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RS-19-045

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

April 1, 2019

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

Braidwood Station, Units 1 and 2  
Renewed Facility Operating License Nos. NPF-72 and NPF-77  
NRC Docket Nos. STN 50-456, STN 50-457, and 72-73

Byron 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 72-68

Calvert Cliffs Nuclear Power Plant, Units 1 and 2  
Renewed Facility Operating License Nos. DPR-53 and DPR-69  
NRC Docket Nos. STN 50-317 and STN 50-318

Clinton Power Station, Unit 1  
Facility Operating License No. NPF-62  
NRC Docket No. 50-461 and 72-1046

Dresden Nuclear Power Station, Units 1, 2 and 3  
Facility Operating License No. DPR-2  
Renewed Facility Operating License Nos. DPR-19 and DPR-25  
NRC Docket Nos. 50-10, 50-237, 50-249, and 72-37

James. A FitzPatrick Nuclear Power Plant  
Renewed Facility Operating License No. DPR-59  
NRC Docket Nos. 50-333 and 72-012

LaSalle County Station, Units 1 and 2  
Renewed Facility Operating License Nos. NPF-11 and NPF-18  
NRC Docket Nos. 50-373, 50-374, and 72-70

Limerick Generating Station, Units 1 and 2  
Renewed Facility Operating License Nos. NPF-39 and NPF-85  
NRC Docket Nos. 50-352, 50-353, and 72-65

Nine Mile Point Nuclear Station, Units 1 and 2  
Renewed Facility Operating License Nos. DPR-63 and DPR-69  
NRC Docket Nos. 50-220, 50-410, and 72-1036

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

Peach Bottom Atomic Power Station, Units 1, 2, and 3  
Facility Operating License No. DPR-12  
Renewed Facility Operating License Nos. DPR-44 and DPR-56  
NRC Docket Nos. 50-171, 50-277, 50-278, and 72-29

Quad Cities Nuclear Power Station, Units 1 and 2  
Renewed Facility Operating License Nos. DPR-29 and DPR-30  
NRC Docket Nos. 50-254, 50-265, and 72-53

R.E. Ginna Nuclear Power Plant  
Renewed Facility Operating License No. DPR-18  
NRC Docket Nos. 50-244 and 72-67

Salem Generating Station, Units 1 and 2  
Renewed Facility Operating License Nos. DPR-70 and DPR-75  
NRC Docket Nos. 50-272, 50-311, and 72-48

Three Mile Island Nuclear Station, Unit 1  
Renewed Facility Operating License No. DPR-50  
NRC Docket No. 50-289

Calvert Cliffs Nuclear Power Plant, Units 1 and 2  
Independent Spent Fuel Storage Installation  
Materials License No. SNM-2505  
NRC Docket No. 72-08

Subject: Report on Status of Decommissioning Funding for Reactors and Independent Spent Fuel Storage Installations

In accordance with 10 CFR 50.75, "Reporting and recordkeeping for decommissioning planning," paragraph (f), Exelon Generation Company, LLC (EGC) is submitting a report on the status of decommissioning funding for the reactors owned or co-owned by EGC. Additionally, in accordance with 10 CFR 72.30, "Financial assurance and recordkeeping for decommissioning," EGC is submitting updates to the decommissioning funding plans for the independent spent fuel storage installations (ISFSIs) owned or co-owned by EGC.<sup>1</sup> Updated decommissioning cost estimates for ISFSI decommissioning are provided in the attached report in Attachment 31 and 32. With respect to the other information required by 10 CFR 72.30(b) and (c), unless otherwise noted in Attachment 32, there have been no changes from the information provided in the initial ISFSI decommissioning funding plans (see Attachment 32, References 1, 2, 3, and 7).

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<sup>1</sup> EGC currently has ISFSIs at each of its sites, with the exception of Three Mile Island, Unit 1, where an ISFSI is under construction.

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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 either the NRC formula cost amount calculated in accordance with 10 CFR 50.75(c) or site-specific decommissioning cost estimates. If used in this report, the site-specific decommissioning cost estimates are based on a period of safe storage that is specifically described in the estimates. Site-specific cash flows from the site-specific cost estimates are included, as applicable. Unless otherwise noted, the specific cash flow analysis for the site-specific decommissioning cost estimates conservatively assumes all expenses in a year are incurred at the beginning of year (i.e., beginning of year convention) during the decommissioning period. The cash flow analysis for Peach Bottom Atomic Power Station (PBAPS), Unit 1 assumes that half of the current year contributions are included in the current year earnings to estimate payment of contributions throughout the year (i.e., a mid-year convention). EGC uses a mid-year convention in this instance because the contributions are made monthly at a constant rate throughout the year.

Nine Mile Point Nuclear Station, Unit 2 is co-owned by Nine Mile Point Nuclear Station, LLC (82%), an indirect EGC co-owned subsidiary, and Long Island Power Authority (LIPA) (18%). The information provided in this letter for Nine Mile Point Nuclear Station, Unit 2 includes summary statements provided and verified by LIPA.

For shutdown units, the reporting requirements of 10 CFR 50.82(a)(8)(v) and (vii) are also included in this report.

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.

Due to recent market performance, Clinton Power Station, Unit 1 did not meet the minimum funding assurance criteria under 10 CFR 50.75, 10 CFR 50.82, and 10 CFR 72.30 as of December 31, 2018, based solely on the trust fund balance (see Attachment 8). However, as of February 28, 2019, due to recovery in market performance, minimum funding assurance for Clinton Power Station, Unit 1, is demonstrated (see Attachment 9). EGC has evaluated the alternate funding mechanisms allowed by 10 CFR 50.75(e) and guidance provided in Regulatory Guide 1.159, "Assuring Availability of Funds for Decommissioning Nuclear Reactors," Revision 2, and concluded that no further action for Clinton Power Station is required.

Due to recent market performance, PBAPS Unit 1 did not meet the minimum funding assurance criteria under 10 CFR 50.75 and 10 CFR 50.82 as of December 31, 2018, based solely on the trust fund balance. Financial assurance for decommissioning this reactor is provided by the external sinking fund method, coupled with an external trust fund, in accordance with 10 CFR 50.75(e)(1)(ii). The source of revenue for the external sinking fund is a "non-bypassable charge" approved by the Pennsylvania Public Utilities Commission (PaPUC) authorizing PECO Energy Company to continue to collect decommissioning funds for EGC. The amount to be collected will be adjusted, as necessary, in accordance with the applicable tariff in the next filing to the Pennsylvania Public Utility Commission (PaPUC) of the Nuclear Decommissioning Cost Adjustment (NDCA) to cover any funding shortfall that exists at that

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time. This cost adjustment is made every five years pursuant to PaPUC Electric Tariff No. 4. The next time a rate adjustment would be effective is January 1, 2023. The PaPUC has been notified that the amount collected may need to be adjusted in the next filing. EGC's ability to adjust the amount collected for PBAPS Unit 1 is consistent with the guidance in Regulatory Guide 1.159, "Assuring Availability of Funds for Decommissioning Nuclear Reactors," page 13, Revision 2, which provides that, "Adjustments to the annual amount of funds being set aside may be made to coincide with rate cases considered by a licensee's public utility commission (PUC)."

Disbursements made through December 31, 2018 from the decommissioning trust funds since the last report, 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. Dresden 1, Peach Bottom 1, and Oyster Creek disbursements contained additional costs in support of decommissioning activities as outlined in their respective attachments.

There are no regulatory commitments contained within this letter.

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

Respectfully,



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

cc:     Regional Administrator – NRC Region I  
         Regional Administrator – NRC Region III  
         NRC Senior Resident Inspector – Braidwood Station  
         NRC Senior Resident Inspector – Byron Station  
         NRC Senior Resident Inspector – Calvert Cliffs Nuclear Power Plant  
         NRC Senior Resident Inspector – Clinton Power Station  
         NRC Senior Resident Inspector – Dresden Nuclear Power Station  
         NRC Senior Resident Inspector – James A. FitzPatrick Nuclear Power Station  
         NRC Senior Resident Inspector – LaSalle County Station  
         NRC Senior Resident Inspector – Limerick Generating Station  
         NRC Senior Resident Inspector – Nine Mile Point Nuclear Station  
         NRC Senior Resident Inspector – Oyster Creek Nuclear Generating Station  
         NRC Senior Resident Inspector – Peach Bottom Atomic Power Station  
         NRC Senior Resident Inspector – Quad Cities Nuclear Power Station  
         NRC Senior Resident Inspector – R.E. Ginna Nuclear Power Plant  
         NRC Senior Resident Inspector – Salem Generating Station  
         NRC Senior Resident Inspector – Three Mile Island Nuclear Station



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Attachments:

1. Labor, Energy, and Burial Factors Used in Calculations (All Facilities)
2. Annual Radiological Decommissioning Funding Assurance Report for Braidwood Station, Unit 1
3. Annual Radiological Decommissioning Funding Assurance Report for Braidwood Station, Unit 2
4. Annual Radiological Decommissioning Funding Assurance Report for Byron Station, Unit 1
5. Annual Radiological Decommissioning Funding Assurance Report for Byron Station, Unit 2
6. Annual Radiological Decommissioning Funding Assurance Report for Calvert Cliffs Nuclear Power Plant, Unit 1
7. Annual Radiological Decommissioning Funding Assurance Report for Calvert Cliffs Nuclear Power Plant, Unit 2
8. Annual Radiological Decommissioning Funding Assurance Report for Clinton Power Station, Unit 1
9. Annual Radiological Decommissioning Funding Assurance Report for Clinton Power Station, Unit 1 (as of February 28, 2019)
10. Annual Radiological Decommissioning Funding Assurance and Spent Fuel Management Report for Dresden Nuclear Power Station, Unit 1
11. Annual Radiological Decommissioning Funding Assurance Report for Dresden Nuclear Power Station, Unit 2
12. Annual Radiological Decommissioning Funding Assurance Report for Dresden Nuclear Power Station, Unit 3
13. Annual Radiological Decommissioning Funding Assurance Report for James A. FitzPatrick Nuclear Power Station
14. Annual Radiological Decommissioning Funding Assurance Report for LaSalle County Station, Unit 1
15. Annual Radiological Decommissioning Funding Assurance Report for LaSalle County Station, Unit 2
16. Annual Radiological Decommissioning Funding Assurance Report for Limerick Generating Station, Unit 1
17. Annual Radiological Decommissioning Funding Assurance Report for Limerick Generating Station, Unit 2
18. Annual Radiological Decommissioning Funding Assurance Report for Nine Mile Point Nuclear Station, Unit 1
19. Annual Radiological Decommissioning Funding Assurance Report for Nine Mile Point Nuclear Station, Unit 2 EGC Portion
20. Annual Radiological Decommissioning Funding Assurance Report for Nine Mile Point Nuclear Station, Unit 2 LIPA Portion
21. Annual Radiological Decommissioning Funding Assurance and Spent Fuel Management Report for Oyster Creek Nuclear Generating Station
22. Annual Radiological Decommissioning Funding Assurance Report for Peach Bottom Atomic Power Station, Unit 1
23. Annual Radiological Decommissioning Funding Assurance Report for Peach Bottom Atomic Power Station, Unit 2
24. Annual Radiological Decommissioning Funding Assurance Report for Peach Bottom Atomic Power Station, Unit 3
25. Annual Radiological Decommissioning Funding Assurance Report for Quad Cities Nuclear Power Station, Unit 1

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26. Annual Radiological Decommissioning Funding Assurance Report for Quad Cities Nuclear Power Station, Unit 2
27. Annual Radiological Decommissioning Funding Assurance Report for R.E. Ginna Nuclear Power Plant
28. Annual Radiological Decommissioning Funding Assurance Report for Salem Generating Station, Unit 1
29. Annual Radiological Decommissioning Funding Assurance Report for Salem Generating Station, Unit 2
30. Annual Radiological Decommissioning Funding Assurance Report for Three Mile Island Nuclear Station, Unit 1
31. ISFSI Decommissioning Funding Estimates
32. Independent Spent Fuel Storage Installation Decommissioning Funding Plan Updates

**ATTACHMENT 1**

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

**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 17, issued February 2019.

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 17, using fourth quarter 2018 data. Table 1 shows the data used for this calculation.

**Table 1: Labor Adjustment Factors**

<b>Region</b>	<b>Applicable Sites</b>	<b>Series ID</b>	<b>4Q2018 Index Number</b>	<b>Base <math>L_x</math></b>	<b>Labor Adjustment Factor (<math>L_x</math>)</b>
Northeast	James A. FitzPatrick Limerick Nine Mile Point Oyster Creek Peach Bottom R.E. Ginna Salem TMI	CIU2010000000210I	136.5	2.16	2.948
South	Calvert Cliffs	CIU2010000000220I	132.5	1.98	2.624
Midwest	Braidwood Byron Clinton Dresden LaSalle Quad Cities	CIU2010000000230I	132.3	2.08	2.752

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 17, using December 2018 data. Table 2 shows the data used for this calculation.

