Bristol-Myers Squibb Company

P.O. Box 191 New Brunswick, NJ 08903-0191 732-227-5000

B(.)

April 21, 2006

Ms. Betsy Ullrich US NRC Region I 475 Allendale Road King of Prussia, PA 19406

RE: DOCKET 03-005222 UPDATED DECOMMISSIONING COST ESTIMATE FOR LICENSE #29-00139-02

Dear Ms. Ullrich:

E. R. Squibb & Sons LLC, a division of Bristol-Myers Squibb Company, has been granted radioactive material license #29-00139-02 which authorizes possession and use of radioactive materials at four New Jersey facilities: the New Brunswick facility (at One Squibb Drive, New Brunswick, NJ), the Lawrenceville facility (at Route 206 and Provinceline Road, Lawrenceville, NJ), and the Hopewell facility (at 311 Pennington-Rocky Hill Road, Pennington, NJ).

In accordance with the requirements of 10CFR 30, E.R. Squibb & Sons is submitting an updated Decommissioning Cost Estimate (DCE) for our licensed activities our three facilities. Upon acceptance of this DCE by the Commission, updated Financial Assurance documentation will be submitted.

If you require additional information, please contact Michael Vala at Michael.vala@bms.com or (732) 227-5096.

Thank you for your assistance.

Sincerely,

Which I Vale

Michael J. Vala, CHP Radiation Safety Officer/Manager, EHS

Enclosure

Exemptions POLA/PA

Cc: L. Fedele* M. Koza*

M. Koza* R. McLaughlin*

* - cover only

information in this record was deleted in accordance with the Freedom of Information Act.

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NMSS/RGNI MATERIALS-CO2

DECOMMISSIONING COST ESTIMATE

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NRC LICENSE #29-00139-02

Bristol-Myers Squibb One Squibb Drive New Brunswick, NJ

Prepared by

ECHNICS

March, 2006

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I. Executive Summary

This report documents the basis, assumptions, and results of a decommissioning cost estimate prepared on behalf of Bristol-Myers Squibb by Philotechnics, Ltd. for three pharmaceutical research and development sites in New Jersey. The three sites are licensed under U.S. Nuclear Regulatory Commission (NRC) license number 29-00132-02 and include facilities located at:

- One Squibb Drive, New Brunswick, NJ
- 311 Pennington-Rocky Hill Road, Pennington, NJ
- Route 206 and Provinceline Road, Lawrenceville, NJ

The decommissioning cost estimate was prepared in accordance with the guidance provided in Section 3, Appendix F of NUREG 1727, NMSS Decommissioning Standard Review Plan dated September 2000.

Philotechnics previously performed a similar estimate for these facilities in 2002. That estimate, inspection of the current facilities, and interviews with knowledgeable individuals formed the basis for this estimate. Facility features were inventoried for each area. Cost estimates were prepared for each site based on the number of laboratories and the summed features of each building using the format contained in NUREG 1727.

25% Contingency **Total Cost** Site Estimate Estimate \$2,509,580 \$627,395 \$3,136,975 Pennington \$884,435 \$4,422,175 Lawrenceville \$3,537,740 New Brunswick \$852,196 \$213,049 \$1,065,245 Total \$6,899,516 \$1,724,879 \$8,624,395

The estimated decommissioning costs are:

The 25% contingency is required by the U.S. NRC for decommissioning cost estimates.

4/5/2006

Decommissioning Cost Estimate Bristol-Myers Squibb US NRC License No. 29-00139-02

• Quantities of materials or wastes accumulated prior to shipping or disposal

The cost estimates account for all phases of the decommissioning process and distinguish between labor and non-labor costs. Labor costs are broken out for:

- Planning and preparation
- D&D of facility components
- Facility restoration, as needed
- Final radiation survey

Non-labor costs are broken out for:

- Packing materials
- Shipping costs
- Equipment and supplies
- Disposal costs
- Laboratory costs
- Miscellaneous expenses

Consistent with NRC guidance, a 25% contingency factor is provided for unforeseen circumstances that could increase decommissioning costs.

III. General Assumptions

General assumptions are those that were used to estimate decommissioning costs for all buildings. The following general assumptions were made:

Inventories of materials and wastes at the time of decommissioning are in amounts consistent with routine facility conditions over time.

It is estimated that 10% of installed equipment, cabinets, ventilation ducts, sinks, and drains will be disposed of as radioactive waste, except in radiosynthesis labs. In those areas, the estimate is 50%.

Costs will be incurred to clean up areas where contamination has built up over time but gone undetected due to accumulation of small spills. Experience indicates contaminated surfaces will be discovered as equipment is removed.

Decommissioning activities begin immediately after cessation of operations without multi-year storage-for-decay periods. The cost estimate reflects expected conditions during routine research operations and does not rely on radioactive decay to meet license termination criteria.

Work is performed by an independent third party contractor.

The cost estimate neglects credit for salvage value or the sale of assets during or after decommissioning.

The radionuclides present are those authorized by the radioactive materials license and identified by the radiation safety staff. The predominant radionuclides are 3 H, 14 C, 125 I, 32 P, 33 P, and 35 S. 63 N is present in the form of sources and foils in analytical equipment. Other byproduct material is authorized in limited quantities (b)(7)(F)

(b)(7)(F)

The decontamination endpoint for facility structures and installed fixtures and equipment is the derived concentration guideline (DCGL) associated with license termination criterion of 25 mrem per year.

The decontamination endpoint for removable equipment is the applicable value in NRC Regulatory Guide 1.86. Material that cannot be decontaminated to that level will be disposed of as radioactive waste.

Number and Dimensions of Facility Components

Glove boxes are assumed to be 4 ft. wide, 3 ft. deep and 3 ft. tall.

Decommissioning Cost Estimate Bristol-Myers Squibb US NRC License No. 29-00139-02 4/5/2006

Fume hoods are assumed to be 5 ft. wide, 3 ft. deep and 8 ft. tall.

Lab benches are assumed to be 4 ft. deep and 8 ft. tall. Total length was estimated from photographs, drawings, and facility walkdowns.

Cabinets are assumed to be 3 ft. deep and 3 ft. tall. Total length was determined by a ratio to lab bench length. This ratio was typically between 0.1 and 1.0.

Sinks are assumed to be 4ft. wide, 4ft. deep and 3ft. tall.

Length of drain piping is estimated as 20 linear feet per sink per room plus 20 linear feet per room for floor elevation. For example, a basement room containing two sinks would be estimated as 20 linear feet per sink plus 20 linear feet for a first floor elevation for a total of 60 linear feet. A floor drain is considered as an additional sink.

Drain lines are assumed to be 3" in diameter. Drain line is not collapsed during decommissioning. Waste volume per linear foot of drain line is equal to:

1 foot x (3.14) x $(.125)^2 \approx 0.05 \text{ ft}^3$

Length of glove box and hood ventilation ducts is estimated as 20 linear feet per hood or glove box plus 20 linear feet per lab for floor elevation plus roof. For example, a laboratory containing one hood on the second floor of a four story building would be estimated as 20 linear feet for the hood plus 60 linear feet for floor elevation plus roof for a total of 80 linear feet.

Ventilation ducting is assumed to be 18" in diameter unless specified otherwise (e.g., New Brunswick Facility). During decommissioning ventilation ducting is collapsed to one half its original volume. Waste volume per linear foot of ducting is equal to:

 0.5×1 foot x (3.14) x (.75)² $\approx 0.88 \text{ ft}^3$

Equipment volume is estimated as a number of 50 cubic foot units. For example, a piece of equipment 3.5 ft deep, 3.5 ft tall and 4ft wide would be considered one 50 cubic foot unit.

Floors, Walls and Ceilings

Survey units are defined as:

- Class 1 Area: Impacted areas with concentrations of residual activity, prior to remediation, that exceed the DCGL_w
- Class 2 Area: Impacted areas for which concentrations of residual activity that exceed the DCGL_w are not expected.
- Class 3 Area: Impacted areas that have a low probability of containing areas with residual radioactivity.

Decommissioning Cost Estimate Bristol-Myers Squibb US NRC License No. 29-00139-02

Laboratory and radioactive material storage areas are considered MARSSIM class 1 survey areas.

Ceiling areas are equivalent to floor areas but are considered MARSSIM class 2 survey areas.

Walls are generally taken to be 15 ft. tall except where noted. For labs and radioactive materials areas the lower half is considered MARSSIM class 1 survey area. For 20 foot walls the lower 8 ft. is considered class 1.

