



DEPARTMENT OF THE ARMY
U.S. ARMY MEDICAL RESEARCH INSTITUTE OF CHEMICAL DEFENSE
2900 RICKETTS POINT ROAD
ABERDEEN PROVING GROUND, MD 21010-5400

November 30, 2015

REPLY TO THE
ATTENTION OF

J-6

Office of the Commander

U.S. Nuclear Regulatory Commission
Region I DNMS
2100 Renaissance Boulevard
King of Prussia, PA 19406

License No: 19-00294-24
Docket No(s): 03031110

REC RG 1 12 09 15 AM 07 08

Dear Sir/Madame:

Enclosed is the revised statement of financial assurance for the referenced Byproduct Material License.

As Commander of the US Army Medical Research Institute of Chemical Defense, I exercise express authority and responsibility to request from our higher headquarters, the US Army Medical Research and Materiel Command, funds for decommissioning activities associated with operations authorized by US Nuclear Regulatory Commission License No 19-00294-24. The authority is established under Permanent Orders 8-1, The Office of the Surgeon General, Department of the Army, dated May 29, 1979, that assigned us as a major subordinate activity of the US Army Medical Research and Materiel Command on July 1, 1979.

Within this authority, I intend to request funds be made available when necessary in the amount of \$76,713 to decommission the facilities of the US Army Medical Research Institute of Chemical Defense, located at the Edgewood Area, APG South, Aberdeen Proving Ground, Maryland 21010-5400.

As the named licensee, I am authorized to represent the Institute in this transaction.

My point of contact for this request is Benjamin F. Casole, III, Radiation Safety Officer, and he may be reached at (410)436-1780 or e-mail at benjamin.f.casole.ctr@mail.mil.

Enclosures

Roman O. Bilynsky
Colonel, U.S. Army
Commanding

NONNEGOTIABLE

589616

NMSS/RGN1 MATERIALS-002

CERTIFICATION OF FINANCIAL ASSURANCE

Principal: Colonel Roman O. Bilynsky, Commander
US Army Medical Research Institute of Chemical Defense
2900 Ricketts Point Road
Aberdeen Proving Ground, MD 21010-5400

NRC License Number: 19-00294-24

Name and Mailing Address of Facility:
US Army Medical Research Institute of Chemical Defense
2900 Ricketts Point Road
Aberdeen Proving Ground, MD 21010-5400

Issued to: US Nuclear Regulatory Commission

I certify that Colonel Roman O. Bilynsky, Commander, US Army Medical Research Institute of Chemical Defense is licensed to possess the following: sealed sources or plated foils with a half-life of greater than 120 days licensed under 10CFR Part 30 and unsealed byproduct material with half-lives both greater than and less than 120 days licensed under 10CFR Part 30 in the following amounts:

<u>Type of Material</u>	<u>Amount of Material</u>
Hydrogen-3	10 curies (max)
Carbon-14	2 curies (max)
Phosphorous-32	2 curies (max)
Phosphorous-33	2 curies (max)
Sulfur-35	2 curies (max)
Calcium-45	0.5 curie (max)
Iodine-125	1 curie (max)
Nickel-63	NTE 15 millicuries/ foil and 3.5 curies total

I also certify that financial assurance in the amount of \$76,713 will be obtained for the purpose of decommissioning as prescribed by 10CFR Part 30. This cost estimate will be recalculated and/or adjusted every three years.



ROMAN O. BILYNSKY
Colonel, US Army
Commanding

A.3.4 Facility Description Summary

NRC license numbers and types (i.e., Parts 30, 40, 70, and 72). Byproduct Materials License, BML-19-00294-24

Types and quantities of materials authorized under the licenses listed above. Hydrogen-3, 10Ci max; Carbon-14, 2Ci max; Phosphorous-32, 2Ci max; Phosphorous-33, 2Ci max; Sulfur-35, 2Ci max; Calcium-45, 0.5Ci max; Iodine-125, 1Ci max; Nickel-63, 3.5Ci max (NTE 15mCi/source).

Description of how licensed materials are used. All except Ni-63: Research and development as defined in 10CFR30.4; animal studies. For Ni-63, in electron capture cells.

Description of facility, including buildings, rooms, grounds, and description of where particular types of materials are used. Main laboratory building containing office, maintenance, and laboratory spaces. Radioactive material is used only in laboratories permitted for such use by the Radiation Safety Committee and in calibrated and certified fume hoods or biosafety cabinets.