**Table 2: Energy Adjustment Factors**

WPU0543 – January 1986 (base value)	114.2
WPU0573 – January 1986 (base value)	82.0
WPU0543 – December 2018 (preliminary value)	240.2
WPU0573 – December 2018 (preliminary value)	223.6
Industrial electric power adjustment factor - $P_x$	2.103
Light fuel oil adjustment factor - $F_x$	2.727
Energy Adjustment Factor (PWR) – $E_x(\text{PWR})$	2.365
Energy Adjustment Factor (BWR) – $E_x(\text{BWR})$	2.390

**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 17, based on 2018 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 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>
South Carolina site Atlantic Compact	BWR	Oyster Creek	12.872	N/A
South Carolina site Atlantic Compact	PWR	Salem	11.607	N/A
Generic LLW Disposal Site	BWR	Clinton Dresden James A. FitzPatrick LaSalle Limerick Nine Mile Point Peach Bottom Quad Cities	N/A	13.422
Generic LLW Disposal Site	PWR	Braidwood Byron Calvert Cliffs R.E. Ginna TMI	N/A	12.853

The calculation methodology used for all adjustment factors is consistent with NUREG-1307, Revision 17.

**ATTACHMENT 2**

Annual Radiological Decommissioning Funding Assurance Report  
for Braidwood Station, Unit 1

**ATTACHMENT 2**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Braidwood Station, Unit 1**

(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$ 517,002
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)	\$5,207 (a)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$ 344,487 (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	Effective March 31, 2017, the master terms and conditions of the qualified and non-qualified trust agreements were updated to include James A. Fitzpatrick Nuclear Generating Station.	

Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).

- (a) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.
- (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 17, 2046.

**ATTACHMENT 3**

Annual Radiological Decommissioning Funding Assurance Report  
for Braidwood Station, Unit 2



**ATTACHMENT 3**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Braidwood Station, Unit 2**  
(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$517,002
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)	\$5,207 (a)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$373,111 (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	Effective March 31, 2017, the master terms and conditions of the qualified and non-qualified trust agreements were updated to include James A. Fitzpatrick Nuclear Generating Station.	

Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).

- (a) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.
- (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 18, 2047.

**ATTACHMENT 4**

Annual Radiological Decommissioning Funding Assurance Report  
for Byron Station, Unit 1

**ATTACHMENT 4**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Byron Station, Unit 1**  
(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$517,002
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)	\$5,071 (a)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$378,722 (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	Effective March 31, 2017, the master terms and conditions of the qualified and non-qualified trust agreements were updated to include James A. Fitzpatrick Nuclear Generating Station.	

Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).

- (a) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.
- (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 5**

Annual Radiological Decommissioning Funding Assurance Report  
for Byron Station, Unit 2

**ATTACHMENT 5**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Byron Station, Unit 2**  
(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$517,002
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)	\$5,071(a)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$364,942 (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	Effective March 31, 2017, the master terms and conditions of the qualified and non-qualified trust agreements were updated to include James A. Fitzpatrick Nuclear Generating Station.	

Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).

- (a) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.
- (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 6**

Annual Radiological Decommissioning Funding Assurance Report  
for Calvert Cliffs Nuclear Power Plant, Unit 1

**ATTACHMENT 6**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Calvert Cliffs Nuclear Power Plant, Unit 1**  
(December 31, 2018 dollars, thousands)

- |   |   |               |
|---|---|---------------|
| 1 | Formula cost amount per 10 CFR 50.75(c)   | \$479,615     |
| 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)   | \$5,526 (a)   |
| 4 | The amount of decommissioning trust funds accumulated as of December 31, 2018   | \$385,697 (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 | There are no material changes to the trust fund agreements.   |               |
- (a) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.
- (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 July 31, 2034.

**ATTACHMENT 7**

Annual Radiological Decommissioning Funding Assurance Report  
for Calvert Cliffs Nuclear Power Plant, Unit 2



**ATTACHMENT 7**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Calvert Cliffs Nuclear Power Plant, Unit 2**  
(December 31, 2018 dollars, thousands)

- |   |   |               |
|---|---|---------------|
| 1 | Formula cost amount per 10 CFR 50.75(c)   | \$479,615     |
| 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)   | \$5,526 (a)   |
| 4 | The amount of decommissioning trust funds accumulated as of December 31, 2018   | \$498,432 (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 | There are no material changes to the trust fund agreements.   |               |
- (a) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.
- (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 August 13, 2036.

**ATTACHMENT 8**

Annual Radiological Decommissioning Funding Assurance Report  
for Clinton Power Station, Unit 1

**ATTACHMENT 8**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Clinton Power Station, Unit 1**

(December 31, 2018 dollars, thousands)

- |   |  |               |
|---|--|---------------|
| 1 | Formula cost amount per 10 CFR 50.75(c)  | \$682,054     |
| 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)  | \$8,827 (a)   |
| 4 | The amount of decommissioning trust funds accumulated as of December 31, 2018  | \$543,165 (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 | Effective March 31, 2017, the master terms and conditions of the qualified and non-qualified trust agreements were updated to include James A. Fitzpatrick Nuclear Generating Station. |               |

Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).

- (a) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.
- (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 September 29, 2026.

**ATTACHMENT 8 (Continued)**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Clinton Power Station, Unit 1**  
(December 31, 2018 dollars, thousands)

- (e) As discussed in the cover letter, Clinton Power Station, Unit 1 did not meet the minimum funding assurance criteria under 10 CFR 50.75 as of December 31, 2018. Using the most recent decommissioning trust fund values from February 28, 2019; Clinton Power Station, Unit 1 is adequately funded based on the minimum funding assurance criteria under 10 CFR 50.75 (see Attachment 9).

**ATTACHMENT 9**

Annual Radiological Decommissioning Funding Assurance Report for  
Clinton Power Station, Unit 1 (as of February 28, 2019)

**ATTACHMENT 9**  
**Radiological Decommissioning Funding Assurance Update for**  
**Clinton Power Station, Unit 1**  
(February 28, 2019 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$679,128 (a)
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)	\$8,869 (b)
4	The amount of decommissioning trust funds accumulated as of February 28, 2019	\$569,704 (c)
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% (d)
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	Effective March 31, 2017, the master terms and conditions of the qualified and non-qualified trust agreements were updated to include James A. Fitzpatrick Nuclear Generating Station.	

Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).

- (a) This formula cost amount calculation utilizes January 2019 preliminary PPI indexes (WPU0543 and WPU0573). All other indices are the same as used for the previous calculation as described in Attachment 1.
- (b) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to February 28, 2019 dollars using published escalation indices. Attachments 31 and 32 provide 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).
- (c) The trust fund amount is the amount allocated for Radiological Decommissioning only. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.
- (d) A 2% annual real rate of return is used as allowed by 10 CFR 50.75(e)(1)(i).
- (e) For purposes of this report, permanent termination of operations (shutdown) is expected on September 29, 2026.

**ATTACHMENT 10**

Annual Radiological Decommissioning Funding Assurance and Spent Fuel Management  
Report for Dresden Nuclear Power Station, Unit 1

**ATTACHMENT 10**  
**Annual Radiological Decommissioning Funding Assurance and Spent Fuel**  
**Management Report for Dresden Nuclear Power Station, Unit 1**  
(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	N/A (a)
2	Site-specific cost amount per 10 CFR 50.75(b)(4) and 50.75(f)	\$442,845 (a)
3	Site-specific cost amount per 10 CFR 72.30(b)	N/A (b)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$342,623 (c)
5	Schedule of the annual amounts remaining to be collected.	\$0
6	Assumptions used regarding rates of escalation for decommissioning costs, earnings on funds, and other factors used in funding projections	2% (d)
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) .	
9	Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).	
10	2018 annual amount spent on decommissioning in accordance with 10 CFR 50.82(a)(8)(v)(A).	\$4,095 (e)
11	Cumulative amount spent on decommissioning in accordance with 10 CFR 50.82(a)(8)(v)(A).	\$127,659 (f)
	Reimbursed from the decommissioning trust fund	\$123,564 (g)
	Not yet reimbursed from the decommissioning trust fund	\$4,095 (h)
12	Amount of funds accumulated to cover the cost of managing irradiated fuel pursuant to 10 CFR 50.82(a)(8)(vii)(A) as of December 31, 2018.	\$29,810 (i)
13	Projected cost of managing irradiated fuel based on site-specific estimate per 10 CFR 50.82(a)(8)(vii)(B).	\$46,274(a)



**ATTACHMENT 10 (Continued)**  
**Annual Radiological Decommissioning Funding Assurance and Spent Fuel**  
**Management Report for Dresden Nuclear Power Station, Unit 1**  
(December 31, 2018 dollars, thousands)

- (a) A formula cost amount using the formula in 10 CFR 50.75(c) is not applicable because Dresden Unit 1 has been shutdown since October 31, 1978, and some decommissioning activities have already occurred on this unit. However, the amount to decommission Dresden Unit 1 was calculated pursuant to 10 CFR 50.75(c) to be \$580.0 million (as of December 31, 2018). Dresden Unit 1 was a BWR reactor that operated at a maximum power level of 700 MWt (< 1200 MWt as specified in 10 CFR 50.75(c)). This amount assumes Dresden Unit 1 was a BWR reactor type rated at a power capacity of 1200 MWt as required by the formula in 10 CFR 50.75(c). The calculation of this value assumes the labor, energy, and burial factors described in Attachment 1 and does not account for decommissioning activities that have occurred for Dresden Unit 1.

In accordance with the regulatory requirements, the site-specific amount is reported per 10 CFR 50.75(b)(4), 50.75(f), 50.82(a)(8)(iii), and 50.82(a)(8)(v)(B) and assumes a DECON scenario as described in the site-specific cost estimate (SSCE) (TLG Report E16-1726-009, Revision 0, "Decommissioning Cost Analysis for the Dresden Nuclear Power Station Unit 1," December 2017). The decommissioning cost estimate has been adjusted consistent with the description of planned decommissioning activities in the Dresden Nuclear Power Station, Unit 1, Post-Shutdown Decommissioning Activities Report (PSDAR), as most recently updated in a letter from Michael P. Gallagher (EGC) to U.S. NRC on March 19, 2018. The costs have been escalated from the 2017 dollars reflected in the 2017 decommissioning cost estimate to estimated costs as of December 31, 2018.

Decommissioning expenditures prior to the year the SSCE updates were prepared (historical expenditures) are not included in the estimated total cost of decommissioning in the final SSCE reports. Also, the amount reported does not include cash flows from the SSCE estimate for the 2017 thru 2018 annual radiological cost because EGC considers the SSCE estimated cost for 2017 thru 2018 decommissioning activities to be historical expenditures at the time the 2019 decommissioning funding assurance report is generated.

Decontamination and dismantlement of Dresden Nuclear Power Station, Unit 1, will take place no earlier than 2029, coinciding with the decommissioning of Dresden Nuclear Power Station, Unit 2.

- (b) ISFSI decommissioning cost is included in the Dresden Nuclear Power Station, Unit 2 and Unit 3 site specific cost estimates.

**ATTACHMENT 10 (Continued)**  
**Annual Radiological Decommissioning Funding Assurance and Spent Fuel**  
**Management Report for Dresden Nuclear Power Station, Unit 1**  
(December 31, 2018 dollars, thousands)

- (c) The trust fund amount is the amount allocated for radiological decommissioning only. The allocation of funds for radiological decommissioning is based on the fraction of radiological decommissioning costs to radiological decommissioning costs plus spent fuel management costs identified in the DECON scenario as described in the site-specific cost estimate (SSCE) (TLG Report E16-1726-009, Revision 0, "Decommissioning Cost Analysis for the Dresden Nuclear Power Station Unit 1," December 2017). This allocation is for purposes of demonstrating adequate decommissioning funding assurance only and is adjusted, as necessary, to provide adequate funding assurance for radiological decommissioning and spent fuel management. No spent fuel management costs are planned to be incurred until 2029.

EGC has no past-due tax payments owed on the decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.

- (d) A 2% annual real rate of return is used as allowed by 10 CFR 50.75(e)(1)(i).
- (e) The amount spent on decommissioning in 2018 is consistent with the projected 2018 expense total of \$3,441 (December 31, 2018 thousands of dollars) from the site-specific cost estimate. The delta of \$654 can be attributed to decommissioning work performed in 2018 that was planned to occur later in the site specific cost estimate. This work included the commencement of fueling system (diesel and gasoline) demolition and the removal of the ALPS demineralizer skid.

The amount spent on decommissioning in 2018 represents the 2018 charges to the Dresden Unit 1 project. Prior to reimbursement from the decommissioning trust fund, these charges will be validated to confirm they are legitimate decommissioning expenses. Consequently, the amount reimbursed may differ from the value provided.

- (f) Not all historical data was available, and therefore, the cumulative amounts spent on decommissioning are estimates based on the best information obtainable at this time.
- (g) Not all historical data was available, and therefore, the amount reimbursed is an estimate based on the best information obtainable at this time.
- (h) The amount not yet reimbursed is an estimate based on the best information obtainable at this time.

