

## **SAFETY EVALUATION REPORT**

REVISED TRIENNIAL UPDATE OF THE DECOMMISSIONING FUNDING PLAN  
DATED MAY 12, 2016

WESTINGHOUSE ELECTRIC COMPANY LLC

DOCKET: 70-1151

LICENSE: SNM-1107

LICENSEE: Westinghouse Electric Company, LLC

### **1. BACKGROUND**

By letter dated June 5, 2015, the Westinghouse Electric Company, LLC (Westinghouse) submitted a triennial update of the Decommissioning Funding Plan (DFP) for the Columbia Fuel Fabrication Facility (CFFF) located in Hopkins, SC (Ref. 1). By letter dated July 30, 2015, staff at the U.S. Nuclear Regulatory Commission (NRC) accepted the DFP for a detailed technical review (Ref. 2). By letter dated November 17, 2015, the NRC staff requested additional information (RAI) (Ref. 3). The NRC staff and Westinghouse staff had conference calls on November 30, 2015 (Ref. 4); December 15, 2015 (Ref. 5); March 22, 2016 (Ref. 6); June 22, 2016 (Ref. 7); and July 22, 2016 (Ref. 7). Westinghouse responded (Refs. 8 and 9) to the RAIs and resubmitted the DFP by letter dated May 12, 2016 (Ref. 9). The subject of this Safety Evaluation Report is the May 12, 2016, DFP.

### **2. REVIEW PROCESS**

The NRC staff reviewed the May 2016 DFP using the Standard Review Plan for financial assurance (Ref. 10) to determine compliance with applicable paragraphs of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 70.25.

### **3. DISCUSSION**

The NRC staff views the decommissioning cost estimate (DCE) as the sum of the decommissioning costs and a contingency factor. The basis for this is 10 CFR Paragraph 70.25(e)(1), which states that a DFP must be submitted for review and approval and must contain a detailed cost estimate for decommissioning, in an amount reflecting stated costs, one of which is an adequate contingency factor.

### 3.1. Timing and Scope of the DFP

#### 3.1.1. Regulatory Requirement

10 CFR 70.25(e)(2) states, in part, that at the time of license renewal and at intervals not to exceed 3 years, the DFP must be resubmitted with adjustments as necessary to account for changes in costs and the extent of contamination. The amount of financial assurance cannot be adjusted downward until the updated DFP is approved. The DFP must update the information submitted with the original or prior approved plan, and must consider the effect of events on decommissioning costs.

#### 3.1.2. Licensee Submittal

Westinghouse submitted their triennial update of the DFP by letter dated June 5, 2015. In responding to RAIs, the licensee resubmitted the DFP by letter dated May 12, 2016.

The May 2016 DFP (Ref. 9) documents the cost of decommissioning as \$[REDACTED]. The contingency factor is \$[REDACTED]. With the contingency factor, the total cost of decommissioning is \$[REDACTED].

#### 3.1.3. NRC Staff Evaluation

Westinghouse had submitted an application dated December 17, 2015, (Ref. 11) to renew special nuclear material (SNM) license SNM-1107 for a period of 40 years. The application did not have a DFP. Given that the DFP was to be submitted soon after the renewal application, uncertainties while accepting the renewal application for a detailed technical review, and scheduling to revise the DFP, the NRC staff allowed the licensee to submit the DFP at the 3-year interval. Westinghouse previously submitted a DFP dated June 8, 2012 (Refs. 12 and 13). The triennial updated DFP was submitted by letter dated June 5, 2015. The DFP was updated at an interval that did not exceed 3 years. Therefore, the NRC staff concludes that the triennial update to the DFP is timely. Westinghouse chose to resubmit the DFP by letter dated May 12, 2016 (Ref. 9) to respond to RAIs.

As shown in Table 1, the DCE documented in both the June 2015 submittal and the May 2016 submittal was adjusted downward relative to the amount documented in the June 2012 DFP. During the review of the June 2015 DFP, Westinghouse had changed the financial instrument from a parent company guarantee (Refs. 14 and 15) to a letter of credit (Ref. 16) for the amount of \$[REDACTED] for the CFFF<sup>1</sup>; the NRC staff approved the letter of credit (Ref. 17) that is based on the DFP dated June 8, 2012 (Ref. 12 and 13). The licensee did not implement the lower cost in the May 2016 DFP.

