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ATTN: Document Control Desk
Director, Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Docket No. 40-3392, License No. SUB-526

RE: Honeywell Metropolis Works Responses to NRC Request for Additional Information on the Triennial Update to Decommissioning Funding Plan

Pursuant to License Condition 25 and 10 CFR 40.36(d), Honeywell International Inc. (Honeywell) provided an updated Decommissioning Funding Plan (DFP) to the NRC on January 5, 2022. The NRC sent a request for supplemental information on the January 5, 2022 version of the subject document on March 14, 2022. Honeywell submitted a revised DFP document on March 24, 2022. The NRC accepted the March 24, 2022 DFP document for review. The NRC reviewed the March 24, 2022 version of the Honeywell DFP and in a letter dated June 6, 2022 the NRC sent a request for additional information (RAI). Enclosure 1 provides the Honeywell responses to the NRCs RAIs.

Should you have any questions on the enclosed information, please contact Sean Patterson, Regulatory Affairs Manager, at 618-524-6341.

Sincerely

Brian Hunt,
Director Chemical Plant Operations

Enclosures:

1. MTW Responses to the NRC RAIs (Public Version)
2. Revised Appendix 4 from the DCE
3. Revised Appendix 5 from the DCE

NM5520
NM55

Cc: Osiris Surano-Perez – Project Manager

Fuel Facilities Licensing Branch
Division of Fuel Management
Office of Nuclear Material Safety and Safeguards

**Honeywell Metropolis Works (Honeywell)
2022 Triennial Decommissioning Funding Plan (DFP)
Update Request for Additional Information
Docket Number
04003392 License
Number SUB-526**

(RAI -1) Justify key assumptions in the DCE related to the disposition of inventory (10 CFR 40.36(d)(1)(i)(A); 10 CFR 40.36(d)(1)(ii); Interim Staff Guidance on Decommissioning Funding Plans for Materials Licensees).

Justification

On Page 4 of the 2022 Decommissioning Cost Estimate (DCE, Agencywide Documents Access and Management System (ADAMS) Accession Number ML22011A195), Honeywell states that “[t]he uranium inventory stored at Honeywell is customer owned and the customers are responsible for the retrieval of the material.” However, the DCE does not include the costs for the disposition of inventory present at the facility at the time of decommissioning.

Regulatory Basis

The regulations in Title 10 of the Code of Federal Regulations (10 CFR) 40.36(d)(1)(i)(A) require that the DFP provide a detailed cost estimate that reflects “the cost of...perform[ing] all decommissioning activities.” The regulations in 10 CFR 40.36(d)(1)(ii) require that the DFP identify and justify the key assumptions contained in the DCE.

The U.S. Nuclear Regulatory Commission’s “Interim Staff Guidance on Decommissioning Funding Plans for Materials Licensees,” dated June 2019 (ADAMS Accession Number ML19079A314) describes ways in which the disposition of multiple types of inventory can be covered in the DCE, including licensee-owned, customer-owned, and inventory in-process. For customer-owned inventory, the guidance states that a reasonable alternative to including the costs for packaging, loading, and transporting the material to another facility that can accept the material under its license “may be an existing contract under which the customer is responsible for packing, loading and shipping the material to an end destination that can accept the material under the end destination’s license.”

Request

Provide confirmation that customer contracts specify that the customers are responsible for the disposition of inventory. If this is not the case, include costs for disposition of customer owned inventory in the DCE.

MTW Response to RAI-1

Uranium inventory disposition is a licensed operation that must be performed prior to declaring per 10 CFR 40.42 (d) that a licensee has permanently ceased principal activities. If specific contracts do not specify that the customer is responsible for the disposition, Honeywell will be required to disposition the material under licensed operations prior to decommissioning.

Planned DCE Revision

None

(RAI-2) Update the basis for cost estimates in the DCE (10 CFR 40.36(d)(1)(ii); NUREG-1757, Vol. 3, Rev. 1, Appendix A, Section A.3).

Justification

The 2022 DCE does not provide an adequate basis for the following costs:

a. Equipment Costs

The 2022 DCE does not provide an adequate basis for equipment costs (including UCF equipment, UCF consumables, LOE materials, and UCF materials). Appendix A-4 (Equipment Summary) provides a list of equipment costs per WBS line item but does not identify unit costs or the quantity of equipment needed. Honeywell's March 24, 2022, responses to the NRC's Request for Supplemental Information (ADAMS Accession No. ML22088A057) states that "equipment rates were added to the DCE as Appendix A-5." These equipment rates were provided per day. However, using the activity durations provided in Appendix A-1 (Cost Estimate Summary), the NRC staff is not able to recalculate the equipment costs presented in Appendix A-4 (Equipment Summary). This is likely because not every piece of equipment will need to be used for the entirety of the activity duration, and so additional information is needed to confirm the adequacy of the equipment cost estimates.

Additionally, compared to the 2019 DCE, equipment costs have increased significantly, from about \$1,572,276 to \$5,441,070.

b. Miscellaneous Non-Labor Costs

Several cost elements (i.e., NRC quarterly inspections, security, taxes, and insurance) are provided as annual costs that will be required throughout the duration of decommissioning. On page 6 of the 2022 DCE (ADAMS Accession No. ML22088A069), Honeywell states that "[t]he total duration of the MTW decommissioning project remains unchanged from the previous version submittal at 10.25 years." However, using a duration of 10.25 years does not result in Honeywell's calculated total costs for the miscellaneous non-labor costs of

\$31,912,340 (see table below).

Annual Cost Component	Cost
(a) Security	\$ 1,000,000
(b) Taxes	\$ 615,000
(c) Insurance	\$ 1,950,000
(d) NRC quarterly inspection	\$ 92,160
(e) NRC review of the decommissioning plan (one-time cost)	\$ 115,200
Calculated Annual Subtotal (a+b+c+d)	\$ 3,657,160
Honeywell's Calculated Total @ 10.25 years: [(a+b+c+d) x (10.25 years)] + (e) [taxes @ \$615,000/yr.]	\$ 37,601,090
Total provided by Honeywell in DCE	\$ 31,912,340
Calculated Annual Subtotal (a+b+c+d) [NRC staff calculated with taxes @ \$60,000/yr.]	\$ 3,102,160
NRC's Calculated Total @ 10.25 years: [(a+b+c+d) x (10.25 years)] + (e)]	\$ 31,912,340
Difference between NRC staff's Calculated Annual Subtotal and value provided by Honeywell in the DCE	\$ 5,688,750 (i.e., \$ 37,601,090 – \$ 31,912,340)

