

July 27, 2010

Mr. Mark P. Elliott, Director
Quality, Safety and Safeguards
Nuclear Fuel Services, Inc.
P.O. Box 337, MS 123
Erwin, TN 37650

SUBJECT: NUCLEAR FUEL SERVICES, INC., REQUEST FOR ADDITIONAL
INFORMATION CONCERNING UPDATED DECOMMISSIONING COST
ESTIMATE (TAC NO. L32974)

Dear Mr. Elliott:

This letter is in response to your letter dated February 26, 2010, which submitted a complete revision of your updated decommissioning cost estimate. Our review has identified that additional information is needed before your request can be approved.

The additional information specified in the enclosure should be provided to us within 30 days from the date of this letter. Please reference TAC No. L32974 in your response.

In accordance with Title 10 of the *Code of Federal Regulations* Section 2.390 of the U.S. Nuclear Regulatory Commission's (NRC) "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room and the Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

If you have any questions concerning this letter, please contact me at (301) 492-3123 or via e-mail to Kevin.Ramsey@nrc.gov.

Sincerely,

/RA/

Kevin M. Ramsey, Project Manager
Fuel Manufacturing Branch
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Docket No.: 70-143
License No.: SNM-124

Enclosure: Request for Additional Information

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**Request for Additional Information
Regarding the Updated Decommissioning Cost Estimate
For Nuclear Fuel Services**

- (1) Provide a facility description, and a more complete description of expected soil excavation volumes.

The cost estimate does not contain a description of the Nuclear Fuel Services (NFS) facility. NUREG-1757, Volume 3, Appendix A, §A.3.1.1 recommends that the cost estimate provide a basic facility description, including, among other items, a description of facility buildings and grounds. According to the aforementioned guidance, the facility description should provide the basic context for the cost estimate and should include information about the “characteristics of the facility that need to be understood to evaluate the estimated decommissioning costs.” To understand and evaluate the cost estimate, provide an overall map or description of the facility or a description of the types of activities that occur in individual buildings.

The cost estimate currently contains a statement that soil will be excavated in the footprint of certain buildings and the “surrounding area,” as well as in other locations that are described only in general terms. This level of detail is not sufficient to assess the adequacy of the cost estimate for removal and disposal of contaminated soil. Because of the significance of the cost component for the removal and disposal of contaminated soil, provide maps and descriptions that clearly indicate where the soil excavation is expected to occur and the volumes that you expect to excavate.

This information is needed to verify compliance with Title 10 of the *Code of Federal Regulations* (10 CFR) 70.25(e) which requires, in part, that decommissioning funding plans include the means for adjusting cost estimates and associated funding levels.

- (2) For each table in the cost estimate, identify the entity that is responsible for paying for decommissioning.

The NFS cost estimate states the following with respect to the allocation of decommissioning costs among the three responsible entities: “Within the Erwin Facility there are areas where the D&D liability is covered under contract with the Navy Nuclear Propulsion Program and areas where the D&D liability is the responsibility of NFS from its commercial activities or the responsibility of a NFS joint venture partnership. The costs for these three activities are estimated separately and then totaled into one complete number” (emphasis added) (page 3 of 101).

An excerpt from NUREG-1757 Volume 3, Appendix A, §A.3.1.3 states that “[k]ey assumptions used in the decommissioning cost estimate should be identified and adequately justified...” The cost estimate should clarify which of the facility components have their decommissioning liability covered by the U.S. Department of Energy (DOE), NFS, or the NFS joint venture partnership (JV), so that the responsibility of each of the three entities is clear. Not all of the tables in the cost estimate describing individual buildings are labeled with the name of one of the three entities responsible for decommissioning. Pages 10 of 101 through 50 of 101, including estimates of disposal volume for approximately 40 buildings, may be attributable to DOE, but the cost estimate does not state this explicitly and several of those pages are not labeled. The responsibility for the North Site, as well as for tables labeled Trailers, Utilities, Security, and Soils, described on pages 51 of 101 to 56 of 101, is unclear. These tables are not labeled for

either DOE or NFS, although the cost estimate assumptions state that NFS is continuing with “remediation of three surface impoundments and surrounding North Site area,” which suggests that at least some of these components are NFS obligations. Pages 57 of 101 through 67 of 101, which include estimates only of disposal volumes for equipment, are labeled as attributable to NFS. Notes to the tables on these pages state that the associated buildings “are included in the DOE Section” (e.g., the table devoted to Building B-301-NFS notes that “Estimate only includes equipment. Building included in B-301 DOE Section” [page 57 of 101]). Finally, pages 68 of 101 to 79 of 101, describing both building decontamination and disposal volumes for equipment, are labeled as attributable to JV.

Clarification is needed insofar as the financial responsibility attributed to each of these three entities. Fully label each table describing a building or other facility component with DOE, NFS, or JV, to clarify which organization or organizations are responsible for that component.

This information is needed to verify compliance with 10 CFR 70.25(e) which requires, in part, a description of the method of assuring funds for decommissioning.

(3) Describe the obligations of NFS and JV in the cost estimate assumptions.

An excerpt from NUREG-1757, Volume 3, Appendix A, §A.3.1.3 states that “[k]ey assumptions used in the decommissioning cost estimate should be identified and adequately justified...” The cost estimate does not describe the respective obligations of NFS and JV. Neither the cost estimate nor the license describes the joint venture partnership, identifies the members of the joint venture, or clearly indicates whether the liability of the joint venture partnership for decommissioning also may be fully attributable to NFS. For instance, in a regular partnership, each partner is fully responsible for the obligations of the partnership; in a limited partnership the limited partners’ liability is limited. Provide a description of the joint venture partnership and specify the respective decommissioning obligations of NFS and JV, so that the cost estimate accurately and fully describes the assumptions underlying the cost estimate.