Building floor areas outside labs and radioactive material storage areas are assigned 25% to MARSSIM class 2 and 75% to MARSSIM class 3 survey units.

Roof Areas are considered class 3 survey units. Ventilation fans, filter housings, and ducting installed on roof tops are assigned as a class 1 survey unit in the area immediately under and around the ventilation components. The remainder of the roof is divided 25% to class 2 survey units and 75% to class 3.

Classification	Suggested Area
Class 1	
Structures	Up to 100 m ²
Land Areas	Up to 2000 m^2
Class 2	
Structures	$100 \text{ to } 1,000 \text{ m}^2$
Land Areas	2,000 to 10,000 m^2
Class 3	
Structures	No limit
Land Areas	No limit

For determination of number of survey units the following limits were used:

Using the conversion of approximately 10 ft^2 per square meter, class 1 survey units were limited to 1,000 ft^2 and class 2 structure survey units were limited to 10,000 ft^2 .

Labor Costs

The cost estimates are based on fully burdened market place wage rates for all personnel. An overhead rate equal to 100% of base salary and fringe benefits was assumed. In addition, the Project Manager, Supervisors, Shipper, Health Physicist, and Health Physics technicians are assumed to be non-local hires. Consequently their wage rate also reflects a daily living allowance of \$160. This is the approximate government per diem rate for central New Jersey. Skilled, Non-skilled and Clerical workers are assumed to be local hires.

Packaging, Shipping and Disposal of Radioactive Wastes

The radioactive waste generated from facility D&D activities is assumed to be metal waste at a density of 20 pounds per cubic foot. This waste is shipped in 40 foot cargo vans with each van holding 2000 ft^3 of waste.

Dry active waste (DAW) volumes include both those assumed to be in facility operational inventory and those generated in the process of facility D&D. DAW is packaged in B-25 boxes consistent with standard industry practice.

Waste processing and disposal costs are based on those available in the industry for large facility decommissioning projects. Mileage and shipping expenses are included.

Miscellaneous Costs

Insurance includes General Liability Insurance at a rate of \$7.00 per \$1,000 of project price.

Since work is assumed to be provided by an independent third party cost estimates also include an allowance for sales tax (professional services) taken as 10% of project costs, minus miscellaneous costs. The tax allowance is listed as a miscellaneous cost.

Decommissioning Cost Estimate Bristol-Myers Squibb US NRC License No. 29-00139-02

Lawrenceville Site

The Lawrenceville site estimate is based on the following buildings and areas.

Building/Module	Elevation	<u>Area (ft^2)</u>
F1	First Floor (Basement)	21,500
	Second Floor	21,500
	Third Floor	21,500
	· Fourth Floor	21,500
G1	Second Floor	34,000
· · ·	Fourth Floor	15,200
Н	First Floor (Basement)	27,100
	Third Floor	30,000
	Fourth Floor	30,000
K	Second Floor	39,400
	Third Floor	39,400
	Fourth Floor	39,400
L	First Floor (Basement)	33,100
	Fourth Floor	33,100

The onsite D&D crew varies with the building being decommissioned and the number of crews working in parallel at one time. It is assumed that a laboratory takes a crew of one health physics technician, two skilled radiation workers and three unskilled radiation workers one week to D&D. The D&D crews are supported proportionately by the project manager, supervisors, the project shipper, and clerical support.

A new radiosynthesis suite has been added to building H4. A waste fraction of 50% was applied to all installed and movable equipment located in this suite.

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Decommissioning Cost Estimate Bristol-Myers Squibb US NRC License No. 29-00139-02

New Brunswick Site

The New Brunswick site estimate is based on the following buildings and areas. There is also one small laboratory in building 134.

Building	Elevation	Area (ft^2)
107	Second Floor	54,000
	Roof	54,000
105	First Floor	50,500
81	First Floor	13,500

The onsite D&D crew varies with the building being decommissioned and the number of crews working in parallel at one time. It is assumed that a laboratory takes a crew of one health physics technician, two skilled radiation workers and three unskilled radiation workers one week to D&D. The D&D crews are supported proportionately by the project manager, supervisors, the project shipper, and clerical support.

The floors, walls, and ceilings of all laboratories in the radio-synthesis suite and the adjacent ventilation equipment room located in Building 107 are considered to be MARSSIM Class I survey units. A waste fraction of 50% was applied to all installed and movable equipment located in this suite.

3.4 FACILITY DECOMMISSIONING SUMMARY

Radioactive Material license numbers and types (i.e., Byproduct, Source):

The Bristol-Myers Squibb facility located at One Squibb Drive, New Brunswick, NJ is licensed under USNRC Byproduct Materials license number 29-00139-02.

Types and guantities of materials authorized under the licenses listed above:

Byproduct Material atomic number 1 through 83, except Sr-90, 100 mCi per radionuclide, 2 Ci total; H-3 150 Ci; C-14 20 Ci; Sr-90 2 mCi; Tc-99m 750 mCi; Byproduct Material aomic number 84 through 103 1 mCi; Ni-63 Sources per registration IAW 10 CFR 32.210.

Description of how licensed materials are used:

Radionuclides are used in pharmaceutical research and development. This facility synthesizes radioactive compounds for use and distributes them to other research and development facilities. Synthesis activities primarily involve the use of large quantities of H-3 and C-14. Research and development activities are also conducted on a limited basis at this site. Research activities include new discovery, applications testing, and animal studies.

Description of facility, including buildings, rooms, grounds, and description of where particular types of materials are used:

Radio-synthesis activities are conducted in a laboratory suite located on the second floor of Building 107. This is a self-contained unit with a dedicated ventilation system located in an adjoining equipment space. Limited research and development activites are performed in laboratories in Building 105. Waste is primarily stored in Building 81. A detailed listing of laboratories and storage areas is attached to this estimate.

Quantities of materials or waste accumulated before shipping or disposal

The primary waste collection and storage area is located in Building 81.

12/11/2002

3.5 Number and Dimensions of Facilities Components

دی در سوی اور سال میرون و در این سال دارد در معرفه ومیرو میشومینیم میرو میروسی ورسی و در در در در میرود ایران د این اس اور در در در در در سال سال اس با در روی ایران دارد در در میرو میرو میرو در میرو در در در ایران دارد در در

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 into one table.

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Waste Density (lb/ft3)

Waste Mass

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Name of room, laboratory, or area:	New Brunswick Buil	ding 107 Synthesis Suil	le		
Level of Contamination:	=1,000 -500,000 dp	m/100 cm ²			
Component	Quantity of Component	Unit	Dimensions of Component (specify units)	Total Dimensions (specify units)	
Glove Boxes	0	Each	AYx36x31	0	ft ³
Fume Hoods	16	Each	Øwx4cx8t	2,560	ft ³
Lab Benches (Casework)	367	Linear Feet	40 x 91	4,404	ft ³
Sinks	9	Each	AXX40XX	432	ft ³
Drains	460	Linear Feet	3' cliameter	23	ft ³
Floors	See Listing	Class 1 Sq. Feet	Includes Cellings	4,145	ft ²
Walls (Class1)	See Listing	Class 1 Sq. Feet		14,460	ft ²
Walls (Class 2)	See Listing	Class 2 Sq. Feet		0	ft²
Ceilings	See Listing	Class 2 Sq. Feet		4,145	ft²
Ventilation/Ductwork	740	Linear Feet	19" dameter	651	ft3
Cabinets	204	Linear Feet	30 x 31	1,836	ft ³
Hot Cells	0	Each		0	ea
Equipment/Materials	36	50 Ft ³ Units		1,800	ft ³
Soil Plots	0	Sq. Feet		0	ea
Storage Tanks	0	Each		0	ea
Storage Areas	0	Each		0	ft ²
Radwaste Areas	0	Each		0	ea
Scrap Recovery Areas	0	Each		0	ft²
Maintenance Shop	0	Each		0	ft²
Equipment Decontamination	0	Each		0	ft²
Other Class 2 Areas	See Listing	Class 2 Sq. Feet		13,464	ft²
Other Class 3 Areas	See Listing	Class 3 Sq. Feet		41,391	ft²
Other (Specify)	150	Linear Feet	Roof Top Vent Duct	600	ft ³
Other (Specify)		Each .		0	ea
			Features/Equipment Volume	12,306	ft ³
			Waste Fraction	0.50	
			Waste Volume	6,153	ft ³

