



International Isotopes Inc.

June 29, 2011

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

40-9086

Subject: Submittal of Responses to Requests for Additional Information (RAI)
TAC L32739.

To Whom it May Concern,

The following documents are provided as a response to the US Nuclear Regulatory Commission RAIs pertaining to the International Isotopes Fluorine Products Inc. December 30, 2009 application to license a depleted uranium hexafluoride de-conversion and fluorine extraction process facility.

- (1) Follow-up Requests for Additional Information to Support the IIFP License Application– Financial Assurance (Public)
- (2) Follow-up Requests for Additional Information to Support the IIFP License Application– Financial Assurance (Non-Public)
- (3) Official Responses Financial Assurance RAIs, Revision B (Public)
- (4) Official Responses Financial Assurance RAIs, Revision B (Non-Public)

An affidavit is also included to withhold Enclosures (2) and (4) as proprietary information.

Please contact me by phone at 208 524-5300 or email at jjmiller@intisoid.com if you have any questions regarding this letter or require additional information.

Sincerely,

John J. Miller, CHP
Radiation Safety Officer

JJM-2011-39

Enclosures as Stated

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International Isotopes Inc.

Affidavit Declaring Confidential Information Submitted Under 10 CFR 2.390 Proprietary - Commercial and Financial Information

Document: Enclosures (2) and (4) of JJM-2011-39
Company Officer: Laurie McKenzie-Carter
Title: Chief Financial Officer
Company: International Isotopes Inc. (INIS)
Declaration: Enclosures (2) and (4) of JJM-2011-39, *Follow-up Requests for Additional Information to Support the IIFP License Application—Financial Assurance and Official Responses Financial Assurance RAIs, Revision B* contains waste disposal cost estimate information in the response to RAI FA-5, prepared using verbal quotes provided by Energy Solutions during a meeting held in December 2008. The cost estimate includes a disposal cost per cubic foot of waste with a 7% increase per year, an activity surcharge and applicable taxes. INIS considers this information as Proprietary, Commercial and Financial Information that if released to the public could jeopardize INIS's ability to negotiate waste disposal rates with alternative waste disposal companies such as US Ecology and Waste Control Specialists.

Additionally the response to RAI FA-7 provides information regarding the requested amount of the loan that INIS applied for through the DOE Loan Guarantee Office. As this request has not yet been approved we believe that releasing the requested amount could positively or negatively influence potential investors. Because the loan value is linked to and can be derived from the estimated cost of the project, this estimated cost has been redacted as well.

Laurie McKenzie-Carter CFO

Date

Follow-up Requests for Additional Information to Support the IIFP License Application

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Consistent with the financial assurance requirements in 40.36, please provide the following clarifications to the RAIs.

FA-F1-1 Issue:

Please clarify INIS's assumption that the remaining DUF₆ at the site would be shipped and processed at another facility. It appears that the U.S. Department of Energy (DOE) is only required to take DU from licensed enrichment facilities (see section 3113 of the USEC privatization act, paragraph A on page 233 of this PDF <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr0980/v1/sr0980v1.pdf>), and it is unclear whether DOE would take title to DU from INIS.

Request:

Please clarify how INIS intends to dispose of any remaining DUF₆ at the site (e.g. does INIS's contracts with enrichment facilities include a clause that provides for the return of any remaining DUF₆ to the DUF₆ generator?)

RESPONSE: The IIFP Facility processes the contents of DUF₆ cylinders routinely within a few days of when those are received, inspected and accepted. The IIFP Facility is not a long-term storage site for DUF₆ tails. However, a relatively small inventory of cylinders (an average of about 25 cylinders) may be kept during normal operations as a buffer stock for allowing flexibility in operating the facility.

INIS intends to make disposition of any DUF₆ remaining on-site at the end of the useful life of its subsidiary International Isotopes Fluorine Products (IIFP) Facility by processing all the residual inventory through the de-conversion and FEP (BF₃) processes. In this manner, the DUF₆ and any remaining in-process inventories of DUF₄ will be converted to depleted oxide for disposal at the off-site licensed low-level waste (LLW) disposal facility. This conversion of DUF₆ to oxide and packaging of the oxide for off-site disposal are estimated to take approximately one month (24 hours per day and 7 days per week operation) given the relatively low amount of material that would reside as work-in-process inventory. Conversion of the residual DUF₆ inventory to oxide prior to decommissioning is essentially a short extension of the normal de-conversion operations.

The estimated cost for final DUF₆ inventory processing and associated oxide disposal costs have been added as an update to the financial assurance decommissioning costs and is further discussed below.

IIFP plans to be the decommissioning operations contractor for all the shutdown, cleanout and decommissioning operations. However, for the purpose of decommissioning and financial assurance funding levels, an independent third party contractor profit and labor costs with fringes and overheads are used in the total cost estimate in the event that IIFP is unable to fulfill this role. This is further explained in response to questions FA-1A and FA-1B of the Official Financial Assurance RAI Response Package. The cost estimate for processing of the residual DUF₆ inventory is based on the facility operating costs plus the third party contractor costs and profits. Disposal cost for the oxide that results from processing of the DUF₆ residual inventory is included in the low level waste (LLW) total cost. Also no credit is taken in the financial assurance fund for any marketable products or assets recovered during the

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processing of residual materials or decommissioning. A 25% contingency was applied to the total cost estimate.

Table 10-18 of the IIFP License Application provides the total cost for financial assurance funding. These cost estimates have been revised upward from the original IIFP License Application Revision "A" estimate to include use of the third party contractor and the costs for processing of the residual DUF₆ inventory. Volumes and costs for LLW disposal, including oxide from the residual DUF₆ inventory conversion, are provided in Table 10-16. Operating costs for the processing of the residual DUF₆ inventory are shown as a separate line item in Table 10-18 and include the third party contractor labor rate overheads, fringes and profit and the 25% contingency.

In the decommissioning cost estimation of the original IIFP License Application Revision "A", the residual inventory of any DUF₆ was assumed to be shipped to the U.S. Department of Energy (DOE) de-conversion facilities for final disposition. It was also assumed that payment to DOE for processing the material would be made by the enrichment plant generator of the DUF₆ in lieu of making payment to the IIFP. Currently, the IIFP contract provisions with customers (enrichment plants that generate DUF₆) for de-conversion services do not provide for return of DUF₆ material that has been received and where title has been taken by IIFP. DUF₆ cylinders owned by the customers are retained in customer ownership. Emptied cylinders (with normal heel material) would be returned to customers. IIFP has conservatively estimated the costs of processing the residual DUF₆ inventory to oxide for inclusion into the financial assurance fund. Also, it is a more likely case than assuming the DUF₆ would be processed by DOE and paid for by the enrichment generator. If contract agreement provisions with customers were to change such that residual inventories are allowed to be returned to the generator, then IIFP may reevaluate that effect as part of the scheduled updates to the financial assurance fund.

License Documentation Impact: The third paragraph of the IIFP License Application Chapter 10 Section 10.1.3.1, "Overview" will be deleted and replaced with paragraphs added to this Section to read as follows:

~~Prior to completely shutting down all the processes, the bulk work-in-process (WIP) inventory of uranium materials would be processed as much as practical into depleted uranium oxide and the fluoride gas products, similar to the normal operations. This activity would render the bulk materials into products for shipment to customers and into DU oxide approved for disposal as was during normal plant operations. Based on the estimated maximum average WIP inventories, the amount of time required to orderly process out this material into its final form is estimated at 12-15 days. After processing the bulk WIP, any residual inventory of uranium or contaminated materials would be included in the decommissioning steps that follow the decommission preparation and NRC approvals to proceed. The estimated residual amounts of uranium chemicals or uranium contaminated chemicals expected to be disposed as low-level contaminated waste (LLW) are approximately 1700 cubic feet and shown in Table 10-1.~~

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The IIFP Facility processes the contents of DUF₆ cylinders routinely within a few days of when those are received, inspected and accepted. The IIFP Facility is not a long-term storage site for DUF₆ tails. However, a relatively small inventory of cylinders (an average of about 25 cylinders) may be kept during normal operations as a buffer stock for allowing flexibility in operating the facility.

INIS intends to make disposition of any DUF₆ remaining on-site at the end of the useful life of its subsidiary International Isotopes Fluorine Products (IIFP) Facility by processing all the residual inventory through the de-conversion and FEP (BF₃) processes. In this manner, the DUF₆ and remaining in-process inventories of uranium feed materials (such as DUF₄) will be converted to depleted oxide for disposal at the off-site licensed low-level waste (LLW) disposal facility.

The estimated cost for final DUF₆ inventory processing and associated oxide disposal costs have been added as an update to the financial assurance decommissioning costs.

IIFP plans to be the decommissioning operations contractor for all the shutdown, cleanout and decommissioning operations. However, for the purpose of decommissioning and financial assurance funding levels, an independent third party contractor profit and labor costs with fringes and overheads are used in the decommissioning cost estimate in the event that IIFP is unable to fulfill this role. Also, the cost estimate for processing and disposing of the residual DUF₆ (and in-process DUF₄) inventory is based on the facility operating costs plus the third party contractor costs and profit. No credit is taken in the financial assurance fund for any marketable products or assets recovered during the processing of residual materials or decommissioning.

Table 10-18 of the IIFP License Application provides the total cost for financial assurance funding including a 25% contingency. Volumes and costs for LLW disposal, including oxide from the residual DUF₆ inventory conversion, are provided in Table 10-16. The operating costs for processing of the residual DUF₆ inventory are shown as a separate line item in Table 10-18.

FA-F1-2 *Issue:*

Please clarify the basis for the DUF₄ disposal rate. It appears that there may be a moratorium in Utah with respect to disposing of depleted uranium. Therefore, the disposal facility in Utah might not be able to accept DUF₄ at this time.

Request:

Please clarify whether INIS will ship DUF₄ to the Utah disposal facility, or whether INIS is solely relying on the rates of this disposal facility as a basis for the DUF₄ disposal rate.

RESPONSE: INIS was using the rates of this disposal facility as a basis of DUF₄ disposal rate. However, this disposal question has now been resolved by processing and converting the uranium materials residual inventory, including DUF₄, into depleted uranium oxide for disposition and as explained above in the follow up response FA-F1-1 above.

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FA-F1-3 Issue and Request:

FA-2: Please verify computations in Table 10-18. The "Transportation and Disposal" figure does not appear to match the figure stated in Table 10-16 plus \$100,000 for Equipment as stated in Table 10-17.

RESPONSE: The costs shown in Table 10-16, Packaging, Shipping and Disposal of Radioactive Wastes, are only for radioactive wastes. A note at the bottom of Table 10-16 (**NOTE: Packaging, Disposal and Transportation costs for Non-LLW wastes are not shown in this Table 10-16 but are included in Table 10-18.**) was added to explain that costs shown in this table do not include packaging, disposal, and transportation costs for non-LLW wastes. Costs of approximately \$336K for non-LLW packaging, disposal, transportation and associated supplies are not shown separately in any of the Chapter 10 tables. However, it is necessary to capture these costs in Table 10-18 which provides total costs by decommissioning activity. Portions of total costs shown in Table 10-17 for supplies and Table 10-18 for decommissioning costs by task are for the handling of non-LLW wastes. Costs associated with radioactive waste disposal only were separated from these totals to create Table 10-16.

The follow up questions encouraged further examination of the calculations spreadsheet which was used to determine the costs associated with decommissioning. A line item review was performed, and significant redistribution of packaging costs resulted from this review and accounts for noticeable changes in packaging costs for LLW shown in the updated Table 10-16. The total packaging cost for LLW and non-LLW wastes combined in Table 10-18 would not have changed except where changes were due to other cost considerations, namely as discussed in response to FA-F1-1. New values have been provided in the FA-4 response since changes were made to packaging. All of these changes are reflected in updated tables for Chapter 10 of the License Application.

License Documentation Impact: Tables 10-13 and 10-15 which contain packaging information were changed as packaging costs were revised in response to follow up question FA-F1-1. These tables provided input to updated Tables 10-16 and 10-18 which have been revised to capture changes in packaging, disposal and transportation for LLW and to provide new totals for decommissioning. Revised Chapter 10 tables are provided in red text at the end of the updated Official Financial Assurance RAI Response Package being submitted concurrently with the responses to this set of follow up questions.

FA-F1-4 Issue and Request:

FA-2: Please clarify whether the following facility components should be disposed of as LLRW (they are currently listed for disposal as non-LLRW):

- a. DUF6 to DUF4 Process Autoclaves*
- b. Transfer Piping DUF4 Storage Hoppers to Surge Hopper*

RESPONSE:

a) Due to the size of the autoclaves, it is desirable to decontaminate these for either free release or disposal as non-LLW waste as is currently planned. If they are found to be

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contaminated, it would be due to deposition of uranyl fluoride powder. No other uranium powders are handled in the area where the autoclaves are located. Uranyl fluoride is very soluble in water, and it is likely that this equipment could be decontaminated with reasonable effort. INIS procured used autoclaves (had been operated for about 6-7 years) from Sequoyah Fuels Corporation (SFC) and found this to be the case with these same autoclaves being "radiological free released" when those were removed from the SFC process building.

b) The transfer piping from the DUF₄ storage hoppers to the surge hopper is to be treated as LLW. Its volume was incorrectly placed in the non-LLW column on Table 10-1, but this did not affect costs as this item was correctly treated as LLW in the calculations. This correction will also affect the volume total shown in Table 10-16. This has been corrected in the revised tables that are at the end of the Official Financial Assurance RAI Response Package being submitted concurrently with the responses to this set of follow up questions.

License Documentation Impact: Tables 10-1, 10-3, 10-4 and 10-5 were revised to reflect these changes and are provided in red text at the end of the updated Official Financial Assurance RAI Response Package being submitted concurrently with the responses to this set of follow up questions.

FA-F1-5 Issue and Request:

FA-5: Please verify computations in Table 10-16. The response to FA-5 states that INIS uses rates of \$, \$, and \$ per cubic foot of LLRW for packaging, disposal, and transportation, respectively. However, the staff could not verify the computations for Total Cost related to Packaging and Transportation. At a rate of \$ per cubic foot, the packaging cost of cubic feet of LLRW should be \$, however the table states \$. Similarly, at a rate of \$, the transportation cost of cubic feet of LLRW should be \$, however the table states \$. It is also unclear whether the "Grand Total" for the table includes the \$ cost of packaging supplies and \$ of transportation supplies. Please clarify these calculations.

RESPONSE: The unit costs used originally in response to FA-5 were approximate. The use of approximate values in such calculations where large multipliers are used may cause what appear to be discrepancies. Total costs including supplies for each activity were divided by LLW volume in cubic feet to obtain average unit costs for packaging and transportation of \$37.48 and \$50.30 respectively versus the approximated values provided of \$ and \$. Using the numbers provided in the above question, \$ should have been compared to the LLW Packaging Total of \$, and \$ should have been compared to the LLW Transportation Total of \$ with the differences being due to the approximations. The Grand Total in this table does include both packaging and transportation supplies. The updated Table 10-16 presents the data more clearly.

