

August 10, 2016

NOTE TO: File

FROM: Christopher Ryder, Project Manager /RA/
Fuel Manufacturing Branch
Division of Fuel Cycle Safety, Safeguards
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Office of Nuclear Material Safety
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SUBJECT: CONFERENCE CALLS ON JUNE 22, 2016, AND JULY 22, 2016:
DIFFERENCES IN THE DECOMMISSIONING FUNDING PLAN DATED
JUNE 5, 2015 AND MAY 12, 2016

1. JUNE 22, 2016

1.1. BACKGROUND

On June 5, 2015, as required by Title 10 of the *Code of Federal Regulations* (10 CFR) 70.25(e)(2)¹, the Westinghouse Electric Company (Westinghouse) submitted their triennial update to the decommissioning funding plan (DFP) (Ref. 1) of the Columbia Fuel Fabrication Facility (CFFF). By letter dated November 17, 2015 (Ref. 2), the U.S. Nuclear Regulatory Commission (NRC) staff requested additional information (RAI). Westinghouse responded to the RAIs, first by letter dated December 17, 2015 (Ref. 3), then by letter dated May 12, 2016 (Ref. 4). The NRC staff had conference calls on November 30, 2015, (Ref. 5), December 15, 2015, (Ref. 6), and March 22, 2016, (Ref. 7) to communicate their expectations about accounting for the cost of dispositioning special nuclear material (SNM).

The subject conference calls with Westinghouse were held to identify and understand differences in estimated costs between the June 5, 2015, version and the May 12, 2016, version. The focus of the discussion was on the changes in estimated costs for the disposition of inventory. To facilitate the discussion on June 22, 2016, the NRC staff sent Westinghouse the June 2015 DFP with the lines numbered.

1.2. PARTICIPANTS

NRC	Westinghouse
Christopher Ryder ^(a)	Nancy Parr ^(d)
Kenneth Kline ^(b)	
Libby Kurz ^(c)	
Elizabeth Gormsen ^(c)	

¹ 10 CFR 70.25(e)(2) Each decommissioning funding plan must be submitted for review and approval 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.

Notes

- a. Licensing Project Manager, Office of Nuclear Materials Safety and Safeguards, Division of Fuel Cycle Safety and Environmental Review, Fuel Manufacturing Branch
- b. Technical Reviewer, Office of Nuclear Materials Safety and Safeguards, Division of Decommissioning, Uranium Recovery, and Waste Programs (DUWP), Performance Assessment Branch
- c. ICF International
- d. Licensing Manager

1.3. DISCUSSION

Westinghouse explained that the decrease in the decommissioning cost estimate (DCE) in May 2016 resulted from changes discussed during a conference call with the NRC staff on March 22, 2016 (Ref. 7) that allowed Westinghouse to complete their response (Ref. 4) to RAIs (Ref. 2), in particular, to RAI 3 asking about the disposition of the types of SNM. In June 2015, the cost of transporting the additional UF₆ cylinders was added to account for the increase in the possession limit as authorized by NRC (Refs. 8 and 9). Westinghouse stated that the DCE was revised to meet the expectations of the NRC staff, including language describing the methods that Westinghouse intends to use for dispositioning inventory, which was developed by Westinghouse in response to RAI 3. The NRC staff explained that the response to the RAI 3 (Ref. 4) is conceptual. Details are needed to understand the specific decommissioning activities that were revised in the DFP to result in the \$█ decrease in the Advanced Activities section of the May 2016 DFP.

The net change in the total cost estimate between June 2015 and May 2016 is a decrease of about \$█. Westinghouse identified changes leading to the May 2016 DFP submittal:

- Labor rates increased per the response of Westinghouse to RAI 6 (see page 4-1 and Table 8 on page 4-2 of Ref. 1).
- 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 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 decommissioning cost estimate must use third-party contractor costs, with the supposition that operations cease abruptly.
- The number of person-days in Advance Activities decreased from █ days in the June 2015 DFP to █ days in the May 2016 DFP, as reflected in Work Breakdown Structure (WBS) 1.2.1 (page 4-11) and WBS 1.2.2 (page 4-13). This change in labor is reflected in the inventory disposition description of Advanced Activities, Section 4.2.3.1 (Table 23 on page 4-17 of Ref. 1). The total number of person-days decreased from █ days in the June 2015 DFP to █ days in the May 2016 DFP, resulting in a decrease of about \$█.
- WBS 1.2.3.7.2, regarding the disposition of additional UF₆ 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 about the disposition of additional UF₆ cylinders had been removed per the response to RAI 3.
- The contingency factor was added into the May 2016 DFP itself as per the response from Westinghouse to RAI 8.

Westinghouse elaborated on several of these changes. Previously, a contingency factor had been included in the cover letter of a DFP submission because other regulatory agencies also require a contingency factor that Westinghouse staff would mistakenly add to the DFP, not realizing that a contingency factor was also required by NRC. Westinghouse staff have been instructed not to add one factor onto another.

