reference 1) are unchanged.

In accordance with 10 CFR 50.75(b)(4), 50.75(c), and 50.75(f), the estimated cost of decommissioning for financial assurance is based on the NRC formula cost amount calculated in accordance with 10 CFR 50.75(c) or site-specific decommissioning cost estimates.

EGC has not made a final determination of the decommissioning option for any of its operating nuclear units. EGC uses the formula cost amount or the site-specific decommissioning cost estimates to demonstrate adequacy of funding to meet regulatory requirements. To the extent the site-specific cost estimates assume a decommissioning option, EGC may select a different decommissioning option in the future for any of its nuclear units, recognizing that the chosen option must meet NRC requirements for decommissioning funding.

All disbursements from the decommissioning trust funds made through December 31, 2020, other than those for allowed administrative costs and other incidental expenses of the fund in connection with the operation of the fund per 10 CFR 50.75(h)(1)(iv), were in support of decommissioning planning.

There are no regulatory commitments contained within this letter.

If you have any questions concerning this letter, please contact me at (630) 657-2823.

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U.S. Nuclear Regulatory Commission  
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Respectfully,

A handwritten signature in black ink, appearing to read "Patrick R. Simpson", with a long horizontal flourish extending to the right.

Patrick R. Simpson  
Sr. Manager – Licensing  
Exelon Generation Company, LLC

cc:     Regional Administrator – NRC Region III  
         NRC Senior Resident Inspector – Byron Station  
         NRC Senior Resident Inspector – Dresden Nuclear Power Station

Attachments:

1. Labor, Energy, and Burial Factors Used in Calculations (All Facilities)
2. Annual Radiological Decommissioning Funding Assurance Report for Byron Station, Unit 1
3. Annual Radiological Decommissioning Funding Assurance Report for Byron Station, Unit 2
4. Annual Radiological Decommissioning Funding Assurance Report for Dresden Nuclear Power Station, Unit 2
5. Annual Radiological Decommissioning Funding Assurance Report for Dresden Nuclear Power Station, Unit 3

**ATTACHMENT 1**  
**Labor, Energy, and Burial Factors Used in Calculations (All Facilities)**

The labor, energy, and burial indexes used are consistent with those described in NUREG-1307, Revision 18, issued January 2021.

The current labor cost indexes used are obtained from the Employment Cost Index, published by the U.S. Department of Labor, Bureau of Labor Statistics (BLS). Specifically, Exelon Generation Company, LLC (EGC) used the Employment Cost Index for total compensation for private industry workers by region. The labor adjustment factors were calculated according to Section 3.2 of NUREG-1307, Revision 18, using fourth quarter 2020 data. Table 1 shows the data used for this calculation.

**Table 1: Labor Adjustment Factors**

Region	Applicable Sites	Series ID	4Q2020 Index Number	Base $L_x$	Labor Adjustment Factor ( $L_x$ )
Midwest	Byron Dresden	CIU2010000000230I	139.1	2.08	2.893

The current energy cost indexes used are obtained from Producer Price Indexes (PPI) – Commodities, published by the U.S. Department of Labor, BLS. Specifically, EGC used the PPI for industrial electric power (WPU0543) and light fuel oils (WPU0573). The energy adjustment factors were calculated according to Section 3.3 of NUREG-1307, Revision 18, using December 2020 data. Table 2 shows the data used for this calculation.

**Table 2: Energy Adjustment Factors<sup>1</sup>**

WPU0543 – January 1986 (base value)	114.2
WPU0573 – January 1986 (base value)	82.0
WPU0543 – December 2020 (preliminary value)	232.7
WPU0573 – December 2020 (preliminary value)	209.8
Industrial electric power adjustment factor - $P_x$	2.038
Light fuel oil adjustment factor - $F_x$	2.559
Energy Adjustment Factor (PWR) – $E_x(\text{PWR})$	2.256
Energy Adjustment Factor (BWR) – $E_x(\text{BWR})$	2.277

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<sup>1</sup> The preliminary numbers are consistent with Refence 1 letter dated February 24, 2021 and updating to the final December value would not change the outcome.