**ATTACHMENT 10 (Continued)**  
**Annual Radiological Decommissioning Funding Assurance and Spent Fuel**  
**Management Report for Dresden Nuclear Power Station, Unit 1**  
(December 31, 2018 dollars, thousands)

- (i) The allocation of funds accumulated for managing irradiated fuel is based on the fraction of spent fuel management costs to radiological decommissioning costs plus spent fuel management costs identified in the DECON scenario as described in the site-specific cost estimate (SSCE) (TLG Report E16-1726-009, Revision 0, "Decommissioning Cost Analysis for the Dresden Nuclear Power Station Unit 1," December 2017). This allocation is for purposes of demonstrating adequate decommissioning funding assurance only and is adjusted, as necessary, to provide adequate funding assurance for radiological decommissioning and spent fuel management. No spent fuel management costs are planned to be incurred until 2029.

**ATTACHMENT 10 (Continued)**  
**Annual Radiological Decommissioning Funding Assurance and Spent Fuel**  
**Management Report for Dresden Nuclear Power Station, Unit 1**  
(December 31, 2018 dollars, thousands)

Year	Radiological Decommissioning Cost	BOY Trust Fund Value	BOY Trust Fund Value Less Cost	Trust Fund Earnings	EOY Trust Fund Value
2019	\$3,441	\$348,623	\$345,183	\$6,904	\$352,086
2020	\$3,441	\$352,086	\$348,645	\$6,973	\$355,618
2021	\$3,450	\$355,618	\$352,168	\$7,043	\$359,211
2022	\$3,441	\$359,211	\$355,770	\$7,115	\$362,886
2023	\$3,441	\$362,886	\$359,445	\$7,189	\$366,634
2024	\$3,441	\$366,634	\$363,193	\$7,264	\$370,457
2025	\$3,450	\$370,457	\$367,007	\$7,340	\$374,347
2026	\$3,441	\$374,347	\$370,906	\$7,418	\$378,324
2027	\$3,441	\$378,324	\$374,883	\$7,498	\$382,381
2028	\$3,441	\$382,381	\$378,940	\$7,579	\$386,519
2029	\$42,459	\$386,519	\$344,060	\$6,881	\$350,941
2030	\$88,798	\$350,941	\$262,143	\$5,243	\$267,386
2031	\$101,496	\$267,386	\$165,889	\$3,318	\$169,207
2032	\$70,241	\$169,207	\$98,966	\$1,979	\$100,946
2033	\$62,071	\$100,946	\$38,874	\$777	\$39,652
2034	\$2,419	\$39,652	\$37,233	\$745	\$37,977
2035	\$2,419	\$37,977	\$35,558	\$711	\$36,269
2036	\$2,419	\$36,269	\$33,850	\$677	\$34,527
2037	\$19,254	\$34,527	\$15,273	\$305	\$15,578
2038	\$7,387	\$15,578	\$8,191	\$164	\$8,355
2039	\$103	\$8,355	\$8,252	\$165	\$8,417
2040	\$59	\$8,417	\$8,358	\$167	\$8,525
2041	\$0	\$8,525	\$8,525	\$171	\$8,696
2042	\$0	\$8,696	\$8,696	\$174	\$8,870
2043	\$0	\$8,870	\$8,870	\$177	\$9,047
2044	\$0	\$9,047	\$9,047	\$181	\$9,228
2045	\$0	\$9,228	\$9,228	\$185	\$9,412
2046	\$0	\$9,412	\$9,412	\$188	\$9,601
2047	\$0	\$9,601	\$9,601	\$192	\$9,793
2048	\$0	\$9,793	\$9,793	\$196	\$9,989
2049	\$0	\$9,989	\$9,989	\$200	\$10,188
2050	\$8,849	\$10,188	\$1,339	\$27	\$1,366
2051	\$442	\$1,366	\$924	\$18	\$942

**Total\*        \$442,845**

\*Column may not add due to rounding

**ATTACHMENT 10 (Continued)**  
**Annual Radiological Decommissioning Funding Assurance and Spent Fuel**  
**Management Report for Dresden Nuclear Power Station, Unit 1**  
(December 31, 2018 dollars, thousands)

Year	Irradiated Fuel Cost	BOY Irradiated Fuel Trust Fund Value	BOY Irradiated Fuel Trust Fund Less Cost	Irradiated Fuel Trust Fund Earnings	EOY Irradiated Fuel Trust Fund Value
2019	\$0	\$29,810	\$29,810	\$596	\$30,406
2020	\$0	\$30,406	\$30,406	\$608	\$31,015
2021	\$0	\$31,015	\$31,015	\$620	\$31,635
2022	\$0	\$31,635	\$31,635	\$633	\$32,267
2023	\$0	\$32,267	\$32,267	\$645	\$32,913
2024	\$0	\$32,913	\$32,913	\$658	\$33,571
2025	\$0	\$33,571	\$33,571	\$671	\$34,243
2026	\$0	\$34,243	\$34,243	\$685	\$34,927
2027	\$0	\$34,927	\$34,927	\$699	\$35,626
2028	\$0	\$35,626	\$35,626	\$713	\$36,338
2029	\$427	\$36,338	\$35,912	\$718	\$36,630
2030	\$501	\$36,630	\$36,129	\$723	\$36,852
2031	\$501	\$36,852	\$36,351	\$727	\$37,078
2032	\$501	\$37,078	\$36,577	\$732	\$37,309
2033	\$622	\$37,309	\$36,687	\$734	\$37,421
2034	\$1,472	\$37,421	\$35,948	\$719	\$36,667
2035	\$1,472	\$36,667	\$35,195	\$704	\$35,899
2036	\$1,472	\$35,899	\$34,426	\$689	\$35,115
2037	\$1,860	\$35,115	\$33,254	\$665	\$33,920
2038	\$2,431	\$33,920	\$31,489	\$630	\$32,119
2039	\$2,498	\$32,119	\$29,621	\$592	\$30,213
2040	\$2,553	\$30,213	\$27,660	\$553	\$28,213
2041	\$2,634	\$28,213	\$25,579	\$512	\$26,091
2042	\$2,627	\$26,091	\$23,464	\$469	\$23,933
2043	\$2,627	\$23,933	\$21,307	\$426	\$21,733
2044	\$5,023	\$21,733	\$16,710	\$334	\$17,044
2045	\$3,834	\$17,044	\$13,210	\$264	\$13,474
2046	\$2,627	\$13,474	\$10,848	\$217	\$11,065
2047	\$2,627	\$11,065	\$8,438	\$169	\$8,607
2048	\$2,627	\$8,607	\$5,980	\$120	\$6,100
2049	\$2,634	\$6,100	\$3,466	\$69	\$3,535
2050	\$2,705	\$3,535	\$830	\$17	\$846
2051	\$0	\$846	\$846	\$17	\$863
<b>Total*</b>	<b>\$46,274</b>				

\*Column may not add due to rounding

**ATTACHMENT 11**

Annual Radiological Decommissioning Funding Assurance Report  
for Dresden Nuclear Power Station, Unit 2

**ATTACHMENT 11**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Dresden Nuclear Power Station, Unit 2**  
(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$659,890
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)	\$9,983 (a)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$696,581 (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	Effective March 31, 2017, the master terms and conditions of the qualified and non-qualified trust agreements were updated to include James A. Fitzpatrick Nuclear Generating Station.	

Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).

- (a) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.
- (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 12**

Annual Radiological Decommissioning Funding Assurance Report  
for Dresden Nuclear Power Station, Unit 3



**ATTACHMENT 12**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Dresden Nuclear Power Station, Unit 3**  
(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$659,890
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)	\$9,983 (a)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$712,342 (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	Effective March 31, 2017, the master terms and conditions of the qualified and non-qualified trust agreements were updated to include James A. Fitzpatrick Nuclear Generating Station.	

Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).

- (a) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.
- (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.

**ATTACHMENT 13**

Annual Radiological Decommissioning Funding Assurance Report  
for James A. FitzPatrick Nuclear Power Station

**ATTACHMENT 13**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**James A. FitzPatrick Nuclear Power Station**  
(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$656,951
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)	\$10,270 (a)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$837,714 (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	Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).	

- (a) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.
- (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 17, 2034.

**ATTACHMENT 14**

Annual Radiological Decommissioning Funding Assurance Report  
for LaSalle County Station, Unit 1

**ATTACHMENT 14**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**LaSalle County Station, Unit 1**  
(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$682,054
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)	\$6,885 (a)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$510,017 (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	Effective March 31, 2017, the master terms and conditions of the qualified and non-qualified trust agreements were updated to include James A. Fitzpatrick Nuclear Generating Station.	

Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).

- (a) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.
- (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 April 17, 2042.

**ATTACHMENT 15**

Annual Radiological Decommissioning Funding Assurance Report  
for LaSalle County Station, Unit 2

**ATTACHMENT 15**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**LaSalle County Station, Unit 2**  
(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$682,054
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)	\$6,885 (a)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$511,373 (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	Effective March 31, 2017, the master terms and conditions of the qualified and non-qualified trust agreements were updated to include James A. Fitzpatrick Nuclear Generating Station.	

Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).

- (a) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.
- (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 16, 2043.

**ATTACHMENT 16**

Annual Radiological Decommissioning Funding Assurance Report  
for Limerick Generating Station, Unit 1



**ATTACHMENT 16**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Limerick Generating Station, Unit 1**  
(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$699,302
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)	\$3,573 (a)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$447,650 (b)
5	Schedule of the annual amounts remaining to be collected.	\$0 (c)
6	Assumptions used regarding rates of escalation, earnings, and other factors used in funding projections	3% (d)
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 external sinking fund method, coupled with an external trust fund, in accordance with 10 CFR 50.75(e)(1)(ii) and 10 CFR 72.30(e)(3).	
9	Effective March 31, 2017, the master terms and conditions of the qualified and non-qualified trust agreements were updated to include James A. Fitzpatrick Nuclear Generating Station.	

Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).

- (a) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.

**ATTACHMENT 16 (continued)**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Limerick Generating Station, Unit 1**  
(December 31, 2018 dollars, thousands)

- (c) The funding mechanism being used as the source of revenues for the external sinking funds is a non-bypassable charge approved by the Pennsylvania Public Utilities Commission (PaPUC) authorizing PECO Energy Company to continue to collect decommissioning funds for EGC. Any needed adjustments to the amount collected will be made in the next filing of the Nuclear Decommissioning Cost Adjustment (NDCA) to the PaPUC. This cost adjustment is made every five years pursuant to PaPUC Electric Tariff No. 4. The last adjustment was effective January 1, 2018, and allows for the collection of annual payments from ratepayers of \$0 through 2043.
- (d) 10 CFR 50.75(e)(1)(ii) allows licensees to use a rate of return higher than 2% if the applicable rate-setting authority has specifically authorized a higher rate. The PaPUC approved a 3% real rate of return as part of the approval of the restructuring plan for PECO Energy Company (Letter from J. J. McNulty (PaPUC) to B. D. Crowe (PECO Energy Company), "Approval of Restructuring Plan for PECO Energy Company under Section 2806 of the Public Utility Code; Docket No. R-00973953," dated May 3, 2001). Accordingly, EGC uses a 3% real rate of return. The 3% is applicable through the decommissioning period as described in RAI #1 response provided in the Letter from Patrick R. Simpson (Exelon Generation Company, LLC) to U.S. NRC, "Response to Request for Additional Information Related to 2013 Report on Status of Decommissioning Funding for Reactors," dated August 15, 2013.
- (e) For purposes of this report, permanent termination of operations (shutdown) is expected on October 26, 2044.

**ATTACHMENT 17**

Annual Radiological Decommissioning Funding Assurance Report  
for Limerick Generating Station, Unit 2

**ATTACHMENT 17**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Limerick Generating Station, Unit 2**  
(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$699,302
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)	\$3,573 (a)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$476,814 (b)
5	Schedule of the annual amounts remaining to be collected.	\$0 (c)
6	Assumptions used regarding rates of escalation, earnings, and other factors used in funding projections	3% (d)
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 external sinking fund method, coupled with an external trust fund, in accordance with 10 CFR 50.75(e)(1)(ii) and 10 CFR 72.30(e)(3).	
9	Effective March 31, 2017, the master terms and conditions of the qualified and non-qualified trust agreements were updated to include James A. Fitzpatrick Nuclear Generating Station.	

Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).

- (a) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.