Given the supposition of a sudden shutdown² as stated by the NRC staff, Westinghouse submitted the May 2016 DFP to incorporate the response to RAI 3. Westinghouse would empty the process lines of SNM because both equipment and procedures are proprietary and the activities are NRC licensed activities that a third-party contractor is not authorized to perform. A contractor would remove residual contamination and complete decommissioning that does not require process knowledge.

In June 2015, the NRC staff identified the dispositioning cost of the additional UF₆ cylinders that had been authorized for storage by Amendment 18 (Ref. 8), which was approved by the NRC staff (Ref. 9). The cost of dispositioning other types of SNM, such as customer-owned UF₆ cylinders, Westinghouse-owned UF₆ cylinders, and SNM in the fuel manufacturing process, was not understood by NRC to be included in the Advanced Activities section of June 2015. In the Advanced Activities section of the May 2016 DFP is a decrease of about \$█ that is due to the removal of costs associated with the dispositioning of inventory. Prior to the conference call, Westinghouse did not clearly identify the activities that were removed to account for the change in estimated costs. The NRC staff stated that identifying the specific activities for which costs were included in the June 2015 DFP and excluded in May 2016 DFP is difficult.

The NRC staff stated that they could link reduced estimated costs reflected in the May 2016 DFP to changes in specific activities included in the June 2015 DFP. The NRC staff understands that the changes to the approach to the disposition of inventory are discussed in the May 2016 DFP, but the relation to the changes in estimated funding do not appear to be documented. Westinghouse replied that the changes are on pages 4-17 and 4-18 of the May 2016 DFP in response to RAI 3 (Ref. 4). The only changes to the May 2016 DFP were to incorporate the RAI responses. Westinghouse is unclear about the expectations of the NRC staff.

The NRC staff stated that they are unable to relate the changes from the June 2015 DFP to the May 2016 DFP, and a member of the public would not be able to do so. Westinghouse responded that a member of the public could do so using the RAI responses. In addition, Westinghouse stated that the costs estimates are proprietary and not publicly available. The NRC staff stated that a complete review of the May 2016 DFP, albeit expedited, may be a more effective use of resources rather than trying to follow the changes from the June 2015 DFP to the May 2016 DFP. Westinghouse responded that the NRC staff had already approved the May 2016 DFP per a Safety Evaluation Report (SER) dated May 27, 2016 (Ref. 10); the reduced

² Afterthought from C. Ryder. During a conference call (Ref. 5) on November 30, 2015, the NRC staff stated that a plan needs to be in place with adequate supporting documentation. The plan must account for an unexpected closure, such as after an unforeseen event (e.g., accident, financial downturn). Unforeseen events have happened in the nuclear industry. During a conference call (Ref. 6) on December 15, 2015, the NRC staff stated that “sudden” should be taken as a “snapshot” of the state of the facility. Decommissioning is to be based on average conditions. While long term planning is preferable, circumstance may arise, such as an accident, which may preclude planning in the long term. During a conference call (Ref. 7) on March 22, 2016, the NRC staff acknowledged the confusion over the concept of a “sudden shutdown”. The NRC staff wants assurance of a plan being in place prior to decommissioning; that a plan is not developed suddenly when decommissioning commences as has happened with several other licensees.

DCE was not documented in the SER. The NRC staff stated they focused on the Westinghouse response to RAI 3, not on the cost estimates themselves in the May 2016 DFP.

2. JULY 22, 2016

2.1. PARTICIPANTS

NRC	Westinghouse
Robert Johnson ^(a)	Nancy Parr ^(e)
Christopher McKenney ^(b)	
Christopher Ryder ^(c)	
Kenneth Kline ^(d)	

Notes

- a. Branch Chief, Office of Nuclear Materials Safety and Safeguards, Division of Fuel Cycle Safety and Environmental Review, Fuel Manufacturing Branch
- b. Branch Chief, Office of Nuclear Materials Safety and Safeguards, Division of Decommissioning, Uranium Recovery, & Waste Programs (DUWP), Performance Assessment Branch
- c. Licensing Project Manager, Office of Nuclear Materials Safety and Safeguards, Division of Fuel Cycle Safety and Environmental Review, Fuel Manufacturing Branch
- d. Technical Reviewer, Office of Nuclear Materials Safety and Safeguards, Division of Decommissioning, Uranium Recovery, & Waste Programs (DUWP), Performance Assessment Branch
- e. Licensing Manager

2.2. DISCUSSION

The NRC staff stated that they needed additional information to justify the decrease in the DCE, such as the changes in the types of labor categories. The NRC staff acknowledged the discussion on June 22, 2016, but stated that they expect changes in labor categories in terms of person-days.

Westinghouse restated that the changes in the labor categories are due to only the processing of SNM within the CFFF systems prior to decommissioning. A third-party contractor will not have the skills and experience to operate the equipment. In a WBS of the DCE, a preparation activity decreased from █████ person-days to █████ person-days as indicated in Table 23 of both June 2015 and May 2016. The difference is █████ person-days, during █ days to complete processing, which is about █ Westinghouse staff. This change was made in response (Ref. 4) to RAI 3 (Ref, 2). The basis of the estimated decrease is operating experience. Table 23 of the DFP does not distinguish between labor categories. The WBS of Advance Activities consists of premobilization, mobilization, and preparation activities. The preparatory activity in the June 2015 DFP, which has a duration of █ days duration, was removed from the May 2016 DFP.