Quantities of materials or waste accumulated before shipping or disposal. Materials and wastes are usually not accumulated, however waste is stored in our radioactive waste facility and is usually disposed of when there is about 5 ea, 7.5 cu. ft. containers ready for shipment.

Volume of contaminated material, including that in the subsurface, containing residual radioactivity that will require remediation. None.

A.3.5 Number and Dimensions of Facility Components

Use this table to summarize relevant features of the facility. Copy and complete the table as necessary for each room, laboratory, or area. Rooms, laboratories, or areas with similar levels of contamination may be consolidated in one table.

Name of room, laboratory, or area: Licensed material used or stored at the licensed facilities located at the Edgewood Area, APG South, Aberdeen Proving Ground, Maryland.

Level of contamination: Less than 100 DPM

Component	Number of Components	Dimensions of Component (specify units)	Total Dimensions (specify units)
Glove Boxes	0		
Fume Hoods	5	24 sq. ft. avg.	120 sq. ft.
Lab Benches	6*	22 sq. ft. avg.	132 sq. ft.
Sinks	0#		
Drains	0#		
Floors	0*		
Walls	0*		
Ceilings	0*		
Ventilation/Ductwork (2'x4'x2')	5	32 cu. ft.	160 cu. ft.
Hot Cells	0		
Equipment/Materials	7	N/A	N/A
Soil Plots	0		
Storage Tanks	0		
Storage Areas	0		
Radwaste Areas	1	300 sq. ft.	300 sq. ft.
Scrap Recovery Areas	0		
Maintenance Shop	0		
Equipment Decontamination Areas	0		
Utilities/Piping	0		
Other (specify)	N/A		

*=contamination will be minimal or non-existent as rules mandate work to be done on plastic-backed paper and in some cases, in a spill tray. Contamination limits are set at <100 dpm for all surveys so contamination does not get out of hand.

#=Sink and drain disposal has never been permitted by Aberdeen Proving Ground.

A.3.6 Planning and Preparation (Workdays)

Estimate the number of workdays, by specific labor category, that will be required to complete planning and preparation activities. Include all appropriate labor categories, including Supervisor, Foreman, Craftsman, Technician, Health Physicist, Laborer, Clerical, and others as needed.

Activity	Labor Category	Labor Category	Labor Category	Labor Category	Labor Category	Labor Category
Preparation of Documentation for Regulatory Agencies	RSO 5	HP 0	Clerical 2			
Submittal of Decommissioning Plan to NRC when required by 10 CFR 30.36(g)(1), 10 CFR 40.42(g)(1), 10 CFR 70.38(g)(1), or 10 CFR 72.54(g).	5	0	2			
Development of Work Plans	2	6	1			
Procurement of Special Equipment						
Staff Training						
Characterization of Radiological Condition of the Facility (including sampling, soil and tailings analysis, or groundwater analysis, if applicable)						
Administrative Fees (such as procurement fees for third-party contractor, legal fees, local permits, utilities, financial assurance fees, and NRC staff review of these items)						
Other (specify)						
TOTALS	12	6	5			

A.3.7 Decontamination or Dismantling of Radioactive Facility Components (Workdays)

Estimate the number of workdays, by specific labor category, which will be required to complete decontamination and/or dismantling activities for each facility component. Copy and complete this table as necessary for each room, laboratory, or area. Rooms, laboratories, or areas with similar levels of contamination may be consolidated in one table.

Name of room, laboratory, or area: Same as described in A.3.5

Level of contamination: less than 100 dpm

Component	Decon. Method	Labor Category	Labor Category	Labor Category	Labor Category	Labor Category	Labor Category
Glove Boxes		RSO	HP	Clerical			
Fume Hoods	rad wash	1	5	0			
Lab Benches	rad wash	1	5	0			
Sinks							
Drains							
Floors							
Walls							
Ceilings							
Ventilation/ Ductwork	rad wash	1	5	0			
Hot Cells							
Equipment/ Materials	rad wash	0	5	0			
Soil Plots							
Storage Tanks							
Storage Areas							
Radwaste Areas	rad wash	1	5	0			
Scrap Recovery							
Maintenance Shop							
Equipment Decontamination Areas							
Other (specify)							
TOTALS		4	25	0			

A.3.8 Restoration of Contaminated Areas on Facility Grounds (Workdays)

Estimate the number of workdays, by specific labor category, required to restore contaminated areas on facility grounds.