**ATTACHMENT 1 (Continued)**  
**Labor, Energy, and Burial Factors Used in Calculations (All Facilities)**

The waste burial adjustment factors used are taken from Table 2-1 of NUREG-1307, Revision 18, based on 2020 data. The adjustment factors EGC used assume a combination of compact-affiliated and non-compact facilities for sites affiliated with a compact. This is consistent with current waste disposal practices at EGC and consistent with typical waste disposal practices during decommissioning. For sites not affiliated with a compact, the values for generators located in unaffiliated states were used. Table 3 summarizes the data used for the calculation of the waste adjustment factors.

**Table 3: Waste Adjustment Factors**

<b>LLW Burial Site</b>	<b>Reactor Type</b>	<b>Applicable Site</b>	<b>Combination of Compact-Affiliated and Non-Compact Disposal Facilities Waste Adjustment Factor (<math>B_x</math>)</b>	<b>Generators Located in the Unaffiliated States and those Located in Compact-Affiliated States having no Disposal Facility Waste Adjustment Factor (<math>B_x</math>)</b>
Generic LLW Disposal Site	BWR	Dresden	N/A	12.837
Generic LLW Disposal Site	PWR	Byron	N/A	12.793

The calculation methodology used for all adjustment factors is consistent with NUREG-1307, Revision 18.

**ATTACHMENT 2**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Byron Station, Unit 1**  
(December 31, 2020 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$523,785
2	Site-specific cost amount per 10 CFR 50.75(b)(4)	N/A
3	Site-specific cost amount per 10 CFR 72.30(b)	\$5,503 (a)
4	The amount of decommissioning trust funds accumulated as of December 31, 2020	\$475,341 (b)
5	Schedule of the annual amounts remaining to be collected.	\$0
6	Assumptions used regarding rates of escalation, earnings, and other factors used in funding projections	2% (c)
7	There are no contracts relied upon pursuant to 10 CFR 50.75(e)(1)(v).	
8	Financial assurance for decommissioning is provided by the prepayment method, coupled with an external trust fund, in accordance with 10 CFR 50.75(e)(1)(i) and 10 CFR 72.30(e)(1).	
9	The trust fund agreements were amended effective September 30, 2019 to reflect a change of the company holding the trusts from a Nevada LLC to an Illinois LLC.	

Effective January 1, 2021, the non-qualified trust agreement, qualified trust agreement, and Master Terms for Trust Agreements were updated to incorporate amendments previously provided to the NRC. In addition, the Master Terms for Trust Agreements were updated to include the non-qualified trust agreements and qualified trust agreements between the direct owners of Calvert Cliffs Nuclear Power Plant, Units 1 and 2, Nine Mile Point Nuclear Station, Units 1 and 2, and R.E. Ginna Nuclear Power Plant, Unit 1, and Northern Trust as Trustee that became effective January 1, 2021.

- (a) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2020 dollars using published escalation indices. "Report on Status of Decommissioning Funding for Reactors and Independent Spent Fuel Storage Installations" dated February 24, 2021 (Reference 1) provides information on the detailed decommissioning funding plan, detailed site-specific ISFSI decommissioning cost estimate, and the occurrence and the effect on the ISFSI decommissioning costs of the events listed in 10 CFR 72.30 (c)(1)-(4).
- (b) The trust fund amount is the amount allocated for Radiological Decommissioning only. There are no past-due tax payments owed on the decommissioning trust fund activities as of December 31, 2020. Periodic payments of estimated income taxes are made by EGC during the year on a quarterly basis. EGC then obtains reimbursement from the trust funds. The reported trust fund amounts comply with the reporting requirements of 10 CFR 50.75(f) in that the amount of funds reported are those that were accumulated as of December 31, 2020.
- (c) A 2% annual real rate of return is used as allowed by 10 CFR 50.75(e)(1)(i).
- (d) For purposes of this report, permanent termination of operations (shutdown) is expected on October 31, 2044.