The NRC staff noticed that Honeywell's estimated annual tax rate between the 2019 and 2022 DCEs appear to be inconsistent. In the 2019 DCE Honeywell stated that this cost was \$60,000.00/yr but, in the 2022 DCE it states that this cost is \$615,000.00. If the annual taxes cost on the table above is revised accordingly (i.e., from \$615,000.00 to \$60,000.00), then the calculated annual subtotal [(a+b+c+d) is \$3,102,160.00. This will bring the total miscellaneous non-labor costs to \$31,912,340.00 in 10.25 years as stated by Honeywell in its 2022 DCE. This would then be consistent with the NRC staff's calculated costs.

c. Subcontract Costs

The 2022 DCE does not provide an adequate basis for subcontract costs. Appendix A-1 (Cost Estimate Summary) provides the total cost for two subcontracts (asbestos removal and disposal and FSS surveys and samples) but does not identify the source of the subcontract costs or otherwise describe the unit costs or other information used in calculating these costs.

d. Travel and Living Costs

The 2022 DCE does not provide an adequate basis for travel and living costs. On page 3 of the DCE, Honeywell states that "[t]ravel and living costs in this revision are applied to 50 percent of the field workforce," that, "previously, the travel and living costs were applied to the entire workforce," and that "the local workforce is therefore assumed to staff half of the required labor force for decommissioning." However, in its January 29, 2020, response to the

NRC's request for additional information (ADAMS Accession No. ML20031D598), Honeywell stated that "[t]he cost estimate assumes 50 percent of the on-site personnel are not local and will receive travel and living allowance throughout the project duration." This suggests the same approach was used in both the 2019 and 2022 DCE, yet the total travel and living costs have decreased significantly, from \$6,138,495 in 2019, to \$1,234,598 in 2022. Furthermore, on page 5 of the 2019 DCE (ADAMS Accession No. ML20157A184), Honeywell specifies that the weekly cost per person for lodging is \$643.52 and the weekly cost per person for meals and incidental expenses is \$385. This sums to \$1,028.52 per person per week, or \$146.93 per person per workday. The 2022 DCE specifies that the cost is \$180.00 per person per workday (Page 6 of revised 2022 DCE), indicating that the unit cost is not the reason for the large decrease in total cost.

e. Internally Developed Cost Estimates

On page 2 of the revised 2022 DCE, Honeywell states that "[d]ata published on the RS Means online application was used as reference to provide appropriate labor, equipment and production rate cost basis for decontamination and demolition activities, when available," and lists the 2021 version of RS Means as a reference. Honeywell further states that "[w]hen published labor, equipment, and production rates were not available, such as for specialized operations and/or technical labor, internal costs were developed and used." However, the 2022 DCE does not sufficiently identify or provide an adequate basis for internally developed cost estimates, does not make it clear whether the internally developed cost estimates were updated to 2021 dollars, nor clearly identifies which unit costs are based on internally developed cost estimates. Similarly, a basis is not provided for certain miscellaneous non-labor costs, including taxes, security, and insurance (discussed above), and the DCE does not make clear if these costs were updated to 2021 dollars.

Regulatory Basis

The requirements in 10 CFR 40.36(d)(1)(ii) state that a DFP must contain "[i]dentification of and justification for using the key assumptions contained in the DCE."

The guidance in Appendix A, Section A.3.1, of NUREG-1757, Vol. 3, "Financial Assurance, Recordkeeping, and Timeliness," Rev. 1 (ADAMS Accession No. ML12048A683), states that a "decommissioning estimate should contain a substantial level of detail, consistent with the guidance presented in this section, to allow the NRC to fully evaluate the adequacy of the estimate" and that "[t]he labor estimates, material costs, and other factors of the cost estimate should have a clear and reasonable basis." In addition to specifying that the cost estimate should "have a clear and reasonable basis," the guidance in NUREG-1757, Vol. 3, Rev.1, Appendix A, Section A.3.2, states that, "[i]n general, cost estimates should be updated with the current prices of goods and services at least every 3 years or when the amounts or types of material at the facility change."

Request

To ensure that adequate funding is available at the time of decommissioning, provide the following:

a. Equipment Costs

Provide additional information about the break-down of equipment costs, specifically the duration of use of each equipment type for each task, consistent with the equipment/supply cost tables included in NUREG-1757, Vol. 3, Rev. 1, Appendix A, Section A.3.15. In addition, provide a justification for the increase in equipment costs in order to understand the approach to calculating equipment costs when reviewing future DCEs.

MTW Response to RAI-2 a. – Equipment Costs

Appendix A-4 has been revised to include equipment rates and days per Work Breakdown Structure. Appendix A-5 has been revised to only include the equipment on the project and to provide the overall totals to provide better understanding in how costs were developed. In most cases, 2021 equipment rates were obtained from RS Means, and increased from 2018.

The increase in equipment costs is a result of the 2021 DCE being completed utilizing a unit cost factors (UCF) approach for field remediation activities. Data published on the RS Means online application was used as reference to provide appropriate labor, equipment and production rate cost basis for decontamination and demolition activities, when available. When published labor, equipment, and production rates were not available, such as for specialized operations and/or technical labor, internal costs were developed and used. Previous revisions of the DCE primarily used UCF for labor and equipment rates. This current revision expands use of UCF for utilized equipment, crew personnel, and task duration in accordance with industry practice. Expansion of the UCF cost analysis approach has the following additional benefits:

- Reduces error by using industry standard labor and equipment durations for standard tasks
- Reduces effort for future cost estimates by applying standard factors that require less manipulation

Ultimately, when using industry referenced UCFs in the 2021 estimate with the same material quantities from 2018, increased equipment costs resulted. This was found to be most attributable to the equipment costs necessary to remove contaminated concrete and building material.

Planned DCE Revision

No Changes to the overall total cost are expected, however, Appendix 4 and 5 will be revised to match this RAI response (Note: the revised Appendices 4 and 5 are attached to this response to the NRC RAIs).

b. Miscellaneous Non-Labor Costs

Clarify the inconsistencies between Honeywell's and the NRC staff's calculated costs and revise the DCE as appropriate. In addition, specify the basis for each estimated cost and whether these have been updated to 2021 dollars.

MTW Response to RAI-2 b. – Non-Labor Costs

The 2021 DCE total for Miscellaneous Non-labor cost for the entirety of decommissioning is \$31,912,340. This is broken down as follows:

Item	Quantity	Units	Total Cost	Per Year
Security	10.25	Years	\$ 10,250,000.00	\$ 1,000,000.00
Taxes	10.25	Years	\$ 615,000.00	\$ 60,000.00
Insurance	10.25	Years	\$ 19,987,500.00	\$ 1,950,000.00
NRC Review	400	Hours	\$ 115,200.00	(N/A)
Regulatory Fees	10.25	Years	\$ 944,640.00	\$ 92,160.00
			\$ 31,912,340.00	

Security, taxes, insurance, and regulatory fees are annual costs that are calculated for ten and one-quarter years. NRC review of the decommissioning plan is a one-time cost using the 2021 hourly rate for an NRC reviewer. Security, taxes, and insurance are all based on 2021 actual Honeywell annual costs. NRC regulatory fees are based on the 2021 Part 170 hourly rates (\$288.00 per Hour).