A comparison of these costs to verbally quoted costs from suppliers of disposal and transportation services indicates that the estimates used contain significant conservatism. However, the original comparison included packaging which was meaningless because it was not based on vendor quotes. Therefore, it is best to compare estimated unit costs for disposal and transportation only to quoted unit costs for these services. Costs for packaging labor and packaging and transportation supplies will be the same in both cases. After table revisions

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have been made, these costs are now estimated to be approximately \$ (\$) per cubic foot of LLW for disposal and \$ (\$) per cubic foot for transportation excluding supplies. These values compare to quotes of \$ and \$ respectively, and total costs for these combined services are \$ estimated versus \$ quoted. It should be noted that supplies are no longer included in this comparison so that unit costs estimated for the services of disposal and transportation only are compared to unit cost quotes for these same services. The third paragraph in the response to FA-5 has been rewritten to revise the values owing to the disposal and transportation unit costs changing as a result of adding the cost of processing the residual DUF₆ inventory discussed in question FA-F1-1 above.

When the calculation spreadsheet was reviewed, it became apparent that LLW packaging costs were incorrectly represented in the original Table 10-16. It was determined that a significant majority of packaging costs are associated with LLW. Previously, this distribution had been made on a volume basis, and that was an inaccurate assumption. This distribution has been corrected in the updated Table 10-16. Also, the layout of the revised Table 10-16 was changed to more accurately reflect the information provided.

License Documentation Impact: A revised Table 10-16 is provided in red text at the end of the updated Official Financial Assurance RAI Response Package being submitted concurrently with the responses to this set of follow up questions.

FA-F1-6 Issue:

The response to FA-7 states that "the NRC will be notified of any material changes to the decommissioning cost estimate and associated funding levels (e.g., significant increases in costs beyond anticipated inflation)."

Request:

Does this statement mean that INIS intends to notify NRC of such material changes prior to a scheduled update to the cost estimate?

RESPONSE: The wording was intended to mean that NRC will be notified of material changes to the decommissioning cost estimate and associated funding levels at the time of the next scheduled updates. The FA-7 RAI response and associated License Documentation Impact have been revised to clarify this intent.

FA-F1-7 Issue and Request:

(FA-8 Page 18) INIS provided draft financial instruments; however, a draft Certification of Financial Assurance should also be included. The guidance for this document may be found in NUREG-1757, Volume 3, Appendix A.2.

RESPONSE: The draft Certification of Financial Assurance has been added as part of the attachments to RAI FA-8 response in the revised Official Financial Assurance RAI Response Package being submitted concurrently with the responses to this set of follow up questions.

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Observations and Minor Edits

Page 10, response to RAI-4:

1. *The response states that there are no changes to the license needed to address the RAI. It would be helpful to include the basis for the crew hours and labor hours as a footnote to Table 10-13.*

Response: Table 10-13 shows labor “days” by worker category for decommissioning tasks. A footnote has been added to the new table for packaging to show that the days shown in the table equate to 4,564 crew hours and represent approximately 13,692 hours for the Laborer and 4,564 hours each for the supervisor, the HP Technician and the Transportation Specialist.

License Documentation Impact: New Chapter 10 tables are provided in red text at the end of this response including a new Table 10-13 to which the following footnote has been added to explain packaging:

Note 2: The days of labor shown in this table for packaging represent 4,564 crew hours or 13,692 hours for the Laborers and 4,564 hours each for the supervisor, the HP Technician and the Transportation Specialist. These values divided by 8 hours/day equal the values shown in the table for these labor categories.

2. *The response states that 4740 hours of labor is associated with packaging of wastes. However, the hours associated with packaging on table 10-13 sum to 3557 hours.*

Response: In the former response to FA-4, the following statement was provided: “The total crew hour estimate for the facility is 4,740 hours and is equivalent to 28,440 total labor hours. A breakdown of these hours by labor category is as follows: laborer =14,220 hours; HP technician =4,740 hours; supervisor = 4,740 hours; transportation specialist =4,740 hours.”

The former Table 10-13 shows labor “days” (not hours) by worker category for decommissioning tasks. Using the total days for packaging from this table, 3,557 days x 8 hours/day equals 28,456 hours. The statement from the F-4 response shown above indicates a total of 28,440 hours for packaging. The slight difference in the two numbers is due to rounding.

Note that Table 10-13 has been updated in response to FA-F1-3, and the new total crew hour estimate of 4,564 hours is attributable to the information provided in response to FA-F1-1 above.

License Documentation Impact: None.

Proprietary Information – Withhold in Accordance with 10 CFR 2.390**Follow-up Requests for Additional Information to Support the IIFP License Application****FINANCIAL ASSURANCE**

Consistent with the financial assurance requirements in 40.36, please provide the following clarifications to the RAIs.

FA-F1-1 Issue:

Please clarify INIS's assumption that the remaining DUF₆ at the site would be shipped and processed at another facility. It appears that the U.S. Department of Energy (DOE) is only required to take DU from licensed enrichment facilities (see section 3113 of the USEC privatization act, paragraph A on page 233 of this PDF <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr0980/v1/sr0980v1.pdf>), and it is unclear whether DOE would take title to DU from INIS.

Request:

Please clarify how INIS intends to dispose of any remaining DUF₆ at the site (e.g. does INIS's contracts with enrichment facilities include a clause that provides for the return of any remaining DUF₆ to the DUF₆ generator?)

RESPONSE: The IIFP Facility processes the contents of DUF₆ cylinders routinely within a few days of when those are received, inspected and accepted. The IIFP Facility is not a long-term storage site for DUF₆ tails. However, a relatively small inventory of cylinders (an average of about 25 cylinders) may be kept during normal operations as a buffer stock for allowing flexibility in operating the facility.

INIS intends to make disposition of any DUF₆ remaining on-site at the end of the useful life of its subsidiary International Isotopes Fluorine Products (IIFP) Facility by processing all the residual inventory through the de-conversion and FEP (BF₃) processes. In this manner, the DUF₆ and any remaining in-process inventories of DUF₄ will be converted to depleted oxide for disposal at the off-site licensed low-level waste (LLW) disposal facility. This conversion of DUF₆ to oxide and packaging of the oxide for off-site disposal are estimated to take approximately one month (24 hours per day and 7 days per week operation) given the relatively low amount of material that would reside as work-in-process inventory. Conversion of the residual DUF₆ inventory to oxide prior to decommissioning is essentially a short extension of the normal de-conversion operations.

The estimated cost for final DUF₆ inventory processing and associated oxide disposal costs have been added as an update to the financial assurance decommissioning costs and is further discussed below.

IIFP plans to be the decommissioning operations contractor for all the shutdown, cleanout and decommissioning operations. However, for the purpose of decommissioning and financial assurance funding levels, an independent third party contractor profit and labor costs with fringes and overheads are used in the total cost estimate in the event that IIFP is unable to fulfill this role. This is further explained in response to questions FA-1A and FA-1B of the Official Financial Assurance RAI Response Package. The cost estimate for processing of the residual DUF₆ inventory is based on the facility operating costs plus the third party contractor costs and profits. Disposal cost for the oxide that results from processing of the DUF₆ residual inventory is included in the low level waste (LLW) total cost. Also no credit is taken

Proprietary Information – Withhold in Accordance with 10 CFR 2.390

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The financial assurance requirements for source material licensees, among others, are located in 10 CFR 40.36, 10 CFR 40.42 and the Consolidated Decommissioning Guidance contained in NUREG 1757. The following information is needed to demonstrate compliance with the acceptance criteria in NUREG-1757 and the regulatory requirements in Part 40. Consistent with 10 CFR 40.32, 10 CFR 40.42, and NUREG-1757, please provide the following information:

FA-1 Clarify that the DCE uses the following: a) independent third-party labor costs and; b) that all third-party labor costs, including profit, are presented (NUREG-1757, Volume 3, Appendix A, Pages A-26 to A-28).

A. Neither the Major Assumptions (§ 10.2.2.2) nor Table 10-14 "Worker Unit Cost Schedule" state explicitly that all labor costs are based on a third-party contractor performing the work. Section 10.1.2.4 "Management Organization," states the following:

IIFP intends to be the Prime Decommissioning Operations Contractor (DOC) responsible for decommissioning the FEP/DUP. In this capacity, IIFP will have direct experience with the plant operations and have control and oversight over all decommissioning activities. IIFP also plans to secure contract services to supplement its capabilities, as necessary.

NUREG-1757 states that "[e] estimated costs should be based on reasonable and documented assumptions, and provide sufficient funds to allow an independent third party to assume responsibility for and carry out the decommissioning of the facility if the licensee is unable to do so." (A-27) However, it is unclear whether the DFP submitted by IIFP is based on independent third-party costs, and the material quoted above suggests that it is not. If the DFP is based on third-party labor costs, state that fact explicitly as one of the assumptions. Otherwise, revise the cost estimate to ensure that it is based on the costs of an independent third-party contractor performing the work.

RESPONSE: The original Decommissioning Cost Estimate (DCE) did not include the cost of a third-party contractor to do the labor. A profit margin is now being added to allow an independent third party contractor to assume responsibility for carrying out the facility decommissioning if IIFP is unable to do the work. The profit margin has been added to the total labor cost including those for planning, project management, dismantling, equipment sizing (volume reduction), decontamination, packaging, surveying, administrative, processing residual inventories of uranium materials, etc. These additional costs are derived by multiplying a 1.12 margin by all of the labor, overhead (See RAI FA-1B below) and material costs used in the DFP Chapter 10 License Application. The added margin is not added to the transportation and disposal costs because those estimated cost categories already include the vendor margins for profit and overheads. The affected cost Tables and Chapter 10 text will be revised as shown in the License Documentation Impact below.

Table 10-18 will be deleted and replaced with a new table which clearly reflects third party costs. In order to provide the simplest and most accurate representation in the tables, Tables 10-7, 10-8, 10-9, 10-11, and 10-13 have been reworked to show base labor hours and cost plus the estimated cost of supplies to perform the different tasks. These individual Tables do not include third party contractor profit. However, in the new Table 10-18, "Total Decommissioning Cost", three cost columns are now provided. The first column shows total base labor hours plus supplies for each decommissioning task. Costs shown in the second column reflect a 12 percent margin for third

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party contractor profit. The third column also reflects the required 25 percent contingency applied to all costs.

License Documentation Impact: Tables 10-7, 10-8, 10-9, 10-11, 10-13, 10-15, 10-17 and 10-18 will be deleted and replaced by new tables using the same identification numbers. New tables to be included in the next LA revision are provided in red text at the end of the RAI response document package. Tables 10-10 and 10-12 were not changed but are included in black text for reference purposes.

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FA-1

B. NUREG-1757 states that labor cost estimates include basic wages and benefits, overhead costs, and profit "sufficient to allow an independent third party to carry out the decommissioning project." (A-28) Although Table 10-14 provides amounts for "salary and fringe" for eight separate labor categories and adds a 25 percent "overhead rate," there is no indication that profit for a third-party contractor is included in the estimated labor costs. Clarify whether an estimate for third-party contractor profit is included in the "overhead rate;" and if it is not, add a reasonable estimate for profit to the estimated labor costs in the DFP.

RESPONSE: IIFP agrees that an overhead rate of 25 percent as broken out and expressed in the original License Application Chapter 10 Revision A estimate appears low. Originally, some overhead costs along with fringe costs were included in the wages and salaries and were not broken out specifically to accurately reflect overhead costs. We have now broken out the fringe (30% rate) and overhead (60% rate). As a result, the following process was used to more accurately explain the labor costs. Base wages for the region were verified using the State of New Mexico Department of Workforce Solutions for Eastern New Mexico where region-specific wages are provided for different labor categories. It is assumed that a third-party contractor would transfer some project management and professional staff into the local area but that local unskilled and skilled labor for decontaminating, dismantling and packaging would be used from the Hobbs area workforce. Fringe and overhead rates of 30 and 60 percent respectively were added to the base labor rates for the labor categories. This breakout and presentation of fringes and overheads more clearly show a multiplier of 1.9 times direct wages or 2.13 times wages when third-party contractor profit is included. The breakdown is now shown in the new Table 10-14, "Worker Unit Cost Schedule." These total wage rates (with fringes and overheads) are used in the determination of decommissioning cost for the different decommissioning tasks. The third-party profit margin and contingency are then applied as described in response to RAI FA-1A above.

License Documentation Impact: Table 10-14 will be deleted and replaced by a new table using the same identification number. Other tables affected by these changes are addressed in response to RAI FA-1A. The new tables to be included in the next License Application revision are provided in red text at the end of this RAI response document package.

License Documentation Impact: Section 10.2.2.1, first paragraph of the License Application will be revised to reflect a change in the decommissioning cost from approximately "\$12.2 million" to "\$14.2 million" to read as follows:

The decommissioning cost estimate for the FEP/DUP facility is approximately ~~\$12.2~~\$14.2 million (2009 dollars). The decommissioning cost estimate and supporting information are presented in Tables 10-1 through 10-18, consistent with the applicable provisions of NUREG-1757 Volume 3, "Consolidated NMSS Decommissioning Guidance - Financial Assurance, Recordkeeping and Timeliness" (NRC, 2006).

License Documentation Impact: Section 10.3.2, third paragraph of the License Application will be revised to reflect a change in the decommissioning cost from "nearly \$12.2 million" to approximately \$14.2 million" to read as follows:

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~~For the first four year period of operations, IIFP is committed intends to provide financial assurance decommissioning funding for the IIFP Facility. assurance for only the Phase 1 portions of the facility. In 2009 dollars, the facility decommissioning cost estimate would be assured.~~

Applying a 25% contingency factor to the decommissioning cost estimate, yields a total projected decommissioning cost for ~~the IIFP Facility~~Phase 1 FEP/DUP facility operation, for which financial assurance would be provided, of ~~nearly \$12.2~~approximately \$14.2 million (expressed in 2009 U.S. dollars).

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FA-2 *Provide a more complete estimate of the amount of radioactive wastes that will require disposal (NUREG-1757, Volume 3, Appendix A, Page A-27).*

A. *Tables 10-1 through 10-6 of the DFP provide volume estimates for individual components for each of the separate buildings at the facility. However, these tables do not sum these estimates to provide either a building-specific estimate or a comprehensive facility-wide total for the amount of low level radioactive waste (LLRW) that will need to be disposed as part of the decommissioning. Revise Tables 10-1 through 10-6 to provide a building-specific estimate of the total amount of LLRW; and sum these to provide a comprehensive, facility-wide estimate of wastes that will need to be disposed during decommissioning.*

RESPONSE: Tables 10-1 through 10-6 will be deleted and replaced with new tables which total both non-LLW and LLW wastes for the different buildings. Since LLW disposal cost is based on volume, it is logical to focus on volumes rather than equipment dimensions although the volumes are calculated from dimensions in the supporting documentation. This also makes the tables more straightforward and easier to read. The LLW totals for these areas are transferred to new Table 10-16, "Packaging, Shipping and Disposal of Radioactive Wastes" which shows estimated facility-wide LLW volumes and disposal costs.