**ATTACHMENT 17 (continued)**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Limerick Generating Station, Unit 2**  
(December 31, 2018 dollars, thousands)

- (c) The funding mechanism being used as the source of revenues for the external sinking funds is a non-bypassable charge approved by the Pennsylvania Public Utilities Commission (PaPUC) authorizing PECO Energy Company to continue to collect decommissioning funds for EGC. Any needed adjustments to the amount collected will be made in the next filing of the Nuclear Decommissioning Cost Adjustment (NDCA) to the PaPUC. This cost adjustment is made every five years pursuant to PaPUC Electric Tariff No. 4. The last adjustment was effective January 1, 2018, and allows for the collection of annual payments from ratepayers of \$0 through 2048.
- (d) 10 CFR 50.75(e)(1)(ii) allows licensees to use a rate of return higher than 2% if the applicable rate-setting authority has specifically authorized a higher rate. The PaPUC approved a 3% real rate of return as part of the approval of the restructuring plan for PECO Energy Company (Letter from J. J. McNulty (PaPUC) to B. D. Crowe (PECO Energy Company), "Approval of Restructuring Plan for PECO Energy Company under Section 2806 of the Public Utility Code; Docket No. R-00973953," dated May 3, 2001). Accordingly, EGC uses a 3% real rate of return. The 3% is applicable through the decommissioning period as described in RAI #1 response provided in the Letter from Patrick R. Simpson (Exelon Generation Company, LLC) to U.S. NRC, "Response to Request for Additional Information Related to 2013 Report on Status of Decommissioning Funding for Reactors," dated August 15, 2013.
- (e) For purposes of this report, permanent termination of operations (shutdown) is expected on June 22, 2049.

**ATTACHMENT 18**

Annual Radiological Decommissioning Funding Assurance Report  
for Nine Mile Point Nuclear Station, Unit 1

**ATTACHMENT 18**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Nine Mile Point Nuclear Station, Unit 1**  
(December 31, 2018 dollars, thousands)

- |   |   |               |
|---|---|---------------|
| 1 | Formula cost amount per 10 CFR 50.75(c)   | \$624,969     |
| 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)   | \$6,782 (a)   |
| 4 | The amount of decommissioning trust funds accumulated as of December 31, 2018   | \$622,189 (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 | There are no material changes to the trust fund agreements.   |               |
- (a) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.
- (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 August 22, 2029.

**ATTACHMENT 19**

Annual Radiological Decommissioning Funding Assurance Report  
for Nine Mile Point Nuclear Station, Unit 2 EGC Portion



**ATTACHMENT 19**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Nine Mile Point Nuclear Station, Unit 2, EGC Portion**  
(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$573,428 (a)
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)	\$5,562 (a)(b)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$390,615 (c)
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% (d)
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	There are no material changes to the trust fund agreements.	

(a) Value is based on the Exelon Generation Company, LLC (EGC) ownership share of Nine Mile Point Nuclear Station, Unit 2 of 82%.

(b) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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).

(c) The trust fund amount is the amount allocated for Radiological Decommissioning only. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.

(d) A 2% annual real rate of return is used as allowed by 10 CFR 50.75(e)(1)(i).

(e) For purposes of this report, permanent termination of operations (shutdown) is expected on October 31, 2046.

**ATTACHMENT 20**

Annual Radiological Decommissioning Funding Assurance Report  
for Nine Mile Point Nuclear Station, Unit 2 LIPA Portion

**ATTACHMENT 20**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Nine Mile Point Nuclear Station, Unit 2, LIPA Portion**  
(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$125,874 (a)
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)	\$1,221 (a)(b)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$125,000 (c)
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% (d)
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	There are no material changes to the trust fund agreements.	

- (a) Value is based on the Long Island Power Authority (LIPA) ownership share of Nine Mile Point Nuclear Station, Unit 2 of 18%.
- (b) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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).
- (c) The trust fund amount is the amount allocated for Radiological Decommissioning only. This amount was provided by the Nine Mile Point Nuclear Station, Unit 2 co-owner LIPA. LIPA has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018. EGC has not independently verified or assessed the trust fund amount.
- (d) A 2% annual real rate of return is used as allowed by 10 CFR 50.75(c)(1)(i).
- (e) For purposes of this report, permanent termination of operations (shutdown) is expected on October 31, 2046.

**ATTACHMENT 21**

Annual Radiological Decommissioning Funding Assurance Report  
for Oyster Creek Nuclear Generating Station

**ATTACHMENT 21****Annual Radiological Decommissioning Funding Assurance and Spent Fuel Management Report for Oyster Creek Nuclear Generating Station**

(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$614,013
2	Site-specific cost amount per 10 CFR 50.75(b)(4) and 50.75(f)	\$1,131,637 (a)
3	Site-specific cost amount per 10 CFR 72.30(b)	\$5,994 (b)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$959,767 (c)
5	Schedule of the annual amounts remaining to be collected.	\$0
6	Assumptions used regarding rates of escalation for decommissioning costs, earnings on funds, and other factors used in funding projections	2% (d)
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	Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).	
10	2018 annual amount spent on radiological decommissioning <sup>1</sup> in accordance with 10 CFR 50.82(a)(8)(v)(A).	\$23,965 (e)
11	Cumulative amount spent on radiological decommissioning <sup>1</sup> in accordance with 10 CFR 50.82(a)(8)(v)(A).	\$28,545 (f)
	Reimbursed from the decommissioning trust fund	\$4,580
	Not yet reimbursed from the decommissioning trust fund	\$23,965 (g)
12	Amount of funds accumulated to cover the cost of managing irradiated fuel pursuant to 10 CFR 50.82(a)(8)(vii)(A) as of December 31, 2018.	(h)
13	Projected cost of managing irradiated fuel based on site-specific estimate per 10 CFR 50.82(a)(8)(vii)(B).	\$293,497 (a)
14	2018 annual amount spent on irradiated fuel management.	\$22,910 (e)
15	Cumulative amount spent on irradiated fuel management.	\$23,111 (f)
	Reimbursed from the decommissioning trust fund.	\$0
	Not yet reimbursed from the decommissioning trust fund.	\$23,111 (g)

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<sup>1</sup> Radiological Decommissioning is equivalent to *Decommission* as defined in 10 CFR 50.2.

**ATTACHMENT 21 (continued)**  
**Annual Radiological Decommissioning Funding Assurance and Spent Fuel**  
**Management Report for Oyster Creek Nuclear Generating Station**  
**(December 31, 2018 dollars, thousands)**

- (a) In accordance with the regulatory requirements, the site-specific amount is reported per 10 CFR 50.75(b)(4), 50.75(f), 50.82(a)(8)(iii), and 50.82(a)(8)(v)(B) and assumes a SAFSTOR scenario from the site-specific cost estimate (SSCE). The SSCE has been previously provided in a letter from James Barstow (EGC) to U.S. NRC, dated March 30, 2016 (TLG Report E16-1726-001, Revision 0, "Decommissioning Cost Analysis for the Oyster Creek Nuclear Generating Station," March 2016) and supplemented in a letter from Michael P. Gallagher (EGC) to U.S. NRC, dated May 21, 2018 (see Section 4.1 of the Oyster Creek Generating Station Post-Shutdown Decommissioning Activities Report). The costs have been escalated to December 31, 2018.

Decommissioning expenditures prior to the year the SSCE updates were prepared (historical expenditures) are not included in the estimated total cost of decommissioning in the final SSCE reports. Also, the amount reported does not include cash flows from the SSCE estimate for 2016 thru 2018 because EGC considers the SSCE estimated costs for 2016 thru 2018 decommissioning activities to be historical expenditures at the time the 2019 decommissioning funding assurance report is generated.

A formula cost amount using the formula in 10 CFR 50.75(c) has been calculated assuming the labor, energy, and burial factors described in Attachment 1. The site-specific cost amount is greater than the formula cost amount, as required by 10 CFR 50.75(b)(1).

- (b) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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).
- (c) The trust fund amount is the total available for decommissioning including radiological decommissioning (equivalent to *Decommission* as defined in 10 CFR 50.2), irradiated fuel management, and site restoration. The total is provided because Oyster Creek received an exemption from 10 CFR 50.82(a)(8)(i)(A) to allow the trust fund to be used for irradiated fuel management and site restoration (ML18227A025).

EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.

- (d) A 2% annual real rate of return is used as allowed by 10 CFR 50.75(e)(1)(i).

**ATTACHMENT 21 (Continued)**  
**Annual Radiological Decommissioning Funding Assurance and Spent Fuel**  
**Management Report for Oyster Creek Nuclear Generating Station**  
(December 31, 2018 dollars, thousands)

- (e) The amount spent on radiological decommissioning in 2018 is higher than the projected 2018 expense total of \$3,268 (December 31, 2017 thousands of dollars) from the site-specific cost estimate (SSCE). This is largely due to the SSCE assuming a shutdown date of December 31, 2018 compared to the actual shutdown date of September 17, 2018.

The amount spent on irradiated fuel management in 2018 is higher than the projected 2018 expense total of \$4,700 (December 31, 2017 thousands of dollars) from the site-specific cost estimate (SSCE). This is largely due to the SSCE assuming a shutdown date of December 31, 2018 compared to the actual shutdown date of September 17, 2018.

The amount spent on radiological decommissioning and irradiated fuel management in 2018 represents the 2018 charges to the Oyster Creek project. Prior to reimbursement from the decommissioning trust fund, these charges will be validated to confirm they are legitimate decommissioning expenses. Consequently, the amount reimbursed may differ from the value provided.

- (f) The cumulative amount spent is an estimate based on the best information obtainable at this time.
- (g) The amount not yet reimbursed is an estimate based on the best information obtainable at this time. Prior to reimbursement from the decommissioning trust fund, these charges will be validated to confirm they are legitimate decommissioning expenses. Consequently, the amount reimbursed may differ from the value provided.
- (h) The trust fund amount provided in Item 4 is the total available for decommissioning including irradiated fuel management. The value is not split between radiological decommissioning and irradiated fuel management because Oyster Creek received an exemption from 10 CFR 50.82(a)(8)(i)(A) to allow the trust fund to be used for irradiated fuel management and site restoration in addition to radiological decommissioning (ML18227A025).

**ATTACHMENT 21 (continued)**  
**Annual Radiological Decommissioning Funding Assurance and Spent Fuel**  
**Management Report for Oyster Creek Nuclear Generating Station**  
(December 31, 2018 dollars, thousands)

<b>Year</b>	<b>Site Radiological Decommissioning Cost</b>	<b>ISFSI Radiological Decommissioning Cost</b>	<b>Irradiated Fuel Management Cost</b>	<b>BOY Trust Fund Value</b>	<b>BOY Trust Fund Value Less Cost</b>	<b>Trust Fund Earnings</b>	<b>EOY Trust Fund Value</b>
2019	\$86,380	\$0	\$24,778	\$959,767	\$848,608	\$16,972	\$865,580
2020	\$75,618	\$0	\$35,337	\$865,580	\$754,625	\$15,092	\$769,717
2021	\$8,012	\$0	\$46,145	\$769,717	\$715,561	\$14,311	\$729,872
2022	\$8,012	\$0	\$46,145	\$729,872	\$675,715	\$13,514	\$689,229
2023	\$8,034	\$0	\$46,271	\$689,229	\$634,924	\$12,698	\$647,623
2024	\$7,799	\$0	\$25,774	\$647,623	\$614,050	\$12,281	\$626,331
2025	\$7,590	\$0	\$5,735	\$626,331	\$613,006	\$12,260	\$625,266
2026	\$7,590	\$0	\$5,735	\$625,266	\$611,942	\$12,239	\$624,180
2027	\$7,611	\$0	\$5,750	\$624,180	\$610,819	\$12,216	\$623,036
2028	\$7,590	\$0	\$5,735	\$623,036	\$609,711	\$12,194	\$621,905
2029	\$7,590	\$0	\$5,735	\$621,905	\$608,580	\$12,172	\$620,752
2030	\$7,590	\$0	\$5,735	\$620,752	\$607,427	\$12,149	\$619,576
2031	\$7,611	\$0	\$5,750	\$619,576	\$606,214	\$12,124	\$618,339
2032	\$7,590	\$0	\$6,349	\$618,339	\$604,400	\$12,088	\$616,488
2033	\$7,590	\$0	\$11,262	\$616,488	\$597,636	\$11,953	\$609,589
2034	\$7,590	\$0	\$11,262	\$609,589	\$590,737	\$11,815	\$602,551
2035	\$7,576	\$0	\$0	\$602,551	\$594,975	\$11,900	\$606,875
2036	\$7,555	\$0	\$0	\$606,875	\$599,320	\$11,986	\$611,306
2037	\$7,555	\$0	\$0	\$611,306	\$603,751	\$12,075	\$615,826
2038	\$7,555	\$0	\$0	\$615,826	\$608,271	\$12,165	\$620,436
2039	\$7,576	\$0	\$0	\$620,436	\$612,860	\$12,257	\$625,117
2040	\$7,555	\$0	\$0	\$625,117	\$617,562	\$12,351	\$629,913
2041	\$7,555	\$0	\$0	\$629,913	\$622,358	\$12,447	\$634,805
2042	\$7,555	\$0	\$0	\$634,805	\$627,250	\$12,545	\$639,795
2043	\$7,576	\$0	\$0	\$639,795	\$632,219	\$12,644	\$644,864
2044	\$7,555	\$0	\$0	\$644,864	\$637,308	\$12,746	\$650,054
2045	\$7,555	\$0	\$0	\$650,054	\$642,499	\$12,850	\$655,349
2046	\$7,555	\$0	\$0	\$655,349	\$647,794	\$12,956	\$660,750
2047	\$7,576	\$0	\$0	\$660,750	\$653,174	\$13,063	\$666,237
2048	\$7,555	\$0	\$0	\$666,237	\$658,682	\$13,174	\$671,856
2049	\$7,555	\$0	\$0	\$671,856	\$664,301	\$13,286	\$677,587
2050	\$7,555	\$0	\$0	\$677,587	\$670,031	\$13,401	\$683,432
2051	\$7,576	\$0	\$0	\$683,432	\$675,856	\$13,517	\$689,373
2052	\$7,555	\$0	\$0	\$689,373	\$681,818	\$13,636	\$695,454
2053	\$7,555	\$0	\$0	\$695,454	\$687,899	\$13,758	\$701,657
2054	\$7,555	\$0	\$0	\$701,657	\$694,102	\$13,882	\$707,984
2055	\$7,576	\$0	\$0	\$707,984	\$700,408	\$14,008	\$714,416
2056	\$7,555	\$0	\$0	\$714,416	\$706,861	\$14,137	\$720,998
2057	\$7,555	\$0	\$0	\$720,998	\$713,443	\$14,269	\$727,712