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123,062

lb

Name of room, laboratory, or area:	New Brunswick Build	ding 105			
Level of Contamination:	≈1,000 -10,000 dpm	/100 cm ²			
Component	Quantity of Component	Unit	Dimensions of Component (specify units)	Total Dimensions (specify units)	
Glove Boxes	0	Each	TC x DE X Y Z	0	ft ³
Fume Hoods	8	Each	5% X 40 X 61	1,280	ft ³
Lab Benches (Casework)	200	Linear Feet	A'd x ST	2,400	ft ³
Sinks	5	Each	41# x 410 x 31	240	ft ³
Drains	140	Linear Feet	3" diamoter	7	ft ³
Floors	See Listing	Class 1 Sq. Feet		1,760	ft²
Walis (Class1)	See Listing	Class 1 Sq. Feet		2,040	ft ²
Walls (Class 2)	See Listing	Class 2 Sq. Feet		2,040	ft2
Ceilings	See Listing	Class 2 Sq. Feet		1,760	ft ²
Ventilation/Ductwork	320	Linear Feet	i 8" diemeter	282	ft ³
Cabinets	128	Linear Feet	3'd x 3'	1,152	ft ³
Hot Cells	0	Each		0	ea
Equipment/Materials	6	50 Ft ³ Units		300	ft ³
Soil Plots	0	Sq. Feet		0	ea
Storage Tanks	0	Each		D	ea
Storage Areas	0	Each		0	ft²
Radwaste Areas	0	Each		0	ea
Scrap Recovery Areas	0	Each		0	ft ²
Maintenance Shop	0	Each		0	ft ²
Equipment Decontamination	0	Each		0	ft ²
Other Class 2 Areas	See Listing	Class 2 Sq. Feet		648	ft ²
Other Class 3 Areas	See Listing	Class 3 Sq. Feet		2,592	ft²
Other (Specify)		Each		0	ea
Other (Specify)		Each		0	ea
· · · · ·		•	Features/Equipment Volume	5,661	ft ³
			Waste Fraction	0.10	
			Waste Volume	566	ft3

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Waste Density (lb/ft3)

Waste Mass

Name of room, laboratory, or area:	New Brunswick Buil	ding 81			
Level of Contamination:	≈1,000 -10,000 dpm	n/100 cm ²			
Component	Quantity of Component	Unit	Dimensions of Component (specify units)	Total Dimension (specify units)	
Giove Boxes	0	Each	ewx3dx31	0	ft ³
Fume Hoods	0	Each	5wx4dx81	0	fl ³
Lab Benches (Casework)	0	Linear Feet	430 X 31	0	ft ³
Sinks	0	Each	4'w x 4'd x 31	0	ft ³
Drains	0	Linear Feet	S' diameter	0	ft3
Floors	See Listing	Class 1 Sq. Feet		1,150	ft2
Walls (Class1)	See Listing	Class 1 Sq. Feet		2,220	ft2
Walls (Class 2)	See Listing	Class 2 Sq. Feet		2,220	ft ²
Ceilings	See Listing	Class 2 Sq. Feet		1,150	ft2
Ventilation/Ductwork	40	Linear Feet	18" diameter	35	ft ³
Cabinets	0	Linear Feet	350 x 371	0	ft ³
Hot Cells	0	Each		0	ea
Equipment/Materials	5	50 Ft ³ Units		250	R3
Soil Plots	0	Sq. Feet		0	ea
Storage Tanks	0	Each		0	ea
Storage Areas	0	Each		0	ft ²
Radwaste Areas	. 1	Each		1	ea
Scrap Recovery Areas	0	Each		0	ft ²
Maintenance Shop	0	Each		0	ft ²
Equipment Decontamination	0	Each		0	ft ²
Other Class 2 Areas	See Listing	Class 2 Sq. Feet		3,089	ft ²
Other Class 3 Areas	See Listing	Class 3 Sq. Feet		9,266	ft ²
Other (Specify)	,,,,,,,,,	Each		0	ea
Other (Specify)		Each		0	ea
			Features/Equipment Volume	285	ft ³
			Waste Fraction	0.25	1
			Waste Volume	71	ft ^o
			Waste Density (Ib/ft3)	20	1
			Waste Mass	1,426	IЪ

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3.6 PLANNING AND PREPARATION

(Work Days)

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

Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Preparation of Documentation for Regulatory Agencies	7	5	5	3	0	0	10
Submittal of Decommissioning Plan to NRC when required by 10 CFR 30.36(g)(1), 40.42(g)(1), or 70.38(g)(1)	2	2	2	0	0	0	2
Development of Work Plans	5	7	5	0	0	0	10
Procurement of Special Equipment	2	5	0	0	0	0	2
Staff Training	1	2	2	· 3	2	6	1
Characterization of Radiological Condition (including sampling, soil and tailings analysis, or groundwater analysis, if applicable)	5.	5	5	15	0	0	2
Other (specify) Mobilization	1	2	2	3	2	6	1
TOTALS	23	28	21	24	4	12	28

New Brunswick Site

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Estimate the number of workdays, by specific labor category, that 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 a	New Brunswick Building 107 Synthesis Suite								
Level of Contamination:		≈1,000 -500,000 dpm/100 cm2							
Component	Action	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical	
Glove Boxes	Remove/Disp								
Fume Hoods	Remove/Disp	2	2	1	3	4	6	2	
Lab Benches	Decon/Remove	2	2	1	3	4	6	2	
Sinks	Decon/Remove	2	2		3	4	6	2	
Drains	Remove/Disp	2	2		3	4	6	2	
Floors	Decon/Wipe	11	11		2	2	3	1	
Walls	Decon/Wipe	11	1		2	2	3	. 1	
Ceilings	Decon/Wipe	2	2	1	3	4	6	2	
Ventilation/Ductwork	Remove/Disp	4	4	2	6	8	12	4	
Cabinets	Decon/Remove								
Hot Cells	Remove/Disp								
Equipment/Materials	Sur/Rem/Disp	4	4	2	6	8	12	4	
Soil Plots	Sample								
Storage Tanks	N/A					·			
Storage Areas	Remove/Disp								
Radwaste Areas	Remove/Disp								
Scrap Recovery Areas	N/A								
Maintenance Shop	Remove/Disp								
Equipment Decontamination	Remove/Disp	L							
Other (specify)	Remove/Disp								
Other (specify)	Remove/Disp	1							
TOTALS		20	20	7	31	40	60	20	

Name of room, laboratory, or area:		New Brunswick Building 105							
Level of Contamination:		≈1,000 -10,000 dpm/100 cm2							
Component	Action	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical	
Glove Boxes	Remove/Disp								
Fume Hoods	Remove/Disp	1	1	2	1	1	1.5	1	
Lab Benches	Decon/Remove	1	1		1	1	1.5	1	
Sinks	Decon/Remove	1	1		1	1	1.5	1	
Drains	Remove/Disp	1	1		1	1	1.5	1	
Floors	Decon/Wipe	11	0.5		1	1	1.5	1	
Walls	Decon/Wipe	0.5	0.5		0.5	0.5	1	0.5	
Ceilings	Decon/Wipe	0.5	1		1	1	1.5	0.5	
Ventilation/Ductwork	Remove/Disp	1	1		1	1	1.5	1	
Cabinets	Decon/Remove	0.5	0.5		0.5	0.5	11	0.5	
Hot Cells	Remove/Disp								
Equipment/Materials	Sur/Rem/Disp	0.5	0.5	2	2	1	1.5	0.5	
Soil Plots	Sample								
Storage Tanks	N/A	<u> </u>				·			
Storage Areas	Remove/Disp							·	
Radwaste Areas	Remove/Disp							-	
Scrap Recovery Areas	N/A								
Maintenance Shop	Remove/Disp								
Equipment Decontamination	Remove/Disp								
Other (specify)	Remove/Disp								
Other (specify)	Remove/Disp								
TOTALS	1	8	8	4	10	9	14	8	

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Name of room, laboratory, or area:		New Brunswick Building 81						
Level of Contamination:		≈1,000 -10,00	0 dpm/100 cm	2				
Component	Action	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Glove Boxes	Remove/Disp							
Fume Hoods	Remove/Disp							
Lab Benches	Decon/Remove							
Sinks	Decon/Remove							
Drains	Remove/Disp							
Floors	Decon/Wipe							
Walls	Decon/Wipe							
Ceilings	Decon/Wipe							
Ventilation/Ductwork	Remove/Disp							
Cabinets	Decon/Remove						[
Hot Cells	Remove/Disp							
Equipment/Materials	Sur/Rem/Disp							
Soil Plots	Sample							
Storage Tanks	N/A							
Storage Areas	Remove/Disp							
Radwaste Areas	Remove/Disp	1	1	5	0	0	5	1
Scrap Recovery Areas	N/A							
Maintenance Shop	Remove/Disp							
Equipment Decontamination	Remove/Disp							
Other (specify)	Remove/Disp							
Other (specify)	Remove/Disp							
TOTALS		1	1	5	0	0	5	1