Activity	Labor Category	Labor Category	Labor Category	Labor Category	Labor Category	Labor Category
Backfill and Restore Site						
N/A-----	-----	-----	-----			
TOTALS N/A-----	-----	-----	-----			

A.3.9 Final Radiation Survey (Workdays)

Estimate the number of workdays, by specific labor category, required to conduct a final radiation survey.

Activity	Labor Category RSO	Labor Category HP	Labor Category Clerical	Labor Category	Labor Category	Labor Category
Final wipe/survey	1	5	0			
2 nd decon (if necessary)	0	1	0			
Report writing	0	3	1			
Report review	2	0	0			
TOTALS	3	9	1			

A.3.10 Site Stabilization and Long-Term Surveillance (Workdays)

Estimate the number of workdays, by specific labor category, required to complete site stabilization and long-term surveillance activities.

Activity	Labor Category	Labor Category	Labor Category	Labor Category	Labor Category	Labor Category
N/A-----	-----	-----	-----			
TOTALS	N/A	N/A	N/A			

A.3.11 Total Workdays by Labor Category

Enter the total workdays estimated for each specific labor category from the applicable table above (i.e., from the bottom rows of Tables A.3.6 through A.3.10).

Task	Labor Category	Labor Category	Labor Category	Labor Category	Labor Category	Labor Category
	RSO	HP	Clerical			
Planning and Preparation (TOTALS from Table A.3.6)	12	6	5			
Decontamination or Dismantling of Radioactive Facility Components (Sum of TOTALS from all copies of Table A.3.7)	4	25				
Packaging, Shipping, and Disposal of Radioactive Wastes	5	7				
Restoration of Contaminated Areas on Facility Grounds (TOTALS from Table A.3.8)	0	0				
Final Radiation Survey (TOTALS from Table A.3.9)	4	10	2			
Site Stabilization and Long-Term Surveillance (TOTALS from Table A.3.10)	0	0				

A.3.12 Worker Unit Cost Schedule

Estimate labor costs (including salary, fringe benefits, and corporate overhead). Include all appropriate labor categories, including Supervisor, Foreman, Craftsman, Technician, Health Physicist, Laborer, Clerical, and others as needed.

Labor Cost Component	Labor Category	Labor Category	Labor Category	Labor Category	Labor Category	Labor Category
	RSO	HP	Clerical			
Salary & Fringe (\$/year)	\$156,000	\$99,286	\$55,970			
Overhead Rate (%)	20	30	30			
Total Cost Per Year	\$187,200	\$129,072	\$72,761			
Total Cost Per Workday**	\$720	\$497	\$280			
Note:						
** Based on 260 workdays per year (e.g., 260 days).						

A.3.13 Total Labor Costs by Major Decommissioning Task

Multiply the estimated workdays for each specific labor category (from Table A.3.11) by the total cost per workday for the corresponding labor category (from Table A.3.12), and enter the results in the table below. Then, add across all labor categories to determine the total labor costs for each major decommissioning task.

Task	Labor Category	Labor Category	Labor Category	Labor Category	Labor Category	Labor Category	Total Labor Cost
	RSO	HP	Clerical				
Planning and Preparation	\$8,640	\$2,982	\$1,400				\$13,022
Decontamination or Dismantling of Radioactive Facility Components	\$2,880	\$12,425					\$15,305
Packaging, Shipping, and Disposal of Radioactive Wastes*	\$3,600	\$3,479					\$7,079
Restoration of Contaminated Areas on Facility Grounds	0	0					0
Final Radiation Survey	\$2,880	\$4,970	\$460				\$8,310
Site Stabilization and Long-Term Surveillance	0	0					0

* If labor costs are included in the packaging, shipping, and disposal costs listed in Tables

A.3.14(a)–(c), add a note to the decommissioning cost estimate that labor was included in those costs.

APPENDIX A

**A.3.14 Packaging, Shipping, and Disposal of Radioactive Wastes
(Excluding Labor Costs)**

If labor is included in these costs, add a note to the cost estimate that these costs include labor.

(a) Packing Material Costs

Estimate the types and volumes of waste expected to be generated, along with the number and types of containers required for packaging the waste. Multiply the number of containers required by the unit cost per container.

Waste Type	Volume (m ³)	Number of Containers	Type of Container	Unit Cost of Container	Total Packaging Costs
low level solid	0.6	5	Fiberboard box		*
LSA waste	1.1	5	Lined drum		*
TOTAL	1.7	10	-	-	*

(b) Shipping Costs

Estimate the number of truckloads of waste to be shipped. Multiply shipping costs per mile (including truckload costs, surcharges, and overweight charges) by the total distance shipped.