**ATTACHMENT 21 (continued)**  
**Annual Radiological Decommissioning Funding Assurance and Spent Fuel**  
**Management Report for Oyster Creek Nuclear Generating Station**  
(December 31, 2018 dollars, thousands)

Year	Site Radiological Decommissioning Cost	ISFSI Radiological Decommissioning Cost	Irradiated Fuel Management Cost	BOY Trust Fund Value	BOY Trust Fund Value Less Cost	Trust Fund Earnings	EOY Trust Fund Value
2058	\$7,555	\$0	\$0	\$727,712	\$720,156	\$14,403	\$734,560
2059	\$7,576	\$0	\$0	\$734,560	\$726,984	\$14,540	\$741,523
2060	\$7,555	\$0	\$0	\$741,523	\$733,968	\$14,679	\$748,647
2061	\$7,555	\$0	\$0	\$748,647	\$741,092	\$14,822	\$755,914
2062	\$7,555	\$0	\$0	\$755,914	\$748,359	\$14,967	\$763,326
2063	\$7,576	\$0	\$0	\$763,326	\$755,750	\$15,115	\$770,865
2064	\$7,555	\$0	\$0	\$770,865	\$763,310	\$15,266	\$778,576
2065	\$7,555	\$0	\$0	\$778,576	\$771,021	\$15,420	\$786,441
2066	\$7,555	\$0	\$0	\$786,441	\$778,886	\$15,578	\$794,464
2067	\$7,576	\$0	\$0	\$794,464	\$786,888	\$15,738	\$802,626
2068	\$7,555	\$0	\$0	\$802,626	\$795,070	\$15,901	\$810,972
2069	\$7,555	\$0	\$0	\$810,972	\$803,417	\$16,068	\$819,485
2070	\$7,555	\$0	\$0	\$819,485	\$811,930	\$16,239	\$828,168
2071	\$7,576	\$0	\$0	\$828,168	\$820,592	\$16,412	\$837,004
2072	\$7,555	\$0	\$0	\$837,004	\$829,449	\$16,589	\$846,038
2073	\$7,555	\$0	\$0	\$846,038	\$838,483	\$16,770	\$855,252
2074	\$47,238	\$0	\$0	\$855,252	\$808,014	\$16,160	\$824,175
2075	\$111,535	\$0	\$0	\$824,175	\$712,640	\$14,253	\$726,893
2076	\$185,044	\$953	\$0	\$726,893	\$540,896	\$10,818	\$551,714
2077	\$150,430	\$4,044	\$0	\$551,714	\$397,241	\$7,945	\$405,185
2078	\$72,479	\$997	\$0	\$405,185	\$331,710	\$6,634	\$338,344
2079*	\$164	\$0	\$0	\$338,344	\$338,180	\$6,764	\$344,944
2080*	\$90	\$0	\$0	\$344,944	\$344,853	\$6,897	\$351,751
<b>Total**</b>	<b>\$1,131,637</b>	<b>\$5,994</b>	<b>\$293,497</b>				

\*Costs in 2079 and 2080 are administrative expenses associated with submitting a final report to the NRC following license termination and do not include any physical decommissioning work.

\*\*Columns may not add due to rounding.

**ATTACHMENT 22**

Annual Radiological Decommissioning Funding Assurance Report  
for Peach Bottom Atomic Power Station, Unit 1

**ATTACHMENT 22**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Peach Bottom Atomic Power Station, Unit 1**  
(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	N/A (a)
2	Site-specific cost amount per 10 CFR 50.75(b)(4) and 50.75(f)	\$263,409 (a)
3	Site-specific cost amount per 10 CFR 72.30(b)	N/A (h)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$111,728 (b)
5	Schedule of the annual amounts remaining to be collected.	\$3,860 (c)
6	Assumptions used regarding rates of escalation for decommissioning costs, earnings on funds, and other factors used in funding projections	3% (d)
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 external sinking fund method, coupled with an external trust fund, in accordance with 10 CFR 50.75(e)(1)(ii).	
9	Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).	
10	2018 annual amount spent on decommissioning in accordance with 10 CFR 50.82(a)(8)(v)(A).	\$2,150 (e)
11	Cumulative amount spent on decommissioning in accordance with 10 CFR 50.82(a)(8)(v)(A).	\$7,243 (f)
	Reimbursed from the decommissioning trust fund	\$4,094
	Not yet reimbursed from the decommissioning trust fund	\$3,149 (g)
12	Amount of funds accumulated to cover the cost of managing irradiated fuel pursuant to 10 CFR 50.82(a)(8)(vii)(A) as of December 31, 2018.	N/A (h)
13	Projected cost of managing irradiated fuel based on site-specific estimate per 10 CFR 50.82(a)(8)(vii)(B).	N/A (h)

**ATTACHMENT 22 (Continued)**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Peach Bottom Atomic Power Station, Unit 1**  
(December 31, 2018 dollars, thousands)

- (a) A formula cost amount using the formula in 10 CFR 50.75(c) is not applicable because Peach Bottom Unit 1 has been shutdown since October 31, 1974 and some decommissioning activities have already occurred on this unit. Furthermore, Peach Bottom Unit 1 was a High Temperature Gas Cooled Reactor (HTGR), which does not translate to a BWR or PWR as specified in the formula for calculating the formula cost amount, and hence a formula cost amount per 10 CFR 50.75(c) cannot be calculated for Peach Bottom Unit 1.

In accordance with the regulatory requirements, the site-specific amount is reported per 10 CFR 50.75(b)(4), 50.75(f), 50.82(a)(8)(iii), and 50.82(a)(8)(v)(B) and assumes a DECON scenario as described in the site-specific cost estimate (SSCE) (TLG Report E16-1640-015, Revision 0, "Decommissioning Cost Analysis for the Peach Bottom Atomic Power Station Unit 1," August 2015). The decommissioning cost estimate has been adjusted consistent with the description of planned decommissioning activities in the Peach Bottom Unit 1 Decommissioning Plan. The costs have been escalated from the mid-year 2015 dollars reflected in the SSCE to estimated costs as of December 31, 2018.

Decommissioning expenditures prior to the year the SSCE updates were prepared (historical expenditures) are not included in the estimated total cost of decommissioning in the final SSCE reports. Also, the amount reported does not include cash flows from the SSCE for the annual radiological decommissioning costs for 2015 through 2018. EGC considers the SSCE estimated costs for 2015 through 2018 decommissioning activities to be historical expenditures at the time the 2019 decommissioning funding assurance report is generated.

Decontamination and dismantlement of Peach Bottom Atomic Power Station, Unit 1, will take place no earlier than 2033, coinciding with the decommissioning of Peach Bottom Atomic Power Station, Unit 2.

- (b) The trust fund amount is the amount allocated for Radiological Decommissioning only. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.
- (c) The funding mechanism being used as the source of revenues for the external sinking funds is a non-bypassable charge approved by the Pennsylvania Public Utilities Commission (PaPUC) authorizing PECO Energy Company to continue to collect decommissioning funds for EGC. Any needed adjustments to the amount collected will be made in the next filing of the Nuclear Decommissioning Cost Adjustment (NDCA) to the PaPUC. This cost adjustment is made every five years pursuant to PaPUC Electric Tariff No. 4. The last adjustment was effective January 1, 2018, and allows for the collection of annual payments from ratepayers of \$3,860K through 2032.

**ATTACHMENT 22 (Continued)**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Peach Bottom Atomic Power Station, Unit 1**  
(December 31, 2018 dollars, thousands)

- (d) 10 CFR 50.75(e)(1)(ii) allows licensees to use a rate of return higher than 2% if the applicable rate-setting authority has specifically authorized a higher rate. The PaPUC approved a 3% real rate of return as part of the approval of the restructuring plan for PECO Energy Company (Letter from J. J. McNulty (PaPUC) to B. D. Crowe (PECO Energy Company), "Approval of Restructuring Plan for PECO Energy Company under Section 2806 of the Public Utility Code; Docket No. R-00973953," dated May 3, 2001). Accordingly, EGC uses a 3% real rate of return. The 3% is applicable through the decommissioning period as described in RAI #1 response provided in the Letter from Patrick R. Simpson (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "Response to Request for Additional Information Related to 2013 Report on Status of Decommissioning Funding for Reactors," dated August 15, 2013.
- (e) The amount spent on decommissioning in 2018 is lower than the amount budgeted at the station. Even though the amount exceeds the projected 2018 expense total of \$217 (December 31, 2018 thousands of dollars) from the site-specific cost estimate, it is immaterial to the overall funding assurance analysis. The \$1,933 (thousands of dollars) difference between actual and projected is the result of activities related to containment maintenance, water intrusion repairs, and emergency light repairs.
- The amount spent on decommissioning in 2018 represents the 2018 charges to the Peach Bottom Unit 1 project. Prior to reimbursement from the decommissioning trust fund, these charges will be validated to confirm they are legitimate decommissioning expenses. Consequently, the amount reimbursed may differ from the value provided.
- (f) The cumulative amount spent on decommissioning is an estimate based on the best information obtainable at this time.
- (g) The amount not yet reimbursed is an estimate based on the best information obtainable at this time.
- (h) Peach Bottom Atomic Power Station, Unit 1 was shut down in October of 1974, with defueling of the core completed by the following June. Starting in 1975, the spent fuel was shipped by truck to Idaho. The final of 44 shipments was completed in February of 1977. Consequently, no irradiated fuel for Peach Bottom Unit 1 remains on-site, and therefore 10 CFR 50.82(a)(8)(vii) and 10 CFR 72.30(b) do not apply.

**ATTACHMENT 22 (Continued)**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Peach Bottom Atomic Power Station, Unit 1**  
(December 31, 2018 dollars, thousands)

Year	Radiological Decommissioning Cost	BOY Trust Fund Value	BOY Trust Fund Value Less Cost**	First Half Contributions	Trust Fund Earnings	Second Half Contributions	EOY Trust Fund Value
2019	\$217	\$111,728	\$111,511	\$1,930	\$3,403	\$1,930	\$118,774
2020	\$218	\$118,774	\$118,556	\$1,930	\$3,615	\$1,930	\$126,031
2021	\$217	\$126,031	\$125,814	\$1,930	\$3,832	\$1,930	\$133,506
2022	\$217	\$133,506	\$133,289	\$1,930	\$4,057	\$1,930	\$141,205
2023	\$217	\$141,205	\$140,988	\$1,930	\$4,288	\$1,930	\$149,135
2024	\$218	\$149,135	\$148,918	\$1,930	\$4,525	\$1,930	\$157,303
2025	\$217	\$157,303	\$157,086	\$1,930	\$4,770	\$1,930	\$165,716
2026	\$217	\$165,716	\$165,499	\$1,930	\$5,023	\$1,930	\$174,382
2027	\$217	\$174,382	\$174,165	\$1,930	\$5,283	\$1,930	\$183,307
2028	\$218	\$183,307	\$183,090	\$1,930	\$5,551	\$1,930	\$192,500
2029	\$217	\$192,500	\$192,283	\$1,930	\$5,826	\$1,930	\$201,969
2030	\$217	\$201,969	\$201,752	\$1,930	\$6,110	\$1,930	\$211,723
2031	\$217	\$211,723	\$211,506	\$1,930	\$6,403	\$1,930	\$221,768
2032	\$218	\$221,768	\$221,551	\$1,930	\$6,704	\$1,930	\$232,115
2033	\$38,847	\$232,115	\$193,268	\$0	\$5,798	\$0	\$199,066
2034	\$58,514	\$199,066	\$140,552	\$0	\$4,217	\$0	\$144,768
2035	\$67,532	\$144,768	\$77,236	\$0	\$2,317	\$0	\$79,554
2036	\$49,316	\$79,554	\$30,237	\$0	\$907	\$0	\$31,144
2037	\$43,759	\$31,144	\$(12,615)	\$0	\$-	\$0	\$(12,615)
2038	\$2,400	\$(12,615)	\$(15,015)	\$0	\$-	\$0	\$(15,015)
<b>Total*</b>	<b>\$263,409</b>						

\* Columns may not add due to rounding

\*\* Annual contributions added to individual years - Earnings of half of contributions are included in current year to estimate payment of contributions throughout the year

**ATTACHMENT 23**

Annual Radiological Decommissioning Funding Assurance Report  
for Peach Bottom Atomic Power Station, Unit 2

**ATTACHMENT 23**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Peach Bottom Atomic Power Station, Unit 2**  
(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$349,651 (a)
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)	\$2,488 (a)(b)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$273,264 (c)
5	Schedule of the annual amounts remaining to be collected.	\$0 (d)
6	Assumptions used regarding rates of escalation, earnings, and other factors used in funding projections	3% (e)
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 external sinking fund method, coupled with an external trust fund, in accordance with 10 CFR 50.75(e)(1)(ii) and 10 CFR 72.30(e)(3).	
9	Effective March 31, 2017, the master terms and conditions of the qualified and non-qualified trust agreements were updated to include James A. Fitzpatrick Nuclear Generating Station.	

Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).

- (a) Value is based on the Exelon Generation Company, LLC (EGC) ownership share of Peach Bottom Atomic Power Station, Unit 2 of 50%.
- (b) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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).
- (c) The trust fund amount is the amount allocated for Radiological Decommissioning only. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.



**ATTACHMENT 23 (continued)**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Peach Bottom Atomic Power Station, Unit 2**  
(December 31, 2018 dollars, thousands)

- (d) The funding mechanism being used as the source of revenues for the external sinking funds is a non-bypassable charge approved by the Pennsylvania Public Utilities Commission (PaPUC) authorizing PECO Energy Company to continue to collect decommissioning funds for EGC. Any needed adjustments to the amount collected will be made in the next filing of the Nuclear Decommissioning Cost Adjustment (NDCA) to the PaPUC. This cost adjustment is made every five years pursuant to PaPUC Electric Tariff No. 4. The last adjustment was effective January 1, 2018, and allows for the collection of annual payments from ratepayers of \$0 through 2032.
- (e) 10 CFR 50.75(e)(1)(ii) allows licensees to use a rate of return higher than 2% if the applicable rate-setting authority has specifically authorized a higher rate. The PaPUC approved a 3% real rate of return as part of the approval of the restructuring plan for PECO Energy Company (Letter from J. J. McNulty (PaPUC) to B. D. Crowe (PECO Energy Company), "Approval of Restructuring Plan for PECO Energy Company under Section 2806 of the Public Utility Code; Docket No. R-00973953," dated May 3, 2001). Accordingly, EGC uses a 3% real rate of return. The 3% is applicable through the decommissioning period as described in RAI #1 response provided in the Letter from Patrick R. Simpson (Exelon Generation Company, LLC) to U.S. NRC, "Response to Request for Additional Information Related to 2013 Report on Status of Decommissioning Funding for Reactors," dated August 15, 2013.
- (f) For purposes of this report, permanent termination of operations (shutdown) is expected on August 8, 2033.

**ATTACHMENT 24**

Annual Radiological Decommissioning Funding Assurance Report  
for Peach Bottom Atomic Power Station, Unit 3

**ATTACHMENT 24**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Peach Bottom Atomic Power Station, Unit 3**  
(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$349,651 (a)
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)	\$2,488 (a)(b)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$296,417 (c)
5	Schedule of the annual amounts remaining to be collected.	\$0 (d)
6	Assumptions used regarding rates of escalation, earnings, and other factors used in funding projections	3% (e)
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 external sinking fund method, coupled with an external trust fund, in accordance with 10 CFR 50.75(e)(1)(ii) and 10 CFR 72.30(e)(3).

9 Effective March 31, 2017, the master terms and conditions of the qualified and non-qualified trust agreements were updated to include James A. Fitzpatrick Nuclear Generating Station.

Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).

- (a) Value is based on the Exelon Generation Company, LLC (EGC) ownership share of Peach Bottom Atomic Power Station, Unit 3 of 50%.
- (b) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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).
- (c) The trust fund amount is the amount allocated for Radiological Decommissioning only. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.

**ATTACHMENT 24 (continued)**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Peach Bottom Atomic Power Station, Unit 3**  
(December 31, 2018 dollars, thousands)

- (d) The funding mechanism being used as the source of revenues for the external sinking funds is a non-bypassable charge approved by the Pennsylvania Public Utilities Commission (PaPUC) authorizing PECO Energy Company to continue to collect decommissioning funds for EGC. Any needed adjustments to the amount collected will be made in the next filing of the Nuclear Decommissioning Cost Adjustment (NDCA) to the PaPUC. This cost adjustment is made every five years pursuant to PaPUC Electric Tariff No. 4. The last adjustment was effective January 1, 2018, and allows for the collection of annual payments from ratepayers of \$0 through 2033.
- (e) 10 CFR 50.75(e)(1)(ii) allows licensees to use a rate of return higher than 2% if the applicable rate-setting authority has specifically authorized a higher rate. The PaPUC approved a 3% real rate of return as part of the approval of the restructuring plan for PECO Energy Company (Letter from J. J. McNulty (PaPUC) to B. D. Crowe (PECO Energy Company), "Approval of Restructuring Plan for PECO Energy Company under Section 2806 of the Public Utility Code; Docket No. R-00973953," dated May 3, 2001). Accordingly, EGC uses a 3% real rate of return. The 3% is applicable through the decommissioning period as described in RAI #1 response provided in the Letter from Patrick R. Simpson (Exelon Generation Company, LLC) to U.S. NRC, "Response to Request for Additional Information Related to 2013 Report on Status of Decommissioning Funding for Reactors," dated August 15, 2013.
- (f) For purposes of this report, permanent termination of operations (shutdown) is expected on July 2, 2034.

**ATTACHMENT 25**

Annual Radiological Decommissioning Funding Assurance Report  
for Quad Cities Nuclear Power Station, Unit 1

**ATTACHMENT 25**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Quad Cities Nuclear Power Station, Unit 1**  
(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$494,918 (a)
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)	\$6,027 (a)(b)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$440,553 (c)
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% (d)
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	Effective March 31, 2017, the master terms and conditions of the qualified and non-qualified trust agreements were updated to include James A. Fitzpatrick Nuclear Generating Station.	

Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).

- (a) Value is based on the Exelon Generation Company, LLC (EGC) ownership share of Quad Cities Nuclear Power Station, Unit 1 of 75%.
- (b) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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).
- (c) The trust fund amount is the amount allocated for Radiological Decommissioning only. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.
- (d) A 2% annual real rate of return is used as allowed by 10 CFR 50.75(e)(1)(i).
- (e) For purposes of this report, permanent termination of operations (shutdown) is expected on December 14, 2032.

**ATTACHMENT 26**

Annual Radiological Decommissioning Funding Assurance Report  
for Quad Cities Nuclear Power Station, Unit 2

**ATTACHMENT 26**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Quad Cities Nuclear Power Station, Unit 2**  
(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$494,918 (a)
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)	\$6,027 (a)(b)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$494.899 (c)
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% (d)
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	Effective March 31, 2017, the master terms and conditions of the qualified and non-qualified trust agreements were updated to include James A. Fitzpatrick Nuclear Generating Station.	
	Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).	

- (a) Value is based on the Exelon Generation Company, LLC (EGC) ownership share of Quad Cities Nuclear Power Station, Unit 2 of 75%.
- (b) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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).
- (c) The trust fund amount is the amount allocated for Radiological Decommissioning only. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.
- (d) A 2% annual real rate of return is used as allowed by 10 CFR 50.75(e)(1)(i).
- (e) For purposes of this report, permanent termination of operations (shutdown) is expected on December 14, 2032.



**ATTACHMENT 27**

Annual Radiological Decommissioning Funding Assurance Report  
for R.E. Ginna Nuclear Power Plant

**ATTACHMENT 27**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**R.E. Ginna Nuclear Power Plant**  
(December 31, 2018 dollars, thousands)

- |   |   |               |
|---|---|---------------|
| 1 | Formula cost amount per 10 CFR 50.75(c)   | \$457,776     |
| 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)   | \$6,628 (a)   |
| 4 | The amount of decommissioning trust funds accumulated as of December 31, 2018   | \$453,696 (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 | There are no material changes to the trust fund agreements.   |               |
- (a) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.
- (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 September 18, 2029.

**ATTACHMENT 28**

Annual Radiological Decommissioning Funding Assurance Report  
for Salem Generating Station, Unit 1

**ATTACHMENT 28**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Salem Generating Station, Unit 1**  
(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$213,646 (a)
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)	\$2,210 (a)(b)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$252,745 (c)
5	Schedule of the annual amounts remaining to be collected.	\$0 (d)
6	Assumptions used regarding rates of escalation, earnings, and other factors used in funding projections	3% (e)
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 external sinking fund method, coupled with an external trust fund, in accordance with 10 CFR 50.75(e)(1)(ii) and 10 CFR 72.30(e)(3).	
9	Effective March 31, 2017, the master terms and conditions of the qualified and non-qualified trust agreements were updated to include James A. Fitzpatrick Nuclear Generating Station.	

Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).

- (a) Value is based on the Exelon Generation Company, LLC (EGC) ownership share of Salem Generating Station, Unit 1 of 42.59%.
- (b) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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).
- (c) The trust fund amount is the amount allocated for Radiological Decommissioning only. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.

**ATTACHMENT 28 (continued)**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Salem Generating Station, Unit 1**  
(December 31, 2018 dollars, thousands)

- (d) The funding mechanism being used as the source of revenues for the external sinking funds is a non-bypassable charge approved by the Pennsylvania Public Utilities Commission (PaPUC) authorizing PECO Energy Company to continue to collect decommissioning funds for EGC. Any needed adjustments to the amount collected will be made in the next filing of the Nuclear Decommissioning Cost Adjustment (NDCA) to the PaPUC. This cost adjustment is made every five years pursuant to PaPUC Electric Tariff No. 4. The last adjustment was effective January 1, 2018, and allows for the collection of annual payments from ratepayers of \$0 through 2035.
- (e) 10 CFR 50.75(e)(1)(ii) allows licensees to use a rate of return higher than 2% if the applicable rate-setting authority has specifically authorized a higher rate. The PaPUC approved a 3% real rate of return as part of the approval of the restructuring plan for PECO Energy Company (Letter from J. J. McNulty (PaPUC) to B. D. Crowe (PECO Energy Company), "Approval of Restructuring Plan for PECO Energy Company under Section 2806 of the Public Utility Code; Docket No. R-00973953," dated May 3, 2001). Accordingly, EGC uses a 3% real rate of return. The 3% is applicable through the decommissioning period as described in RAI #1 response provided in the Letter from Patrick R. Simpson (Exelon Generation Company, LLC) to U.S. NRC, "Response to Request for Additional Information Related to 2013 Report on Status of Decommissioning Funding for Reactors," dated August 15, 2013.
- (f) For purposes of this report, permanent termination of operations (shutdown) is expected on August 13, 2036.

**ATTACHMENT 29**

Annual Radiological Decommissioning Funding Assurance Report  
for Salem Generating Station, Unit 2

**ATTACHMENT 29**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Salem Generating Station, Unit 2**  
(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$213,646 (a)
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)	\$2,210 (a)(b)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$209,908 (c)
5	Schedule of the annual amounts remaining to be collected.	\$0 (d)
6	Assumptions used regarding rates of escalation, earnings, and other factors used in funding projections	3% (e)
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 external sinking fund method, coupled with an external trust fund, in accordance with 10 CFR 50.75(e)(1)(ii) and 10 CFR 72.30(e)(3).	
9	Effective March 31, 2017, the master terms and conditions of the qualified and non-qualified trust agreements were updated to include James A. Fitzpatrick Nuclear Generating Station.	

Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).

- (a) All values are based on the Exelon Generation Company, LLC (EGC) ownership share of Salem Generating Station, Unit 2 of 42.59%.
- (b) The costs from the current detailed site-specific ISFSI decommissioning cost estimate have been escalated to December 31, 2018 dollars using published escalation indices. Attachments 31 and 32 provide 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).
- (c) The trust fund amount is the amount allocated for Radiological Decommissioning only. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.