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Name of room, laboratory, or area:		#REF!							
Level of Contamination:		#REF!							
Component	Action	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical	
Glove Boxes	Remove/Disp								
Fume Hoods	Remove/Disp	0.1	0.2	0.2	0.2	0.2	0.3	0.1	
Lab Benches	Decon/Remove	0.1	0.2	0.2	0.2	0.2	0.3	0.1	
Sinks	Decon/Remove	0.1	0.2		0.2	0.2	0.3	0.1	
Drains	Remove/Disp	0.1	0.2		0.2	0.2	0.3	0.1	
Floors	Decon/Wipe	0.1	0.2		0.2	0.2	0.3	0.1	
Walls	Decon/Wipe	0.1	0.2		0.2	0.2	0.3	0.1	
Ceilings	Decon/Wipe	0.1	0.2		0.2	0.2	0.3	0.1	
Ventilation/Ductwork	Remove/Disp	0.1	0.2	0.2	0.2	0.2	0.3	0.1	
Cabinets	Decon/Remove	0.1	0.2	0.2	0.2	0.2	0.3	0.1	
Hot Cells	Remove/Disp								
Equipment/Materials	Sur/Rem/Disp	0.1	0.2	0.2	0.2	0.2	0.3	0.1	
Soil Plots	Sample								
Storage Tanks	N/A								
Storage Areas	Remove/Disp								
Radwaste Areas	Remove/Disp								
Scrap Recovery Areas	N/A							, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Maintenance Shop	Remove/Disp								
Equipment Decontamination	Remove/Disp								
Other (specify)	Remove/Disp								
Other (specify)	Remove/Disp								
TOTALS		1	2	1	2	2	3	1	

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3.8 RESTORATION OF CONTAMINATED AREAS ON FACILITY GROUNDS (Work Days)

Estimate the number of wo	timate the number of work days, by specific labor category, that will be required to restore contaminated areas on the facility grounds.										
Name of room, laboratory, or area:		New Brunswi	New Brunswick Building 107 Synthesis Suite								
Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical				
Restore Floors	. 2	2	0	0	2	3	1				
Restore Walls	1	1	0	o	1	2	1				
Restore Roof	2	2	0	0	2	3	1				
Restore Utilites	2	2	0	0	2	3	1				
TOTALS	7	7	0	0	7	11	4				

Name of room, laboratory, or area:		New Brunswick Building 105							
Activity Restore Floors	Project Mgr 0	Supervisor 0.2	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled) 0.3	Clerical		
			0	0	0.2		0		
Restore Walls	0	0.2	0	0	0.2	0.3	0		
Restore Roof	0	0.2	0	0	0.2	0.3	0		
Restore Utilites	0	0.4	0	0	0.4	0.3	0		
TOTALS	0	1	0	0	1	1.2	0		

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Name of room, laboratory, or area:		New Brunswick Building 81							
Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical		
Restore Floors	0	0	0	0	0	0	0		
Restore Walls	0	0	0	0	0	0	0		
Restore Roof	0	0	0	0	0	o	0		
Restore Utilites	0	0	0	0	0	0	0		
TOTALS	0	0	0	0	0	0	0		

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3.9 FINAL RADIATION SURVEY

(Work Days)

Estimate the number of wo	ork days, by specific la	abor category, that	t will be required	to conduct a final i	adiation survey.					
Name of room, laboratory, or area:		New Brunswi	New Brunswick Building 107 Synthesis Suite							
Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical			
FSS Setup	3	3	3	2	0	0	3			
Survey Packages	3	3	3	2	0	0	3			
Class 1	5	5	3	42	0	о	5			
Class 2	3	3	1	5	0	0	3			
Class 3	1	1	0	0	1					
TOTALS	15	15 15 11 54 0								

Estimate the number of wo	rk days, by specific la	abor category, that	will be required	to conduct a final r	adiation survey.		
Name of room, laboratory, or area:		New Brunswic	k Building 10	5			
Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
FSS Setup	1	2	2	1.5	0	0	0.5
Survey Packages	1	2	1	1.5	0	0	0.5
Class 1	0.2	0.4	0	6	0	· 0	0.5
Class 2	0.2	0.4	0	3	0	0	0
Class 3	0.2	0.4	0	3	0	0	0
TOTALS	2.6	5.2	3	15	0	0	1.5

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Name of room, laboratory,	or area:	New Brunswi	New Brunswick Building 81							
Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical			
FSS Setup	0.5	1	1	0.5	0	0	0.3			
Survey Packages	0.5	1	0	0.5	0	0	0.3			
Class 1	0.1	0.2	0	3	0	0	0.3			
Class 2	0.1	0.2	0 ·	2	0	0	0.1			
Class 3	0.1	0.2	0	2	0	0	0			
TOTALS	1.3	2.6	1	8	0	0	1			

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3.10 SITE STABILIZATION AND LONG-TERM SURVEILLANCE (Work Days)

Estimate the number of work	days, by specific lat	por category, that	will be required Health	to complete site st	abilization and lo 	ng-term surveillar Radiation	nce activities.
Activity	Project Mgr	Supervisor	Physicist/ Shipper	HPT's/Drafting	Workers (Craftsmen)	Workers (Non-skilled)	Clerical
No Site Stabilization or							
Long Term Maintenance							
TOTALS	0	0	0	0	0	0	0

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3.11 TOTAL WORK DAYS BY LABOR CATEGORY

Enter the total work days for each specific labor category from the applicable table above (i.e., from the bottom rows of Tables 3.6 through 3.10).									
Task	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical		
Planning and Preparation (TOTALS from Table 3.6)	23	28	21	24	4	12	28		
Decontamination and/or Dismantling of Radioactive Facility Components (Sum of TOTALS from all copies of Table 3.7)	29	29	16	41	49	79	29		
Restoration of Contaminated Areas on Facility Grounds (TOTALS from Table 3.8)	7	8	0	0	8	12.2	4		
Final Radiation Survey (TOTALS from Table 3.9)	18.9	22.8	15	77	0	0	17.5		
Site Stabilization and Long- Term Surveillance (TOTALS from Table 3.10)	0	0	0	0	0	0	0		

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3.12 WORKER UNIT COST SCHEDULE

Estimate labor costs (including s Foreman, Craftsman, Technicia	salary, fringe benn n, Health Physici:	efits, and corpora st, Laborer, Cleric	te overhead). In al, and others as	clude all appropria	ate labor categori	es, including Sup	ervisor,
Labor Cost Component	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Salary & Fringe (\$/year)	\$96,000	\$67,000	\$67,000	\$45,000	\$50,000	\$34,000	\$25,000
Overhead Rate (%)	100%	100%	100%	100%	100%	100%	100%
Total Cost Per Year	\$192,000	\$134,000	\$134,000	\$90,000	\$100,000	\$68,000	\$50,000
Living Expenses (PD*7/5) ¹	\$224	\$224	\$224	\$224	\$0	0	0
Total Cost Per Work Day ²	\$962	\$739	\$739	\$570	\$385	\$262	\$192

¹ Per Diem Rate: \$160 per day. ² Based on 260 work days per year (e.g., 260).

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Multiply the estimated work days for each specific labor category (from Table 3.11) by the total cost per work day for the corresponding labor category (from Table 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.