**ATTACHMENT 3**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Byron Station, Unit 2**  
(December 31, 2020 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$523,785
2	Site-specific cost amount per 10 CFR 50.75(b)(4)	N/A
3	Site-specific cost amount per 10 CFR 72.30(b)	\$5,503(a)
4	The amount of decommissioning trust funds accumulated as of December 31, 2020	\$458,906 (b)
5	Schedule of the annual amounts remaining to be collected.	\$0
6	Assumptions used regarding rates of escalation, earnings, and other factors used in funding projections	2% (c)
7	There are no contracts relied upon pursuant to 10 CFR 50.75(e)(1)(v).	
8	Financial assurance for decommissioning is provided by the prepayment method, coupled with an external trust fund, in accordance with 10 CFR 50.75(e)(1)(i) and 10 CFR 72.30(e)(1).	
9	The trust fund agreements were amended effective September 30, 2019 to reflect a change of the company holding the trusts from a Nevada LLC to an Illinois LLC.	

Effective January 1, 2021, the non-qualified trust agreement, qualified trust agreement, and Master Terms for Trust Agreements were updated to incorporate amendments previously provided to the NRC. In addition, the Master Terms for Trust Agreements were updated to include the non-qualified trust agreements and qualified trust agreements between the direct owners of Calvert Cliffs Nuclear Power Plant, Units 1 and 2, Nine Mile Point Nuclear Station, Units 1 and 2, and R.E. Ginna Nuclear Power Plant, Unit 1, and Northern Trust as Trustee that became effective January 1, 2021.

- (a) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2020 dollars using published escalation indices. "Report on Status of Decommissioning Funding for Reactors and Independent Spent Fuel Storage Installations" dated February 24, 2021 (Reference 1) provides information on the detailed decommissioning funding plan, detailed site-specific ISFSI decommissioning cost estimate, and the occurrence and the effect on the ISFSI decommissioning costs of the events listed in 10 CFR 72.30 (c)(1)-(4).
- (b) The trust fund amount is the amount allocated for Radiological Decommissioning only. There are no past-due tax payments owed on the decommissioning trust fund activities as of December 31, 2020. Periodic payments of estimated income taxes are made by EGC during the year on a quarterly basis. EGC then obtains reimbursement from the trust funds. The reported trust fund amounts comply with the reporting requirements of 10 CFR 50.75(f) in that the amount of funds reported are those that were accumulated as of December 31, 2020.
- (c) A 2% annual real rate of return is used as allowed by 10 CFR 50.75(e)(1)(i).
- (d) For purposes of this report, permanent termination of operations (shutdown) is expected on November 6, 2046.



**ATTACHMENT 4**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Dresden Nuclear Power Station, Unit 2**  
(December 31, 2020 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$653,172
2	Site-specific cost amount per 10 CFR 50.75(b)(4)	N/A
3	Site-specific cost amount per 10 CFR 72.30(b)	\$10,442 (a)
4	The amount of decommissioning trust funds accumulated as of December 31, 2020	\$876,248 (b)
5	Schedule of the annual amounts remaining to be collected.	\$0
6	Assumptions used regarding rates of escalation, earnings, and other factors used in funding projections	2% (c)
7	There are no contracts relied upon pursuant to 10 CFR 50.75(e)(1)(v).	
8	Financial assurance for decommissioning is provided by the prepayment method, coupled with an external trust fund, in accordance with 10 CFR 50.75(e)(1)(i) and 10 CFR 72.30(e)(1).	
9	The trust fund agreements were amended effective September 30, 2019 to reflect a change of the company holding the trusts from a Nevada LLC to an Illinois LLC.	

Effective January 1, 2021, the non-qualified trust agreement, qualified trust agreement, and Master Terms for Trust Agreements were updated to incorporate amendments previously provided to the NRC. In addition, the Master Terms for Trust Agreements were updated to include the non-qualified trust agreements and qualified trust agreements between the direct owners of Calvert Cliffs Nuclear Power Plant, Units 1 and 2, Nine Mile Point Nuclear Station, Units 1 and 2, and R.E. Ginna Nuclear Power Plant, Unit 1, and Northern Trust as Trustee that became effective January 1, 2021.