Planned DCE Revision

None

c. Subcontract Costs

Provide additional information about the source and break-down of subcontract costs.

MTW Response to RAI-2 c. – Subcontract Costs

Subcontract Costs are as follows:

- Asbestos Removal and Disposal: ***(These are the same as 2018 DCE)***
 - Removal = \$1,084,559.70
 - Disposal = \$1,602,000.00
- Misc. Non-Labor Costs – Security; Taxes; Insurance; NRC DP Review; NRC Fees ***(see “b” above)***
- FSS Surveys – Laboratory costs as follows:
 - 3,666 samples at \$90 per sample; for a total of \$329,940.00

Planned DCE Revision

None

d. Travel and Living Costs

Provide additional information about the break-down of travel and living costs, and specifically, provide justification for the large decrease in total travel and living expenses.

MTW Response to RAI-2 d. – Travel and Living Costs

Travel and living costs in the 2018 DCE were a gross estimation calculated by applying a 50 percent factor to the total project weeks for project management (5968 weeks) and multiplying by \$1,028.52 per week to reach the amount of \$6,138,494.92. The 2021 DCE approach is similar in that it is calculated assuming that 50 percent of expected labor are non-local and will require per diem. The 2021 DCE is different in that it breaks down the per diem by task thereby eliminating 23 tasks from the travel and living expense calculations. This is a more accurate approach by allocating travel and living expense only to tasks that would have the potential to utilize a non-local work force.

The 2021 DCE assumes \$180 per day for 50% of the expected labor for travel and living costs. This rate includes GSA standard rates for lodging and meals and incidental expenses plus taxes and fees for lodging.

Item	Costs
Lodging	\$ 96.00
Lodging tax and fees	\$ 25.00
Meals and Incidentals	\$ 59.00
Total	\$ 180.00

Planned DCE Revision

None

e. Internally Developed Cost Estimates

Provide additional information about the basis for each of the internally developed costs, including clearly identifying which unit costs are based on internally developed cost estimates. Specify the basis for each estimated cost and whether these have been updated to 2021 dollars.

MTW Response to RAI-2 e. – Internally Developed Cost Estimates

The following costs in the 2021 DCE were estimated as "Level of Effort" (LOE), and thus

Honeywell MTW
Enclosure 1 – MTW Response to the NRC DFP RAIs

internally developed not using a unit cost factor basis:

WBS	Level 3 Name	Labor	Materials
1.4.1	Preparatory Plans and Procedures	\$ 68,597	
1.8.3	FSS Surveys and Samples	\$ 339,144	
1.8.4	Final Project Report	\$ 247,393	
1.8.5	Project Management	\$ 12,320,869	
1.11.1	Develop D&D Plan	\$ 57,012	
1.11.2	Lockdown	\$ 435,743	\$ 485,000
1.11.3	Pre-Mobilization	\$ 265,436	
1.11.4	Mobilization	\$ 69,962	
1.11.5	Demobilization	\$ 167,588	

These costs are calculated in 2021 dollars. As an example, the largest WBS 1.8.5, "Project Management", breaks down as follows:

Labor Class	FTEs	Duration	Rate (\$/hr)	Cost
Project Manager	1	2,561 days	\$ 146.28	\$ 2,996,984.64
Assistant PM	0.5	2,561 days	\$ 88.92	\$ 910,896.48
RSO/CHP	1	2,561 days	\$ 146.25	\$ 2,996,370.00
Engineer	0.5	2,561 days	\$ 113.28	\$ 1,160,440.32
Admin Assistant	1	2,561 days	\$ 50.00	\$ 1,024,400.00
QAP	0.5	2,561 days	\$ 113.28	\$ 1,160,440.32
Waste Manager	0.5	2,561 days	\$ 113.28	\$ 1,160,440.32
Cost & Schedule Specialist	0.5	2,561 days	\$ 88.92	\$ 910,896.48
Total				\$ 12,320,868.56

The other WBS tasks follow the same effort, utilizing the labor rates provided in Table 4-3.

Planned DCE Response

None

(RAI-3) Provide more detail on waste transportation costs (10 CFR 40.36(d)(1)(i)(A); NUREG- 1757, Vol. 3, Rev. 1, Section 4.1).

Justification

Honeywell's 2019 DCE includes costs for radioactive soil and rubble disposal at Energy Solutions of Utah and waste transportation to US Ecology, including asbestos. Both of these costs are provided per pound and per gondola car and are included appropriately in the 2022 DCE. However, the 2019 DCE also includes a cost for waste transportation to Energy Solutions of Utah of \$4.30/mile. This cost does not appear to be included in the 2022 DCE and no justification is provided by the licensee for excluding it.

Regulatory Basis

The regulations in 10 CFR 40.36(d)(1)(i)(A) require that the DFP contain a "detailed cost estimate for decommissioning, in an amount reflecting: (A) the cost of an independent contractor to perform all decommissioning activities" (emphasis added). The guidance in NUREG-1757, Vol. 3, Rev. 1, Section 4.1, states that "[t]he cost estimate includes costs for all major decommissioning and site control and maintenance activities specified in Section A.3 of Appendix A to this volume, including ... (c) packaging, shipment, and disposal of radioactive wastes..."

Request

Justify why the 2022 DCE does not include a cost for waste transportation to Energy Solutions of Utah. If it does, then explain how it is incorporated into the 2022 DCE.

MTW Response to RAI-3

Transportation is included in unit costs provided in Section 4.3. These are 2022 costs. The first sentence of the first paragraph and the second paragraph of Section 4.3 will be revised as follows:

"This report reflects the current estimated waste on-site and expected transportation and disposal at either US Ecology or EnergySolutions."

"The following describe the costs provided to Honeywell for the various disposal pathways. For purposes of the DCE, the following were applied for terms of transportation and disposal:"

Planned DCE Revision

A DCE Revision is expected based on this RAI. Clarifying language will be added to Section 4.3 stating that transportation is included.