Labor Cost Component	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical	Total Labor Cost
Planning and Preparation	\$22,137	\$20,703	\$15,527	\$13,684	\$1,538	\$3,138	\$5,385	\$82,112
Decontamination and/or Dismantling of Radioactive Facility Components	\$27,911	\$21,442	\$11,830	\$23,376	\$18,846	\$20,662	\$5,577	\$129,645
Restoration of Contaminated Areas on Facility Grounds	\$6,737	\$5,915	\$0	\$0	\$3,077	\$3,191	\$769	\$19,689
Final Radiation Survey	\$18,191	\$16,858	\$11,091	\$43,902	\$0	\$0	\$3,365	\$93,406
Site Stabilization and Long- Term Surveillance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

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3.14 PACKAGING, SHIPPING, AND DISPOSAL OF RADIOACTIVE WASTES (Excluding Labor Costs)

(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 (ft3)	Number of Containers	Type of Containers	Unit Cost of Container	Total Packaging Costs					
DAW	800	9	B-25	\$700	\$6,300					
Metal	6,790	3	40' Sea-Land	\$1,000	\$3,000					
Liquids	0	0	55 gal. inner 85 gal.overpack	\$200	\$0					
Biological	0	0	55 gal. inner 85 gal.overpack	\$200	\$0					
TOTAL					\$9,300					

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(b) Shipping Costs						
Estimate the types and volu	nes of waste expect	ted to be generated	d, along with the	number and type	s of containers re	quired for
packaging the waste. Wump	ly the number of co		y the that cost p			,
Waste Type	Number of Truckloads	Unit Cost (\$/mile/truckload)	Surcharges (\$/mile)	Overweight Charges(\$/mile)	Distance Shipped (miles)	Total Shipping Costs
DAW	1	\$0.00	1	1	800	\$0
Metal	5	\$0.00	1	1	800	\$0
Liquids	0	\$0.00	1	1	1	\$0
Biological	0	\$0.00	1	1	1	\$0
TOTAL	6					\$0

(c) Waste Disposal Costs

Estimate the volume of waste to be disposed. Multiply the volume of waste disposed by the unite\disposal cost (including any volume based surcharges). Add any surcharges that are based on the number of containers of waste. 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	Disposal Volume (ft3)	Density (lb/ft3)	Disposal Mass (Ibs)	Unit Cost	Surcharges (\$/ft3 or \$/container)	Total Disposal Costs
DAW	800	15	12000	7.50	1	\$90,000
Metal	6790	20	135809	2.50	1	\$339,523
Liquids	0	60	0	4.00	1	\$0
Biological	0	20	0	25.00	1	\$0
TOTAL	7590					\$429,523

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3.15 EQUIPMENT/SUPPLY COSTS (Excluding Containers)

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Estimate the quantity of equipme	ent and supplies required appropriate u	for decommissioning an nit costs.	nd multiply that quantity by the
Equipment/Supplies	Quantity	Unit Cost	Total Equipment/Supply Cost
Protective Clothing	0	\$15,000	\$0
Respirators	0		\$0
Misc Tools	0	\$5,000	\$0
Consumables	0	\$15,000	\$0
TOTAL			\$0

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3.16 LABORATORY COSTS

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If applicable, estimate the	ecosts for analyses to	o be performed by ar	a independent third party laboratory.
Activity	Quantity	Unit Cost	Total Item Cost
Sampling		\$100	\$3,000
Transport of Samples	3	\$50	\$150
Testing and Analysis	30	\$100	\$3,000
Other (specify)			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
TOTAL			\$6,150

3.17 MISCELLANEOUS COSTS

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Estimate any other applicable costs.	
Activity	Total Cost
License Fees	
Insurance	\$5,389
Taxes	\$76,983
Other (specify):	
TOTAL	\$82,371

3.18 TOTAL DECOMMISSIONING COSTS

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

Task/Component	Cost	Percentage
Planning and Preparation (from Table 3.13)	\$82,112	9.6%
Decontamination and/or Dismantling of Radioactive Facility (From Table 3.13)	\$129,645	15.2%
Restoration of Contaminated Areas on Facility Grounds (From Table 3.13)	\$19,689	2.3%
Final Radiation Survey (From Table 3.13)	\$93,406	11.0%
Packing Material Costs (TOTAL from Table 3.14(a))	\$9,300	1.1%
Shipping Costs (TOTAL from Table 3.14(b))	\$0	0.0%
Waste Disposal Costs (TOTAL from Table 3.14(c))	\$429,523	50.4%
Equipment/Supply Costs (TOTAL from Table 3.15)	\$0	0.0%
Laboratory Costs (TOTAL from Table 3.16)	\$6,150	0.7%
Miscellaneous Costs (TOTAL from Table 3.17)	\$82,371	9.7%
SUBTOTAL	\$852,196	100.0%
25% Contingency	\$213,049	25.0%
TOTAL DECOMMISSIONING COST ESTIMATE	\$1,065,245	125.0%

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Laboratory						Fea	W185							
Ť	Casework Sintes Orains (Unsor ft.) (es.) (ft.)		Hoods (ea.)	Glove Boxes (ea.)	Veratilization Ducting (TL)	Cabinet	VShelves	Equipment (50 ft3 - es.)		Comments	:			
Bidg. 107	······							Factor	(12)	(3.5 x 3.5 x 4)	(#3)	1		
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Swith Ste	2		┟┈──┤	50	+		100	0.0	13	<u> </u>	150	+	• •	
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Synth. Ste.	**************************************		1			I						L		
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Laboratory						Feat	10785					
0mm 107		Casework (linear ft.)	Sinks (ea.)	Orains (ft.)	Hoods (es)	Giove Boxes (ca.)	Ventilation Ducting (fl.)	Cabinet	a/Shelvos	Equi (50 ft	ipment (3 - ea.)	Comments
1155		160		80	4	0	160	9.6	96		200	ł
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1149	1	40	2	60	4	0	160	0.8	32	2	100	1
									1		1	1
		200	5	140	8	0	320		128	6	300	1
Total Facility	54000		1		1			-			1	
Class 1	1760		Class 1 Walls	2040								
Class 2	648	20%	Class 2 Walls	2040							1	
Class 3	2592	80%							1		1	
Non-Impacted	49000			L	1	1			1			1
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				1								
Total Facility	13505			1	1	1				1		
Class 1	1150		Class 1 Walls	2220								L
Class 2	3089	25%	Class 2 Walls	2220		1					1	
Class 3	9266	75%	1	1	1	1			1			
Non-Impacted	0	T		1			1			1		

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		Floors				W	alis		1	Cettings			Waste					
Number	Length (ft.)	Width (ft.)	Area (f12)	Comments	Number	Width (fl.)	Height (ft.)	Area (ft2)	Comments	Number	Longth (TL)	Width (fl.)	Area (ft2)	Comments	Туре	Volume (f13)	Comments	
1	40	32	1280		2	37	15	960		<u> </u>	40	32	1280		DAW	245		
					2	40	15	1200							Biological		1	
1	20	24	480	1	2	24	15	720		1	20	24	480		DAW	85		
				1	4	20	15	1200							Biotogical			
			1760					4080					1760			331	-	
	I	L1	0	1			1	0	1 30	1 282		8- 70 5 68	الانتقادة (III. SAMAN A L MA	ं स ्त्र		8 75 8
1	30	20	600		2	20	20	800		1	30	20	600		DAW			
	1				2		20	1200							Biologica			
1	<u> </u>	50	550	·····	2	50	20	2000			11	50	550		DAW			
	ļ				2		~~~	440	4					·	Rological			
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P.3/7 H0.659 SUSAN ARBUCK 2:31H1 MAR. 23. 2006 PAGES U.S. NUCLEAR REGULATORY COMMISSION PAGE 2 of 6 NRC FORM 374A License Number 29-00139-02 Docket or Reference Number MATERIALS LICENSE 030-05222 SUPPLEMENTARY SHEET Amendment No. 109 8. Maximum amount that licensee may 7. Chemical and/or physical form 6. Byproduct, source, and/or special possess at any one time under this nuclear material license I. 250 curies Hydrogen 3 Any I. REGULAN J. 25 curies J. Carbon 14 Anv K. 1 curie K. Phosphorus 33 L. 10 curies L. Sulfur 35 M. 500 millicuries Anv M. Iodine 125 М. 200 millicuries per radionuclide N. Any byproduct material while N. Any and 6 curies total atomic numbers 1 through 83, except, Strontium 90 Ξð -1 0, Durie O, Hydrogen 3 فعدة P. Fourie P. Carbon 14 61°) 300 millicuries Q. Sulfur 35 REBOO millicuries R. Calcium 45 (b)(7)(F) 9. Authorized use: Research and development as defined in 10 CFR 30.4; animal studies; A, through F. and H. through R. and calibration and checking of the licensee's instruments. Preparation and distribution of radioactive drugs to authorized recipients in accordance with B. and C. 10 CFR 32.72. G. To be used for sample analysis in compatible gas chromatography devices that have been registered either with the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or with an Agreement State and have been distributed in accordance with a Commission or Agreement State specific license authorizing distribution to persons specifically authorized by a Commission or Agreement State license to receive, possess, and use the devices.