- (a) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2020 dollars using published escalation indices. "Report on Status of Decommissioning Funding for Reactors and Independent Spent Fuel Storage Installations" dated February 24, 2021 (Reference 1) provides information on the detailed decommissioning funding plan, detailed site-specific ISFSI decommissioning cost estimate, and the occurrence and the effect on the ISFSI decommissioning costs of the events listed in 10 CFR 72.30 (c)(1)-(4).
- (b) The trust fund amount is the amount allocated for Radiological Decommissioning only. There are no past-due tax payments owed on the decommissioning trust fund activities as of December 31, 2020. Periodic payments of estimated income taxes are made by EGC during the year on a quarterly basis. EGC then obtains reimbursement from the trust funds. The reported trust fund amounts comply with the reporting requirements of 10 CFR 50.75(f) in that the amount of funds reported are those that were accumulated as of December 31, 2020.
- (c) A 2% annual real rate of return is used as allowed by 10 CFR 50.75(e)(1)(i).
- (d) For purposes of this report, permanent termination of operations (shutdown) is expected on December 22, 2029.

**ATTACHMENT 5**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Dresden Nuclear Power Station, Unit 3**  
(December 31, 2020 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$653,172
2	Site-specific cost amount per 10 CFR 50.75(b)(4)	N/A
3	Site-specific cost amount per 10 CFR 72.30(b)	\$10,442 (a)
4	The amount of decommissioning trust funds accumulated as of December 31, 2020	\$895,711(b)
5	Schedule of the annual amounts remaining to be collected.	\$0
6	Assumptions used regarding rates of escalation, earnings, and other factors used in funding projections	2% (c)
7	There are no contracts relied upon pursuant to 10 CFR 50.75(e)(1)(v).	
8	Financial assurance for decommissioning is provided by the prepayment method, coupled with an external trust fund, in accordance with 10 CFR 50.75(e)(1)(i) and 10 CFR 72.30(e)(1).	
9	The trust fund agreements were amended effective September 30, 2019 to reflect a change of the company holding the trusts from a Nevada LLC to an Illinois LLC.	

Effective January 1, 2021, the non-qualified trust agreement, qualified trust agreement, and Master Terms for Trust Agreements were updated to incorporate amendments previously provided to the NRC. In addition, the Master Terms for Trust Agreements were updated to include the non-qualified trust agreements and qualified trust agreements between the direct owners of Calvert Cliffs Nuclear Power Plant, Units 1 and 2, Nine Mile Point Nuclear Station, Units 1 and 2, and R.E. Ginna Nuclear Power Plant, Unit 1, and Northern Trust as Trustee that became effective January 1, 2021.

- (a) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2020 dollars using published escalation indices. "Report on Status of Decommissioning Funding for Reactors and Independent Spent Fuel Storage Installations" dated February 24, 2021 (Reference 1) provides information on the detailed decommissioning funding plan, detailed site-specific ISFSI decommissioning cost estimate, and the occurrence and the effect on the ISFSI decommissioning costs of the events listed in 10 CFR 72.30 (c)(1)-(4).
- (b) The trust fund amount is the amount allocated for Radiological Decommissioning only. There are no past-due tax payments owed on the decommissioning trust fund activities as of December 31, 2020. Periodic payments of estimated income taxes are made by EGC during the year on a quarterly basis. EGC then obtains reimbursement from the trust funds. The reported trust fund amounts comply with the reporting requirements of 10 CFR 50.75(f) in that the amount of funds reported are those that were accumulated as of December 31, 2020.
- (c) A 2% annual real rate of return is used as allowed by 10 CFR 50.75(e)(1)(i).
- (d) For purposes of this report, permanent termination of operations (shutdown) is expected on January 12, 2031