Exelon Generation

RS-18-145 10 CFR 72.30

December 10, 2018

ATTN: Document Control Desk
Director – Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

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

Subject: Report on the Status of Decommissioning Funding for James A. Fitzpatrick Nuclear Power Plant Independent Spent Fuel Storage Installation

In accordance with 10 CFR 72.30, "Financial assurance and recordkeeping for decommissioning," Exelon Generation Company, LLC (EGC) is submitting a report on the status of decommissioning funding for the James A. Fitzpatrick Nuclear Power Plant (JAF) independent spent fuel storage installation (ISFSI).

This submittal is subdivided as follows:

- Attachment 1 provides an update of the ISFSI decommissioning funding plan.
- Attachment 2 provides details of the ISFSI decommissioning funding estimate.

There are no regulatory commitments contained within this letter. Should you have any questions concerning this letter, please contact me at (630) 657-2823.

Respectfully,

Patrick R. Simpson
Manager – Licensing

cc: NRC Regional Administrator – Region I
NRC Senior Resident Inspector – James A. Fitzpatrick Nuclear Power Plant

Attachments:

1. Updated ISFSI Decommissioning Funding Plan for James A. Fitzpatrick Nuclear Power Plant
2. ISFSI Decommissioning Funding Estimate for James A. Fitzpatrick Nuclear Power Plant

1.0 SUMMARY DESCRIPTION

The U.S. Nuclear Regulatory Commission (NRC) Final Rule on Decommissioning Planning was published in 76 FR 35512 on June 17, 2011, with an effective date of December 17, 2012. The final rule includes a requirement (10 CFR 72.30) for each holder of a Part 72 License to submit, for NRC review and approval, a decommissioning funding plan for purposes of decommissioning the licensee's Independent Spent Fuel Storage Installation (ISFSI), and to resubmit those plans with adjustments as necessary to account for changes in costs and the extent of contamination. Exelon Generation Company, LLC (EGC) maintains decommissioning cost estimates (DCEs) for each of its nuclear units. Embedded in the DCEs maintained by EGC are the costs associated with decommissioning the Independent Spent Fuel Storage Installations (ISFSIs) co-located at the sites. EGC provides the following information from its cost estimate to support updating the decommissioning funding plan for the James A. Fitzpatrick Nuclear Power Plant (JAF) ISFSI in accordance with the requirements of 10 CFR 72.30.

EGC notes that radiological decommissioning costs for ISFSIs typically consist of the costs associated with removing and disposing of small volumes of neutron-activated concrete and certain structural steel components. No impact is expected upon soil and groundwater at any of EGC's sites during the storage periods contemplated in the DCEs. EGC also notes that induced radioactivity at its ISFSIs is not expected to result in residual radioactivity in excess of 25 mRem/yr in an unrestricted release scenario, were no action to be taken to remediate the site. However, since EGC anticipates small, but measurable amounts of induced radioactivity to be present, and release of this material from EGC's sites will require it to be disposed of at a NRC-licensed radioactive waste disposal facility, EGC has included these costs in its DCEs.

2.0 DETAILED DESCRIPTION

2.1 Reasonable Assurance of Funds Availability

EGC's trust fund balance for JAF currently exceeds the cost required for radiological decommissioning (excluding the ISFSI). These excess assets will be used to decommission the on-site ISFSI. Table 4 shows the trust fund assets, the costs for radiological decommissioning (excluding the ISFSI) under 10 CFR 50.75(c), and the costs estimated for ISFSI decommissioning under 10 CFR 72.30(b), as of October 31, 2018.

2.2 Detailed Cost Estimate

Attachment 2 provides an excerpt from EGC's DCE for JAF detailing the costs of ISFSI decommissioning in 2018 dollars. Attachment 2 also shows the cost for an independent contractor to perform all decommissioning activities, with an adequate contingency factor, to meet the 10 CFR 20.1402 radiological criteria for unrestricted use. Contingency has been added at an overall rate of 25%. This is consistent with the evaluation criteria referenced by the NRC in NUREG-1757, Volume 3, Revision 1.

2.3 Assumptions

EGC has made the following assumptions within the DCE with respect to ISFSI decommissioning:

1. Decommissioning costs in Attachment 2 are escalated from 2017 dollars to 2018 dollars using a unit specific escalation rate consistent with that used for the plant cost estimate.

2. All values in Attachment 2 are at ownership share. The ownership share for EGC of JAF is 100%.

3. Costs are expected to be incurred in the year after which the Department of Energy (DOE) has accepted all spent fuel from JAF for disposal. For the purposes of the cost estimate, the transfer of the JAF spent fuel to the DOE is assumed to be completed in 2055.

2.4 Method of Assurance

In accordance with 10 CFR 72.30(b)(4), Table 4 describes the method from 10 CFR 72.30(e) of assuring funds for ISFSI decommissioning. EGC periodically updates the DCE associated with the site-specific assurance method including ISFSI decommissioning costs and adjusts the funding levels, as necessary, in accordance with 10 CFR 50.75.