3.4 FACILITY DECOMMISSIONING SUMMARY

Radioactive Material license numbers and types (I.e., Byproduct, Source):

The Bristol-Myers Squibb located at Route 206 and Provinceline Rd, Lawrenceville, NJ is licensed under USNRC Byproduct Materials license number 29-00139-02.

Types and quantities of materials authorized under the licenses listed above:

Byproduct Material atomic number 1 through 83, except Sr-90 200 mCi per radionuclide, 6 Ci total; H-3 250 Ci; C-14 25 Ci; P-33 1 Ci; S-35 20 Ci; I-125 500 mCi; Ni-63 sources per registration IAW 10 CFR 32.210; (b)(7)(F) (b)(7)(F)

Description of how licensed materials are used:

Low energy beta emitting radonuclides and radioiodine are used in pharmaceutical research and development. This work involves both labeling compounds and use of labeled compounds. Research includes new discovery, applications testing, metabolic studies, and biological testing involving animal studies. The radioactive materials are used in laboratory facilities on a research and development scale.

Description of facility, including buildings, rooms, grounds, and description of where particular types of materials are used:

The Lawrenceville facility consists of several multi-story laboratory buildings connected by a series of corridors

Quantities of materials or waste accumulated before shipping or disposal

The basement of Building F contains two waste storage areas. Space is limited. For purposes of this cost estimate, 800 ft³ of DAW and 200 ft³ of biological waste is assumed to be present.

3.5 Number and Dimensions of Facilities Components

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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 into one table.

Name of room, laboratory, or area:	Pennington Building	13			
Level of Contamination:	≈1,000 -10,000 dpm	1/100 cm ²		·····	
Component	Quantity of Component	Unit	Dimensions of Component (specify units)	Total Dimensio (specify units	ons s)
					T
Glove Boxes	1	Each	AWX 30 X 31	36	ft ³
Fume Hoods	6	Each	5W×4c×81	960	ft3
Lab Benches (Casework)	97	Linear Feet	4'C x 37	1.164	ft3
Sinks	5	Each	AX 243.20	240	ft3
Drains	220	Linear Feet	3ª diameter	11	ft ³
Floors	See Listing	Class 1 Sq. Feet		1,790	ft²
Walls (Class1)	See Listing	Class 1 Sq. Feet		3,794	ft²
Walls (Class 2)	See Listing	Class 2 Sq. Feet		3,794	ft2
Ceilings	See Listing	Class 2 Sq. Feet		1,790	ft2
Ventilation/Ductwork	240	Linear Feet	18" diameter	211	ft ³
Cabinets	71	Linear Feet	3% x 3¥	639	ft ³
Hot Cells	0	Each		0	ea
Equipment/Materials	11	50 Ft ³ Units		550	ft ³
Soil Plots	0	Sq. Feet		0	ea
Storage Tanks	0	Each		0	ea
Storage Areas	0	Each		0	ft2
Radwaste Areas	1	Each		1	ea
Scrap Recovery Areas		Each		0	ft²
Maintenance Shop		Each		0	ft ²
Equipment Decontamination		Each		0	ft ²
Other Class 2 Areas	See Listing	Class 2 Sq. Feet		24,853	ft²
Other Class 3 Areas	See Listing	Class 3 Sq. Feet	Includes 33,000 ft" for roof	107,558	ft ²
Other (Specify)		Each		0	ea.
Other (Specify)		Each		D	ea
	·····		Features/Equipment Volume	3,811	ft ³
		,		(+

		00
Features/Equipment Volume	3,811	ft ³
Waste Fraction	0.10	
Waste Volume	381	ft ³
Waste Density (lb/ft3)	20	
Waste Mass	7.622	lb

Name of room, laboratory, or area:	Pennington Building	17			
Level of Contamination:	≈1,000 -10,000 dpm	/100 cm ²			
Component	Quantity of Component	Unit	Dimensions of Component (specify units)	Total Dimensio (specify unit:	ons s)
Glove Boxes	0	Each	4W x 30 x 31	0	ft3
Fume Hoods	11	Each	51W x 410 x 61	1,760	ft ³
Lab Benches (Casework)	851	Linear Feet	477×37	10,212	ft ³
Sinks	7	Each	4 W 3 40 x 31	336	ft3
Drains	420	Linear Feet	3" diameter	21	ft3
Floors	See Listing	Class 1 Sq. Feet		6,830	ft ²
Walls (Class1)	See Listing	Class 1 Sq. Feet		6.780	ft²
Walls (Class 2)	See Listing	Class 2 Sq. Feet		6,780	ft ²
Ceilings	See Listing	Class 2 Sq. Feet		6,830	ft ²
Ventilation/Ductwork	540	Linear Feet	1¢" diameter	475	ft ³
Cabinets	340	Linear Feet	3'd x 5'	3,060	ft ³
Hot Cells	0	Each			ea
Equipment/Materials	30	50 Ft ³ Units		1,500	ft ³
Soil Plots	0	Sq. Feet		0	ea
Storage Tanks	0	Each		0	ea
Storage Areas	0	Each		0	ft ²
Radwaste Areas	1	Each		1	ea
Scrap Recovery Areas	0	Each		0	ft ²
Maintenance Shop	0	Each		0	ft ²
Equipment Decontamination	0	Each		0	ft ²
Other Class 2 Areas	See Listing	Class 2 Sq. Feel		20,118	ft ²
Other Class 3 Areas	See Listing	Class 3 Sq. Feet	Includes 87.300 ft ² for roof	147,553	ft ²
Other (Specify)		Each		0	ea
Other (Specify)	T	Each		0	ea
<u></u>			Features/Equipment Volume	17,364	ft ³
			Waste Fraction	0.10	T
		:	Waste Volume	1,736	ft ³
		I	Waste Density (lb/ft3)	20	

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Name of room, laboratory, or area:	Pennington Building	21			
Level of Contamination:	≈1,000 -10,000 dpm/	100 cm ²			
Component	Quantity of Component	Unit	Dimensions of Component (specify units)	Total Dimensio (specify units	ns)
Glove Boxes	5	Each	exx36x31	180	ft ³
Fume Hoods	70	Each	5wx4dx81	11.200	ft ³
Lab Benches (Casework)	3206	Linear Feet	410 x 31	38,472	ft ³
Sinks	68	Each	avx 46 s or	3,264	ft ³
Drains	2320	Linear Feet	3" diameter	116	ft ³
Floors	See Listing	Class 1 Sq. Feet		63,548	ft ²
Walls (Class1)	See Listing	Class 1 Sq. Feet		40,230	ft²
Walls (Class 2)	See Listing	Class 2 Sq. Feet		40,230	ft ²
Ceilings	See Listing	Class 2 Sq. Feet		63,548	ft ²
Ventilation/Ductwork	2460	Linear Feet	18° diameter	2,165	ft ³
Cabinets	1943	Linear Feet	SA X31	17,487	ft ³
Hot Cells	0	Each			ea
Equipment/Materials	212	50 Ft ³ Units		10,600	ft ³
Soil Plots	0	Sq. Feet		0	ea
Storage Tanks	0	Each		0	ea
Storage Areas	0	Each		0	ft²
Radwaste Areas	0	Each		0	ea
Scrap Recovery Areas	0	Each		0	ft²
Maintenance Shop	0	Each		0	ft ²
Equipment Decontamination		Each		0	ft ²
Other Class 2 Areas	See Listing	Class 2 Sq. Feet		13,713	ft²
Other Class 3 Areas	See Listing	Class 3 Sq. Feet	Includes 59,200 ft ² for roof	100,339	ft²
Other (Specify)		Each		0	ea
Other (Specify)		Each		0	ea
			Features/Equipment Volume	83,484	ft ³
			Waste Fraction	0.10	_
			Waste Volume	8,348	ft3
			Waste Density (lb/ft3)	20	
			Waste Mass	166,968	lb

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3.6 PLANNING AND PREPARATION

(Work Days)

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

Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Preparation of Documentation for Regulatory Agencies	14	9	9	4.5	0	0	18
Submittal of Decommissioning Plan to NRC when required by 10 CFR 30.36(g)(1), 40.42(g)(1), or 70.38(g)(1)	2	2	2	0	0	0	2
Development of Work Plans	9	14	9	0	0	0	18
Procurement of Special Equipment	3	9	0	0	0	0	4
Staff Training	1	3	2	5	4	11	2
Characterization of Radiological Condition (including sampling, soil and tailings analysis, or groundwater analysis, if applicable)	. 14	14	14	54	0	0	2
Other (specify) Mobilization	1	3	2	5.5	4	11	2
TOTALS	44	54	38	69	8	22	48