Waste Type	Number of Truckloads	Unit Cost (\$/mile/truckload)	Surcharges (\$/mile)	Overweight Charges (\$/mile)	Distance Shipped (miles)	Total Shipping Costs
As described above	1	*	*	*	*	*
TOTAL	1	-	-	-	-	*

*=USAMRICD will hire a contractor to provide the packaging, package the waste and transport it for disposal. The cost above is based on a shipment of radioactive waste made in September 2012 with 5% added on for each year (2013, 2014, and 2015) to keep up with current costs.

(c) Waste Disposal Costs

Estimate the volume of waste to be disposed. Multiply the volume of waste disposed by the unit disposal cost (including any volume-based surcharges). Add any surcharges that are based on the number of containers of waste.

Waste Type	Disposal Volume (m ³)	Unit Cost (\$/m ³)	Surcharges (\$/m ³ or \$/container)	Total Disposal Costs
Low level solid	0.6	*	*	\$17,654
LSA waste	1.1	*	*	Included above
TOTAL	1.7	*	-	\$17,654

A.3.15 Equipment/Supply Costs (Excluding Containers)

Estimate the quantity of equipment and supplies required for decommissioning and multiply that quantity by the appropriate unit costs.

Equipment/Supplies	Quantity	Unit Cost	Total Equipment/Supply Cost
TOTAL	N/A	-	N/A

A.3.16 Laboratory Costs

If applicable, estimate costs for analyses to be performed by an independent third-party laboratory.

Activity	Total Cost
Sampling	
Transport of samples	
Testing and analysis	
Other (specify)	
TOTAL	N/A

*= USAMRICD will hire a contractor to provide the packaging, package the waste and transport it for disposal. The cost above is based on a shipment of radioactive waste made in September 2012 with 5% added on for each year (2013, 2014, and 2015) to attempt to keep up with current costs.

A.3.17 Miscellaneous Costs

Estimate any other applicable costs.

Cost Item	Total Cost
License Fees	
Insurance	
Taxes	
Other (specify)	
TOTAL	N/A

A.3.18 Total Decommissioning Costs

Enter the total costs reported in Table A.3.13, Table A.3.14(a)–(c), Table A.3.15, Table A.3.16, and Table A.3.17 into the appropriate cells below, and add them to obtain a subtotal. Add to the subtotal a contingency allowance in the amount of 25 percent of the subtotal to obtain the total decommissioning cost estimate. Also, calculate for each task/component the percentage it represents of the subtotal.

Task/Component	Cost	Percentage
Planning and Preparation (From Table A.3.13)	\$13,022	21%
Decontamination and/or Dismantling of Radioactive Facility Components (From Table A.3.13)	\$15,305	25%
Restoration of Contaminated Areas on Facility Grounds (From Table A.3.13)	0	
Final Radiation Survey (From Table A.3.13)	\$8,310	14%
Site Stabilization and Long-Term Surveillance (From Table A.3.13)	0	
Packing Material Costs (TOTAL from Table A.3.14(a))	*	
Shipping Costs (TOTAL from Table A.3.14(b))	*	
Waste Disposal Costs (TOTAL from Table A.3.14(c))	\$24,733#	40%
Equipment/Supply Costs (TOTAL from Table A.3.15)	0	
Laboratory Costs (TOTAL from Table A.3.16)	0	
Miscellaneous Costs (TOTAL from Table A.3.17)	0	
Contractor Overhead and Profit	0	
SUBTOTAL	\$61,370	100%
25% Contingency	\$15,343	
TOTAL DECOMMISSIONING COST ESTIMATE	\$76,713	

*= USAMRICD will hire a contractor to provide the packaging, package the waste and transport it for disposal. The cost above is based on a shipment of radioactive waste made in September 2012 with 5% added on for each year (2013, 2014, and 2015) to attempt to keep up with current costs.

#= Total includes the labor for packaging, shipping, and disposal of radioactive wastes shown in paragraph A3.13 above.

This is to acknowledge the receipt of your letter application dated

November 30, 2015, and to inform you that the initial processing which includes an administrative review has been performed.

Financial Assurance (19-00294-24)
There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

Please provide to this office within 30 days of your receipt of this card

A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned **Mail Control Number** 589616.
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.

NRC FORM 532 (RI)
(6-96)

Sincerely,
Licensing Assistance Team Leader