Appendix A-4: Equipment Summary

WBS #	Level 3 Name	Days	Rent backhoe loader 40 to 45 HP, 58 CY capacity, incl. Hourly Operation Cost	Days	Rent crane truck mounted, hydraulic, 12 ton capacity, incl. Hourly Operation Cost	Days	Rent dozer, crawler, torque converter, diesel 200 HP, incl. Hourly Operation Cost	Days	Rent excavator attachment, shear/grapples, incl. Hourly Operation Cost	Days	Rent excavator attachment, hydraulic hammer, 12,000 ft lbs, incl. Hourly Operation Cost	Days	Rent excavator diesel hydraulic crawler mounted 3.5 CY capacity, incl. Hourly Operation Cost	Days	Rent front end loader, 4WD, art. frame, diesel, 2.5 - 3.5 CY 145 HP, incl. Hourly Operation Cost	Days	Rent loader, skid steer, wheeled, 1 CY 78 HP, diesel, incl. Hourly Operation Cost	Days	Rent trash pump self-prime 2" diameter gas drive, incl. Hourly Operation Cost	Days	Rent truck dump 3 axle 16 ton, 12 CY, payload, 400 H.P., incl. Hourly Operation Cost
			\$ 310.25 Daily Rate		\$ 551.62 Daily Rate		\$ 1,762.14 Daily Rate		\$ 890.16 Daily Rate		\$ 1,022.81 Daily Rate		\$ 2,532.09 Daily Rate		\$ 740.06 Daily Rate		\$ 517.40 Daily Rate		\$ 111.85 Daily Rate		\$ 561.36 Daily Rate
1.1.1	RD - 1 Administrative Building	0.0	\$0	1.0	\$562	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	12.0	\$6,209	0.0	\$0	0.0	\$0
1.1.2	RD - 43 and RD - 76 Contractor Security Entrance	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	1.0	\$517	0.0	\$0	0.0	\$0
1.1.3	RD - 58 Learning Resource Center	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	2.0	\$1,035	0.0	\$0	0.0	\$0
1.1.4	RD - 6 Shop and Stores Building	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	12.0	\$6,209	0.0	\$0	0.0	\$0
1.1.5	RD - 69 Admin - Nuclear Compliance Trailer	0.0	\$0	0.0	\$0	0.0	\$0	0.9	\$776	0.0	\$0	5.0	\$12,660	5.0	\$3,700	0.0	\$0	0.0	\$0	5.0	\$2,807
1.1.6	RD - 87 Janitorial Storage Building	0.0	\$0	0.0	\$0	0.0	\$0	0.2	\$155	0.0	\$0	1.0	\$2,532	1.0	\$740	0.0	\$0	0.0	\$0	1.0	\$561
1.1.7	RD - Sub - 11 CIPS Sub Station	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
1.1.8	RD-80 Break Room and Shed	0.0	\$0	0.0	\$0	0.0	\$0	0.2	\$155	0.0	\$0	1.0	\$2,532	1.0	\$740	0.0	\$0	0.0	\$0	1.0	\$561
1.2.1	Asbestos Removal and Disposal	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
1.3.1	Land Area P-21 and P-24	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
1.3.2	Landfill and Kickback Area	0.0	\$0	0.0	\$0	31.0	\$54,626	0.0	\$0	0.0	\$0	55.0	\$139,265	55.0	\$40,704	0.0	\$0	86.0	\$9,619	203.0	\$113,956
1.3.3	Non-Impacted Outside Plant Areas	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
1.3.4	Outfall 002	25.0	\$7,796	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	24.0	\$17,762	0.0	\$0	24.0	\$2,684	0.0	\$0
1.3.5	P-23 Fuel Depot	0.0	\$0	2.0	\$1,103	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	2.0	\$1,035	0.0	\$0	0.0	\$0
1.3.6	Roadways and Ground Areas (P-25)	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
1.3.7	Security Exclusion Area (P-26)	0.0	\$0	0.0	\$0	3.0	\$5,286	0.0	\$0	0.0	\$0	4.0	\$10,128	4.0	\$2,960	0.0	\$0	7.0	\$783	17.0	\$9,543
1.4.1	Preparatory Plans and Procedures	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
1.5.1	RD - 48 UFG Cylinder Storage	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	31.0	\$16,039	0.0	\$0	0.0	\$0
1.5.2	Drum Storage Pads	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	5.5	\$2,846	0.0	\$0	0.0	\$0
1.5.3	Ore Storage Pads	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	115.0	\$59,501	0.0	\$0	0.0	\$0
1.6.1	Misc. Non-labor costs	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
1.7.1	2009 Subsurface Soils	0.0	\$0	0.0	\$0	50.0	\$88,107	0.0	\$0	0.0	\$0	85.0	\$215,228	85.0	\$62,907	0.0	\$0	135.0	\$15,100	320.0	\$179,635
1.7.2	Parking Lot	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
1.7.3	U-1040 and U-1041 Sanitary Treatment System	0.0	\$0	8.0	\$4,413	1.0	\$1,762	0.0	\$0	0.0	\$0	1.0	\$2,532	1.0	\$740	10.0	\$5,174	2.0	\$224	5.0	\$2,807
1.8.3	PSS Surveys and Samplers	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
1.8.4	Final Project Report	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
1.8.5	Project Management	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
1.9.1	RD - 15 Cylinder Wash Building	0.0	\$0	6.0	\$3,310	0.0	\$0	0.2	\$155	0.0	\$0	1.0	\$2,532	1.0	\$740	6.0	\$3,104	0.0	\$0	1.0	\$561
1.9.2	RD - 16 Pond Muds Calciner Area & Uranium Ponds Equipment Area	0.0	\$0	14.0	\$7,723	0.0	\$0	0.0	\$0	0.0	\$0	2.0	\$5,064	2.0	\$1,480	14.0	\$7,244	2.0	\$224	4.0	\$2,245
1.9.3	RD - 17 Iodine Removal and RD-19 Uranium Recovery	0.0	\$0	46.0	\$25,375	0.0	\$0	2.3	\$2,018	0.0	\$0	13.0	\$32,917	13.0	\$9,621	46.0	\$23,800	0.0	\$0	13.0	\$7,298
1.9.4	RD - 20 COH Muds Building	0.0	\$0	4.0	\$2,208	0.0	\$0	0.5	\$466	0.0	\$0	3.0	\$7,596	3.0	\$2,220	4.0	\$2,070	0.0	\$0	3.0	\$1,684