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<sup>1</sup> Westinghouse has license SNM-33 for the Hematite Fuel Fabrication Facility (docket 70-36) that is on the same letter of credit. Specific amounts of decommissioning funds are explicitly stated for each facility.



### 3.1.4. NRC Staff Findings

As discussed in their preceding evaluation, the NRC staff reviewed the timing and scope of the DFP as required by 10 CFR 70.25(e)(2). On the basis of the review, the NRC staff has determined that the licensee submitted the DFP in a timely manner. The lower DCE in the May 2016 DFP, relative to the June 2012 DFP and the June 2015 DFP, has not been implemented. Therefore, the NRC staff finds that the licensee meets the requirement of 10 CFR 70.25(e)(2).

Table 1. Summary of the financial submittals leading to the May 2016 DFP.

Submittals	Amount	DCE	25% Contingency
June 2012 DFP (Refs. 12 and 13)	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED] b
June 2015 DFP (Ref. 1) <sup>a</sup>	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]
August 2015 Letter of Credit (Ref. 16)	\$ [REDACTED]	—	—
May 2016 DFP (Ref. 9) <sup>c</sup>	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]
May 2016 Certification (Ref. 9)	\$ [REDACTED]	—	—

a. Page 1-1

b. Not included in the DFP.

c. Appendix D, page 1.

## 3.2. Detailed Cost Estimate

### 3.2.1. Regulatory Requirements

10 CFR 70.25(e)(1)(i) requires that each DFP must contain a detailed cost estimate for decommissioning in an amount reflecting the cost of an independent contractor to perform all decommissioning activities, the cost of meeting the 10 CFR 20.1402 criteria for unrestricted use, the volume of onsite subsurface material containing residual radioactivity that will require remediation, and an adequate contingency factor.

### 3.2.2. Licensee Submittal

Westinghouse followed NRC guidance (Ref. 10) in developing the DCE. Westinghouse itemized the costs for foreseeable tasks of decommissioning. The costs are consistent with those of an independent contractor to decommission for unrestricted use.

In discussions with Westinghouse (Ref. 7), the licensee identified changes in the June 2015 DFP, resulting in the May 2016 DFP, in responding (Refs. 8 and 9) to RAIs (Ref. 3) from the NRC staff:

- Labor rates increased per the response of Westinghouse to RAI 6.
- Labor resources decreased in the Advanced Activities section because of the Westinghouse response to RAI 3 and the requirement to use a third-party contractor to

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perform decommissioning. The labor for Westinghouse oversight in the SNM inventory dispositioning was removed; Westinghouse explained that this change was made because of the stated expectation of the NRC staff that the DCE must use third-party contractor costs, with the supposition that operations cease abruptly.

- From the June 2015 DFP (Ref. 1) to the May 2016 DFP (Ref. 9), resources in Advance Activities of the DFP decreased from [REDACTED] person-days to [REDACTED] person-days, as reflected in Work Breakdown Structure (WBS) 1.2.1 and WBS 1.2.2. This change in labor is reflected in the inventory disposition description of Advanced Activities, Section 4.2.3.1 (Table 23). From the June 2015 DFP (page 4-17 of Ref. 1) to the May 2016 DFP (page 4-19 of Ref. 9), resources decreased from [REDACTED] person-days to [REDACTED] person-days, resulting in a decrease of about \$[REDACTED].
- WBS 1.2.3.7.2, which is the disposition of additional UF<sub>6</sub> cylinders, was removed per the response from Westinghouse to RAI 3.
- Inflation rates increased per the response from Westinghouse to RAI 7.

WBS 1.2.3.7.2, which is about the disposition of additional UF<sub>6</sub> cylinders, had been removed per the response to RAI 3.

The volume of onsite subsurface material containing residual radioactivity that will require remediation is discussed in Section 3.7.2.6 (page 13).

Westinghouse included a contingency factor to the May 2016 DFP (Ref. 9).