License Documentation Impact: Tables 10-1 through 10-6 will be deleted and replaced by new tables using the same identification numbers. New tables to be included in the next LA revision are provided in red text at the end of the RAI response document package.

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- B. *Table 10-16 "Shipping and Disposal of Radioactive Wastes," provides the estimated costs of LLRW disposal for various floors of various buildings throughout the facility. Table 10-16 does not sum these estimates to provide building-specific disposal costs. In addition, the amounts of LLRW corresponding to the specified costs are not included in the Table. Revise Table 10-16 to provide a building-specific estimate of the total costs along with the corresponding quantity of LLRW; and sum these to provide a comprehensive, facility-wide estimate of the costs and wastes that will need to be disposed during decommissioning.*

RESPONSE: Table 10-16, "Packaging, Shipping and Disposal of Radioactive Wastes" has been revised to provide LLW volumes by building rather than by floor levels to simplify the presentation of the information and to make the transition between tables easier to follow and understand. Volumes of LLW for each building are included in new Table 10-16 per request.

License Documentation Impact: Table 10-16 will be replaced by a new table "Packaging, Shipping and Disposal of Radioactive Wastes" using the same identification number. The new Table to be included in the next LA revision is provided in red text at the end of the RAI response document package.

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- C. *Furthermore, the relationship between the data in Tables 10-1 through 10-6 and the data in Table 10-16 is not easily discernable. As a result, it is difficult to ascertain which data from Tables 10-1 through 10-6 provide a basis for the estimated LLRW volume and disposal costs listed in Table 10-16. (For instance, if Table 10-1 corresponds to the “DUF₄ Process Building 1st level” through “DUF₄ Process Building 5th level,” the DFP should clearly state this.) Clearly indicate which data from the supporting tables (e.g., 10-1 through 10-6) provide a basis for the estimated LLRW volume and disposal costs which will be listed in Table 10-16, once it is revised in accordance with b) above.*

RESPONSE: Tables 10-1 through 10-6 and Table 10-16 were replaced with new tables to better link the information provided in these tables.

License Documentation Impact: Tables 10-1 through 10-6 and 10-16 will be replaced by new tables using the same identification number. New tables to be included in the next LA revision are provided in red text at the end of the RAI response document package.

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FA-2

D. Section 10.1.3.7 of the DFP states that “[a] complete estimate of the wastes and effluent to be produced during decommissioning will be provided in the Decommissioning Plan that will be submitted prior to initiating the decommissioning of the plant” (Page 10-8). However, the DFP is to represent the best estimate of the amount of wastes to be disposed at the time it is prepared, even if that estimate is later revised in the final Decommissioning Plan. As written, the above excerpt suggests that the current estimate is incomplete. Therefore, either revise the DFP so that it represents the best estimate of the amount of waste to be disposed; or if the DFP currently represents the best estimate, revise the statement above to indicate that an updated estimate will be provided in the Decommissioning Plan.

RESPONSE: The DFP represents the current best estimate of the amount of waste to be disposed. At the time of the development of the Decommissioning Plan, an updated estimate will be provided.

License Documentation Impact: The second paragraph in LA Section 10.1.3.7 will be revised as follows:

Radioactive wastes will ultimately be disposed in licensed low-level radioactive waste disposal facilities. Hazardous wastes will be disposed in hazardous waste disposal facilities. Non-hazardous and non-radioactive wastes will be disposed in a manner consistent with good industrial practice and in accordance with all applicable regulations. While current best estimates of the these wastes are provided in the IIFP License Application Chapter 10, an A-complete updated estimate of the wastes and effluent to be produced during decommissioning will be provided in the Decommissioning Funding Plan that will be submitted prior to initiating the decommissioning of the plantfacility.

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FA-3 Provide a basis for the reduced size volume factors in Tables 10-1 through 10-6 (NUREG-1757, Volume 3, Appendix A, Page A-27).

Section 10.1.4 of the DFP describes the decontamination and size reduction process that will be followed in decommissioning the facility. Section 10.1.4.2 states that the methodology will use "conventional" size-reduction techniques, and Section 10.1.4.4 states that "[c]ontaminated plant components will be processed through the size reduction packaging facilities." Tables 10-1 through 10-6 each contain a column for "Reduced Size Volume (ft³)" indicating that some facility components will be reduced in volume by various amounts. However, the DFP does not contain any indication of the basis for the size reduction factors which, in some cases, result in a substantial reduction in the volume of waste—including LLRW—to be disposed. NUREG-1757 states that the DCE be based on "reasonable and documented assumptions." (A-27) Provide a documented basis for the size reduction factors used in the DFP.

RESPONSE: Tables 10-1 through 10-6 have been revised to reflect volume reductions only where it is anticipated that those will actually occur. The estimates are based upon how much the volume could be reduced by cutting the equipment into pieces and arranging those pieces to eliminate much of the void space. The reduction estimates of one-half to two-thirds of the original volume are considered to be conservative when compared to an example of the deconstruction of a 4 ft box with 0.25 inch thick sides. The volume of the box is 64 ft³ (4' x 4' x 4'). If the box is disassembled and the 6 sides are stacked, the volume would be 2 ft³ (4' x 4' x 0.021' x 6 sides) representing a volume reduction of approximately 97 percent.

It is cost effective to reduce volumes where possible, especially for LLW where disposal costs are based on volume. Reductions are only considered for equipment such as tanks, storage bins, ductwork and similar equipment containing significant volume void space. Volume reductions are taken for approximately 13 percent of the pieces of equipment listed in the tables. The one-half to two-thirds volume reductions taken are based on reasonable estimates where it is technically feasible to cut and dismantle equipment to achieve smaller configurations.

License Documentation Impact: Tables 10-1 through 10-6 will be deleted and replaced by new tables using the same identification number. New tables to be included in the next LA revision are provided in red text at the end of the RAI response document package.

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FA-4 Provide a basis for the estimated labor costs for packaging in Table 10-13 (NUREG-1757, Volume 3, Appendix A, Page A-27).

Four of the five decommissioning activities described in Table 10-13 "Total Work Days by Labor Category (Labor Days)" are supported by a preceding table providing a labor breakdown by activity or facility component. For example, Table 10-9, "Decontamination or Dismantling of Radioactive Components," provides information about the number of hours, for each of eight labor categories, allocated to work on each of 14 separate areas of the facility. The data in Table 10-9 support summary data in Table 10-13. However, no supporting data are provided for the "Packaging" category in Table 10-13, which accounts for almost 40 percent of the total labor. Provide further support, either in the form of a table similar to Table 10-9 or in the form of narrative, for the labor estimates for packaging in Table 10-13.

RESPONSE: Packaging cost estimates include the sizing of equipment for disposal, and this activity represents the major portion of these costs. These estimates are based on both the original size of the equipment and the complexity involved in additional sizing for disposal. Some of the equipment is expected to be packaged into containers for disposal, and packaging costs include cutting the equipment into pieces which will fit inside the containers. Some of the equipment which is not packaged into containers may still require sizing for shipment and disposal as standard or oversized bulk debris. Similarly, some larger pieces of equipment will be cut into sections so that volume reductions can be achieved

These costs are estimated for individual pieces of equipment on the basis of crew hours where a crew consists of 3 laborers, 1 HP technician, 1 supervisor and 1 transportation specialist (at the engineer hourly rate). The crew hourly rate is the summation of the individual hourly rates and totals \$288. The total crew hour estimate for the facility is 4,564 hours and is equivalent to 27,384 total labor hours. A breakdown of these hours by labor category is as follows: laborer – 13,692 hours; HP technician – 4,564 hours; supervisor – 4,564 hours; transportation specialist – 4,564 hours. In terms of effort and complexity, sizing and packaging costs are similar to costs required for decontamination and dismantling.

License Documentation Impact: None

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FA-5 Provide sources for the estimated costs of LLRW packaging, transportation, and disposal in Table 10-16 (NUREG-1757, Volume 3, Appendix A, Page A-28).

Section 10.1.2.6 of the DFP states that radioactive and hazardous wastes “will ultimately be disposed in licensed radioactive or hazardous waste disposal facilities located elsewhere.” Table 10-16, “Shipping and Disposal of Radioactive Wastes,” provides a breakdown of packaging, LLRW disposal, and transportation costs for wastes from 14 separate components of the plant. However, the DFP does not provide unit disposal cost factors for the packaging, LLRW disposal costs, transportation costs, or the sources and basis for these costs. Provide additional supporting information about the estimated costs for packaging, transportation, and disposal of LLRW waste to ensure that the costs are based on reasonable and documented assumptions.

RESPONSE: Budgetary-type quoted rates for disposal were obtained prior to beginning the decommissioning project estimates and the license application. The quotes were from an off-site licensed disposal facility for low-level waste and depleted uranium oxides. A contract was not developed at that time because of the relatively long period of time (4-5) years before the facility would be operating and needing disposal services. The disposal company did however provide a schedule of the quoted rates by email to International Isotopes, Inc. The schedule quoted a disposal rate of \$ per cubic foot of LLW or depleted oxide, plus an activity charge of about \$ per cubic foot (based on a full container of depleted uranium oxide) and a 5% tax; totaling approximately \$ per cubic foot in year 2009 dollars.

The disposal company developed a yearly schedule and inflated the cost quotes per cubic foot at % per year for the burial cost (% per year on the total rate including taxes). IIFP estimated the shipping cost by obtaining budgetary quotes from transport trucking companies who are experienced in the shipping of LLW waste. The transport costs from Hobbs, New Mexico to Salt Lake City, Utah were developed from the trucking company quotes and the mileage. The shipping costs were estimated at about \$ per cubic foot of container volume.

An average LLW disposal cost of approximately \$ (\$) per cubic foot is obtained by dividing the disposal cost by the volume of LLW in Table 10-16. This is well above the \$ per cubic foot as verbally quoted by a LLW disposal facility. Additionally, transportation costs (excluding supplies) for LLW average approximately \$ (\$) per cubic foot compared to a verbal quote from a trucking company experienced in LLW transportation of \$ per cubic foot. Combined costs for these services are \$ estimated versus \$ quoted, thus the estimate provides significant conservatism of approximately 36%.

Packaging labor (excluding supplies) has been revised and is now approximately \$ (\$) per cubic foot of LLW. A breakdown of packaging labor is discussed in response to FA-4 above, but packaging labor and packaging and transportation supplies costs should not be used in this comparison of estimated versus quoted costs as packaging labor and supplies costs would be the same in both cases.

License Documentation Impact: Table 10-16 will be deleted and replaced by a new table using the same identification number. The new Table to be included in the next LA revision is provided at the back of the RAI response package.

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FA-6 Provide clarification in the application that the IIFP submittal does not include Phase 2.

The first paragraph of LA Section 10.1 states, "The Decommissioning Funding Plan addresses the overall strategy for decommissioning the entire Phase 2 facility." This sentence gives the erroneous impression that Phases 1 and 2 of the facility are both included in the current decommissioning plan. The statement in the last sentence of the first paragraph in Section 10.1 which states, "Expansion of the plant to Phase 2 will require amendments to the IIFP license," does not provide adequate clarification that Phase 2 is not under consideration in this license application. Consistent with the requirements in 10 CFR 40.36, explain explicitly that no portion of Phase 2 is under consideration as part of the current license application, and as such does not need to be addressed as part of the current Decommissioning Plan. Remove or clarify the discussion of Phase 2, particularly the first sentence of Section 10.1, to overcome the impression that Phase 2 is part of the current submittal.

RESPONSE: The current decommissioning plan and Chapter 10 of the IIFP License Application apply only to the first IIFP Facility (Phase 1) and does not apply to any future expansion (such as a Phase 2) beyond what is being requested in the current licensing application. The introductory section, Section 10.1 and related subsections 10.1.3.1 and 10.3.2 of IIFP Chapter 10, "Decommissioning" has been revised as part of the responses to RAI-General Information, GI-6A and for clarity this revision eliminates references to a Phase 2 facility. The revision for Chapter 10 is shown in the License Documentation Impact below.

License Documentation Impact (1): Chapter 10 of the IIFP License Application Revision A has been revised to eliminate references to a Phase 2 facility and reads as follows:

10 Decommissioning

This chapter presents the International Isotopes Fluorine Products, Inc. (IIFP) Plant **initial** Decommissioning Funding Plan for its Fluorine Extraction Process and Uranium De-conversion Plant (FEP/DUP). This Decommissioning Funding Plan (DFP) has been developed following the guidance provided in NUREG-1757 (NRC, 2006). The DFP is for only the current IIFP License Application and licensing activities. Any future facility expansions of licensing actions would require an amended or separate DFP.

~~The IIFP facility will be constructed in two phases, with Phase 1 completing the DUF₆ to DUF₄ process and the DUF₄ to fluorine products processes and the supporting infrastructure of the plant. IIFP plans to expand the facility de-conversion capacity by constructing a Phase 2 plant approximately 4 years later. The current licensing application, Integrated Safety Analysis (ISA) and Decommission Funding Plan submittal are for Phase 1 construction and operation only. Separate or amended licensing and a revised DFP will be developed and submitted at an appropriate time during the licensing process of the Phase 2 project. The Phase 2 will consist of the additional processing equipment to convert DUF₆ directly into uranium oxide.~~

IIFP, Inc., as a wholly owned subsidiary of International Isotopes, Inc. (INIS), commits to decontaminate and decommission the facility at the end of its operation so that the facility and grounds can be released for unrestricted use. The Decommissioning Funding Plan will be reviewed and updated as necessary at least once every three years starting from the time of the

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start of operations. Prior to facility decommissioning, a Decommissioning Plan will be prepared in accordance with 10 CFR 40.42 (CFR, 2008a) and submitted to the NRC for approval.

This chapter fulfills the applicable provisions of NUREG-1757 (NRC, 2006) through submittal of information in tabular form (Tables 10-1 through 10-18) as suggested by the NUREG.

License Documentation Impact (2): The first paragraph of the IIFP License Application Section 10.1 will be deleted and the revised Section will read as follows. Other changes shown are relevant for RAI GI-6A and Decommissioning RAI-1. Also, the wording “Phase 1” will be deleted from the title of Section 10.1.1 as shown below.

10.1 Decommissioning Strategy

~~The Decommissioning Funding Plan addresses the overall strategy for decommissioning the entire Phase 2 facility. However, because of the two-phase construction approach to this facility, the DFP only provides a detailed cost estimate, schedule and the financial assurance plan for the Phase 1 equipment and the infrastructure equipment that will be common to both phases. This initial DFP, including cost estimates, schedule and financial assurance, assumes that only a Phase 1 facility would exist at the time that decommission is required. This strategy of preparing and submitting an initial DFP for Phase 1 facilities only, in this license application, conservatively considers that IIFP would cease business before Phase 2 is constructed or that Phase 2 would not materialize. This contingency strategy does provide for the financial assurance of the Phase 1 facility in any case. Expansion of the plant to Phase 2 will require amendments to the IIFP license, and the DFP will be updated and re-submitted to the NRC for approval prior to the introduction of nuclear materials into the Phase 2 portion of the facility.~~

The overall strategy for decommissioning is to decontaminate or remove all materials from the site in order to release the facility and the site for unrestricted use. This approach avoids long-term storage and monitoring of wastes on site. The type and volume of wastes produced at the FEP/DUP facility do not warrant delays in waste removal normally associated with a deferred dismantlement option.