This information is needed to verify compliance with 10 CFR 70.25(e) which requires, in part, a description of the method of assuring funds for decommissioning.

(4) Identify the contamination disposal volume and clean disposal volume attributable to each of the funding entities.

Although each separate table describing an individual facility component contains a total for “contaminated disposal volume” for that component, the NFS cost estimate does not contain a summary describing the total contaminated disposal volume, broken down to identify the total disposal volume attributable to DOE, NFS, and JV (hereafter referred to as “funding entities”). To review and validate the calculations in the cost estimate, provide a summary table indicating the total amount of contaminated disposal volume attributable to each of the three entities, and provide a similar table for “Clean Disposal Volume.”

This information is needed to verify compliance with 10 CFR 70.25(e) which requires, in part, a description of the method of assuring funds for decommissioning.

(5) Provide a more complete explanation in the cost estimate of assumptions for labor and other factors.

The NFS cost estimate explains on page 3 of 101 that estimates of labor required to decommission each task or equipment system are based on historical data. The initial hours estimate is adjusted by a “difficulty factor.” Total work hours are allocated to each of the five phases of the project “based on historical factors.” Hours allocated to support functions are also “determined by historical factors and based on a percentage of project operational hours.” “Labor hour prices, including indirect overhead, are applied to these hours to calculate the total labor estimate for each project phase.” The cost estimate also states that “Rates and overhead charges (direct and indirect) are . . . applied to the estimated work hours based on previous project quotations, inflated to present day dollars, to generate a total cost estimate.” The “Qualification” section of the cost estimate on page 2 of 101 describes the experience of NFS, extending over “the last 20 years,” in developing decommissioning cost estimates and carrying out decommissioning activities, including extensive work at the Erwin, Tennessee (TN) facility.

Provide additional support for the labor cost estimates. The cost estimate does not state explicitly that labor cost estimates are based on basic wages and benefits, overhead, and contractor profit “sufficient to allow an independent third party to carry out the decommissioning” as recommended by NUREG-1757, Volume 3, Appendix A, §A.3.1.2.1. The phrase quoted above, “based upon previous project quotations,” does not clearly indicate the use of third-party labor costs. Clarify whether labor costs are based on estimates for a third party contractor to perform the work, and adjust any labor costs as needed to reflect wages, overhead, and profit for third-party contractors to perform the work.

Provide additional support for the comparability of past experience. The cost estimate does not fully support the comparability of the past experience it cites to the work to be performed under this cost estimate. NUREG-1757, Volume 3, Appendix A, states the following in §A.3.1.3:

In general, justifications based on “past experience” are likely to be adequate only if the past experience is relevant; therefore, the cost estimate should compare comparable decommissionings with respect to facilities, materials, processes, management, regulatory requirements, and price levels.

The cost estimate states that NFS’s past experience includes decommissioning work at a several buildings at the Erwin, TN site, including the BLEU Project, Buildings 301, 302/303, 130, 111, 234, 400, 410, the 200 Complex, and the North Site Area. Revise page 2 of 101 of the cost estimate to demonstrate explicitly that the work performed at those locations is comparable, with respect to materials, processes, management, and regulatory requirements, to the work covered by the current decommissioning cost estimate. Provide clarification as to whether price levels for labor, materials, waste disposal, and other factors either are comparable and/or that the price levels have been adjusted to current price levels from the levels in effect when the previous work was carried out.

Provide additional support for the difficulty factors. The cost estimate does not provide any explanation or support for the difficulty factors it applies. NUREG-1757, Volume 3, Appendix A, provides in §A.3.1.3 that “If cost models are used, the models should be described in enough detail to determine whether they are adequate and appropriate given the characteristics of the facility.” Provide a more detailed justification for the difficulty factors applied.

Provide additional information about disposal costs. The cost estimate states only that “Disposal rates are applied based on the disposal costs stated in NFS’ contracts with disposal sites. These rates include the cost of the container; preparing the container for transportation; transportation to each disposal site and return; and the fee charged by each disposal site” (page 3 of 101). However, the tables on pages 98 of 101 through 100 of 101 only provide a total estimated cost of disposal. Provide information about the identity and location of the disposal facilities and a statement that the cost estimate is based on the current rates being charged.

Provide an explicit statement that no credit is taken for salvage value. NUREG-1757, Volume 3, Appendix A, §A.3.1.3. recommends that the cost estimate “should clearly state that it does not take credit for any salvage value that might be realized from the sale of potential assets (e.g., recovered materials or decontaminated equipment) during or after decommissioning” (emphasis in original). Add such a statement to the Assumptions or, if necessary, remove any credits for salvage value.

This information is needed to verify compliance with 10 CFR 70.25(e) which requires, in part, that decommissioning funding plans include the means for adjusting cost estimates and associated funding levels.

- (6) Demonstrate that financial assurance is provided in an amount at least equal to the cost estimate.

As discussed previously, it is our understanding that NFS will provide funding mechanisms with adjusted dollar amounts, and a certification of financial assurance for decommissioning after the U.S. Nuclear Regulatory Commission confirms that the cost estimate dollar amounts are acceptable. This item has been added to track the submittal of these additional documents. To verify that financial assurance is provided in the necessary amounts by each funding entity, provide a list of the financial assurance instrument(s) in place, the aggregate dollar amount of each instrument, an indication of which instrument(s) apply to each funding entity, and for each instrument payable to a standby trust, identify the standby trust that will receive the funds.

This information is needed to verify compliance with 10 CFR 70.25(e) which requires that the decommissioning funding plan contain a certification by the licensee that financial assurance for decommissioning has been provided in the amount of the cost estimate for decommissioning and a signed original of the financial instrument obtained to satisfy the requirements.