1.9.5	RD - 21 Ore Drum Dumper, Washer & Crusher Building	0.0	\$0	8.0	\$4,413	0.0	\$0	0.3	\$310	0.0	\$0	2.0	\$5,064	2.0	\$1,480	8.0	\$4,139	0.0	\$0	2.0	\$1,123
1.9.6	RD - 23 (ORE) Sampling Plant	0.0	\$0	27.0	\$14,894	0.0	\$0	0.2	\$155	0.0	\$0	1.0	\$2,532	1.0	\$740	27.0	\$13,970	0.0	\$0	1.0	\$561
1.9.7	RD - 29 Feed Materials Building	0.0	\$0	137.0	\$75,572	10.0	\$17,621	0.2	\$155	8.0	\$8,182	26.0	\$65,834	26.0	\$19,242	234.0	\$121,072	27.0	\$3,020	73.0	\$40,979
1.9.8	RD - 3 GF2 South Cell Room and Production Offices	0.0	\$0	16.0	\$8,826	0.0	\$0	0.0	\$0	14.0	\$14,319	14.0	\$35,449	14.0	\$10,361	20.0	\$10,348	0.0	\$0	14.0	\$7,859
1.9.9	RD - 89 Feed Materials Building South Pad East Side	0.0	\$0	4.0	\$2,208	0.0	\$0	0.2	\$155	0.0	\$0	1.0	\$2,532	1.0	\$740	8.0	\$4,139	0.0	\$0	1.0	\$561
1.9.10	FMR Post Demolition Concrete Pads Survey	0.0	\$0	0.0	\$0	9.0	\$15,859	0.0	\$0	63.0	\$64,437	79.0	\$200,035	79.0	\$58,466	0.0	\$0	25.0	\$2,796	122.0	\$68,486
1.9.11	Tank Yard	0.0	\$0	61.0	\$33,649	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	72.0	\$37,253	0.0	\$0	0.0	\$0
1.10.1	RD - 10 PPF Area Building	0.0	\$0	33.0	\$18,203	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	33.0	\$17,074	0.0	\$0	0.0	\$0
1.10.2	RD - 101 Storage Tent	0.0	\$0	4.0	\$2,206	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	4.0	\$2,070	0.0	\$0	0.0	\$0
1.10.3	RD - 11 CAF2 Recovery Area Building	0.0	\$0	24.0	\$13,239	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	24.0	\$12,418	0.0	\$0	0.0	\$0
1.10.4	RD - 14 Liquid Flourine Facility	0.0	\$0	15.0	\$8,274	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	15.0	\$9,313	0.0	\$0	0.0	\$0
1.10.5	RD - 18 Ore Storage Building	0.0	\$0	3.0	\$1,655	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	8.0	\$4,139	0.0	\$0	0.0	\$0
1.10.6	RD - 2 Laboratory Equipment Building	0.0	\$0	16.0	\$8,826	0.0	\$0	12.2	\$10,865	0.0	\$0	70.0	\$177,246	70.0	\$51,806	16.0	\$8,278	0.0	\$0	70.0	\$39,295
1.10.7	RD - 22 Scale House Area RD - 36	0.0	\$0	2.0	\$1,103	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	4.5	\$2,328	0.0	\$0	0.0	\$0
1.10.8	RD - 25 CFX Building	0.0	\$0	8.0	\$4,413	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	8.0	\$4,139	0.0	\$0	0.0	\$0
1.10.9	RD - 26 RCBA Large Drum Storage Area	0.0	\$0	1.0	\$562	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	11.0	\$5,691	0.0	\$0	0.0	\$0
1.10.10	RD - 27 Switch House Building	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
1.10.11	RD - 28 Safety Building	0.0	\$0	1.0	\$562	0.0	\$0	0.2	\$155	0.0	\$0	1.0	\$2,532	1.0	\$740	1.0	\$517	0.0	\$0	1.0	\$561
1.10.12	RD - 32 Supply Storage Building for RD - 69	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
1.10.13	RD - 33 Fines Storage Building	0.0	\$0	1.0	\$562	0.0	\$0	14.3	\$12,728	0.0	\$0	82.0	\$207,631	82.0	\$60,667	8.5	\$4,368	0.0	\$0	82.0	\$46,032
1.10.14	RD - 34 Drum Crusher Building	0.0	\$0	9.0	\$4,965	0.0	\$0	4.5	\$4,036	0.0	\$0	26.0	\$65,834	26.0	\$19,242	14.0	\$7,244	0.0	\$0	26.0	\$14,595
1.10.15	RD - 35 GF2 Cell Cond and Maintenance	0.0	\$0	18.0	\$9,929	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	18.0	\$9,313	0.0	\$0	0.0	\$0
1.10.16	RD - 37 Ion Exchange and Potassium Removal Building	0.0	\$0	13.0	\$7,171	0.0	\$0	1.6	\$1,397	0.0	\$0	9.0	\$22,769	9.0	\$6,661	13.0	\$6,726	0.0	\$0	9.0	\$5,052
1.10.17	RD - 39 Sand Blast Building	0.0	\$0	3.0	\$1,655	0.0	\$0	0.2	\$155	0.0	\$0	1.0	\$2,532	1.0	\$740	4.0	\$2,070	0.0	\$0	1.0	\$561
1.10.18	RD - 4 GF2 C Cell Room, ABC South Pad and A&B Rect	0.0	\$0	23.0	\$12,687	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	23.0	\$11,900	0.0	\$0	0.0	\$0
1.10.19	RD - 41 Drum Crusher Building	0.0	\$0	1.0	\$562	0.0	\$0	1.0	\$931	0.0	\$0	6.0	\$15,193	6.0	\$4,440	1.0	\$517	0.0	\$0	6.0	\$3,368
1.10.20	RD - 42 STF Area Building	0.0	\$0	9.0	\$4,965	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	18.0	\$9,313	0.0	\$0	0.0	\$0
1.10.21	RD - 44 KPA Bioassembly Lab Urine Analysis Trailer	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
1.10.22	RD - 49 Storage Shed For Cylinder Hauler	0.0	\$0	4.0	\$2,206	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	4.0	\$2,070	0.0	\$0	0.0	\$0
1.10.23	RD - 50 GF2 North Cell Room, D&E Rect and D&E South Pad	0.0	\$0	30.0	\$16,549	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	32.0	\$16,557	0.0	\$0	0.0	\$0
1.10.24	RD - 50 Storage Building	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
1.10.25	RD - 52 Control Room Building for HP Railcar Off Loading	0.0	\$0	2.0	\$1,103	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	2.0	\$1,035	0.0	\$0	0.0	\$0
1.10.26	RD - 7 Power House Building	0.0	\$0	81.0	\$44,681	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	81.0	\$41,909	0.0	\$0	0.0	\$0