At the end of useful plant life, the FEP/DUP facility will be decommissioned such that the site and remaining facilities may be released for unrestricted use as defined in 10 CFR 20.1402 (CFR, 2008b). IIFP will use guidance provided in NUREG-1505, NUREG-1575 and NUREG-1757 in developing initial and final site survey plans sufficient to provide background and post-decontamination site condition to enable the free release of the site.

All remaining facilities will be decontaminated where needed to acceptable levels for unrestricted use. Hazardous wastes will be treated or disposed of in licensed hazardous waste facilities. Disposal of radioactive or hazardous material will not occur at the plant site, but at licensed facilities located elsewhere. Following decommissioning, the facilities and site will be available for reuse.

Financial arrangements are made to cover costs required for returning the ~~Phase 1 portions of the site~~ IIFP Facility to unrestricted use. Updates on cost and funding will be provided as described above. A detailed updated Decommissioning Plan will be submitted at a date near end of plant life, in accordance with 10 CFR 40.42 (CFR, 2008a).

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The following describes decommissioning plans and funding arrangements. This information was developed in support of the decommissioning cost estimate. Specific elements of the planning may change with the submittal of the decommissioning plan required at the time of license termination.

10.1.1 IIFP ~~Phase 1~~ Facility Description

License Documentation Impact (3): Paragraph two in LA Section 10.1.3.1 and the first paragraph in Section 10.3.2 will be revised to eliminate references to a Phase 2 Facility (see also RAI GI-6A) and will read (changes in red text) as follows:

Actual decontamination and decommissioning would follow shortly upon approval of the plan and the award of any subcontracts. The decommissioning plan schedule for the ~~Phase 1~~IIFP Facility is shown as Figure 10-1. ~~At the time of required decommissioning, if only a Phase 1 plant exists, then upon decommissioning and final survey and confirmation by the NRC, the license would be terminated and the site/facility could be released for reuse. If a Phase 2 also exists at the time of required decommissioning, the updated future DCF Plan for Phase 2 will have identified the costs, schedule and any decontamination and decommission requirements for the DUF₆ to oxide process beyond those already identified in the Phase 1 Plan.~~

In accordance with 10 CFR 40.36(d) (CFR, 2008h), IIFP will update the decommissioning cost estimate for the FEP/DUP, and the associated funding levels, over the life of the facility. Updates will take into account changes resulting from inflation or site-specific factors, such as changes in facility conditions or expected decommissioning procedures. ~~Funding level updates will also address anticipated operation of Phase 2 portions of the facility prior to introducing nuclear materials into that equipment.~~

License Documentation Impact (4): Table 7-3 of the IIFP License Application will be revised to delete the subtitle "Phase 1" from the second row of the Table. The remaining Table data are for the IIFP Facility that is described in the current licensing activities and License Application.

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FA-7 *Provide the articles of incorporation, corporate organizational charts, and pro-forma financial statements (10 CFR 40.38). Provide a corporate organizational chart that indicates all the entities in the corporate lineage, including any parent companies and/or subsidiaries of IIFP. Indicate the type of entity (e.g., Corporation, Limited Liability Company, etc.), as well as the location of incorporation. Indicate which entity would have direct control of the NRC license and which entity would own the site and facility.*

Provide a copy of the articles of incorporation, a list of corporate officers and their country of citizenship for the corporate entity which has direct control of the NRC license and its parent company (ies).

Provide five years of pro-forma cash flow statements and five years of pro-forma balance sheets for INIS and IIFP. Provide two years of audited historical financial statements (balance sheets, income statements, and cash flow statements) for INIS. All the above information is needed to identify the corporate entities that have direct or indirect control of the license, site and facility; and to determine if IIFP is owned, controlled or dominated by an alien, a foreign corporation or a foreign government (10 CFR 40.38) as well as to have reasonable assurance that INIS and IIFP are financially viable.

RESPONSE: International Isotopes Inc. was formed as a Texas corporation in 1995. Its wholly-owned subsidiaries are International Isotopes Idaho, Inc., a Texas corporation; International Isotopes Fluorine Products, Inc., an Idaho corporation; and International Isotopes Transportation Services, Inc., an Idaho corporation. Copies of the articles of incorporation will be submitted separately. All corporate officers and board members are U.S. citizens.

Our headquarters and all current operations are located in Idaho Falls, Idaho. Our business consists of six reportable segments which include: Nuclear Medicine Standards, Cobalt Products, Radiochemical Products, Fluorine Products, Radiological Services, and Transportation Services.

International Isotopes Inc. (OTCBB "INIS") is a publically traded company. The Company has been public since 1996 and is current and fully compliant in all Securities and Exchange Commission (SEC) filings, audits, and reports. Fully audited financials for the company can be found online using the SEC website or any of the commonly available financial market information web based links. A detailed organization structure for the Company, as well as a description of planned changes in this organization structure to manage the new uranium de-conversion and fluorine extraction processing facility, are contained in Chapter 2, Organization and Administration, of the license application. The wholly owned subsidiary, International Isotopes Fluorine Products (IIFP) will have direct control and responsibility for the NRC license for the uranium facility. At the present time the only organizational position within IIFP that is filled is that of the President of IIFP, Steve T. Laflin. He is also President and CEO of the parent company, INIS.

As a corporate policy INIS does not provide public financial revenue projections because of the inherent liabilities associated with providing projections of any type. However, the sound financial condition of the Company can be determined by reviewing our publically available financial statements and noting the absence of any "going concern" statements by our independent financial auditors, Hansen, Barnett, and Maxwell.

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A review of the information contained within the Management Discussion and Analysis (MD&A) sections of our annual financial reports since 2005 summarizes the Company financial position and our strategy for expanding the business and constructing the planned depleted uranium de-conversion and fluorine extraction processing facility. In just the past four years the Company has spent more than \$11 million dollars on this project, under expenses identified as “Fluorine Extraction” or “Research and Development” in the financial statements. While the core nuclear medicine business provides the foundation for our company revenues, we have secured additional investments in the company through convertible debentures and private placements to support the depleted uranium project. In 2010, alone the Company raised over \$8 million dollars to support this continued effort on the uranium project.

We estimate that the total cost of the design, engineering and construction for this project will be approximately \$ million, and as we have indicated in our MD&A statements, the Company will need to secure additional capital to complete the project. We are evaluating several options to raise this capital including additional equity offerings and debt financing. Clearly the Company projects profits from this undertaking that adequately justify the capital investment in the project.

One of the debt financing options we have considered is to obtain a loan for the project from the Department of Energy (DOE). We have submitted an application to the DOE Loan Guarantee Office for a loan for the balance of the capital cost of the project under the DOE’s program solicitation for “Energy Savings in Manufacturing Processes” (solicitation # DE-FOA-0000140) titled Energy Efficient Fluorine Gas Production and Depleted Uranium De-conversion. The DOE loan program provides low cost loans for up to 80% of the capital cost of qualifying projects in the fields of energy and energy efficiency. If we are approved under this program, funding would be made available directly from the federal government. The part 1 application was submitted to the DOE in June 2010 and the final part 2 application was submitted in December 2010. The part 2 application included both an independent engineers’ assessment of the project and creditworthiness assessment. Both of those assessments favorably viewed the project under the requirements of the DOE loan office program. The requested loan amount is about \$ million which represents 80% of the total qualified project costs and we have requested a 20 year term on the loan. We expect that the DOE will respond to this loan application around mid-2011 and, if we are successful, funding would be available around the end of 2011.

The Company has other debt financing options if the DOE loan application is unsuccessful. We believe the balance of the funds required for the planned facility can be supported through additional equity raises or commercial debt financing. In parallel with our actions to pursue the DOE guarantee, we will also continue to work towards establishing additional supply and service agreements with prospective customers both for de-conversion services and the various fluoride products. We believe that these additional agreements, if entered into, will strengthen our position to complete additional equity raises or obtain alternative debt financing, or a combination of both, should the DOE loan not be approved.

License Documentation Impact: At this stage of the project, IIFP recognizes that a license condition for financial assurance updates annually would reduce some uncertainties associated with the decommissioning cost estimates and financial assurance funding levels. Section 10.3.2 of the IIFP License Application will be amended as follows to include in the early stages of the project a commitment to more frequent updates than required by the regulations of the cost estimates and financial assurance funding levels.

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10.3.2 Adjusting Decommissioning Costs and Funding

In accordance with 10 CFR 40.36(d) (CFR, 2008h), IIFP will update the decommissioning cost estimate for the FEP/DUP, and the associated funding levels, over the life of the facility. Updates will take into account changes resulting from inflation or site-specific factors, such as changes in facility conditions or expected decommissioning procedures. ~~Funding level updates will also address anticipated operation of Phase 2 portions of the facility prior to introducing nuclear materials into that equipment.~~

IIFP will provide decommissioning updates to the NRC annually beginning upon approval of the license application and during the stages of engineering, construction and early operations. After one year of facility operation IIFP intends to request the periodicity for decommissioning cost estimate and associated funding level updates to be changed to the minimum three-year basis as required by regulations. Thereafter, updating ~~Such updating~~ will occur approximately every three years. A record of the update process and results will be retained for review as discussed in Section 10.3.3, below. The NRC will be notified of any material changes to the decommissioning cost estimate and associated funding levels (e.g., significant increases in costs beyond anticipated inflation). To the extent the underlying instruments are revised to reflect changes in funding levels, the NRC will be notified as appropriate.

~~For the first four-year period of operations, IIFP is committed intends to provide financial assurance decommissioning funding for the IIFP Facility. assurance for only the Phase 1 portions of the facility. In 2009 dollars, the facility decommissioning cost estimate would be assured.~~ Applying a 25% contingency factor to the decommissioning cost estimate, yields a total projected decommissioning cost for the IIFP Facility Phase 1 FEP/DUP facility operation, for which financial assurance would be provided, of ~~nearly \$12.2~~ approximately \$14.2 million (expressed in 2009 U.S. dollars).

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FA-8 *Provide draft text of the proposed financial instruments, including an appropriate financial assurance mechanism as detailed in 10 CFR 40.36(e), standby trust agreement (if required by the assurance mechanism selected), and certification of financial assurance.*

Financial assurance for decommissioning must be provided by one or more of the methods as set forth in 10 CFR 40.36(e). In addition, 10 CFR 40.36(d) states that a Decommissioning Funding Plan must also contain a certification by the licensee that financial assurance for decommissioning has been provided in the amount of the cost estimate. LA Section 1.2.2 states, "IIFP presently intends to utilize a surety bond and Standby Trust Fund method to provide reasonable financial assurance of decommissioning funding...." To avoid duplication of effort and expense, provide draft text of the proposed financial instruments, including an appropriate financial assurance mechanism as detailed in 10 CFR 40.36(e), standby trust agreement (if required by the assurance mechanism selected), and certification of financial assurance.

RESPONSE: While IIFP has been evaluating several of the financial assurance mechanisms identified in Volume 3 of NUREG-1757; IIFP has yet to select a financial institution or specific financial assurance mechanism to fund the decommissioning of the facility. IIFP will commit to obtaining and providing financial assurance instruments to the NRC that are consistent with the standard format and language of those provided in Appendix A of the NUREG-1757, Volume 3. As stated in Section 1.2.2 of the license application, the financial assurance instruments will be provided 6 months prior to the commencement of licensed operations. Draft text of proposed financial assurance instruments has been copied from NUREG-1757 and has been provided on the following pages.

License Documentation Impact:

None.

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PAYMENT SURETY BOND

Date bond executed: _____

Effective date: _____

Principal: International Isotopes Inc

Type of organization: Corporation

State of incorporation: Texas

NRC license number: _____

Name and address of facility: _____

Amount for decommissioning activities
guaranteed by this bond: _____

Surety: [Insert name and business address]

Type of organization: [Insert "proprietorship," "partnership," or "corporation"]

State of incorporation: (if applicable)

Surety's qualification in jurisdiction where licensed facility is located: _____

Surety's bond number: _____

Total penal sum of bond: \$ _____

Know all persons by these presents, that we, the Principal and Surety hereto, are firmly bound to the U.S. Nuclear Regulatory Commission (hereinafter called NRC) in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Sureties are corporations acting as cosureties, we, the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety; but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

WHEREAS, the U.S. Nuclear Regulatory Commission, an agency of the U.S. Government, pursuant to the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, has promulgated regulations in title 10, Chapter I of the *Code of Federal Regulations*, Part 40, applicable to the Principal, which require that a license holder or an applicant for a facility license provide financial

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assurance that funds will be available when needed for facility decommissioning;

NOW, THEREFORE, the conditions of the obligation are such that if the Principal shall faithfully, before the beginning of decommissioning of each facility identified above, fund the standby trust fund in the amount(s) identified above for the facility;

Or, if the Principal shall fund the standby trust fund in such amount(s) after an order to begin facility decommissioning is issued by NRC or a U.S. District Court or other court of competent jurisdiction;

Or, if the Principal shall provide alternative financial assurance, and obtain NRC's written approval of such assurance, within 30 days after the date a notice of cancellation from the Surety is received by both the Principal and NRC, then this obligation shall be null and void; otherwise it is to remain in full force and effect.

The Surety shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by NRC that the Principal has failed to perform as guaranteed by this bond, the Surety shall place funds in the amount guaranteed for the facility into the standby trust fund.

The liability of the Surety shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety hereunder exceed the amount of said penal sum.

The Surety may cancel the bond by sending notice of cancellation by certified mail to the Principal and to NRC provided, however, that cancellation shall not occur during the 90 days beginning on the date of receipt of the notice of cancellation by both the Principal and NRC, as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to NRC and to the Surety 90 days prior to the proposed date of termination, provided, however, that no such notice shall become effective until the Surety receives written authorization for termination of the bond from NRC.

The Principal and Surety hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new amount, provided that the penal sum does not increase by more than 20 percent in any one year and no decrease in the penal sum takes place without the written permission of NRC.

If any part of this agreement is invalid, it shall not affect the remaining provisions that will remain valid and enforceable.

In Witness Whereof, the Principal and Surety have executed this financial guarantee bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety.

Official Responses to Financial Assurance RAIs

PRINCIPAL

[Signatures]

[Names]

[Titles]

[Corporate seal]

CORPORATE SURETY

[Name and address]

State of incorporation: _____

Liability limit: \$ _____

[Signatures]

[Names]

[Titles]

[Corporate seal]

[For every co-surety, provide signatures, names and titles, corporate seal, and other information in the same manner as for the Sureties above.]