### 3.2.3. NRC Staff Evaluation

The NRC staff reviewed the submittal from Westinghouse and determined that the DCE is reasonable to achieve unrestricted use. The DCE is consistent with NRC guidance (Ref. 10) for developing a detailed DCE. Volumes of material requiring remediation are discussed on Section 3.7.2.6 (page 13) of this SER. The NRC staff determined that the 25 percent contingency factor is adequate.

### 3.2.4. NRC Staff Findings

As discussed in their preceding evaluation, the NRC staff reviewed the DCE for sufficient detail. On the basis of the review, the NRC staff has determined that the licensee followed NRC guidance to meet regulatory requirements, thus, assuring that the detail is sufficient. The cost estimate accounts for relevant factors such that no significant costs have been overlooked, thereby assuring sufficient funds to decommission in a manner to protect health and minimize danger to life or property. Therefore, the NRC staff finds that the licensee meets the requirement of 10 CFR 70.25 (e)(1)(i).



### **3.3. Identification and Justification of Key Assumptions**

#### **3.3.1. Regulatory Requirements**

10 CFR 70.25 (e)(1)(ii) requires that each DFP must contain an identification of, and justification for, using the key assumptions contained in the DCE.

#### **3.3.2. Licensee Submittal**

In the June 2015 submittal (Ref. 1), the licensee assumed that all production activities had ceased and the decommissioning activities take place upon cessation of operations without extended storage periods; SNM would be removed from the site prior to the start of decommissioning. Dispositioning is performed in the same manner, whether decommissioning is planned or sudden. After discussions with the licensee (Refs. 4, 5, and 6), Westinghouse gave assurance (Ref. 9) that SNM would be dispositioned.

Customer-owned UF<sub>6</sub> cylinders will be retrieved by their rightful owner at the owner's expense and in a timely manner. Typical contract language states that Westinghouse and the owner will agree to a schedule for the prompt return of UF<sub>6</sub> cylinders; Westinghouse will make UF<sub>6</sub> cylinders available for collection.

Westinghouse-owned UF<sub>6</sub> cylinders will be transferred in a timely manner to other Westinghouse fuel assembly locations such as Vasteras, Sweden, or Springfields, UK. The receiving site pays for the packaging, and transportation costs; the CFFF would not have any additional costs. Westinghouse has a current export license in place that expires on December 31, 2023 (Ref. 18). Shipments are routinely done several times [REDACTED] as a normal course of business. Within Westinghouse, each fuel assembly plant is independent in operations and finances.

Other SNM materials, such as powder, pellets, and fuel rods, will be processed into finished fuel assemblies by Westinghouse personnel. The time from when UF<sub>6</sub> is vaporized to when a fuel assembly is finished is within [REDACTED] days (Ref. 9). To assure that funds are available to complete the processing, Westinghouse has a business interruption plan and a global insurance program as financial protection from unplanned events. For the CFFF, the insurance coverage includes events such as, but limited to, fire, lightning, aircraft crash, explosion, earthquake, windstorm, flood, theft, machinery breakdown, acts of terrorism, and radioactive contamination. Though the purpose of the business interruption plan and insurance is to assure both domestic and foreign customers of nuclear fuel, the statements regarding the plan and the insurance are a basis that the in-process SNM will be dispositioned from the CFFF site.



### 3.3.3. NRC Staff Evaluation

The NRC staff determined that the DFP is based on reasonable assumptions. The key assumption is that SNM will be dispositioned prior to decommissioning, thus, excluding the cost of packaging, loading, and transporting, and dispositioning SNM from the DFP. The plan to disposition SNM is based on legal title of the SNM, not on the market value of the SNM. The licensee discussed a plan to disposition three categories of SNM — customer-owned UF<sub>6</sub> cylinders, Westinghouse-owned UF<sub>6</sub> cylinders, and SNM in processing.

Customer-owned UF<sub>6</sub> cylinders will be returned to their legal owners. Contract language states that the UF<sub>6</sub> cylinders will be made available to the owners, who have legal title to the UF<sub>6</sub> cylinders; the owners have ultimate responsibility for the UF<sub>6</sub> cylinders, including transportation. Westinghouse-owned UF<sub>6</sub> cylinders will be transferred to other Westinghouse fuel assembly locations such as Vasteras, Sweden or Springfields, UK. The business practices of Westinghouse have the receiving facility covering the cost of packaging, loading, and transportation costs; the CFFF would not have any additional costs. Westinghouse has a current export license in place that expires on December 31, 2023 (Ref. 18). Such shipments are routinely done several times [REDACTED].