Pennington Site

3.7 DECONTAMINATION OR DISMANTLING OF RADIOACTIVE FACILITY COMPONENTS (Work Days)

Estimate the number of workdays, by specific labor category, that 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 a	irea:	Pennington B	uilding 3					
Level of Contamination:		≈1,000 -10,00	0 dpm/100 cm	2				
Component	Action	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Glove Boxes	Remove/Disp		0.5		0.2		1	
Furne Hoods	Remove/Disp	0.5	0.5		0.5	0.5	1.5	0.5
Lab Benches	Decon/Remove	0.5	0.5		0.5	0.5	1	0.5
Sinks	Decon/Remove	0.5	0.5		0.5	0.5	0.5	0.5
Drains	Remove/Disp	0.5	0.5		0.5	0.5	0.5	
Floors	Decon/Wipe	0.5	0.5		0.5	0.5	1	0.5
Walls	Decon/Wipe	0.5	0.5		0.5	0.5	1	0.5
Ceilings	Decon/Wipe	0.5	0.5		0.5	0.5	1	0.5
Ventilation/Ductwork	Remove/Disp	0.5	0.5		0.5	0.5	1	0.5
Cabinets	Decon/Remove	0.5	0.5	<u> </u>	0.5	0.5	11	0.5
Hot Cells	Remove/Disp				·			
Equipment/Materials	Sur/Rem/Disp		1	2	1	0.5	1.5	0.5
Soil Plots	Sample							
Storage Tanks	N/A							
Storage Areas	Remove/Disp							
Radwaste Areas	Remove/Disp	0.5	1		1	1	1	0.5
Scrap Recovery Areas	N/A							
Maintenance Shop	Remove/Disp							
Equipment Decontamination	Remove/Disp							
Other (specify)	Remove/Disp							
Other (specify)	Remove/Disp							
TOTALS		5	7	2	6.7	6	12	5

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Name of room, laboratory, or a	irea:	Pennington B	uilding 17			<u></u>		
Level of Contamination:		≈1,000 -10,00	0 dpm/100 cm	2				
Component	Action	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Glove Boxes	Remove/Disp	1	1	1	1	1	3	1
Fume Hoods	Remove/Disp	3	4		4	4	12	3
Lab Benches	Decon/Remove	3	3		2	2	6	3
Sinks	Decon/Remove	2	1		2	2	6	2
Drains	Remove/Disp	2	1	1	2	2	6	2
Floors	Decon/Wipe	1	1		1	1	3	1
Walls	Decon/Wipe	1	1		1	1	3	1
Ceilings	Decon/Wipe	1	1		1	11	3	1
Ventilation/Ductwork	Remove/Disp	2	2		2	2	6	2
Cabinets	Decon/Remove	1	1		2	2	6	1
Hot Cells	Remove/Disp							
Equipment/Materials	Sur/Rem/Disp	3	4	1	2	2	6	3
Soil Plots	Sample							
Storage Tanks	N/A							
Storage Areas	Remove/Disp					<u> </u>		
Radwaste Areas	Remove/Disp							
Scrap Recovery Areas	N/A							
Maintenance Shop	Remove/Disp		· · · · · · · · · · · · · · · · · · ·					
Equipment Decontamination	Remove/Disp					•		· · · · · · · · · · · · · · · · · · ·
Other (specify)	Remove/Disp							
Other (specify)	Remove/Disp							
TOTALS		20	20	3	20	20	60	20

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Name of room, laboratory, or a	irea:	Pennington B	uilding 21					
Level of Contamination:		≈1,000 -10,00	0 dpm/100 cm	2		•		
Component	Action	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Glove Boxes	Remove/Disp	2	6	4	12	8	24	4
Fume Hoods	Remove/Disp	12	36	10	72	48	144	24
Lab Benches	Decon/Remove	10	30	5	60	40	120	20
Sinks	Decon/Remove	5	15	5	30	20	60	10
Drains	Remove/Disp	5	15	5	30	20	60	10
Floors	Decon/Wipe	10	30	10	60	40	120	20
Walls	Decon/Wipe	5	15	5	30	20	60	10
Ceilings	Decon/Wipe	3	9	4	18	12	36	6
Ventilation/Ductwork	Remove/Disp	10	30	10	60	40	120	20
Cabinets	Decon/Remove	5	15	4	30	20	60	10
Hot Cells	Remove/Disp							
Equipment/Materials	Sur/Rem/Disp	10	30	15	60	40	120	20
Soil Plots	Sample	L.,,						
Storage Tanks	N/A							
Storage Areas	Remove/Disp	[·
Radwaste Areas	Remove/Disp	3	9	3	18	12	36	6
Scrap Recovery Areas	N/A							
Maintenance Shop	Remove/Disp							
Equipment Decontamination	Remove/Disp							
Other (specify)	Remove/Disp							
Other (specify)	Remove/Disp							
TOTALS .		80	240	80	480	320	960	160

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Name of room, laboratory,	or area:	Pennington B	uilding 3				
Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Restore Floors	0	0.2	0	0	0.2	0.3	0
Restore Walls	0	0.2	0	0	0.2	0.3	0
Restore Roof	0	0.2	0	0	0.2	0.3	0
Restore Utilites	0	0.4	0	0	0.4	0.1	0
TOTALS	0	1	0	0	1	1	0

3.8 RESTORATION OF CONTAMINATED AREAS ON FACILITY GROUNDS

(Work Days)

Name of room, laboratory, or	area:	Pennington B	uilding 17				
Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Restore Floors	0.5	0.5	0	0	1	1	
Restore Walls	0.5	0.5	0	0	1	1	
Restore Roof	0.5	0.5	0	0	1	1	
Restore Utilites	0.5	0.5	0	0	1	1	
TOTALS	2	2	0	0	4	4	0

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Name of room, laboratory, or area:		Pennington Building 21							
Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical		
Restore Floors	2	2	0	0	4	6	2		
Restore Walls	11	11	0	0	2	3	1		
Restore Roof	2	2	0	0	4	6	2		
Restore Utilites	3	3	0	0	6	9	3		
TOTALS	8	8	0	0	16	24	8		

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3.9 FINAL RADIATION SURVEY

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(Work Days)

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Estimate the number of wo	stimate the number of work days, by specific labor category, that will be required to conduct a final radiation survey.									
Name of room, laboratory, or area:		Pennington B	Pennington Building 3							
Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical			
FSS Setup	1	1	1	1	0	0	0.5			
Survey Packages	1	1	0	1	0	0	0.5			
Class 1	0.2	0.2	0	3	0	0	0.1			
Class 2	0.2	0.2	<u> </u>	3	0	0	0.1			
Class 3	0.2	0.2	0	3	0	0	0.1			
TOTALS	2.6	2.6	1	11	0	0	1.3			

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Name of room, laboratory, or area:		Pennington Building 17							
Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical		
FSS Setup	2	2	2	2	0	0	2		
Survey Packages	2	2	2	2	0	0	2		
Class 1	3	3	2	18	0	0	3		
Class 2	2	2	2	5	0	0	2		
Class 3	1	1	2	3	0	0	1		
TOTALS	10	10	10	30	0	0	10		

Name of room, laboratory, or area:		Pennington Building 21							
Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical		
FSS Setup	5	5	5	5	0	0	5		
Survey Packages	5	5	5	5	0	0	5		
Class 1	12	12	12	113	0	0	12		
Class 2	2	2	2	15	0	0	2		
Class 3	2	2	2	5	0	0	2		
TOTALS	26	26	26	143	0	0	26		

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3.10 SITE STABILIZATION AND LONG-TERM SURVEILLANCE (Work Days)

Estimate the number of work	days, by specific lat	bor category, that	will be required Health	to complete site st	abilization and lo Radiation	ng-term surveillan Radiation	ce activities.
Activity	Project Mgr	Supervisor	Physicist/ Shipper	HP1's/Dratting	Workers (Craftsmen)	Workers (Non-skilled)	Clerical
No Site Stabilization or							
Long Term Maintenance							
TOTALS	0	0	0	0	0	0	0

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3.11 TOTAL WORK DAYS BY LABOR CATEGORY