Bond Premium: \$ _____

Official Responses to Financial Assurance RAIs

STANDBY TRUST AGREEMENT

TRUST AGREEMENT, the Agreement entered into as of *[insert date]* by and between International Isotopes Inc, a Texas Corporation, herein referred to as the "Grantor," and *[insert name and address of a trustee acceptable to NRC]*, the "Trustee."

WHEREAS, the U.S. Nuclear Regulatory Commission (NRC), an agency of the U.S. Government, pursuant to the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, has promulgated regulations in title 10, Chapter I, of the *Code of Federal Regulations*, Part 40. These regulations, applicable to the Grantor, require that a holder of, or an applicant for, a materials license issued pursuant to 10 CFR Part 40 provide assurance that funds will be available when needed for required decommissioning activities.

WHEREAS, the Grantor has elected to use a *surety bond*, to provide *[insert "all" or "part"]* of such financial assurance for the facilities identified herein; and

WHEREAS, when payment is made under a *surety bond*, this standby trust shall be used for the receipt of such payment; and

WHEREAS, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this Agreement, and the Trustee is willing to act as trustee;

NOW, THEREFORE, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

- (a) The term "Grantor" means the NRC licensee who enters into this Agreement and any successors or assigns of the Grantor.
- (b) The term "Trustee" means the trustee who enters into this Agreement and any successor trustee.

Section 2. Costs of Decommissioning. This Agreement pertains to the costs of decommissioning the materials and activities identified in License Number *[insert license number]* issued pursuant to 10 CFR Part 40, as shown in Schedule A.

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a standby trust fund (the Fund) for the benefit of NRC. The Grantor and the Trustee intend that no third party shall have access to the Fund except as provided herein.

Section 4. Payments Constituting the Fund. Payments made to the Trustee for the Fund shall consist of cash, securities, or other liquid assets acceptable to the Trustee. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee are referred to as the "Fund," together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount of, or adequacy of the Fund, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by NRC.

Official Responses to Financial Assurance RAIs

Section 5. Payment for Required Activities Specified in the Plan. The Trustee shall make payments from the Fund to the Grantor upon presentation to the Trustee of the following:

- (a) A certificate duly executed by the Secretary of the Grantor attesting to the occurrence of the events, and in the form set forth in the attached Certificate of Events, and
- (b) A certificate attesting to the following conditions:
 - 1. that decommissioning is proceeding pursuant to an NRC-approved plan;
 - 2. that the funds withdrawn will be expended for activities undertaken pursuant to that plan; and
 - 3. that NRC has been given 30 days prior notice of International Isotope Inc.'s intent to withdraw funds from the trust fund.

No withdrawal from the Fund for a particular license can exceed 10 percent of the remaining funds available for that license unless NRC written approval is attached.

In addition, the Trustee shall make payments from the Fund as NRC shall direct, in writing, to provide for the payment of the costs of required activities covered by this Agreement. The Trustee shall reimburse the Grantor or other persons as specified by NRC from the Fund for expenditures for required activities in such amounts as NRC shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as NRC specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 6. Trust Management. The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge its duties with respect to the Fund solely in the interest of the beneficiary and with the care, skill, prudence and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims, except that:

- (a) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended (15 U.S.C. 80a-2(a)), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government;
- (b) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal government, and in obligations of the Federal government such as GNMA, FNMA, and FHLM bonds and certificates or State and Municipal bonds rated BBB or higher by Standard & Poor's or Baa or higher by Moody's Investment Services; and
- (c) For a reasonable time, not to exceed 60 days, the Trustee is authorized to hold uninvested cash, awaiting investment or distribution, without liability for the payment of interest thereon.

Official Responses to Financial Assurance RAIs

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

- (a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and
- (b) To purchase shares in any investment company registered under the Investment Company Act of 1940 (15 U.S.C. 80a-1 et seq.), including one that may be created, managed, underwritten, or to which investment advice is rendered, or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretion conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

- (a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale, as necessary to allow duly authorized withdrawals at the joint request of the Grantor and NRC or to reinvest in securities at the direction of the Grantor;
- (b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;
- (c) To register any securities held in the Fund in its own name, or in the name of a nominee, and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, to reinvest interest payments and funds from matured and redeemed instruments, to file proper forms concerning securities held in the Fund in a timely fashion with appropriate government agencies, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee or such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the U.S. Government, or any agency or instrumentality thereof, with a Federal Reserve Bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;
- (d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal government; and
- (e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Official Responses to Financial Assurance RAIs

Section 10. Annual Valuation. After payment has been made into this standby trust fund, the Trustee shall annually, at least 30 days before the anniversary date of receipt of payment into the standby trust fund, furnish to the Grantor and to NRC a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days before the anniversary date of the establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and NRC shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to the matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting on the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing with the Grantor. (See Schedule C.)

Section 13. Successor Trustee. Upon 90 days notice to NRC and the Grantor, the Trustee may resign; upon 90 days notice to NRC and the Trustee, the Grantor may replace the Trustee; but such resignation or replacement shall not be effective until the Grantor has appointed a successor Trustee, the successor accepts the appointment, the successor is ready to assume its duties as trustee, and NRC has agreed, in writing, that the successor is an appropriate Federal or State government agency or an entity that has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency. The successor Trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. When the resignation or replacement is effective, the Trustee shall assign, transfer, and pay over to the successor Trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor Trustee or for instructions. The successor Trustee shall specify the date on which it assumes administration of the trust, in a writing sent to the Grantor, NRC, and the present Trustee, by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are signatories to this Agreement or such other designees as the Grantor may designate in writing. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. If NRC issues orders, requests, or instructions to the Trustee these shall be in writing, signed by NRC or its designees, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or NRC hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or NRC, except as provided for herein.

Section 15. Amendment of Agreement. This Agreement may be amended by an instrument in writing

Official Responses to Financial Assurance RAIs

executed by the Grantor, the Trustee, and NRC, or by the Trustee and NRC if the Grantor ceases to exist. All amendments shall meet the relevant regulatory requirements of NRC.

Section 16. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 15, this trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and NRC, or by the Trustee and NRC if the Grantor ceases to exist. Upon termination of the trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor or its successor.

Section 17. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this trust, or in carrying out any directions by the Grantor or NRC issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the trust fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 18. This Agreement shall be administered, construed, and enforced according to the laws of the State of New Mexico.

Section 19. Interpretation and Severability. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement. If any part of this Agreement is invalid, it shall not affect the remaining provisions which will remain valid and enforceable.

IN WITNESS WHEREOF the parties have caused this Agreement to be executed by the respective officers duly authorized and the incorporate seals to be hereunto affixed and attested as of the date first written above.

International Isotopes Inc

[Signature of representative of Grantor]

[Title]

ATTEST:

[Title]

[Seal]

[Insert name and address of Trustee]

[Signature of representative of Trustee]

[Title]

ATTEST:

[Title]

[Seal]

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Schedule A

This Agreement demonstrates financial assurance for the following cost estimates or prescribed amounts for the following licensed activities:

U.S. NUCLEAR REGULATORY COMMISSION LICENSE NUMBER(S)	NAME AND ADDRESS OF LICENSEE	ADDRESS OF LICENSED ACTIVITY	COST ESTIMATES FOR REGULATORY ASSURANCES DEMONSTRATED BY THIS AGREEMENT
_____	_____	_____	_____
_____	_____	_____	_____

The cost estimates listed here were last adjusted and approved by NRC on. _____

Schedule B

AMOUNT: _____

AS EVIDENCED BY: _____

Schedule C

[Insert name, address, and phone number of Trustee.]

Trustee's fees shall be: _____ per year.

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CERTIFICATION OF FINANCIAL ASSURANCE

Principal: *[Legal names and business address of licensee]*
NRC license number, name and address of the facility
Issued to: U.S. Nuclear Regulatory Commission

I certify that *[insert name of licensee]* is licensed to possess the following types of *[insert all that apply: "sealed sources or plated foils with a half-life greater than 120 days licensed under 10 CFR Part 30," "unsealed byproduct material with a half-life greater than 120 days licensed under 10 CFR Part 30," "source material in a readily dispersible form licensed under 10 CFR Part 40," and "unsealed special nuclear material licensed under 10 CFR Part 70"]* in the following amounts:

Type of Material Amount of Material
*[List materials and quantities of materials noted above. For **byproduct materials and special nuclear materials**, list separately the type and amount of each isotope authorized by the license.]*

I also certify that financial assurance in the amount of *[insert the total of all prescribed amounts calculated from Checklist 2, or the amount of the site-specific cost estimate, in US dollars]* has been obtained for the purpose of decommissioning as prescribed by 10 CFR Part *[insert 30, 40, or 70]*.

[Signatures and titles of officials of institution]
[Corporate seal]
[Date]

Official Responses to Financial Assurance RAIs

TABLE 10-1 DUF₄ PROCESS AND DUF₆ AUTOCLAVE BUILDING COMPONENTS

Component	Number of Components	Total Component Volume	Total Component Volume After Reduction	Volume for Non-LLW Disposal	Volume for LLW Disposal
EQUIPMENT/MATERIALS					
DUF ₆ to DUF ₄ Process Autoclaves	2	1130	1130	1130	0
Condensate Holding Tank	2	184	184	184	0
Refrigeration System for AHF Condensers	1	240	240	240	0
20 Ton Bridge Crane Hoist	1	18	18	18	0
20 Ton Bridge Crane	1	360	360	360	0
20 Ton Bridge Crane Rails	2	150	150	150	0
3 Ton Monorail	1	8	8	8	0
Cylinder Cart	2	300	300	300	0
Cylinder Scale	1	150	150	150	0
Autoclave Hydraulic Pump System	2	96	96	96	0
DUF ₆ Analyzer	1	2	2	0	2
DUF ₆ Piping Autoclave to Surge Tank	2	25	25	0	25
DUF ₆ Piping Surge Tank to Reaction Vessel	1	6	6	0	6
Steam Piping from Boiler to AC	2	156	156	0	156
Condensate Return Piping	2	7	7	0	7
Autoclave Relief Piping	2	75	75	0	75
Heeling Cold Traps	2	1130	1130	1130	0
DUF ₄ Vacuum Transfer System to FEP Facility	1	36	36	0	36
Transfer Piping DUF ₄ Storage Hoppers to Surge Hopper	1	113	113	0	113
P & E Cold Traps	3	85	85	0	85
P & E NaF (Sodium Fluoride Packing) Traps	3	32	32	0	32
P & E Activated Alumina Traps	3	32	32	0	32
Vacuum Pump	1	18	18	0	18
Vibrating Screen	1	67	67	0	67
DUF ₄ Product Storage Bins	3	2526	842	0	842
Storage Bin Rotary Valves	3	43	43	0	43
Drum Fill Station	3	432	432	0	432
Fill Station Piping	1	6	6	0	6
Reaction Vessel Cooling Screw Conveyor	1	5	5	0	5
Cooling Screw Conveyor Water Jacket	2	8	8	8	0
Cooling Screw Off Gas Plenum	1	4	4	0	4

Official Responses to Financial Assurance RAIs

TABLE 10-1 DUF₄ PROCESS AND DUF₆ AUTOCLAVE BUILDING COMPONENTS

Component	Number of Components	Total Component Volume	Total Component Volume After Reduction	Volume for Non-LLW Disposal	Volume for LLW Disposal
DUF ₄ Product Screw Conveyor	1	5	5	0	5
Partial HF Condenser	2	59	59	59	0
Total HF Condenser	2	15	15	15	0
Primary Filter - Off Gas Cyclone	1	50	50	0	50
Primary Filter - Sintered Filter Elements	1	46	46	0	46
Cyclone Filter Rotary Valve	2	29	29	0	29
Secondary Off Gas Filter with Sintered Filter Elements	1	46	46	0	46
Backup Filter Rotary Valve	1	14	14	0	14
Carbon-Bed Traps	6	125	125	0	125
Reaction Vessel Heaters	8	157	157	157	0
DUF ₆ Surge Tank	1	38	38	0	38
Surge Tank/Feed Piping Hot Box Electric Heaters	1	11	11	11	0
Surge Tank/Feed Hot Box	1	79	79	79	0
Hydrogen Supply System	1	384	384	384	0
Hydrogen Surge Tank	1	33	33	33	0
DUF ₆ to DUF ₄ Reaction Vessel	1	29	29	0	29
Hydrogen Burner	1	55	55	55	0
Primary Dust Collector	1	2280	912	0	912
Primary Dust Collector Rotary Valve	1	14	14	0	14
Secondary Dust Collector	1	588	235	0	235
Dust Collector Blower	1	216	216	0	216
Reaction Vessel Cooling Blower	1	36	36	0	36
Vacuum Cleaning Blower	1	36	36	0	36
Piping from Screw Conveyor to Dust Collectors	1	56	56	0	56
Piping from DUF ₄ FEP Feed Hopper to Vacuum Pump	1	31	31	0	31
Oxide Inventory Pending Shipment After Shutdown	1	2825	2825	0	2825
Carbon & Activated Alumina Residual In Process	1	150	150	0	150
Ventilation Ducting from Table 10-6:					
DUF ₆ Autoclave Room HVAC Ducting	1	432	144	0	144
DUF ₄ Process Building HVAC Ducting	1	1296	432	0	432
AHF Storage Tanks	4	980	980	980	0

Official Responses to Financial Assurance RAIs

TABLE 10-1 DUF₄ PROCESS AND DUF₆ AUTOCLAVE BUILDING COMPONENTS

Component	Number of Components	Total Component Volume	Total Component Volume After Reduction	Volume for Non-LLW Disposal	Volume for LLW Disposal
AHF Transfer System (pump, piping & hoses)	1	80	80	80	0
AHF as Work-in-Process & Storage Waiting to be Shipped	Approximately 18,000kg				Would be shipped to AHF customer. Added transportation cost to DFP.
CaF ₂ as Material-in-Process & Storage Awaiting Shipment to Customer	Approximately 20,000kg				Would be shipped to AHF customer. Added transportation cost to DFP.
Regenerated KOH Solution Residual In Process	Approximately 7,000kg				Would ship to vendor or user FOB for transport cost.
Storage Tanks	Included in Equipment List				
Storage Areas	Included in Buildings				
Radiological Waste Areas	Included in Buildings				
Equipment Decontamination Areas	See Table 10-2				
TOTAL NON-LLW DISPOSAL				5,627	
TOTAL LLW DISPOSAL					7,455