The NRC staff determined that the most expeditious means of dispositioning in-process SNM is for the Westinghouse staff to complete the processing of the SNM prior to decommissioning. In this way, intermediate uranium products, which are as liquids, powders, and pellets, can be used in fabricating fuel assemblies to readily disposition, thus, avoiding unnecessary contamination. While a third-party contractor could hire former Westinghouse staff to complete the process should the CFFF cease operations, the NRC staff determined that there are no assurances of hiring as such and that time would be needed for former employees to be hired. Given the position of the NRC staff on dispositioning in-process SNM as limited and specific to processing in the specific case of terminating operations, the NRC staff determined that continuing to process the SNM in the fuel manufacturing process is in the best interest of the public; in this way, additional contamination, which may occur should operations cease while SNM remains in the manufacturing process, is prevented. From prior knowledge, the NRC staff knows that processing from UF<sub>6</sub> to fuel assemblies typically takes about [REDACTED] days. Since ceasing operations to decommission is atypical, additional time can be expected to bring in-process SNM through the CFFF systems. As such, the NRC determined that a period of [REDACTED] to [REDACTED] days is reasonable to allow for decommissioning to be done in a timely manner.

In the event of a sudden shutdown of the CFFF, Westinghouse has a business interruption plan and a global insurance program to provide financial protection from unplanned events. For the CFFF, the insurance coverage includes event such as, but limited to, fire, lightning, aircraft crash, explosion, earthquake, windstorm, flood, theft, machinery breakdown, acts of terrorism, and radioactive contamination.

The NRC determined that the assertion of Westinghouse plants being independent in operations and finances is reasonable. Though the facilities are under one corporate entity, the three facilities are in three countries. Each facility has its own plant manager. Each facility is manufacturing fuel assemblies independent of the other facilities. This is a deliberate business



strategy to assure Westinghouse customers of nuclear fuel. The NRC staff concluded that this practice is sufficient assurance that SNM will be dispositioned.

#### 3.3.4. NRC Staff Findings

As discussed in their preceding evaluation, the NRC staff reviewed key assumptions of the DFP. On the basis of the review, the NRC staff has determined that the licensee has reasonable key assumptions to ensure that decommissioning can be done in a manner to protect health and minimize danger to life or property. Therefore, the NRC staff finds that the licensee meets the requirement of 10 CFR 70.25(e)(1)(ii).

### 3.4. Description of the Methods for Assuring Funds

#### 3.4.1. Regulatory Requirements

10 CFR 70.25(e)(1)(iii) requires that each DFP must contain a description of the method of assuring funds.

#### 3.4.2. Licensee Submittal

During the review of the June 2015 DFP, Westinghouse was unable to demonstrate continued eligibility to use a parent company guarantee as financial assurance for decommissioning. As financial assurance, Westinghouse instead submitted a letter of credit (Ref. 16) that is based on the June 2012 DFP (Refs. 12 and 13) for the amount of \$ [REDACTED].

#### 3.4.3. NRC Staff Evaluation

The term Decommissioning Funding Plan is not defined in 10 CFR Part 70. The DFP consists of the DCE and the financial instrument to guarantee funds in the amount of the DCE. In practice, the financial instrument is submitted either with the DCE or as a separate document. With the DCE, the licensee begins with one submittal. As a separate document, iterations between the guarantor and the NRC are avoided.

The May 2016 DFP does not contain a description of the financial instrument. The NRC staff has chosen to allow Westinghouse to submit the letter of credit separately from the DFP. This avoids unnecessary revisions to the DFP when the financial instrument is changed, such as occurred when the June 2015 DFP was being reviewed.

By letter dated February 4, 2016, the NRC staff approved the letter of credit (Ref. 17) for the amount of \$ [REDACTED] as stated in the June 2012 DFP. The May 2016 DFP has a DCE of \$ [REDACTED]. The letter of credit is self-renewing, and hence, remains in effect until such time as both the licensee revises the amount and the NRC staff approves the revision.