**ATTACHMENT 29 (continued)**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Salem Generating Station, Unit 2**  
(December 31, 2018 dollars, thousands)

- (d) The funding mechanism being used as the source of revenues for the external sinking funds is a non-bypassable charge approved by the Pennsylvania Public Utilities Commission (PaPUC) authorizing PECO Energy Company to continue to collect decommissioning funds for EGC. Any needed adjustments to the amount collected will be made in the next filing of the Nuclear Decommissioning Cost Adjustment (NDCA) to the PaPUC. This cost adjustment is made every five years pursuant to PaPUC Electric Tariff No. 4. The last adjustment was effective January 1, 2018, and allows for the collection of annual payments from ratepayers of \$0 through 2039.
- (e) 10 CFR 50.75(e)(1)(ii) allows licensees to use a rate of return higher than 2% if the applicable rate-setting authority has specifically authorized a higher rate. The PaPUC approved a 3% real rate of return as part of the approval of the restructuring plan for PECO Energy Company (Letter from J. J. McNulty (PaPUC) to B. D. Crowe (PECO Energy Company), "Approval of Restructuring Plan for PECO Energy Company under Section 2806 of the Public Utility Code; Docket No. R-00973953," dated May 3, 2001). Accordingly, EGC uses a 3% real rate of return. The 3% is applicable through the decommissioning period as described in RAI #1 response provided in the Letter from Patrick R. Simpson (Exelon Generation Company, LLC) to U.S. NRC, "Response to Request for Additional Information Related to 2013 Report on Status of Decommissioning Funding for Reactors," dated August 15, 2013.
- (f) For purposes of this report, permanent termination of operations (shutdown) is expected on April 18, 2040.



**ATTACHMENT 30**

Annual Radiological Decommissioning Funding Assurance Report  
for Three Mile Island Nuclear Station, Unit 1

**ATTACHMENT 30**  
**Annual Radiological Decommissioning Funding Assurance Report for**  
**Three Mile Island Nuclear Station, Unit 1**  
(December 31, 2018 dollars, thousands)

1	Formula cost amount per 10 CFR 50.75(c)	\$493,028
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)	N/A (a)
4	The amount of decommissioning trust funds accumulated as of December 31, 2018	\$669,617 (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).	
9	Effective November 23, 2018, EGC amended the Master Terms for Decommissioning Trust Agreements to, among other things, align with the Oyster Creek license amendment issued June 23, 2017 that deleted license conditions related to decommissioning trust provisions (ML17067A042). These changes were detailed in a letter from Michael P. Gallagher (Exelon Generation Company, LLC) to U.S. NRC, "Notice Regarding Proposed Amendment No. 1 to Master Terms for Decommissioning Trust Agreements," dated October 1, 2018 (ML18274A144).	

- (a) Three Mile Island does not have an ISFSI. Therefore, 10 CFR 72 does not apply to Three Mile Island.
- (b) The trust fund amount is the amount allocated for Radiological Decommissioning only. EGC has no past-due tax payments related to decommissioning trust fund activities as of December 31, 2018. Periodic payments of estimated income taxes are made during the year on a quarterly basis. The 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, 2018.
- (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 September 30, 2019.

**ATTACHMENT 31**

ISFSI Decommissioning Funding Estimates

**ATTACHMENT 31**  
**ISFSI Decommissioning Funding Estimates**

**Calvert Cliffs Nuclear Power Plant**  
(December 31, 2018 dollars, thousands)

Activity Description	Removal Costs	Packaging Costs	Transport Costs	LLRW Disposal Costs	Other Costs	Total Costs	Burial Volume Class A (ft3)
<b>Decommissioning Contractor</b>							
Decontamination (activated disposition)	\$500	\$5	\$1,138	\$1,816		\$3,459	26,166
License Termination (radiological surveys)					\$3,873	\$3,873	
<b>Subtotal</b>	\$500	\$5	\$1,138	\$1,816	\$3,873	\$7,333	26,166
<b>Supporting Costs</b>							
Utility Staff Cost					\$361	\$361	
Security Staff Cost					\$341	\$341	
Insurance					\$133	\$133	
Property Taxes					\$335	\$336	
Plant Energy Budget					\$59	\$59	
Heavy Equipment Rental	\$280					\$280	
<b>Subtotal</b>	\$280				\$1,229	\$1,509	
<b>Total (w/o contingency)</b>	<b>\$781</b>	<b>\$5</b>	<b>\$1,138</b>	<b>\$1,816</b>	<b>\$5,102</b>	<b>\$8,842</b>	<b>26,166</b>
<b>Total (w/25% contingency)</b>	<b>\$976</b>	<b>\$7</b>	<b>\$1,422</b>	<b>\$2,270</b>	<b>\$6,378</b>	<b>\$11,053</b>	

Note: Values may not add due to rounding.

Costs for ISFSI decommissioning are split according to the unit's site specific cost escalation factor. The cost split is the following:  
Calvert Cliffs Unit 1: \$5,526  
Calvert Cliffs Unit 2: \$5,526

**ATTACHMENT 31 (Continued)**  
**ISFSI Decommissioning Funding Estimates**  
**Clinton Power Station, Unit 1**  
(December 31, 2018 dollars, thousands)

Activity Description	Removal Costs	Packaging Costs	Transport Costs	LLRW Disposal Costs	Other Costs	Total Costs	Burial Volume Class A (ft3)	Craft Manhours	Oversight and Contractor Manhours
<b>Decommissioning Contractor</b>									
Planning (characterization, specs and procedures)					\$269	\$269			1,048
Decontamination (activated disposition)	\$204	\$176	\$825	\$2,845	\$34	\$4,083	48,199	2,089	
License Termination (radiological surveys)					\$1,206	\$1,206		8,952	
<b>Subtotal</b>	<b>\$204</b>	<b>\$176</b>	<b>\$825</b>	<b>\$2,845</b>	<b>\$1,509</b>	<b>\$5,559</b>	<b>48,199</b>	<b>11,041</b>	<b>1,048</b>
<b>Supporting Costs</b>									
NRC and NRC Contractor Fees and Costs					\$382	\$382			776
Insurance					\$68	\$68			
Property taxes					\$343	\$343			
Plant energy budget					\$54	\$54			
Local Fire Department Coverage					\$40	\$40			
Security Staff Cost					\$250	\$250			4,958
Oversight Staff					\$365	\$365			3,761
<b>Subtotal</b>					<b>\$1,503</b>	<b>\$1,503</b>			<b>9,495</b>
<b>Total (w/o contingency)</b>	<b>\$204</b>	<b>\$176</b>	<b>\$825</b>	<b>\$2,845</b>	<b>\$3,012</b>	<b>\$7,062</b>	<b>48,199</b>	<b>11,041</b>	<b>10,543</b>
<b>Total (w/25% contingency)</b>	<b>\$255</b>	<b>\$219</b>	<b>\$1,031</b>	<b>\$3,556</b>	<b>\$3,765</b>	<b>\$8,827</b>			

Note: Values may not add due to rounding.

**ATTACHMENT 31 (Continued)**  
**ISFSI Decommissioning Funding Estimates**

**Dresden Nuclear Power Station**  
(December 31, 2018 dollars, thousands)

Activity Description	Removal Costs	Packaging Costs	Transport Costs	LLRW Disposal Costs	Other Costs	Total Costs	Burial Volume Class A (ft3)	Craft Manhours	Oversight and Contractor Manhours
<b>Decommissioning Contractor</b>									
Planning (characterization, specs and procedures)					\$567	\$567			1,408
Decon:amination (activated disposition)	\$678	\$468	\$1,892	\$6,529	\$26	\$9,592	110,477	6,519	
License Termination (radiological surveys)					\$3,623	\$3,623		31,133	
<b>Subtotal</b>	<b>\$678</b>	<b>\$468</b>	<b>\$1,892</b>	<b>\$6,529</b>	<b>\$4,215</b>	<b>\$13,782</b>	<b>110,477</b>	<b>37,652</b>	<b>1,408</b>
<b>Supporting Costs</b>									
NRC and NRC Contractor Fees and Costs					\$408	\$408			776
Insurance					\$525	\$525			
Property taxes					\$343	\$343			
Heavy equipment rental					\$305	\$305			
Security Staff Cost					\$244	\$244			4,958
Oversight Staff					\$366	\$366			3,761
<b>Subtotal</b>					<b>\$2,190</b>	<b>\$2,190</b>			<b>9,495</b>
<b>Total (w/o contingency)</b>	<b>\$678</b>	<b>\$468</b>	<b>\$1,892</b>	<b>\$6,529</b>	<b>\$6,406</b>	<b>\$15,972</b>	<b>110,477</b>	<b>37,652</b>	<b>10,903</b>
<b>Total (w/25% contingency)</b>	<b>\$848</b>	<b>\$585</b>	<b>\$2,365</b>	<b>\$8,161</b>	<b>\$8,007</b>	<b>\$19,965</b>			

Note: Values may not add due to rounding.

Costs for ISFSI decommissioning are split according to the unit's site specific cost escalation factor. The cost split is the following:

Dresden Unit 1: \$0

Dresden Unit 2: \$9,933

Dresden Unit 3: \$9,933

**ATTACHMENT 31 (Continued)**  
**ISFSI Decommissioning Funding Estimates**  
**James A. FitzPatrick Nuclear Power Station**  
(December 31, 2018 dollars, thousands)

Activity Description	Removal Costs	Packaging Costs	Transport Costs	LLRW Disposal Costs	Other Costs	Total Costs	Burial Volume Class A (ft3)
<b>Decommissioning Contractor</b>							
Decontamination (activated disposition)	\$279	\$362	\$1,215	\$2,769		\$4,624	45,639
License Termination (radiological surveys)					\$2,227	\$2,227	
<b>Subtotal</b>	\$279	\$362	\$1,215	\$2,769	\$2,227	\$6,852	45,639
<b>Supporting Costs</b>							
Utility Staff Cost					\$349	\$349	
Security Staff Cost					\$285	\$285	
Insurance					\$67	\$67	
Property Taxes					\$339	\$339	
Plant Energy Budget					\$42	\$42	
Heavy Equipment Rental	\$283					\$283	
<b>Subtotal</b>	\$283				\$1,082	\$1,365	
<b>Total (w/o contingency)</b>	<b>\$562</b>	<b>\$362</b>	<b>\$1,215</b>	<b>\$2,769</b>	<b>\$3,309</b>	<b>\$8,216</b>	<b>45,639</b>
<b>Total (w/25% contingency)</b>	<b>\$702</b>	<b>\$452</b>	<b>\$1,519</b>	<b>\$3,461</b>	<b>\$4,137</b>	<b>\$10,270</b>	

Note: Values may not add due to rounding.

**ATTACHMENT 31 (Continued)**  
**ISFSI Decommissioning Funding Estimates**

**Limerick Generation Station**  
(December 31, 2018 dollars, thousands)

Activity Description	Removal Costs	Packaging Costs	Transport Costs	LLRW Disposal Costs	Other Costs	Total Costs	Burial Volume Class A (ft3)
<b>Decommissioning Contractor</b>							
Decontamination (activated d sposition)	\$853	\$14	\$51	\$155		\$1,073	2,310
License Termination (radiological surveys)					\$3,198	\$3,198	
<b>Subtotal</b>	\$853	\$14	\$51	\$155	\$3,198	\$4,271	2,310
<b>Supporting Costs</b>							
Utility Staff Cost					\$358	\$358	
Security Staif Cost					\$283	\$283	
Insurance					\$133	\$133	
Property Taxes					\$335	\$336	
Plant Energy Budget					\$56	\$56	
Heavy Equipment Rental	\$280					\$280	
<b>Subtotal</b>	\$280					\$1,446	
<b>Total (w/o contingency)</b>	<b>\$1,133</b>	<b>\$14</b>	<b>\$51</b>	<b>\$155</b>	<b>\$4,363</b>	<b>\$5,717</b>	<b>2,310</b>
<b>Total (w/25% contingency)</b>	<b>\$1,416</b>	<b>\$18</b>	<b>\$64</b>	<b>\$193</b>	<b>\$5,454</b>	<b>\$7,146</b>	

Note: Values may not add due to rounding.