Appendix A-4: Equipment Summary

WBS #	Level 3 Name	Days	Rent truck pickup 3/4 ton 4 wheel drive, Incl. Hourly Operation Cost	Days	Rent truck tractor 4 x 2 drive, 330 HP, Incl. Hourly Operation Cost	Days	Rent truck, dump 4 axle, 25 ton, 18 C.Y., payload, 450 H.P., Incl. Hourly Operation Cost	Days	Rent vibratory plate compactor gas 18", plate 3000 lb blow, Incl. Hourly Operation Cost	Days	Tandem axle roll-off truck	Days	Concrete Grinding Equipment and Appurtenances	Days	Cutting/Welding Equipment	Days	Frisker - Ludlum Model 3 w/44-9	Days	Gamma - Ludlum Model 2221 w/44-10	Days	GPS - Trimble ProXR or similar	Days	Hoisting Equipment	Totals
			\$ 205.00 Daily Rate		\$ 510.73 Daily Rate		\$ 873.69 Daily Rate		\$ 37.03 Daily Rate		\$ 131.07 Daily Rate		\$ 425.00 Daily Rate		\$ 100.00 Daily Rate		\$ 4.25 Daily Rate		\$ 20.00 Daily Rate		\$ 39.10 Daily Rate		\$ 100.00 Daily Rate	
1.1.1	BD - 1 Administrative Building	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	16.0	\$2,100	0.0	\$0	12.0	\$1,200	9.0	\$38	9.0	\$190	0.0	\$0	3.0	\$300	\$10,579
1.1.2	BD - 43 and BD - 76 Contractor Security Entrance	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	1.3	\$175	0.0	\$0	1.0	\$100	1.0	\$4	1.0	\$20	0.0	\$0	0.0	\$0	\$817
1.1.3	BD - 58 Learning Resource Center	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	2.7	\$350	0.0	\$0	2.0	\$200	2.0	\$9	2.0	\$40	0.0	\$0	0.0	\$0	\$1,633
1.1.4	BD - 6 Shop and Stores Building	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	16.0	\$2,100	0.0	\$0	12.0	\$1,200	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	\$9,509
1.1.5	BD - 69 Admin - Nuclear Compliance Trailer	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	5.0	\$500	5.0	\$21	5.0	\$100	0.0	\$0	0.0	\$0	\$20,565
1.1.6	BD - 87 Janitorial Storage Building	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	1.3	\$175	0.0	\$0	2.0	\$200	1.0	\$4	1.0	\$20	0.0	\$0	0.0	\$0	\$4,905
1.1.7	BD - Sub - 11 CIPS Sub Station	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	\$0
1.1.8	BD-80 Break Room and Shed	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	1.0	\$100	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	\$4,089
1.2.1	Asbestos Removal and Disposal	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	\$0
1.3.1	Land Area P-21 and P-24	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	\$0
1.3.2	Landfill and Kickback Area	86.0	\$17,830	0.0	\$0	0.0	\$0	0.0	\$0	293.7	\$38,500	0.0	\$0	0.0	\$0	55.0	\$234	55.0	\$1,100	0.0	\$0	0.0	\$0	\$415,635
1.3.3	Non-Impacted Outside Plant Areas	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	\$0
1.3.4	Outfall 002	49.0	\$10,045	0.0	\$0	25.0	\$21,842	24.0	\$889	135.5	\$17,500	0.0	\$0	0.0	\$0	48.0	\$208	49.0	\$980	25.0	\$978	0.0	\$0	\$80,644
1.3.5	P-23 Fuel Depot	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	2.7	\$350	0.0	\$0	2.0	\$200	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	\$2,688
1.3.6	Roadways and Ground Areas (P-25)	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	\$0
1.3.7	Security Exclusion Area (P-26)	7.0	\$1,435	0.0	\$0	0.0	\$0	0.0	\$0	21.4	\$2,800	0.0	\$0	0.0	\$0	4.0	\$17	4.0	\$80	0.0	\$0	0.0	\$0	\$33,033
1.4.1	Preparatory Plans and Procedures	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	\$0
1.5.1	BD - 48 UFG Cylinder Storage	0.0	\$0	31.0	\$15,833	0.0	\$0	0.0	\$0	0.0	\$0	62.0	\$26,350	0.0	\$0	62.0	\$264	62.0	\$1,240	0.0	\$0	0.0	\$0	\$59,726
1.5.2	Drum Storage Pads	0.0	\$0	5.5	\$2,809	0.0	\$0	0.0	\$0	0.0	\$0	11.0	\$4,675	0.0	\$0	11.0	\$47	11.0	\$220	0.0	\$0	0.0	\$0	\$10,596
1.5.3	Ore Storage Pads	0.0	\$0	115.0	\$58,734	0.0	\$0	0.0	\$0	0.0	\$0	230.0	\$97,750	0.0	\$0	230.0	\$978	230.0	\$4,600	0.0	\$0	0.0	\$0	\$221,562
1.6.1	Misc. Non-labor costs	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	\$0
1.7.1	2009 Subsurface Soils	135.0	\$27,675	0.0	\$0	0.0	\$0	0.0	\$0	454.0	\$59,500	0.0	\$0	0.0	\$0	85.0	\$361	85.0	\$1,700	0.0	\$0	0.0	\$0	\$650,213
1.7.2	Parking Lot	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	\$0
1.7.3	U-1040 and U-1041 Sanitary Treatment System	2.0	\$410	0.0	\$0	0.0	\$0	0.0	\$0	18.7	\$2,450	0.0	\$0	10.0	\$1,000	11.0	\$47	11.0	\$220	0.0	\$0	0.0	\$0	\$21,779
1.8.3	FSS Surveys and Samples	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	\$0
1.8.4	Final Project Report	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	\$0
1.8.5	Project Management	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	\$0
1.9.1	BD - 15 Cylinder Wash Building	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	8.0	\$1,050	0.0	\$0	7.0	\$700	7.0	\$30	7.0	\$140	0.0	\$0	0.0	\$0	\$12,323
1.9.2	BD - 16 Pond Muds Calciner Area & Uranium Ponds Equipment Area	2.0	\$410	0.0	\$0	0.0	\$0	0.0	\$0	29.4	\$3,850	0.0	\$0	14.0	\$1,400	16.0	\$68	16.0	\$320	0.0	\$0	0.0	\$0	\$30,028
1.9.3	BD - 17 Iodine Removal and BD-19 Uranium Recovery	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	61.4	\$8,050	0.0	\$0	59.0	\$5,900	59.0	\$251	59.0	\$1,180	0.0	\$0	0.0	\$0	\$116,409
1.9.4	BD - 20 KOH Muds Building	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	5.3	\$700	0.0	\$0	7.0	\$700	7.0	\$30	7.0	\$140	0.0	\$0	0.0	\$0	\$17,812
1.9.5	BD - 21 Ore Drum Dumper, Washer & Crusher Building	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	10.7	\$1,400	0.0	\$0	10.0	\$1,000	10.0	\$43	10.0	\$200	0.0	\$0	0.0	\$0	\$19,172
1.9.6	BD - 23 (ORR) Sampling Plant	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	36.0	\$4,725	0.0	\$0	28.0	\$2,800	28.0	\$119	28.0	\$560	0.0	\$0	0.0	\$0	\$41,056
1.9.7	BD - 29 Feed Materials Building	27.0	\$5,535	0.0	\$0	0.0	\$0	0.0	\$0	403.2	\$52,850	0.0	\$0	243.0	\$24,300	260.0	\$1,105	260.0	\$5,200	0.0	\$0	0.0	\$0	\$440,668
1.9.8	BD - 3 GF2 South Cell Room and Production Offices	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	26.7	\$3,500	0.0	\$0	34.0	\$3,400	34.0	\$145	34.0	\$680	0.0	\$0	0.0	\$0	\$94,887
1.9.9	BD - 89 Feed Materials Building South Pad East Side	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	10.7	\$1,400	0.0	\$0	9.0	\$900	9.0	\$38	9.0	\$180	0.0	\$0	0.0	\$0	\$12,853
1.9.10	FMB Post Demolition Concrete Pads Survey	25.0	\$5,125	0.0	\$0	0.0	\$0	0.0	\$0	85.5	\$11,200	0.0	\$0	63.0	\$6,300	79.0	\$338	79.0	\$1,580	0.0	\$0	0.0	\$0	\$434,621
1.9.11	Tank Yard	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	96.1	\$12,600	0.0	\$0	72.0	\$7,200	72.0	\$308	72.0	\$1,440	0.0	\$0	0.0	\$0	\$92,448
1.10.1	BD - 10 FFI Area Building	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	44.1	\$5,775	0.0	\$0	33.0	\$3,300	33.0	\$140	33.0	\$660	0.0	\$0	0.0	\$0	\$45,153
1.10.2	BD - 101 Storage Tent	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	5.3	\$700	0.0	\$0	4.0	\$400	4.0	\$17	4.0	\$80	0.0	\$0	0.0	\$0	\$5,473
1.10.3	BD - 11 CAF2 Recovery Area Building	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	32.0	\$4,200	0.0	\$0	24.0	\$2,400	24.0	\$102	24.0	\$480	0.0	\$0	0.0	\$0	\$32,838
1.10.4	BD - 14 Liquid Fluorine Facility	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	24.0	\$3,150	0.0	\$0	18.0	\$1,800	18.0	\$77	18.0	\$360	0.0	\$0	0.0	\$0	\$22,974
1.10.5	BD - 18 Ore Storage Building	0.0	\$0	5.0	\$2,554	0.0	\$0	0.0	\$0	4.0	\$525	10.0	\$4,250	3.0	\$300	13.0	\$55	13.0	\$260	0.0	\$0	0.0	\$0	\$13,738
1.10.6	BD - 2 Laboratory Equipment Building	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	21.4	\$2,800	0.0	\$0	86.0	\$8,600	86.0	\$366	86.0	\$1,720	0.0	\$0	0.0	\$0	\$309,802
1.10.7	BD - 22 Scale House Area BD - 36	0.0	\$0	2.5	\$1,277	0.0	\$0	0.0	\$0	2.7	\$350	5.0	\$2,125	2.0	\$200	7.0	\$30	7.0	\$140	0.0	\$0	0.0	\$0	\$7,553
1.10.8	BD - 25 CFX Building	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	10.7	\$1,400	0.0	\$0	8.0	\$800	8.0	\$34	8.0	\$160	0.0	\$0	0.0	\$0	\$10,946
1.10.9	BD - 26 RCRA Large Drum Storage Area	0.0	\$0	10.0	\$5,107	0.0	\$0	0.0	\$0	1.3	\$175	20.0	\$8,500	1.0	\$100	21.0	\$89	21.0	\$420	0.0	\$0	0.0	\$0	\$20,635
1.10.10	BD - 27 Switch House Building	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0											