#### 3.4.4. NRC Staff Findings

As discussed in their preceding evaluation, the NRC staff reviewed the method of assuring funds for decommissioning. On the basis of the review, the NRC staff has determined that the licensee has assurance that funds will be available to decommission in a manner to protect health and minimize danger to life or property. Therefore, the NRC staff finds that the licensee meets the requirement of 10 CFR 70.25(e)(1)(iii).

### 3.5. Certification of Financial Assurance

#### 3.5.1. Regulatory Requirements

10 CFR 70.25(e)(1)(iv) requires that each DFP must contain a certification that financial assurance for decommissioning has been provided in the amount of the cost estimate.

#### 3.5.2. Licensee Submittal

By letter dated May 12, 2016, (Ref. 9), the licensee submitted a signed and dated certification of financial assurance stating the following:

- Address of the corporate headquarters
- Address of the licensed facility
- NRC license number
- Statement certifying the possession limits
- Statement certifying the amount of funds, corresponding to the letter of credit, and at least in the amount of the DFP, that have been obtained for decommissioning.

The letter of credit (Ref. 13) is in the amount of \$[REDACTED]. The Certification (Ref. 9) is in the amount of \$[REDACTED]. Though the letter of Credit and the Certification differ slightly, the difference is irrelevant because the DCE of the May 2016 DFP (Ref. 9) is less than either, being in the amount of \$[REDACTED].

#### 3.5.3. NRC Staff Evaluation

The certification documents the understanding of the licensee of both their responsibility to decommission, and that the funds estimated in the DFP have been set aside to be used as such.

The NRC staff determined that the certification of financial assurance has the above stated elements. The certification is signed and dated. The certified amount exceeds the amount stated in the previously approved DFP (see Section 3.5.2 on page 8 and Table 1 on page 3).

#### 3.5.4. NRC Staff Findings

As discussed in their preceding evaluation, the NRC staff reviewed the certification of financial assurance. On the basis of the review, the NRC staff has determined that the licensee has



certified adequate funds to accomplish decommissioning in a manner to protect health and minimize danger to life or property. Therefore, the NRC staff finds that the licensee meets the requirement of 10 CFR 70.25(e)(1)(iv).

### **3.6. Signed Financial Instrument**

#### **3.6.1. Regulatory Requirements**

10 CFR 70.25(e)(1)(v) requires that each DFP must contain a signed original, or, if permitted, a copy of the financial instrument.

#### **3.6.2. Licensee Submittal**

Westinghouse submitted a letter of credit dated August 20, 2015 (Ref. 16).

#### **3.6.3. NRC Staff Evaluation**

By letter dated February 4, 2016, the NRC staff approved the letter of credit (Ref. 17). The signed original version of the letter of credit is in the possession of the NRC.

#### **3.6.4. NRC Staff Findings**

As discussed in their preceding evaluation, the NRC staff reviewed the topic of submitting the financial instrument. On the basis of the review, the NRC staff has determined that the licensee has a financial instrument with the NRC that assures funds for decommissioning such to protect health and minimize danger to life or property. Therefore, the NRC staff finds that the licensee meets the requirement of 10 CFR 70.25(e)(1)(v).

### **3.7. Adjustments to the DFP**

#### **3.7.1. Regulatory Requirements**

10 CFR 70.25(e)(2) states that the DFP must be resubmitted at stated time with adjustments as necessary to account for changes in costs and the extent of contamination. If the amount of financial assurance will be adjusted downward, this cannot be done until the updated DFP is approved. The DFP must specifically consider the effect of events given in 10 CFR 70.25(e)(2)(i) through 10 CFR 70.25(e)(2)(viii).

#### **3.7.2. Licensee Submittal and NRC Evaluation**

To comply with 10 CFR 70.25(e)(2)(i) through 10 CFR 70.25(e)(2)(viii), Westinghouse accounted for the following events:

### 3.7.2.1. Spills of radioactive material

#### Licensee Submittal

Since the June 2012 DFP (Refs. 12 and 13), no spills or releases of radioactive material that could contribute to any structure or subsurface residual radioactivity occurred at the CFFF (Ref. 9, page 1-2).