Costs for ISFSI decommissioning are split according to the unit's site specific cost escalation factor. The cost split is the following:  
Limerick Unit 1: \$3,573  
Limerick Unit 2: \$3,573



**ATTACHMENT 31 (Continued)**  
**ISFSI Decommissioning Funding Estimates**  
**Quad Cities Nuclear Power Station**  
(December 31, 2018 dollars, thousands)

Activity Description	Removal Costs	Packaging Costs	Transport Costs	LLRW Disposal Costs	Other Costs	Total Costs	Burial Volume Class A (ft3)	Craft Manhours	Oversight and Contractor Manhours
<b>Decommissioning Contractor</b>									
Planning (characterization, specs and procedures)					\$546	\$546			1,384
Decontamination (activated disposition)	\$679	\$385	\$1,522	\$5,102	\$47	\$7,735	117,230	8,994	
License Termination (radiological surveys)					\$2,748	\$2,748		22,117	
<b>Subtotal</b>	<b>\$679</b>	<b>\$385</b>	<b>\$1,522</b>	<b>\$5,102</b>	<b>\$3,341</b>	<b>\$11,029</b>	<b>117,230</b>	<b>31,111</b>	<b>1,384</b>
<b>Supporting Costs</b>									
NRC and NRC Contractor Fees and Costs					\$404	\$404			776
Insurance					\$137	\$137			
Property taxes					\$343	\$343			
Heavy equipment rental					\$307	\$307			
Plant energy budget					\$49	\$49			
Security Staff Cost					\$240	\$240			4,958
Oversight Staff					\$347	\$347			3,761
<b>Subtotal</b>					<b>\$1,829</b>	<b>\$1,829</b>			<b>9,495</b>
<b>Total (w/o contingency)</b>	<b>\$679</b>	<b>\$385</b>	<b>\$1,522</b>	<b>\$5,102</b>	<b>\$5,169</b>	<b>\$12,857</b>	<b>117,230</b>	<b>31,111</b>	<b>10,879</b>
<b>Total (w/25% contingency)</b>	<b>\$849</b>	<b>\$481</b>	<b>\$1,903</b>	<b>\$6,377</b>	<b>\$6,462</b>	<b>\$16,072</b>			

Costs for ISFSI decommissioning are split according to the unit's site specific cost escalation factor. Unit costs are then pro-rated based on ownership share. The cost split is the following:

Quad Cities Unit 1: \$6,027  
Quad Cities Unit 2: \$6,027

**ATTACHMENT 31 (Continued)**  
**ISFSI Decommissioning Funding Estimates**  
**Salem Generating Station**  
(December 31, 2018 dollars, thousands)

Activity Description	Removal Costs	Packaging Costs	Transport Costs	LLRW Disposal Costs	Other Costs	Total Costs	Burial Volume Class A (ft3)	Craft Manhours	Oversight and Contractor Manhours
<b>Decommissioning Contractor</b>									
Planning (characterization, specs and procedures)					\$445	\$445			1,264
Decontamination (activated disposition)	\$456	\$323	\$684	\$2,792		\$4,254	71,319	4,296	
License Termination (radiological surveys)					\$2,350	\$2,350		17,239	
<b>Subtotal</b>	<b>\$456</b>	<b>\$323</b>	<b>\$684</b>	<b>\$2,792</b>	<b>\$2,795</b>	<b>\$7,049</b>	<b>71,319</b>	<b>21,536</b>	<b>1,264</b>
<b>Supporting Costs</b>									
NRC and NRC Contractor Fees and Costs					\$503	\$503			1,153
Insurance					\$196	\$196			
Property taxes					\$18	\$18			
NRC ISFSI Fees					\$42	\$42			
ISFSI Operating Costs					\$19	\$19			
Security Staff Cost					\$299	\$299			5,082
Utility Staff Cost					\$176	\$176			2,062
<b>Subtotal</b>					<b>\$1,254</b>	<b>\$1,254</b>			<b>8,297</b>
<b>Total (w/o contingency)</b>	<b>\$456</b>	<b>\$323</b>	<b>\$684</b>	<b>\$2,792</b>	<b>\$4,048</b>	<b>\$8,302</b>	<b>71,319</b>	<b>21,536</b>	<b>9,561</b>
<b>Total (w/25% contingency)</b>	<b>\$570</b>	<b>\$403</b>	<b>\$854</b>	<b>\$3,490</b>	<b>\$5,060</b>	<b>\$10,378</b>			

Costs for ISFSI decommissioning are split according to the unit's site specific cost escalation factor. Unit costs are then pro-rated based on ownership share.

The cost split is the following:

Salem Unit 1: \$2,210

Salem Unit 2: \$2,210

**ATTACHMENT 32**

Independent Spent Fuel Storage Installation Decommissioning Funding Plan  
Updates

**ATTACHMENT 32**  
**Independent Spent Fuel Storage Installation Decommissioning Funding Plan**  
**Updates**

Pursuant to 10 CFR 72.30(b), decommissioning funding plans (DFPs) are required for all independent spent fuel storage installations (ISFSIs). One piece of the DFP is a detailed ISFSI decommissioning estimate. The detailed cost estimate is periodically revised based on the schedule for refreshing the full decommissioning cost estimate for the site.

In accordance with 10 CFR 72.30(c), "At the time of license renewal and at intervals not to exceed 3 years, the decommissioning funding plan must be resubmitted with adjustments as necessary to account for changes in costs and the extent of contamination." To update its DFPs, EGC either makes a full update to the DFP, updates the detailed ISFSI decommissioning cost estimate and affirms that the remainder of the DFP has not changed, or escalates the ISFSI decommissioning cost estimate and affirms that the remainder of the DFP has not changed.

Along with each DFP update for each ISFSI, information on the occurrence, and the effect on decommissioning costs, of each of the events listed in 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 must be included.

The table below specifies the current detailed DFP and current detailed decommissioning cost estimate for each Exelon Generation Company, LLC (EGC) ISFSI. The current detailed DFP is unchanged as of December 31, 2018 for all EGC ISFSIs. For Braidwood, Byron, LaSalle, Nine Mile Point, Oyster Creek, Peach Bottom, and Ginna ISFSIs, the current detailed ISFSI decommissioning cost estimate is unchanged as of December 31, 2018. The ISFSI decommissioning cost escalated to December 31, 2018 dollars is contained in the attachment to this letter indicated in the table. For Calvert Cliffs, Clinton, Dresden, Fitzpatrick, Limerick, Quad Cities, and Salem ISFSIs, a new detailed ISFSI decommissioning cost estimate is provided in Attachment 30 of this letter.

**ATTACHMENT 32 (Continued)**  
**Independent Spent Fuel Storage Installation Decommissioning Funding Plan**  
**Updates**

<b>ISFSI Facility</b>	<b>Current Detailed DFP</b>	<b>Current Detailed Cost Estimate</b>	<b>Current Dollar Cost Estimate</b>
Braidwood Station	Reference 1	Reference 5	Attachments 2/3
Byron Station	Reference 1	Reference 5	Attachments 4/5
Calvert Cliffs Nuclear Power Plant	Reference 2	Attachment 30	Attachment 30
Clinton Power Station	References 3 and 4	Attachment 30	Attachment 30
Dresden Nuclear Power Station	Reference 1	Attachment 30	Attachment 30
James A. Fitzpatrick Nuclear Power Station	Reference 7	Attachment 30	Attachment 30
LaSalle County Station	Reference 1	Reference 5	Attachments 13/14
Limerick Generating Station	Reference 1	Attachment 30	Attachment 30
Nine Mile Point Nuclear Station	Reference 2	Reference 4	Attachments 17/18/19
Oyster Creek Nuclear Generating Station	Reference 1	Reference 6	Attachment 20
Peach Bottom Atomic Power Station	Reference 1	Reference 4	Attachments 22/23
Quad Cities Nuclear Power Station	Reference 1	Attachment 30	Attachment 30
R.E. Ginna Nuclear Power Plant	Reference 2	Reference 4	Attachment 26
Salem Generating Station	Reference 1	Attachment 30	Attachment 30

The effect of each of the events listed in 10 CFR 72.30(c)(1) through (4) on the detailed cost estimates provided in References 4, 5, and 6 for the ISFSIs at Braidwood, Byron, LaSalle, Nine Mile Point, Oyster Creek, Peach Bottom, and Ginna is listed below. For these ISFSIs, the most recent DFP update prior to the one contained herein is contained in Reference 4 as supplemented by Reference 8. Reference 8 provides the effect of the events listed in 10 CFR 72.30(c)(1) through (4) as of December 31, 2017. Consequently, the effect of the events from December 31, 2017 through December 31, 2018 is provided below.

**ATTACHMENT 32 (Continued)**  
**Independent Spent Fuel Storage Installation Decommissioning Funding Plan**  
**Updates**

- (1) Spills of radioactive material producing additional residual radioactivity in onsite subsurface material:  
  
No impact. There have not been any spills of radioactive material producing additional residual radioactivity in onsite subsurface material in 2018 at any of the ISFSIs at the facilities listed above.
- (2) Facility modifications:  
  
No impact. There have not been any modifications to the ISFSIs at the facilities listed above in 2018 that would materially change the latest decommissioning cost estimate.  
  
The ISFSI facility design at the time the cost estimate was prepared was incorporated in the estimate for the facilities listed above. Also, any ISFSI modifications (i.e., ISFSI pad expansions) required to accommodate spent fuel storage after permanent shutdown were incorporated in the cost estimate.
- (3) Changes in authorized possession limits:  
  
No impact. There have not been any changes in authorized possession limits at the ISFSIs at the facilities listed above during 2018 that would materially change the decommissioning cost estimate.  
  
The capacity of the cask used at the ISFSI at the time the cost estimate was performed was incorporated in the estimate for the facilities listed above.
- (4) Actual remediation costs that exceed the previous cost estimate:  
  
No impact. As of December 31, 2018, decommissioning had not begun at any of the ISFSIs listed above. Consequently, there have been no actual remediation costs that exceed the latest cost estimate.

In Attachment 30 of this letter, decommissioning cost estimates are provided for the ISFSIs at Calvert Cliffs, Clinton, Dresden, Fitzpatrick, Limerick, Quad Cities, and Salem. The detailed cost estimates for Clinton, Dresden, and Quad Cities ISFSIs were prepared in 2017. The detailed cost estimates for Calvert Cliffs, Fitzpatrick, Limerick, and Salem ISFSIs were prepared in 2018. Each of the items listed in 10 CFR 72.30(c)(1) through (4) was considered in preparation of the updated cost estimate. Additionally, the effect of the items in 10 CFR 72.30(c) from cost estimate completion to December 31, 2018 were reviewed. A discussion of each item is included below.

**ATTACHMENT 32 (Continued)**  
**Independent Spent Fuel Storage Installation Decommissioning Funding Plan**  
**Updates**

- (1) Spills of radioactive material producing additional residual radioactivity in onsite subsurface material:

No impact. There were no spills of radioactive material producing additional residual radioactivity in onsite subsurface material at any of the ISFSIs at the facilities listed above through December 31, 2018.

- (2) Facility modifications:

No impact. There have not been any modifications to the ISFSIs at the facilities listed above during 2018 that would materially change the latest decommissioning cost estimate.

The ISFSI facility design at the time the updated cost estimate was prepared was incorporated in the estimate for the facilities listed above. Also, any ISFSI modifications (i.e., ISFSI pad expansions) required to accommodate spent fuel storage after permanent shutdown were incorporated in the updated cost estimate.

- (3) Changes in authorized possession limits:

No impact. There have not been any changes in authorized possession limits at the ISFSIs at the facilities listed above during 2018 that would materially change the latest decommissioning cost estimate.

The capacity of the cask used at the ISFSI at the time the updated cost estimate was performed was incorporated in the estimate for the facilities listed above. In anticipation of a change in cask size at Calvert Cliffs and Limerick, a larger cask size was incorporated in the updated estimate for these ISFSIs. The cask size did not change in the updated estimate relative to the previous estimate for the other ISFSIs.

- (4) Actual remediation costs that exceed the previous cost estimate:

No impact. As of December 31, 2018, decommissioning had not begun at any of the ISFSIs listed above. Consequently, there have been no actual remediation costs that exceed the costs included in the latest cost estimate.

**ATTACHMENT 32 (Continued)**  
**Independent Spent Fuel Storage Installation Decommissioning Funding Plan**  
**Updates**

**References**

1. Letter from Patrick R. Simpson (EGC) to U.S. Nuclear Regulatory Commission, "Proposed Independent Spent Fuel Storage Installation (ISFSI) Decommissioning Funding Plans for Braidwood, Byron, Dresden, LaSalle, Limerick, Oyster Creek, Peach Bottom, Quad Cities, and Salem," dated December 17, 2012
2. Letter from Stephen A. Mormann (Constellation Energy Nuclear Group, LLC) to U.S. Nuclear Regulatory Commission, "ISFSI Decommissioning Funding Plans," dated December 17, 2012
3. Letter from David M. Gullett (EGC) to U.S. Nuclear Regulatory Commission, "Proposed Independent Spent Fuel Storage Installation (ISFSI) Decommissioning Funding Plans for Clinton Power Station," dated September 6, 2016
4. Letter from Patrick R. Simpson (EGC) to U.S. Nuclear Regulatory Commission, "Report on Status of Decommissioning Funding for Reactors and Independent Spent Fuel Storage Installations," dated March 30, 2017
5. Letter from Patrick R. Simpson (EGC) to U.S. Nuclear Regulatory Commission, "Submittal of Updated Site-Specific SAFSTOR Decommissioning Cost Estimates for Braidwood Station, Byron Station, and LaSalle County Station," dated February 19, 2015
6. Letter from James Barstow (EGC) to U.S. Nuclear Regulatory Commission, "Submittal of Updated Decommissioning Cost Analysis for Oyster Creek Generating Station," dated March 30, 2016
7. Letter from Patrick R. Simpson (EGC) to U.S. Nuclear Regulatory Commission, "Report on the Status of Decommissioning Funding for James A. Fitzpatrick Nuclear Power Plant Independent Spent Fuel Storage Installation," dated December 10, 2018
8. Letter from Patrick R. Simpson (EGC) to U.S. Nuclear Regulatory Commission, "Response to Request for Additional Information Regarding Decommissioning Funding Plans for Independent Spent Fuel Storage Installations (ISFSIs)," dated May 2, 2018