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TABLE 10-2 DECONTAMINATION BUILDING AND LABORATORY COMPONENTS

<u>Component</u>	<u>Number of Components</u>	<u>Total Component Volume</u>	<u>Total Component Volume After Reduction</u>	<u>Volume for Non-LLW Disposal</u>	<u>Volume for LLW Disposal</u>
<u>EQUIPMENT/MATERIALS</u>					
<u>Fume Cupboards (hoods)</u>	<u>4</u>	<u>80</u>	<u>80</u>	<u>0</u>	<u>80</u>
<u>Floors (concrete/dike demolition)</u>	<u>1</u>	<u>1000</u>	<u>1000</u>	<u>0</u>	<u>1000</u>
<u>Walls And Ceilings (building demolition)</u>	<u>1</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>	<u>0</u>
<u>Grit Blast Booth/Equipment</u>	<u>1</u>	<u>1998</u>	<u>666</u>	<u>0</u>	<u>666</u>
<u>Dust Collector</u>	<u>1</u>	<u>588</u>	<u>235</u>	<u>0</u>	<u>235</u>
<u>Hold Tank</u>	<u>2</u>	<u>560</u>	<u>187</u>	<u>0</u>	<u>187</u>
<u>Precipitation Tank</u>	<u>1</u>	<u>279</u>	<u>93</u>	<u>0</u>	<u>93</u>
<u>Centrifugal Pumps</u>	<u>4</u>	<u>7</u>	<u>7</u>	<u>0</u>	<u>7</u>
<u>Water Spray Submersible Pump</u>	<u>1</u>	<u>2</u>	<u>2</u>	<u>0</u>	<u>2</u>
<u>Secondary Dust Collector</u>	<u>1</u>	<u>96</u>	<u>38</u>	<u>0</u>	<u>38</u>
<u>Drum Fill Station</u>	<u>2</u>	<u>288</u>	<u>288</u>	<u>0</u>	<u>288</u>
<u>Dust Collector Blower</u>	<u>1</u>	<u>71</u>	<u>71</u>	<u>0</u>	<u>71</u>
<u>Primary Filters</u>	<u>2</u>	<u>151</u>	<u>151</u>	<u>0</u>	<u>151</u>
<u>Polishing Filters</u>	<u>4</u>	<u>170</u>	<u>170</u>	<u>0</u>	<u>170</u>
<u>Ion Exchange Columns</u>	<u>2</u>	<u>141</u>	<u>141</u>	<u>0</u>	<u>141</u>
<u>Decontamination Building Piping</u>	<u>1</u>	<u>19</u>	<u>19</u>	<u>0</u>	<u>19</u>
<u>Motors</u>	<u>5</u>	<u>9</u>	<u>9</u>	<u>0</u>	<u>9</u>
<u>Misc Conduit, Instruments, Control Panel</u>	<u>1</u>	<u>20</u>	<u>20</u>	<u>0</u>	<u>20</u>
<u>Cleaning Solution Waste</u>	<u>1</u>	<u>1875</u>	<u>1875</u>	<u>0</u>	<u>1875</u>
<u>Hazardous Waste</u>	<u>1</u>	<u>750</u>	<u>750</u>	<u>0</u>	<u>750</u>
<u>Ventilation Ducting from Table 10-6:</u>					
<u>Decontamination Ducting</u>	<u>1</u>	<u>78</u>	<u>26</u>	<u>0</u>	<u>26</u>
<u>Laboratory HVAC Ducting</u>	<u>1</u>	<u>78</u>	<u>26</u>	<u>0</u>	<u>26</u>
<u>TOTAL NON-LLW</u>				<u>1,000</u>	
<u>TOTAL LLW</u>					<u>5,854</u>

Official Responses to Financial Assurance RAIs

TABLE 10-3 FEP PROCESS BUILDING COMPONENTS FOR SIF4 PROCESS

<u>Component</u>	<u>Number of Components</u>	<u>Total Component Volume</u>	<u>Total Component Volume After Reduction</u>	<u>Volume for Non-LLW Disposal</u>	<u>Volume for LLW Disposal</u>
<u>EQUIPMENT/MATERIALS</u>					
<u>SiO₂ Storage</u>	<u>1</u>	<u>785</u>	<u>0</u>	<u>785</u>	<u>0</u>
<u>Oxide Hopper</u>	<u>1</u>	<u>306</u>	<u>102</u>	<u>0</u>	<u>102</u>
<u>Oxide Hopper Rotary Valves</u>	<u>1</u>	<u>14</u>	<u>14</u>	<u>0</u>	<u>14</u>
<u>Drum Filling Enclosure</u>	<u>1</u>	<u>49</u>	<u>49</u>	<u>0</u>	<u>49</u>
<u>Piping from Oxide Hopper to Dust Collector</u>	<u>1</u>	<u>28</u>	<u>28</u>	<u>0</u>	<u>28</u>
<u>Piping for Drum Station</u>	<u>1</u>	<u>5</u>	<u>5</u>	<u>0</u>	<u>5</u>
<u>Calciner Inlet Conveyor</u>	<u>1</u>	<u>2</u>	<u>2</u>	<u>0</u>	<u>2</u>
<u>Rotary Calciner</u>	<u>1</u>	<u>66</u>	<u>66</u>	<u>0</u>	<u>66</u>
<u>Cooling Screw Conveyor</u>	<u>1</u>	<u>3</u>	<u>3</u>	<u>0</u>	<u>3</u>
<u>Cooling Screw Conveyor Water Jacket</u>	<u>1</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>0</u>
<u>DUF₄ Feed Hopper</u>	<u>1</u>	<u>21</u>	<u>21</u>	<u>0</u>	<u>21</u>
<u>DUF₄ Hopper Rotary Valves</u>	<u>1</u>	<u>14</u>	<u>14</u>	<u>0</u>	<u>14</u>
<u>DUF₄ Gate-Lock Hopper</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>
<u>DUF₄ Hopper Vacuum Filter/Receiver</u>	<u>1</u>	<u>3</u>	<u>3</u>	<u>0</u>	<u>3</u>
<u>Piping from DUF₄ Hopper to Dust Collector</u>	<u>1</u>	<u>28</u>	<u>28</u>	<u>0</u>	<u>28</u>
<u>Vacuum Secondary Filter, Pump & Discharge Silencer</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>
<u>SiO₂ Feed Hopper</u>	<u>1</u>	<u>21</u>	<u>21</u>	<u>21</u>	<u>0</u>
<u>SiO₂ Hopper Rotary Valves</u>	<u>1</u>	<u>14</u>	<u>14</u>	<u>14</u>	<u>0</u>
<u>DUF₄ Screw Conveyor</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>
<u>SiO₂ Screw Conveyor</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>
<u>Ribbon Blender</u>	<u>1</u>	<u>29</u>	<u>29</u>	<u>0</u>	<u>29</u>

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TABLE 10-3 FEP PROCESS BUILDING COMPONENTS FOR SiF₄ PROCESS

<u>Component</u>	<u>Number of Components</u>	<u>Total Component Volume</u>	<u>Total Component Volume After Reduction</u>	<u>Volume for Non-LLW Disposal</u>	<u>Volume for LLW Disposal</u>
<u>Vibrating Screen</u>	<u>1</u>	<u>94</u>	<u>94</u>	<u>0</u>	<u>94</u>
<u>Pre Filter</u>	<u>1</u>	<u>42</u>	<u>42</u>	<u>0</u>	<u>42</u>
<u>Dust Collector & Blower</u>	<u>1</u>	<u>2280</u>	<u>1026</u>	<u>0</u>	<u>1026</u>
<u>Primary Dust Collector Rotary Valve</u>	<u>1</u>	<u>14</u>	<u>14</u>	<u>0</u>	<u>14</u>
<u>Secondary Dust Collector & Blower</u>	<u>1</u>	<u>215</u>	<u>86</u>	<u>0</u>	<u>86</u>
<u>Backup Dust Collector Rotary Valve</u>	<u>1</u>	<u>14</u>	<u>14</u>	<u>0</u>	<u>14</u>
<u>Backup Dust Collector Drum Enclosure</u>	<u>1</u>	<u>49</u>	<u>49</u>	<u>0</u>	<u>49</u>
<u>Primary & Secondary Sintered Metal Filter</u>	<u>4</u>	<u>13</u>	<u>13</u>	<u>0</u>	<u>13</u>
<u>Pre-Condenser</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>0</u>
<u>Product Cold Traps</u>	<u>3</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>0</u>
<u>SiF₄ Compressor</u>	<u>1</u>	<u>67</u>	<u>67</u>	<u>67</u>	<u>0</u>
<u>Chiller</u>	<u>1</u>	<u>30</u>	<u>30</u>	<u>30</u>	<u>0</u>
<u>Separator</u>	<u>1</u>	<u>33</u>	<u>33</u>	<u>33</u>	<u>0</u>
<u>Heat Exchanger</u>	<u>1</u>	<u>30</u>	<u>30</u>	<u>30</u>	<u>0</u>
<u>Vacuum Pump</u>	<u>1</u>	<u>18</u>	<u>18</u>	<u>18</u>	<u>0</u>
<u>SiF₄ Storage Tanks</u>	<u>3</u>	<u>377</u>	<u>377</u>	<u>377</u>	<u>0</u>
<u>SiF₄ Cylinder Fill Manifold & Containment</u>	<u>1</u>	<u>67</u>	<u>67</u>	<u>67</u>	<u>0</u>
<u>SiF₄ Dump Tank</u>	<u>1</u>	<u>126</u>	<u>126</u>	<u>126</u>	<u>0</u>
<u>Venturi Scrubber Downstream of DUF₄ Dust Collector Blowers</u>	<u>1</u>	<u>50</u>	<u>50</u>	<u>0</u>	<u>50</u>
<u>Venturi Scrubber Downstream of SiF₄ Dust Collector Blowers</u>	<u>1</u>	<u>50</u>	<u>50</u>	<u>0</u>	<u>50</u>
<u>Venturi Scrubber KOH Pumps for SiF₄ Dust Collector Blowers</u>	<u>1</u>	<u>50</u>	<u>50</u>	<u>0</u>	<u>50</u>

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TABLE 10-3 FEP PROCESS BUILDING COMPONENTS FOR SiF₄ PROCESS

<u>Component</u>	<u>Number of Components</u>	<u>Total Component Volume</u>	<u>Total Component Volume After Reduction</u>	<u>Volume for Non-LLW Disposal</u>	<u>Volume for LLW Disposal</u>
<u>Ventilation Ducting from Table 10-6:</u>					
<u>HVAC Ducting</u>	<u>1</u>	<u>1,728</u>	<u>576</u>	<u>0</u>	<u>576</u>
<u>SiF₄ Work-In-Process And Storage</u>	<u>Approximately 22,000 kg</u>	<u>Most inventory already in customer cylinders.</u>			<u>Package remaining inventory and ship to customer.</u>
<u>Storage Areas</u>	<u>Included in Buildings</u>				
<u>Radiological Waste Areas</u>	<u>Included in Buildings</u>				
<u>Equipment Decontamination Areas</u>	<u>See Table 10-2</u>				
<u>TOTAL NON-LLW</u>				<u>1,575</u>	
<u>TOTAL LLW</u>					<u>2,432</u>

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TABLE 10-4 FEP PROCESS BUILDING COMPONENTS FOR BF₃ PROCESS

<u>Component</u>	<u>Number of Components</u>	<u>Total Component Volume</u>	<u>Total Component Volume After Reduction</u>	<u>Volume for Non-LLW Disposal</u>	<u>Volume for LLW Disposal</u>
<u>EQUIPMENT/MATERIALS</u>					
<u>B₂O₃ Storage</u>	<u>1</u>	<u>785</u>	<u>785</u>	<u>785</u>	<u>0</u>
<u>Oxide Hopper</u>	<u>1</u>	<u>306</u>	<u>102</u>	<u>0</u>	<u>102</u>
<u>Oxide Hopper Rotary Valves</u>	<u>2</u>	<u>29</u>	<u>29</u>	<u>0</u>	<u>29</u>
<u>Drum Filling Enclosure</u>	<u>2</u>	<u>98</u>	<u>98</u>	<u>0</u>	<u>98</u>
<u>Dust Collector Blower</u>	<u>1</u>	<u>220</u>	<u>220</u>	<u>0</u>	<u>220</u>
<u>Piping from Oxide Hopper to Dust Collector</u>	<u>2</u>	<u>56</u>	<u>56</u>	<u>0</u>	<u>56</u>
<u>Piping from Drum Fill Station</u>	<u>2</u>	<u>18</u>	<u>18</u>	<u>0</u>	<u>18</u>
<u>P & E Chem Traps</u>	<u>4</u>	<u>42</u>	<u>42</u>	<u>42</u>	<u>0</u>
<u>P & E Vacuum Pump</u>	<u>2</u>	<u>36</u>	<u>36</u>	<u>36</u>	<u>0</u>
<u>Pre-Heater Feed Screw</u>	<u>2</u>	<u>4</u>	<u>4</u>	<u>0</u>	<u>4</u>
<u>Pre-Heater</u>	<u>2</u>	<u>25</u>	<u>25</u>	<u>0</u>	<u>25</u>
<u>Rotary Calciner Feed Screw</u>	<u>2</u>	<u>4</u>	<u>4</u>	<u>0</u>	<u>4</u>
<u>Rotary Calciner</u>	<u>1</u>	<u>66</u>	<u>66</u>	<u>0</u>	<u>66</u>
<u>Cooling Screw Conveyor</u>	<u>1</u>	<u>3</u>	<u>3</u>	<u>0</u>	<u>3</u>
<u>Cooling Screw Conveyor Water Jacket</u>	<u>1</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>0</u>
<u>DUF₄ Feed Hopper</u>	<u>2</u>	<u>42</u>	<u>42</u>	<u>0</u>	<u>42</u>
<u>DUF₄ Hopper Rotary Valves</u>	<u>4</u>	<u>57</u>	<u>57</u>	<u>0</u>	<u>57</u>
<u>DUF₄ Gate-Lock Hopper</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>
<u>DUF₄ Hopper Vacuum Filter/Receiver</u>	<u>1</u>	<u>3</u>	<u>3</u>	<u>0</u>	<u>3</u>

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TABLE 10-4 FEP PROCESS BUILDING COMPONENTS FOR BF₃ PROCESS

<u>Component</u>	<u>Number of Components</u>	<u>Total Component Volume</u>	<u>Total Component Volume After Reduction</u>	<u>Volume for Non-LLW Disposal</u>	<u>Volume for LLW Disposal</u>
<u>Piping DUF₄ Hopper to Dust Collector</u>	<u>1</u>	<u>28</u>	<u>28</u>	<u>0</u>	<u>28</u>
<u>Vacuum Secondary Filter, Pump & Discharge Silencer</u>	<u>2</u>	<u>3</u>	<u>3</u>	<u>0</u>	<u>3</u>
<u>B₂O₃ Feed Hopper</u>	<u>2</u>	<u>42</u>	<u>42</u>	<u>42</u>	<u>0</u>
<u>B₂O₃ Hopper Rotary Valves</u>	<u>4</u>	<u>57</u>	<u>57</u>	<u>57</u>	<u>0</u>
<u>DUF₄ Screw Conveyor</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>
<u>B₂O₃ Screw Conveyor</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>
<u>Ribbon Blender</u>	<u>2</u>	<u>59</u>	<u>59</u>	<u>0</u>	<u>59</u>
<u>Vibrating Screen</u>	<u>2</u>	<u>189</u>	<u>189</u>	<u>0</u>	<u>189</u>
<u>Dust Collector</u>	<u>1</u>	<u>2280</u>	<u>912</u>	<u>0</u>	<u>912</u>
<u>Primary Dust Collector Rotary Valve</u>	<u>1</u>	<u>14</u>	<u>14</u>	<u>0</u>	<u>14</u>
<u>Backup Secondary Dust Collector</u>	<u>1</u>	<u>215</u>	<u>86</u>	<u>0</u>	<u>86</u>
<u>Backup Dust Collector Rotary Valve</u>	<u>1</u>	<u>14</u>	<u>14</u>	<u>0</u>	<u>14</u>
<u>Backup Dust Collector Drum Enclosure</u>	<u>1</u>	<u>49</u>	<u>49</u>	<u>0</u>	<u>49</u>
<u>Primary & Secondary Sintered Metal Filters</u>	<u>2</u>	<u>7</u>	<u>7</u>	<u>0</u>	<u>7</u>
<u>Pre-Condenser</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>0</u>
<u>Cold Traps</u>	<u>4</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>0</u>
<u>BF₃ Compressor</u>	<u>2</u>	<u>133</u>	<u>133</u>	<u>133</u>	<u>0</u>
<u>Chiller</u>	<u>2</u>	<u>60</u>	<u>60</u>	<u>60</u>	<u>0</u>