#### NRC Staff Evaluation

While no spills have occurred since the June 2012 DFP was approved, the NRC staff identified additional sources of potential contamination during a separate review of the Environmental Report (Ref. 11), associated with the application to renew license SNM-1107 (Ref. 11). Specifically, the NRC staff identified instances where some gross alpha concentrations appeared to be above U.S. Environmental Agency (EPA) drinking water standards. The NRC staff also identified instances of technetium 99 ( $^{99}\text{Tc}$ ) contamination in groundwater; these levels are below EPA drinking waters standards. Neither the gross alpha nor the  $^{99}\text{Tc}$  concentrations were acknowledged in the May 2016 DFP. When the NRC staff inquired with Westinghouse, the licensee asserted that the gross alpha contamination was not due to uranium (Ref. 19); NRC staff found that the licensee did not distinguish between natural uranium and licensed uranium. Though a natural background of uranium decay daughter products exists, the question is whether the site has enough natural uranium or radium to account for the gross alpha concentrations. The NRC staff determined that the gross alpha and  $^{99}\text{Tc}$  concentrations are sufficiently low to allow the NRC staff to have reasonable assurance that both concentrations are not a significant fraction of the cost to decommission.

#### NRC Staff Findings

As discussed in their preceding evaluation, the NRC staff reviewed the accounting of spills in the DFP. On the basis of the review, the NRC staff has determined that the licensee has accounted for spills such that the sufficient funds exist to decommission in a manner to protect health and minimize danger to life or property. Therefore, the NRC staff finds that the licensee meets the requirement of 10 CFR 70.25(e)(2)(i).

### 3.7.2.2. Waste inventory increases

#### Licensee Submittal

Waste inventories at the time of decommissioning will be consistent with typical inventories present during normal operations. Westinghouse has indicated how these costs are covered.

#### NRC Staff Evaluation

Westinghouse adjusted its DCE for waste management costs from its previously approved June 2012 DFP (Refs. 12 and 13) cost estimate (pages 4-46 through 4-48). Applying a parallel path between the Chemical Areas decontamination and the URRS Soil removal and the structures



and outside areas reduced the total project duration as follows: The 2012 DFP identified an onsite duration of [REDACTED] days; applying the parallel path to the URRS soil reduced the onsite duration by [REDACTED] days. Applying another parallel path to the Structures and Outside Areas resulted in another reduction of [REDACTED] days which then brought the onsite duration to [REDACTED] days. With the addition of the 2012-2015 Additional Equipment, the resultant duration is [REDACTED] days.

#### NRC Staff Findings

As discussed in their preceding evaluation, the NRC staff reviewed the accounting of waste inventory increase in the DFP. On the basis of the review, the NRC staff has determined that the licensee has accounted for waste inventories such that the sufficient funds exist to decommission in a manner to protect health and minimize danger to life or property. Therefore, the NRC staff finds that the licensee meets the requirement of 10 CFR 70.25(e)(2)(ii).

#### 3.7.2.3. Waste disposal costs increases

##### Licensee Submittal

The 2015 waste processing and disposal costs increased in some aspects and decreased in other aspects as follows:

- The bulk survey for release (BSFR) of concrete decreased by \$[REDACTED]/lb to \$[REDACTED]/lb;
- The BSFR for metals and dry active waste increased by \$[REDACTED]/lb to \$[REDACTED]/lb;
- Direct burial for concrete, sponge jet blasting media, and rubble decreased by \$[REDACTED]/lb to \$[REDACTED]/lb; and
- Direct burial for soils remained the same, and direct burial for metals increased by \$[REDACTED]/lb to \$[REDACTED]/lb.

##### NRC Staff Evaluation

The NRC staff agrees with the changes made to the cost of waste disposal.

##### NRC Staff Findings

As discussed in their preceding evaluation, the NRC staff reviewed the accounting of waste disposal increases in the DFP. On the basis of the review, the NRC staff has determined that the licensee has accounted for waste disposal such that the sufficient funds exist to decommission in a manner to protect health and minimize danger to life or property. Therefore, the NRC staff finds that the licensee meets the requirement of 10 CFR 70.25(e)(2)(iii).