Appendix A-4: Equipment Summary

WBS #	Level 3 Name	Days	Rent backhoe loader 40 to 45 HP, 8 CY capacity, incl. Hourly Operation Cost	Days	Rent crane truck mounted, hydraulic, 12 ton capacity, incl. Hourly Operation Cost	Days	Rent dozer, crawler, torque converter, diesel 200 HP, incl. Hourly Operation Cost	Days	Rent excavator attachment, shear/grapples, incl. Hourly Operation Cost	Days	Rent excavator attachment, hydraulic hammer, 12,000 lbs. incl. Hourly Operation Cost	Days	Rent excavator diesel hydraulic crawler mounted 3.5 CY capacity, incl. Hourly Operation Cost	Days	Rent front end loader, 4WD, art. frame, diesel, 2.5 - 3.5 CY 145 HP, incl. Hourly Operation Cost	Days	Rent loader, skid steer, wheeled, 1 CY 78 HP, diesel, incl. Hourly Operation Cost	Days	Rent trash pump self-prime 2" diameter gas drive, incl. Hourly Operation Cost	Days	Rent truck dump 3 axle 16 ton, 12 C.Y. payload, 400 H.P., incl. Hourly Operation Cost
			\$ 310.25 Daily Rate		\$ 551.82 Daily Rate		\$ 1,762.14 Daily Rate		\$ 890.16 Daily Rate		\$ 1,022.51 Daily Rate		\$ 2,532.09 Daily Rate		\$ 740.08 Daily Rate		\$ 517.40 Daily Rate		\$ 111.85 Daily Rate		\$ 561.36 Daily Rate
1.10.27	RD - 79 Drum Wash Building	0.0	\$0	0.0	\$0	0.0	\$0	0.5	\$466	0.0	\$0	3.0	\$7,596	3.0	\$2,220	1.0	\$517	0.0	\$0	3.0	\$1,684
1.10.28	RD - 8 Paint Building	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
1.10.29	RD - 83 Liquid Nitrogen Building	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
1.10.30	RD - 84, RD-85, RD-86 and RD-100 Structures	0.0	\$0	1.0	\$552	0.0	\$0	1.6	\$1,397	0.0	\$0	9.0	\$22,789	9.0	\$6,661	1.0	\$517	0.0	\$0	9.0	\$5,052
1.10.31	RD - 9 Dealkalization Building	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
1.10.32	RD - 92 Waste Sorting Building	0.0	\$0	2.0	\$1,103	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	2.0	\$1,035	0.0	\$0	0.0	\$0
1.10.33	P-1052 Diesel Compressor Trailer South of the Power House	0.0	\$0	5.0	\$2,758	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	5.0	\$2,587	0.0	\$0	0.0	\$0
1.10.34	Portable Steam Supply Trailer East of the Power House	0.0	\$0	7.0	\$3,861	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	8.0	\$4,139	0.0	\$0	0.0	\$0
1.10.35	Waste Storage Area	0.0	\$0	0.0	\$0	8.0	\$14,097	0.0	\$0	0.0	\$0	4.0	\$10,128	4.0	\$2,960	0.0	\$0	12.0	\$1,342	32.0	\$17,964
1.11.1	Develop D&D Plan	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
1.11.2	Lockdown	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
1.11.3	Pre-Mobilization	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
1.11.4	Mobilization	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
1.11.5	Demobilization	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0
Total		25.0	\$7,766	650.0	\$358,553	112.0	\$187,360	41.2	\$36,632	85.0	\$86,939	505.0	\$1,278,705	529.0	\$391,502	993.5	\$514,037	320.0	\$35,792	1,025.0	\$575,394