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TABLE 10-4 FEP PROCESS BUILDING COMPONENTS FOR BF₃ PROCESS

<u>Component</u>	<u>Number of Components</u>	<u>Total Component Volume</u>	<u>Total Component Volume After Reduction</u>	<u>Volume for Non-LLW Disposal</u>	<u>Volume for LLW Disposal</u>
<u>Separator</u>	<u>2</u>	<u>66</u>	<u>66</u>	<u>66</u>	<u>0</u>
<u>BF₃ Storage Tank & Dump Tank</u>	<u>26</u>	<u>3268</u>	<u>3268</u>	<u>3268</u>	<u>0</u>
<u>Venturi Scrubber Downstream of DUF₄ Dust Collector Blower</u>	<u>1</u>	<u>50</u>	<u>50</u>	<u>0</u>	<u>50</u>
<u>Venturi Scrubber Downstream of BF₃ Dust Collector Blower</u>	<u>1</u>	<u>50</u>	<u>50</u>	<u>0</u>	<u>50</u>
<u>Ventilation Ducting from Table 10-6:</u>					
<u>HVAC Ducting</u>	<u>1</u>	<u>1728</u>	<u>576</u>	<u>0</u>	<u>576</u>
<u>BF₃ Work-In-Process And Storage</u>	<u>Approximately 8,000kg</u>	<u>Most inventory already in customer cylinders.</u>			<u>Package remaining inventory and ship to customer.</u>
<u>Storage Areas</u>	<u>Included in Building</u>				
<u>Radiological Waste Areas</u>	<u>Included in Building</u>				
<u>Equipment Decontamination Areas</u>	<u>See Table 10-2</u>				
<u>TOTAL NON-LLW</u>				<u>4,496</u>	
<u>TOTAL LLW</u>					<u>2,767</u>

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TABLE 10-5 EPP FACILITY COMPONENTS

<u>Component</u>	<u>Number of Components</u>	<u>Total Component Volume</u>	<u>Total Component Volume After Reduction</u>	<u>Volume for Non-LLW Disposal</u>	<u>Volume for LLW Disposal</u>
<u>EQUIPMENT/MATERIALS</u>					
<u>Venturi Scrubber</u>	<u>2</u>	<u>101</u>	<u>101</u>	<u>0</u>	<u>101</u>
<u>Venturi Scrubber Liquid/Gas Separator</u>	<u>2</u>	<u>101</u>	<u>101</u>	<u>0</u>	<u>101</u>
<u>Venturi Scrubber Water Pump</u>	<u>2</u>	<u>4</u>	<u>4</u>	<u>0</u>	<u>4</u>
<u>Packed Tower Scrubber</u>	<u>2</u>	<u>32</u>	<u>32</u>	<u>0</u>	<u>32</u>
<u>Tower Scrubber KOH Pump</u>	<u>2</u>	<u>4</u>	<u>4</u>	<u>0</u>	<u>4</u>
<u>Coke Box</u>	<u>2</u>	<u>266</u>	<u>266</u>	<u>0</u>	<u>266</u>
<u>Coke Box KOH Sump Pump</u>	<u>2</u>	<u>4</u>	<u>4</u>	<u>0</u>	<u>4</u>
<u>Coke Box Blower</u>	<u>2</u>	<u>43</u>	<u>43</u>	<u>0</u>	<u>43</u>
<u>Emergency Scrubber</u>	<u>1</u>	<u>59</u>	<u>59</u>	<u>59</u>	<u>0</u>
<u>Emergency Scrubber KOH Sump Pump</u>	<u>1</u>	<u>8</u>	<u>8</u>	<u>8</u>	<u>0</u>
<u>Emergency Scrubber KOH Pump</u>	<u>1</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>0</u>
<u>Emergency Scrubber Blower</u>	<u>1</u>	<u>21</u>	<u>21</u>	<u>21</u>	<u>0</u>
<u>KOH Makeup Tank</u>	<u>1</u>	<u>127</u>	<u>127</u>	<u>127</u>	<u>0</u>
<u>KOH Makeup Tank Pump</u>	<u>1</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>0</u>
<u>Acid Transfer Tank</u>	<u>1</u>	<u>1008</u>	<u>1008</u>	<u>1008</u>	<u>0</u>
<u>Lime Mixer Tanks and Agitators</u>	<u>2</u>	<u>71</u>	<u>71</u>	<u>71</u>	<u>0</u>
<u>Lime Mixer Tanks Pumps</u>	<u>2</u>	<u>4</u>	<u>4</u>	<u>4</u>	<u>0</u>
<u>Acid Reaction Tank and Agitators</u>	<u>1</u>	<u>996</u>	<u>996</u>	<u>996</u>	<u>0</u>
<u>Acid Reaction Tank Pumps</u>	<u>2</u>	<u>4</u>	<u>4</u>	<u>4</u>	<u>0</u>
<u>Thickener</u>	<u>1</u>	<u>168</u>	<u>168</u>	<u>168</u>	<u>0</u>
<u>Thickener Pumps</u>	<u>3</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>0</u>
<u>Emergency Acid Tank</u>	<u>1</u>	<u>7360</u>	<u>3680</u>	<u>3680</u>	<u>0</u>

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TABLE 10-5 EPP FACILITY COMPONENTS

<u>Component</u>	<u>Number of Components</u>	<u>Total Component Volume</u>	<u>Total Component Volume After Reduction</u>	<u>Volume for Non-LLW Disposal</u>	<u>Volume for LLW Disposal</u>
<u>Lime Silo and Dust Collector</u>	<u>1</u>	<u>2276</u>	<u>1138</u>	<u>1138</u>	<u>0</u>
<u>Spent KOH Storage Tank</u>	<u>1</u>	<u>384</u>	<u>192</u>	<u>192</u>	<u>0</u>
<u>KOH Mixing Tank and Agitators</u>	<u>1</u>	<u>35</u>	<u>35</u>	<u>35</u>	<u>0</u>
<u>KOH Mixing Tank Pumps</u>	<u>2</u>	<u>4</u>	<u>4</u>	<u>4</u>	<u>0</u>
<u>KOH Reaction Vessel Pumps</u>	<u>2</u>	<u>4</u>	<u>4</u>	<u>4</u>	<u>0</u>
<u>Thickener and Rake</u>	<u>1</u>	<u>127</u>	<u>127</u>	<u>127</u>	<u>0</u>
<u>Rotary Vacuum Filter</u>	<u>1</u>	<u>168</u>	<u>168</u>	<u>168</u>	<u>0</u>
<u>Filtrate Liquor Tanks</u>	<u>2</u>	<u>56</u>	<u>56</u>	<u>56</u>	<u>0</u>
<u>Dryer</u>	<u>1</u>	<u>192</u>	<u>192</u>	<u>192</u>	<u>0</u>
<u>Dust Collector</u>	<u>1</u>	<u>2253</u>	<u>751</u>	<u>751</u>	<u>0</u>
<u>Clarifier and Rake</u>	<u>1</u>	<u>2202</u>	<u>734</u>	<u>734</u>	<u>0</u>
<u>Clarifier Pumps</u>	<u>3</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>0</u>
<u>Polishing Filters</u>	<u>2</u>	<u>4</u>	<u>4</u>	<u>4</u>	<u>0</u>
<u>Piping</u>	<u>1</u>	<u>156</u>	<u>156</u>	<u>156</u>	<u>0</u>
<u>KOH Regeneration Tank</u>	<u>1</u>	<u>385</u>	<u>385</u>	<u>385</u>	<u>0</u>
<u>KOH Reactor Tank</u>	<u>1</u>	<u>754</u>	<u>377</u>	<u>377</u>	<u>0</u>
<u>Lime Silo</u>	<u>1</u>	<u>4620</u>	<u>4620</u>	<u>4620</u>	<u>0</u>
<u>Ventilation Ducting from Table 10-6:</u>					
<u>EPP HVAC Ducting</u>	<u>1</u>	<u>279</u>	<u>93</u>	<u>0</u>	<u>93</u>
<u>Lime Storage Area Ducting</u>	<u>1</u>	<u>100</u>	<u>33</u>	<u>33</u>	<u>0</u>
<u>Equipment Decontamination Areas</u>	<u>See Table 10-2</u>				
<u>TOTAL NON-LLW</u>				<u>15,136</u>	
<u>TOTAL LLW</u>					<u>648</u>

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TABLE 10-6 FACILITY COMPONENTS - VENTILATION

<u>Component</u>	<u>Number of Components</u>	<u>Total Component Volume</u>	<u>Total Component Volume After Reduction</u>	<u>Volume for Non-LLW Disposal</u>	<u>Volume for LLW Disposal</u>
<u>VENTILATION AND DUCTWORK</u>					
<u>Fume Cupboards (hoods)</u>	<u>4</u>	<u>240</u>	<u>80</u>	<u>0</u>	<u>80</u>
<u>Laboratory</u>	<u>1</u>	<u>78</u>	<u>26</u>	<u>0</u>	<u>26</u>
<u>DUF₆ Autoclave Area</u>	<u>1</u>	<u>432</u>	<u>144</u>	<u>0</u>	<u>144</u>
<u>DUF₄ Process Building</u>	<u>1</u>	<u>1296</u>	<u>432</u>	<u>0</u>	<u>432</u>
<u>Contamination Building</u>	<u>1</u>	<u>78</u>	<u>26</u>	<u>0</u>	<u>26</u>
<u>SiF₄ Building</u>	<u>1</u>	<u>1728</u>	<u>576</u>	<u>0</u>	<u>576</u>
<u>BF₃ Building</u>	<u>1</u>	<u>1728</u>	<u>576</u>	<u>0</u>	<u>576</u>
<u>EPP Building</u>	<u>1</u>	<u>279</u>	<u>93</u>	<u>0</u>	<u>93</u>
<u>Lime Storage Area</u>	<u>1</u>	<u>100</u>	<u>33</u>	<u>33</u>	<u>0</u>

NOTE: LLW and Non-LLW disposal amounts in Table 10-6 are included in each of the building lists in Tables 10-1 through 10-5.

Official Responses to Financial Assurance RAIs

TABLE 10-7 PLANNING AND PREPARING (LABOR HOURS)

Decommissioning Task	Project Management	Health Physicist & Safety Officer	Engineer	Clerical
Project Plan and Schedule	320	40	160	65
Site Characterization Plan	400	150	200	94
Decommissioning Plan	1800	675	900	422
NRC Review Support	600	225	300	141
Specification for Services	400	150	200	94
Project Procedures	720	270	360	169
TOTAL HOURS	4240	1510	2120	984
HOURLY RATE	\$77	\$84	\$79	\$23
TOTAL	\$326,480	\$126,840	\$167,480	\$22,632
LABOR	\$643,432			
ADMINISTRATIVE SUPPLIES	\$1,200			
GRAND TOTAL	\$644,632			

Official Responses to Financial Assurance RAIs

TABLE 10-8 FACILITY CHARACTERIZATION

Area	Project Management	Health Physicist & Safety Officer	Health Physics Technician	Clerical
DUF ₆ Autoclave Room	9	9	73	11
DUF ₄ Process Building	19	19	145	23
Decontamination Building	6	6	48	7
FEP Process Building	23	23	186	29
HF Day Tank and Truck Loading Building	6	6	42	6
Maintenance and Stores	3	3	25	4
EPP Building and Scrubber Systems	6	6	51	8
Lime Storage Area	1	1	7	1
Material Warehouse	5	5	42	6
Utilities Building	3	3	25	4
Main Switchgear Building	3	3	25	4
Fire Pump House	0	0	2	0
Water Treatment Building	1	1	6	1
Process Offices and Laboratories	3	3	26	4
Administration Building	5	5	38	6
Guard house	1	1	5	1
DUF ₄ Storage Building	3	3	25	4
Exterior of Buildings	46	46	372	58
TOTAL HOURS	143	143	1143	177
HOURLY RATE	\$77	\$84	\$64	\$23
LABOR COST	\$11,011	\$12,012	\$73,152	\$4,071
TOTAL LABOR COST	\$100,246			
ADMINISTRATIVE SUPPLIES	\$1,900			
GRAND TOTAL	\$102,146			

Official Responses to Financial Assurance RAIs

TABLE 10-9 DISMANTLING AND DECONTAMINATION

<u>Area</u>	<u>Project Management</u>	<u>Health Physicist & Safety Officer</u>	<u>Laborer</u>	<u>Craftsman</u>	<u>Supervisor</u>	<u>Health Physics Technician</u>	<u>Engineer</u>	<u>Clerical</u>
<u>DUF₆ Autoclave Room</u>	<u>313</u>	<u>626</u>	<u>2502</u>	<u>626</u>	<u>626</u>	<u>275</u>	<u>20</u>	<u>120</u>
<u>DUF₄ Process Building</u>	<u>322</u>	<u>646</u>	<u>2581</u>	<u>646</u>	<u>646</u>	<u>382</u>	<u>100</u>	<u>134</u>
<u>Decontamination Building</u>	<u>638</u>	<u>1276</u>	<u>5104</u>	<u>1276</u>	<u>1276</u>	<u>508</u>	<u>0</u>	<u>239</u>
<u>FEP Process Building</u>	<u>502</u>	<u>1004</u>	<u>4016</u>	<u>1004</u>	<u>1004</u>	<u>477</u>	<u>80</u>	<u>198</u>
<u>HF Day Tank and Truck Loading Building</u>	<u>11</u>	<u>22</u>	<u>87</u>	<u>22</u>	<u>22</u>	<u>11</u>	<u>20</u>	<u>7</u>
<u>EPP Building</u>	<u>298</u>	<u>595</u>	<u>2382</u>	<u>595</u>	<u>595</u>	<u>268</u>	<u>0</u>	<u>112</u>
<u>Lime Storage Area</u>	<u>45</u>	<u>89</u>	<u>357</u>	<u>89</u>	<u>89</u>	<u>36</u>	<u>0</u>	<u>17</u>
<u>DUF₄ Storage Building</u>	<u>5</u>	<u>10</u>	<u>40</u>	<u>10</u>	<u>10</u>	<u>10</u>	<u>0</u>	<u>3</u>
<u>TOTAL HOURS</u>	<u>2134</u>	<u>4268</u>	<u>17069</u>	<u>4268</u>	<u>4268</u>	<u>1967</u>	<u>220</u>	<u>830</u>
<u>HOURLY RATE</u>	<u>\$77</u>	<u>\$84</u>	<u>\$26</u>	<u>\$38</u>	<u>\$67</u>	<u>\$64</u>	<u>\$79</u>	<u>\$23</u>
<u>LABOR COST</u>	<u>\$164,318</u>	<u>\$358,512</u>	<u>\$443,794</u>	<u>\$162,184</u>	<u>\$285,956</u>	<u>\$125,888</u>	<u>\$17,380</u>	<u>\$19,090</u>
<u>TOTAL LABOR COST</u>	<u>\$1,577,122</u>							
<u>ADMINISTRATIVE SUPPLIES</u>	<u>\$256,500.</u>							
<u>GRAND TOTAL</u>	<u>\$1,833,622</u>							

Official Responses to Financial Assurance RAIs

Table 10-10 RESTORATION OF CONTAMINATED AREAS ON FACILITY GROUNDS (LABOR HOURS)

Activity	Labor Category				
Backfill and Restore Site (Note 1)					

Note 1: The facility is designed to contain and prevent contamination outside the equipment and building areas and the controlled containment areas; including measures of ALARA radiological controls that will result in a low likelihood of contaminating the facility grounds at levels that would require excavation or restoration. In the event of a small spill, the limited area affected will be cleaned, surveyed and decontaminated, if needed, at the time as part of the required cleanup immediately following any such spill.