#### 3.7.2.4. Facility modifications

##### Licensee Submittal

Since the previous DFP (Ref. 12), the licensee expanded the uranium hexafluoride (UF<sub>6</sub>) storage pad (Ref. 14).

##### NRC Staff Evaluation

Since the June 2012 DFP (Ref. 12), the significant change to the CFFF is the expansion of the UF<sub>6</sub> storage pad to accommodate about [REDACTED] UF<sub>6</sub> cylinders. The NRC staff determined that the expansion would not result in additional contamination of the CFFF site (Ref. 14) because the SNM is, and remains, in UF<sub>6</sub> cylinders.

##### NRC Staff Findings

As discussed in their preceding evaluation, the NRC staff reviewed the accounting of facility modifications in the DFP. On the basis of the review, the NRC staff has determined that the licensee has accounted for waste disposal such that the sufficient funds exist to decommission in a manner to protect health and minimize danger to life or property. Therefore, the NRC staff finds that the licensee meets the requirement of 10 CFR 70.25(e)(2)(iv).

#### 3.7.2.5. Changes in authorized possession limits

##### Licensee Submittal

The expansion of the UF<sub>6</sub> storage pad was done to store, not process, additional UF<sub>6</sub> cylinders for customers (Ref. 14).

##### NRC Staff Evaluation

By letter dated November 2, 2015 (Ref. 14), the NRC staff approved a request from Westinghouse to increase the possession limit of <sup>235</sup>U, allowing the licensee to store about [REDACTED] UF<sub>6</sub> cylinders on the UF<sub>6</sub> cylinder storage pad. The NRC staff determined that the increase in the possession limit does not add additional contamination to the CFFF site because the SNM is to be stored, not used in production. The UF<sub>6</sub> remains in the UF<sub>6</sub> cylinders. Nonetheless, the additional UF<sub>6</sub> cylinders are SNM that would need to be dispositioned. Dispositioning the additional UF<sub>6</sub> are covered by existing contracts which the licensee has in place.

##### NRC Staff Findings

As discussed in their preceding evaluation, the NRC staff reviewed the accounting of changes in the possession limits in the DFP. On the basis of the review, the NRC staff has determined that the licensee has accounted for changes in the possession limits such that the sufficient funds exist to decommission in a manner to protect health and minimize danger to life or



property. Therefore, the NRC staff finds that the licensee meets the requirement of 10 CFR 70.25(e)(2)(v).

#### 3.7.2.6. Actual remediation costs that exceed the previous cost estimate

##### Licensee Submittal

Westinghouse adjusted its estimate for contaminated soil from its previously approved June 2012 DFP (Refs. 12 and 13).

The Uranium Recycling and Recovery Services (URRS) area is located in the southwest portion of the facility. In 2011, Westinghouse determined that a buried piping system running through the URRS area had developed a leak. A second breach in the system was identified. To remediate the URRS soil, the concrete floor slab will be cut around the perimeter of the area of concern. The cooling water generated during the saw cutting will be collected, sampled, and processed, if necessary, with all other liquids collected during the soil remediation. The concrete floor slab will be removed and packaged for final disposition.

Westinghouse estimates [REDACTED] cubic feet of soil will be removed, packaged, and stored onsite until all soil has been remediated and final shipments are arranged. The volume of contaminated soil is estimated to account for not only the URRS leak, but also for the possibility of other historical area contamination. The stored URRS soil will then be loaded onto trucks for transport to the nearest railway access and transferred to gondola cars for transport via rail to a disposal facility; the DCE is based on the supposition that the soil will be dispositioned at the U.S. Ecology disposal facility located in Grand View, Idaho. All liquids encountered during the soil remediation will be collected, sampled and processed through a liquid treatment system, if necessary, until sample results indicate the liquid meets the acceptable release criteria. In determining the DCE, Westinghouse supposed that the liquids will need to be treated. A monitoring well, located down gradient from the affected area, has not indicated any elevated levels of contamination.

Table 90 of the DFP (page 4-48 of Ref. 9) lists the total URRS-decontaminated soil remediation cost as \$[REDACTED] (Ref. 1) that was revised to \$[REDACTED] (Ref. 9).