Appendix A-4: Equipment Summary

WBS #	Level 3 Name	Days	Rent truck pickup 3/4 ton 4 wheel drive, Incl. Hourly Operation Cost	Days	Rent truck tractor 4 x 2 drive, 330 HP, Incl. Hourly Operation Cost	Days	Rent truck, dump, 4 axle, 25 ton, 18 C.Y. payload, 450 H.P., Incl. Hourly Operation Cost	Days	Rent vibratory plate compactor gas 16" plate 3000 lb blow, Incl. Hourly Operation Cost	Days	Tandem axle roll-off truck	Days	Concrete Grinding Equipment and Appurtenances	Days	Cutting/Welding Equipment	Days	Frisker - Ludlum Model 3 w/44-g	Days	Gamma - Ludlum Model 2221 w/44-10	Days	GPS - Trimble ProXR or similar	Days	Hoisting Equipment	Totals
			\$ 205.00 Daily Rate		\$ 510.73 Daily Rate		\$ 873.69 Daily Rate		\$ 37.03 Daily Rate		\$ 131.07 Daily Rate		\$ 425.00 Daily Rate		\$ 100.00 Daily Rate		\$ 4.25 Daily Rate		\$ 20.00 Daily Rate		\$ 30.10 Daily Rate		\$ 100.00 Daily Rate	
1.10.27	BD - 29 Drum Wash Building	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	1.3	\$175	0.0	\$0	4.0	\$400	4.0	\$17	4.0	\$80	0.0	\$0	0.0	\$0	\$13,156
1.10.28	BD - 8 Paint Building	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	\$0
1.10.29	BD - 83 Liquid Nitrogen Building	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	\$0
1.10.30	BD - 84, BD-85, BD-86 and BD-100 Structures	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	1.3	\$175	0.0	\$0	10.0	\$1,000	10.0	\$43	10.0	\$200	0.0	\$0	0.0	\$0	\$38,365
1.10.31	BD - 9 Deaerization Building	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	\$0
1.10.32	BD - 92 Waste Sorting Building	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	2.7	\$350	0.0	\$0	2.0	\$200	2.0	\$9	2.0	\$40	0.0	\$0	0.0	\$0	\$2,737
1.10.33	P-1052 Diesel Compressor Trailer South of the Power House	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	6.7	\$875	0.0	\$0	5.0	\$500	5.0	\$21	5.0	\$100	0.0	\$0	0.0	\$0	\$6,841
1.10.34	Portable Steam Supply Trailer East of the Power House	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	10.7	\$1,400	0.0	\$0	8.0	\$800	8.0	\$34	8.0	\$160	0.0	\$0	0.0	\$0	\$10,395
1.10.35	Waste Storage Area	12.0	\$2,460	0.0	\$0	0.0	\$0	0.0	\$0	21.4	\$2,800	0.0	\$0	0.0	\$0	4.0	\$17	4.0	\$80	0.0	\$0	0.0	\$0	\$51,849
1.11.1	Develop D&D Plan	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	\$0
1.11.2	Lockdown	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	\$0
1.11.3	Pre-Mobilization	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	\$0
1.11.4	Mobilization	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	\$0
1.11.5	Demobilization	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	0.0	\$0	\$0
Total		345.0	\$70,725	181.5	\$92,697	25.0	\$21,842	24.0	\$889	2,200.4	\$288,400	363.0	\$154,275	1,133.0	\$113,300	1,710.0	\$7,268	1,710	\$4,200.0	25	\$978	3	\$300	\$4,267,544

Appendix A-5: Equipment Rates and Durations

Equipment Name	Daily Rate	Days	Total Cost
Rent backhoe-loader 40 to 45 HP 5/8 CY capacity, Incl. Hourly Oper. Cost.*	\$ 310.25	25	\$ 7,756.00
Rent crane truck mounted, hydraulic, 12 ton capacity, Incl. Hourly Oper. Cost.*	\$ 551.62	650	\$ 358,553.00
Rent dozer, crawler, torque converter, diesel 200 HP, Incl. Hourly Oper. Cost.*	\$ 1,762.14	112	\$ 197,360.00
Rent excavator attachment, shear/grapples, Incl. Hourly Oper. Cost.*	\$ 155.22	236	\$ 36,632.00
Rent excavator attachment, hydraulic hammer, 12,000 ft lbs, Incl. Hourly Oper. Cost.*	\$ 1,022.81	85	\$ 86,939.00
Rent excavator diesel hydraulic crawler mounted 3.5 CY capacity, Incl. Hourly Oper. Cost.*	\$ 2,532.09	505	\$ 1,278,705.00
Rent front end loader, 4WD, art. frame, diesel, 2.5 - 3.5 CY 145 HP, Incl. Hourly Oper. Cost.*	\$ 740.08	529	\$ 391,502.00
Rent loader, skid steer, wheeled, 1 CY 78 HP, diesel, Incl. Hourly Oper. Cost.*	\$ 517.40	994	\$ 514,037.00
Rent trash pump self-prime 2" diameter gas drive, Incl. Hourly Oper. Cost.*	\$ 111.85	320	\$ 35,792.00
Rent truck dump 3 axle 16 ton, 12 C.Y. payload, 400 H.P., Incl. Hourly Oper. Cost.*	\$ 561.36	1025	\$ 575,394.00
Rent truck pickup 3/4 ton 4 wheel drive, Incl. Hourly Oper. Cost.*	\$ 205.00	345	\$ 70,725.00
Rent truck tractor 4 x 2 drive, 330 HP, Incl. Hourly Oper. Cost.*	\$ 510.73	181	\$ 92,697.00
Rent truck, dump, 4 axle, 25 ton, 18 C.Y. payload, 450 H.P., Incl. Hourly Oper. Cost.*	\$ 873.69	25	\$ 21,842.00
Rent vibratory plate compactor gas 18" plate 3000 lb blow, Incl. Hourly Oper. Cost.*	\$ 37.03	24	\$ 889.00
Tandem axle roll-off truck	\$ 700.00	412	\$ 288,400.00
Concrete Grinding Equipment and Appurtenances	\$ 425.00	363	\$ 154,275.00
Cutting/Welding Equipment	\$ 100.00	1133	\$ 113,300.00
Frisker - Ludlum Model 3 w/44-9	\$ 4.25	1710	\$ 7,268.00
Gamma - Ludlum Model 2221 w/44-10	\$ 20.00	1710	\$ 34,200.00
GPS - Trimble ProXR or similar	\$ 39.10	25	\$ 978.00
Hoisting Equipment	\$ 100.00	3	\$ 300.00
			\$ 4,267,544.00

*Operating cost includes fuel, oil, etc. but does not include labor.