3. SUMMARY

Table 1. Summary of changes in decommissioning costs			
	June 2015	May 2016	Reason
Pre-Requisite Activities	\$ [REDACTED]	\$ [REDACTED]	(a)
Advanced Activities	\$ [REDACTED]	\$ [REDACTED]	(b)
D&D*	\$ [REDACTED]	\$ [REDACTED]	(a)
URRS** Soil	\$ [REDACTED]	\$ [REDACTED]	(c)
Waste Management	\$ [REDACTED]	\$ [REDACTED]	(a)
Concluding Activities	\$ [REDACTED]	\$ [REDACTED]	(a)
Project Management	\$ [REDACTED]	\$ [REDACTED]	(d)
* Decontamination and decommissioning. ** Uranium Recovery and Recycling Services			

Reasons

- a. Labor rates increase in Table 6 of the revised DFP (Ref. 3) due to the response to RAI 6. Inflation rate increased from 2.2 percent to 2.9 percent due to the response to RAI 7 (Ref. 3)
- b. Advanced activities decreased due to the resolution for inventory disposition of in response to RAI 3 (Ref. 4). Advanced activities consist of three item categories: pre-mobilization, mobilization and preparatory. The pre-mobilization and mobilization estimates are essentially the same, with slight adjustments for labor rates and inflation. The preparatory activities decreased by [REDACTED] days, which equates to approximately \$ [REDACTED] (see Table 26 of the revised DFP (Ref. 3)). The original submittal in the preparatory activities also included D&D costs for the removal of [REDACTED] full UF₆ cylinders (increase in possession limit) and based on original understanding of NRC expectations for SNM Inventory Disposition.
- c. Relatively small change based on labor and inflation rates.
- d. [REDACTED] days of on-site third-party contractor labor for the advanced activities were removed; the total project duration changed from [REDACTED] months to [REDACTED] months. Project management decreased due to person-days included for Westinghouse participation in the project management category. D&D cost estimate must be based solely on third-party contractor costs (see response to RAI 1 (Ref. 4)).

4. REFERENCES

1. Letter from N. Parr, Westinghouse Electric Company LLC, “Westinghouse Columbia Fuel Fabrication Facility Decommissioning Funding Plan”, June 5, 2015. ADAMS accession number: ML15156B312.
2. Letter from C. Ryder, U.S. Nuclear Regulatory Commission, “Request For Additional Information: Triennial Update Of The Decommissioning Funding Plan (Technical Assignment Control Number: L33376)” November 17, 2015. ADAMS accession number: ML15264B004.
3. Letter from N. Parr, Westinghouse Electric Company LLC, “Westinghouse Response to Request For Additional Information: Triennial Update of the Decommissioning Funding Plan (TAC number: L33376)”, December 17, 2015. ADAMS accession number: ML15351A393.
4. Letter from N. Parr, Westinghouse Electric Company LLC, “Westinghouse Response to Request For Additional Information and Submittal of Revised Decommissioning Funding Plan (TAC number: L33376)”, May 12, 2016. ADAMS accession number: ML16134A095.
5. Note from C. Ryder, U.S. Nuclear Regulatory Commission, “Summary of Conference Call — Westinghouse Triennial Update Of The Decommissioning Funding Plan”, January 8, 2016. ADAMS accession number: ML16011A206.
6. Note from C. Ryder, U.S. Nuclear Regulatory Commission, “Conference Call: Westinghouse Triennial Update of The Decommissioning Funding Plan - Expectations of Response to Request for Additional Information”, February 12, 2016. ADAMS accession number: ML16043A481.
7. Note from C. Ryder, U.S. Nuclear Regulatory Commission, “Conference Call On March 22, 2016: Expectations Of Westinghouse In Response To Requests For Additional Information Regarding The Decommissioning Funding Plan Dated June 5, 2015”, April 18, 2016. ADAMS accession number: ML16109A234.
8. Letter from N. Parr, Westinghouse Electric Company LLC, “Westinghouse License SNM-1107 Amendment Request (Docket 70-1151)”, November 11, 2014. ADAMS accession number: ML14316A092.
9. Letter from R. Johnson, U.S. Nuclear Regulatory Commission, “Amendment 18 – Exemption From 10 CFR Part 30, Appendix A, Section li.C.1; Exemption From 10 CFR, Part 20.1703(C)(5); Change In The Calibration Interval Of Portable Radiation Survey Instrumentation; Increase In Possession Limits; Approval Of Physical Security Plan, Revision 45; Change In Principal Officers; Removal Of Completed License Conditions (Technical Assignment Control Number L33353)”, November 2, 2015. ADAMS accession number: ML15125A279.
10. Letter from R. Johnson, U.S. Nuclear Regulatory Commission, “Approval Of The Updated Decommissioning Funding Plan And Cost Estimate For The Westinghouse Columbia Fuel Fabrication Facility (Cost Activity Code L33376)”, May 27, 2016. ADAMS accession number: ML16145A016.