##### NRC Staff Evaluation

The licensee updated its remediation costs since the June 2012 DFP (Refs. 12 and 13). The licensee accounted for known areas of contaminated soil, both recent and historic, and included costs for packaging, loading, and disposal, of contaminated soil at a facility which can accept this soil.

##### NRC Staff Findings

As discussed in their preceding evaluation, the NRC staff reviewed the accounting of actual remediation costs in the DFP. On the basis of the review, the NRC staff has determined that the licensee has accounted for waste disposal such that the sufficient funds exist to

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decommission in a manner to protect health and minimize danger to life or property. Therefore, the NRC staff finds that the licensee meets the requirement of 10 CFR 70.25(e)(2)(vi).

**3.7.2.7. Onsite disposal**

Licensee Submittal

For the purpose determining the DCE, the licensee supposes that all waste forms will be packaged and sent to a licensed low level radioactive waste processing facility or to a licensed radioactive materials disposal facility for direct disposal. The waste disposal costs have been developed using the current industry disposal rates.

NRC Staff Evaluation

The NRC staff determined that the licensee has taken adequate measures to account for the disposal of wastes. All waste forms will be packaged and sent to a licensed low-level radioactive waste processing facility. The waste disposal costs have been developed using the current industry disposal rates updated as part of the June 2015 DFP.

NRC Staff Findings

As discussed in their preceding evaluation, the NRC staff reviewed the accounting of onsite disposal in the DFP. On the basis of the review, the NRC staff has determined that the licensee has accounted for onsite disposal such that the sufficient funds exist to decommission in a manner to protect health and minimize danger to life or property. Therefore, the NRC staff finds that the licensee meets the requirement of 10 CFR 70.25(e)(2)(vii).

**3.7.2.8. Use of a settling pond**

No changes in the use of settling ponds occurred since the previous DFP.

NRC Staff Evaluation

Since the previous DFP (Ref. 12), the licensee has made no changes in the use of settling ponds. The DFP accounts for reducing contamination to meet the 10 CFR 20.1402 criteria for unrestricted use.

NRC Staff Findings

As discussed in their preceding evaluation, the NRC staff reviewed the accounting of the use of a settling pond in the DFP. On the basis of the review, the NRC staff has determined that the licensee has accounted for the use of a settling pond such that the sufficient funds exist to decommission in a manner to protect health and minimize danger to life or property. Therefore, the NRC staff finds that the licensee meets the requirement of 10 CFR 70.25(e)(2)(viii).

**3.8. Constituents of the Financial Instrument**



#### 3.8.1. Regulatory Requirements

10 CFR 70.25(f) states that the financial instrument must include the licensee's name, license number, and docket number; and the name, address, and other contact information of the issuer, and, if a trust is used, the trustee. When any of the foregoing information changes, the licensee must, within ■ days, submit financial instruments reflecting such changes. Financial assurance for decommissioning must be provided by one or more of specific methods.

#### 3.8.2. Licensee Submittal

Westinghouse submitted a letter of credit dated August 20, 2015 (Ref. 16).

#### 3.8.3. NRC Staff Evaluation

By letter dated February 4, 2016, the NRC staff approved the letter of credit (Ref. 17).

#### 3.8.4. NRC Staff Findings

The NRC staff previously approved (Ref. 17) the letter of credit. As such, for the subject review, the NRC staff does not make a finding.

### 4. CONCLUSION

Based on the preceding review of the DFP dated May 12, 2016, the NRC staff has reasonable assurance that Westinghouse will have adequate funds to decommission the CFFF for unrestricted use. Hence, approval of the DFP dated May 12, 2016, will not constitute an undue risk to public health and safety. The NRC staff finds that the May 2016 DFP meets the requirements of 10 CFR 70.25. The NRC staff concludes that the DFP dated May 12, 2016, (Ref. 9) should be approved for the amount of \$■, which includes a 25 percent contingency factor.

### 5. PRINCIPAL CONTRIBUTORS

K. Kline, Technical Reviewer  
C. Ryder, Licensing Project Manager

### 6. REFERENCES

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