Official Responses to Financial Assurance RAIs

TABLE 10-11 FINAL RADIATION SURVEY (LABOR HOURS)

<u>Area</u>	<u>Project Management</u>	<u>Health Physicist & Safety Officer</u>	<u>Health Physics Technician</u>	<u>Clerical</u>
<u>DUF₆ Autoclave Room</u>	<u>13</u>	<u>13</u>	<u>102</u>	<u>16</u>
<u>DUF₄ Process Building</u>	<u>25</u>	<u>25</u>	<u>197</u>	<u>31</u>
<u>Decontamination Building</u>	<u>3</u>	<u>3</u>	<u>23</u>	<u>4</u>
<u>FEP Process Building</u>	<u>27</u>	<u>27</u>	<u>215</u>	<u>34</u>
<u>HF Day Tank and Truck Loading Building</u>	<u>2</u>	<u>2</u>	<u>21</u>	<u>3</u>
<u>Maintenance and Stores Building</u>	<u>2</u>	<u>2</u>	<u>16</u>	<u>2</u>
<u>EPP and Plant KOH Scrubbing System Buildings</u>	<u>1</u>	<u>1</u>	<u>8</u>	<u>1</u>
<u>Lime Storage Area</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>
<u>Material Warehouse Building</u>	<u>3</u>	<u>3</u>	<u>25</u>	<u>4</u>
<u>Utilities Building</u>	<u>2</u>	<u>2</u>	<u>14</u>	<u>2</u>
<u>Main Switchgear Building</u>	<u>2</u>	<u>2</u>	<u>14</u>	<u>2</u>
<u>Fire Pump House</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>
<u>Water Treatment Building</u>	<u>0</u>	<u>0</u>	<u>4</u>	<u>1</u>
<u>Process Offices and Laboratory Building</u>	<u>5</u>	<u>5</u>	<u>43</u>	<u>7</u>
<u>Administrative Building</u>	<u>3</u>	<u>3</u>	<u>27</u>	<u>4</u>
<u>Guard House</u>	<u>1</u>	<u>1</u>	<u>4</u>	<u>1</u>
<u>DUF₄ Storage Building</u>	<u>2</u>	<u>2</u>	<u>14</u>	<u>2</u>
<u>Building Perimeter Sampling</u>	<u>5</u>	<u>5</u>	<u>68</u>	<u>10</u>
<u>Grid Sampling</u>	<u>5</u>	<u>5</u>	<u>30</u>	<u>10</u>
<u>Date Evaluation</u>	<u>70</u>	<u>370</u>	<u>70</u>	<u>64</u>
<u>Close-Out Radiological Survey Report</u>	<u>90</u>	<u>280</u>	<u>40</u>	<u>51</u>

Official Responses to Financial Assurance RAIs

TABLE 10-11 FINAL RADIATION SURVEY (LABOR HOURS)

<u>Area</u>	<u>Project Management</u>	<u>Health Physicist & Safety Officer</u>	<u>Health Physics Technician</u>	<u>Clerical</u>
<u>TOTAL HOURS</u>	<u>261</u>	<u>751</u>	<u>937</u>	<u>249</u>
<u>HOURLY RATE</u>	<u>\$77</u>	<u>\$84</u>	<u>\$64</u>	<u>\$23</u>
<u>LABOR COST</u>	<u>\$20,097</u>	<u>\$63,084</u>	<u>\$59,968</u>	<u>\$5,727</u>
<u>TOTAL LABOR COST</u>	<u>\$148,876</u>			
<u>ADMINISTRATIVE SUPPLIES</u>	<u>\$4,680</u>			
<u>SAMPLE ANALYSIS @250</u>	<u>\$32,750</u>			
<u>GRAND TOTAL</u>	<u>\$186,306</u>			

Official Responses to Financial Assurance RAIs

TABLE 10-12 SITE STABILIZATION AND LONG TERM SURVEILLANCE (LABOR HOURS)

Activity	Labor Category				
(Note 2)					

Note 2: The facility is designed to contain and prevent contamination outside the equipment and building areas and the controlled containment areas; including measures of radiological ALARA controls that will result in a low likelihood of contaminating the facility grounds at levels that would require excavation or restoration. In the event of a small spill, the limited area affected will be cleaned, surveyed, and decontaminated, if needed, as part of the required cleanup immediately following any such spill. Therefore, site stabilization and long-term surveillance will not be required and associated decommissioning costs are not provided.

Official Responses to Financial Assurance RAIs

TABLE 10-13 TOTAL WORK DAYS BY LABOR CATEGORY (LABOR DAYS)

Task	Project Management	Health Physicist & Safety Officer	Laborer	Craftsman	Supervisor	Health Physics Technician	Engineer & Trans. Specialist	Clerical
Planning and Preparation	530	189	0	0	0	0	265	123
Facility Characterization	18	18	0	0	0	143	0	22
Decontamination & Dismantling	267	534	2134	534	534	246	28	104
Restoration of Contaminated Areas (Note 1)								
Packaging (Note 2)	0	0	<u>1712</u>	0	<u>571</u>	<u>571</u>	<u>571</u>	0
Final Survey	<u>33</u>	<u>94</u>	0	0	0	<u>117</u>	0	<u>31</u>
Site Stabilization & Long Term Surveillance (Note 1)								
TOTAL WORK DAYS	<u>848</u>	<u>835</u>	<u>3,846</u>	534	<u>1,105</u>	<u>1,077</u>	<u>864</u>	<u>280</u>

NOTE 1: The facility is designed to contain and prevent contamination outside the equipment and building areas and the controlled containment area; including measures of ALARA radiological controls that will result in a low likelihood of contaminating the facility grounds at levels that would require excavation or restoration. In the event of a small spill, the limited area affected will be cleaned, surveyed and decontaminated, if needed, at the time as part of the required cleanup immediately following any such spill.

Note 2: The days of labor shown in this table for packaging represent 4,564 crew hours or 13,692 hours for the Laborers and 4,564 hours each for the supervisor, the HP Technician and the Transportation Specialist. These values divided by 8 hours/day equal the values shown in the table for these labor categories.

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TABLE 10-11 FINAL RADIATION SURVEY (LABOR HOURS)

<u>Area</u>	<u>Project Management</u>	<u>Health Physicist & Safety Officer</u>	<u>Health Physics Technician</u>	<u>Clerical</u>
<u>TOTAL HOURS</u>	<u>261</u>	<u>751</u>	<u>937</u>	<u>249</u>
<u>HOURLY RATE</u>	<u>\$77</u>	<u>\$84</u>	<u>\$64</u>	<u>\$23</u>
<u>LABOR COST</u>	<u>\$20,097</u>	<u>\$63,084</u>	<u>\$59,968</u>	<u>\$5,727</u>
<u>TOTAL LABOR COST</u>	<u>\$148,876</u>			
<u>ADMINISTRATIVE SUPPLIES</u>	<u>\$4,680</u>			
<u>SAMPLE ANALYSIS @250</u>	<u>\$32,750</u>			
<u>GRAND TOTAL</u>	<u>\$186,306</u>			

Official Responses to Financial Assurance RAIs

TABLE 10-15 TOTAL LABOR BY MAJOR DECOMMISSIONING TASK

Task	Project Management	Health Physicist & Safety Officer	Laborer	Craftsman	Supervisor	Health Physics Technician	Engineer & Trans. Specialist	Clerical
Planning and Preparation	\$ <u>326,480.</u>	\$ <u>126,840.</u>	\$-0-	\$-0-	\$-0-	\$-0-	\$ <u>167,480</u>	\$ <u>22,632</u>
Facility Characterization	\$ <u>11,011</u>	\$ <u>12,012</u>	\$-0-	\$-0-	\$-0-	\$ <u>73,152</u>	\$0	\$ <u>4,071</u>
Decontamination & Dismantling	\$ <u>164,318</u>	\$ <u>358,512</u>	\$ <u>443,794</u>	\$ <u>162,184</u>	\$ <u>285,956</u>	\$ <u>125,888</u>	\$ <u>17,380</u>	\$ <u>19,090</u>
Restoration of Contaminated Areas (Note 1)								
Packaging	0	0	\$ <u>355,992</u>	0	\$ <u>305,788</u>	\$ <u>292,096</u>	\$ <u>360,556</u>	\$0
Final Survey	\$ <u>20,097</u>	\$ <u>63,084</u>	\$-0-	\$-0-	\$-0-	\$ <u>59,968</u>	\$0	\$ <u>5,727</u>
Site Stabilization & Long Term Surveillance (Note 1)								
TOTAL COST	\$ <u>521,906</u>	\$ <u>560,448</u>	\$ <u>799,786</u>	\$ <u>162,184</u>	\$ <u>591,744</u>	\$ <u>551,104</u>	\$ <u>545,416</u>	\$ <u>51,520</u>

Note 1: The facility is designed to contain and prevent contamination outside the equipment and building areas and the controlled containment area; including measures of ALARA radiological controls that will result in a low likelihood of contaminating the facility grounds at levels that would require excavation or restoration. In the event of a small spill, the limited area affected will be cleaned, surveyed and decontaminated, if needed, at the time as part of the required cleanup immediately following any such spill.

Official Responses to Financial Assurance RAIs

TABLE 10-16 PACKAGING, SHIPPING AND DISPOSAL OF RADIOACTIVE WASTES (SEE FOOTNOTE)

<u>Areas</u>	<u>Volume of LLW (Cubic Feet)</u>	<u>Packaging Cost</u>	<u>LLW Disposal Cost</u>	<u>Transportation Cost</u>	
<u>DUF₆ Autoclave Room/DUF₅ Process/HF Day Tank Buildings</u>	7,455	\$349,344	\$1,700,664	\$340,133	
<u>Decontamination Building and Laboratory</u>	5,854	\$194,976	\$1,205,396	\$241,079	
<u>FEP Building</u>	5,199	\$446,976	\$1,192,377	\$238,475	
<u>EPP Building and Lime Storage Area</u>	648	\$137,664	\$152,578	\$30,516	
<u>Totals for Facility Areas</u>	19,156	\$1,128,960	\$4,251,015	\$850,203	
Packaging Supplies		\$257,689			
Transportation Supplies				\$85,890	
<u>LLW Packaging Total Cost</u>		\$1,386,649			
<u>LLW Disposal Total Cost</u>			\$4,251,015		
<u>LLW Transportation Total Cost</u>				\$936,093	
<u>Grand Total Cost for LLW Packaging, Disposal and Transportation</u>					\$6,573,757

NOTE: Packaging, Disposal and Transportation costs for Non-LLW wastes are not shown in this Table, but are included in Table 10-18. Also packaging costs for processing the inventory down prior to decommissioning are included in processing costs shown in Table 10-18.

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TABLE 10-17 TOTAL ADMINISTRATIVE SUPPLIES BY MAJOR DECOMMISSIONING TASK

<u>Task</u>	<u>Equipment Cost</u>
<u>Planning and Preparation</u>	<u>\$1,200.</u>
<u>Facility Characterization</u>	<u>\$1,900.</u>
<u>Decontamination and Dismantling</u>	<u>\$256,500.</u>
<u>Packaging</u>	<u>\$300,000.</u>
<u>Transportation</u>	<u>\$100,000.</u>
<u>Final Survey</u>	<u>\$4,680.</u>
<u>TOTAL</u>	<u>\$664,280.</u>

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TABLE 10-18 TOTAL DECOMMISSIONING COST

Task	Estimated Base Cost	Cost With 12% Profit Margin For Third Party Contractor	Total Cost With Contingency
Planning and Preparation	\$644,632	\$721,988.	\$902,485
Facility Characterization	\$102,146	\$114,404	\$143,005
Decontamination and Dismantling	\$1,833,622	\$2,053,657	\$2,567,071
Restoration of Contaminated Areas (Note 1)			
Sizing and Packaging	\$1,614,432	\$1,808,164	\$2,260,205
Transportation and Disposal	\$5,295,272	\$5,295,272 (Note 3)	\$6,619,090
Final Survey	\$186,306	\$208,663	\$260,829
Site Stabilization and Long Term Surveillance (Note 2)			
Convert the Residual DUF ₆ Inventory to Oxide Prior to Decommissioning	\$1,102,041 (Note 4)	\$1,161,480 (Note 5)	\$1,451,850
TOTAL PROJECT COST	<u>\$10,778,451</u>	<u>\$11,363,628</u>	<u>\$14,204,535</u>

Note 1: The facility is designed to contain and prevent contamination outside the equipment and building areas and the controlled containment area; including measures of ALARA radiological controls that will result in a low likelihood of contaminating the facility grounds at levels that would require excavation or restoration. In the event of a small spill, the limited area affected will be cleaned, surveyed and decontaminated, if needed, at the time as part of the required cleanup immediately following any such spill.

Note 2: For the reasons given in Note 1, site stabilization and long-term surveillance will not be required and associated decommissioning costs are not provided.

Note 3: Transportation and Disposal Cost already includes profit which would be realized by the transport and disposal companies and not by a third party contractor. Therefore, the third party contractor margin was not applied.

Note 4: Includes Third Party Contractor labor, overheads and fringes.

Note 5: 12% profit margin applied to Third Party Contractor direct labor, overheads and fringes.