2.5 Effects of Events Listed in 10 CFR 72.30(c)(1)-(4)

The previous JAF ISFSI decommissioning funding plan was submitted by letter dated December 17, 2015 (Reference 1) and later revised by letter dated June 4, 2018 (Reference 2). Those submittals provided updates on the effects of events listed in 10 CFR 72.30(c)(1)-(4) up to December 31, 2015. In addition to those effects, the effects, if any, since December 31, 2015 of the following events listed in 10 CFR 72.30(c)(1)-(4) have been specifically considered in the decommissioning cost estimate contained in Attachment 2:

1. Spills of radioactive material producing additional residual radioactivity in onsite subsurface material: There have been no spills at the JAF ISFSI.

2. Facility modifications: There have been no facility modifications since the last ISFSI decommissioning funding plan that affect the decommissioning cost estimate.

3. Changes in authorized possession limits: There have been no changes in authorized possession limits since the last ISFSI decommissioning funding plan that affect the decommissioning cost estimate.

4. Actual remediation costs that exceed the previous cost estimate: No actual remediation costs have been incurred, so no actual remediation costs exceed the previous decommissioning cost estimate.

2.6 Certification of Financial Assurance

In accordance with 10 CFR 72.30(b)(6) and as demonstrated in Table 4, financial assurance for decommissioning the ISFSI has been provided in the amount of the cost estimate for decommissioning the ISFSI.

2.7 Labor, Energy, and Burial Factors Used in Calculations

The 10 CFR 50.75(c) value in Table 4 was calculated using the following labor, energy, and burial indexes consistent with those described in NUREG-1307, Revision 16, "Report on Waste Burial Charges," issued March 2017.

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, 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 16, using third quarter 2018 data. Table 1 shows the data used for this calculation.

Table 1: Labor Adjustment Factors

Region	Applicable Sites	Series ID	3Q2018 Index Number	Base L_x	Labor Adjustment Factor (L_x)
Northeast	Fitzpatrick	CIU20100000000210I	135.9	2.16	2.935

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 16, using October 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 – October 2018 (preliminary value)	242.6
WPU0573 – October 2018 (preliminary value)	257.8
Industrial electric power adjustment factor - P_x	2.124
Light fuel oil adjustment factor - F_x	3.144
Energy Adjustment Factor (BWR) – E_x(BWR)	2.593

The waste burial adjustment factors used are taken from Table 2-1 of NUREG-1307, Revision 16, based on 2016 data. For JAF, which is 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

LLW Burial Site	Reactor Type	Applicable Site	Generators Located in the Unaffiliated States and those Located in Compact-Affiliated States having no Disposal Facility Waste Adjustment Factor (B_x)
Generic LLW Disposal Site	BWR	Fitzpatrick	13.132

The calculation methodology used for all adjustment factors is consistent with NUREG-1307, Revision 16.

Table 4: JAF ISFSI Funding Assurance

Unit / License Expiration	Current Trust Fund Assets (thousands $)	Annual Contributions (thousands $)	Parent Company Guarantee (thousands $)	Part 50.75(c) Formula Amount Decommissioning Cost (thousands $)	Part 72.30(b)(2) Site Specific Decommissioning Cost (thousands $)	Method of Assurance
James A. Fitzpatrick October 17, 2034	$862,639	$0	$0	$651,141	$9,808	10 CFR 50.75(e)(1)(i) and 10 CFR 72.30(e)(1)

3.0 References

1. Letter from Bryan S. Ford (Entergy Nuclear Operations, Inc) to U.S. Nuclear Regulatory Commission, "ISFSI Decommissioning Funding Plans (10 CFR 72.30)," dated December 17, 2015

2. Letter from Mandy K. Halter (Entergy Nuclear Operations, Inc) to U.S. Nuclear Regulatory Commission, "Response to Request for Additional Information regarding ISFSI Decommissioning Funding Plans (10 CFR 72.30)," dated June 4, 2018

James A. Fitzpatrick Nuclear Power Plant ISFSI Decommissioning

(October 31, 2018 dollars, thousands)

Activity Description	Removal Costs	Packaging Costs	Transport Costs	LLRW Disposal Costs	Other Costs	Total Costs*	Burial Volume Class A (ft^3)	Craft Manhours	Oversight and Contractor Manhours
Decommissioning Contractor									
Planning (characterization, specs, and procedures)					326	326			1,120
Decontamination (activated HSM disposition)	277	359	1,207	2,677	26	4,546	45,639	2,669	
License Termination (radiological surveys)					1,475	1,475		10,860	
Subtotal	277	359	1,207	2,677	1,827	6,347	45,639	13,529	1,120
Supporting Costs									
NRC and NRC Contractor Fees and Costs					384	384			776
Insurance					68	68			
Property Taxes					341	341			
Plant Energy Budget					39	39			
Security Staff Cost					271	271			4,958
Oversight Staff Cost					396	396			3,761
Subtotal					1,500	1,500			9,495
Total (w/o contingency)	277	359	1,207	2,677	3,327	7,846	45,639	13,529	10,615
Total (w/ 25% contingency)	346	449	1,508	3,347	4,158	9,808			

*Total Costs may not add due to rounding