Enter the total work days for each specific labor category from the applicable table above (i.e., from the bottom rows of Tables 3.6 through 3.10).									
Task	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical		
Planning and Preparation (TOTALS from Table 3.6)	44	54	38	69	8	22	48		
Decontamination and/or Dismantling of Radioactive Facility Components (Sum of TOTALS from all copies of Table 3.7)	105	267	85	506.7	346	1032	185		
Restoration of Contaminated Areas on Facility Grounds (TOTALS from Table 3.8)	10	11	0	0	21	29	8		
Final Radiation Survey (TOTALS from Table 3.9)	38.6	38.6	37	184	0	0	37.3		
Site Stabilization and Long- Term Surveillance (TOTALS from Table 3.10)	0	0	0	0	0	0	0		

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3.12 WORKER UNIT COST SCHEDULE

Estimate labor costs (including Foreman, Craftsman, Technicia	stimate labor costs (including salary, fringe benefits, and corporate overhead). Include all appropriate labor categories, including Supervisor, oreman, Craftsman, Technician, Health Physicist, Laborer, Clerical, and others as needed.									
Labor Cost Component	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical			
Salary & Fringe (\$/year)	\$96,000	\$67,000	\$67,000	\$45,000	\$50,000	\$34,000	\$25,000			
Overhead Rate (%)	100%	100%	100%	100%	100%	100%	100%			
Total Cost Per Year	\$192,000	\$134,000	\$134,000	\$90,000	\$100,000	\$68,000	\$50,000			
Living Expenses (PD*7/5) ¹	\$224	\$224	\$224	\$224	\$0	0	0			
Total Cost Per Work Day ²	\$962	\$739	\$739	\$570	\$385	\$262	\$192			

¹Per Diem Rate: \$160 per day.

² Based on 260 work days per year (e.g., 260).

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3.13 TOTAL LABOR COSTS BY MAJOR DECOMMISSIONING TASK

Multiply the estimated work days for each specific labor category (from Table 3.11) by the total cost per work day for the corresponding labor category (from Table 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.

Labor Cost Component	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical	Total Labor Cost
Planning and Preparation	\$42,348	\$39,927	\$28,097	\$39,341	\$3,077	\$5,754	\$9,231	\$167,774
Decontamination and/or Dismantling of Radioactive Facility Components	\$101,058	\$197,416	\$62,848	\$288,897	\$133 <u>,</u> 077	\$269,908	\$35,577	\$1,088,780
Restoration of Contaminated Areas on Facility Grounds	\$9,625	\$8,133	\$0	\$0	\$8,077	\$7,585	\$1,538	\$34,958
Final Radiation Survey	\$37,151	\$28,540	\$27,357	\$104,908	\$0	\$0	\$7,173	\$205,130
Site Stabilization and Long- Term Surveillance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

3.14 PACKAGING, SHIPPING, AND DISPOSAL OF RADIOACTIVE WASTES (Excluding Labor Costs)

(a) Packing Material Costs

Estimate the types and ve packagin	olumes of waste exp ig the waste. Multiply	ected to be gene y the number of c	rated, along with t containers required	the number and ty d by the unit cost	rpes of containers required for per container.
Waste Type	Volume (ft3)	Number of Containers	Type of Containers	Unit Cost of Container	Total Packaging Costs
DAW	1000	11	B-25	\$700	\$7,700
Metal	10,466	5	40' Sea-Land	\$1,000	\$5,000
Liquids	5	1	55 gal. inner 85 gal.overpack	\$200	\$200
Biological	65	9	55 gal. inner 85 gal.overpack	\$200	\$1,800
TOTAL					\$14,700

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Waste Type	Number of Truckloads	Unit Cost (\$/mile/truckload)	Surcharges (\$/mile)	Overweight Charges(\$/mile)	Distance Shipped (mites)	Total Shipping Costs
DAW	2	\$0.00	1	1	800	\$0
Metal	14	\$0.00	1	1	800	\$0
Liquids	0	\$0.00	1	1	1	\$0
Biological	0	\$0.00	1	1	1	\$0
TOTAL	16					\$0

(c) Waste Disposal Costs

Estimate the volume of waste to be disposed. Multiply the volume of waste disposed by the unite\disposal cost (including any volume based surcharges). Add any surcharges that are based on the number of containers of waste. 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	Disposal Volume (ft3)	Density (lb/ft3)	Disposal Mass (lbs)	Unit Cost	Surcharges (\$/ft3 or \$/container)	Total Disposal Costs
DAW	1000	15	15000	7.25	1	\$108,750
Metal	10466	20	209318	2.50	1	\$523,296
Liquids	5	60	300	4.00	1	\$1,200
Biological	65	20	1300	25.00	1	\$32,500
TOTAL	11536					\$665,746

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3.15 EQUIPMENT/SUPPLY COSTS (Excluding Containers)

Comment mente

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					
Protective Clothing	1	\$20,000	\$20,000					
Respirators	0		\$0					
Misc Tools	1	\$10,000	\$10,000					
Consumables	1	\$20,000	\$20,000					
TOTAL			\$50,000					

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3.16 LABORATORY COSTS

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If applicable, estimate the costs for analyses to be performed by an independent third party laboratory.									
Activity	Quantity	Unit Cost	Total Item Cost						
Sampling	100	\$100	\$10,000						
Transport of Samples	10	\$50	\$500						
Testing and Analysis	100	\$100	\$10,000						
Other (specify)			маницийн 1970-1994 нийр айман ай Рансандун - сооронуун - ний - болбор - нь ум бийл анж арсын - гал Т						
TOTAL			\$20,500						

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3.17 MISCELLANEOUS COSTS

CLEAR AND COMPLEX STREET, 2000 CLEAR AND COMPLEX STREET, 2000 CLEAR AND COMPLEX STREET, 2000 CLEAR AND CLE

Estimate any other applicable costs.		
Activity	Total Cost	
License Fees	\$20,000	
Insurance	\$15,733	
Taxes	\$224,759	<u></u>
Other (specify): Disposal Access Fee	\$1,500	
TOTAL	\$261,992	

3.18 TOTAL DECOMMISSIONING COSTS

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

(iii) Very set of neurophysics is represented by a first of the set of the

Task/Component	Cost	Percentage
Planning and Preparation (from Table 3.13)	\$167,774	6.7%
Decontamination and/or Dismantling of Radioactive Facility (From Table 3.13)	\$1,088,780	43.4%
Restoration of Contaminated Areas on Facility Grounds (From Table 3.13)	\$34,958	1.4%
Final Radiation Survey (From Table 3.13)	\$205,130	8.2%
Packing Material Costs (TOTAL from Table 3.14(a))	\$14,700	0.6%
Shipping Costs (TOTAL from Table 3.14(b))	\$0	0.0%
Waste Disposal Costs (TOTAL from Table 3.14(c))	\$665,746	26.5%
Equipment/Supply Costs (TOTAL from Table 3.15)	\$50,000	2.0%
Laboratory Costs (TOTAL from Table 3.16)	\$20,500	0.8%
Miscellaneous Costs (TOTAL from Table 3.17)	\$261,992	10.4%
SUBTOTAL	\$2,509,580	100.0%
25% Contingency	\$627,395	25.0%
TOTAL DECOMMISSIONING COST ESTIMATE	\$3,136,975	125.0%

1	Laboratory												
1)			Casework (Inser fL)	Sinta (as.)	Oraina (fL)	Hoode (es.)	Glove Boxes (es.)	Ventitation Ducing (fL)	Cebinet	l/Shalves	6quit (50 11	menti i - ea)	Commente
	Eikig 3	Floor	1						Factor	(ñ)	(35x 35x4)	(ft3)	1
	34-009	1	6	1	40	1	1	60	0	0	3	150	1
	Waste Stg.												I
1	3A-125	2	20	1	40	1	0	40	0.4	8	2	100	1
													1
	JA-106	2	8		40	<u> </u>	• <u>•</u>	80		17		50	
	55.120		<u> </u>		A 10								<u> </u>
		<u> </u>			<u>~</u>	'							
	38-125	2	30	1	40		0	0		30	4	200	<u>+</u>
													<u> </u>
			97	5	220	6	1	240		71		550	<u> </u>
	Total Facility	101200	L										
	Class 1	1/80		Class 1 Walts	3794								
	Class 21	24853	23%	Class 2 Walls	3794					·			·
	Non-Japonter												
1			1	L I			1		L	L			L
i	Laboratory 1			· · · · · · · · · · · · · · · · · · ·			For	LCOS		****			
			Casework (anser 0,)	Sinks (es.)	Dratne (11.)	Hoods (ce.)	Glove Boxes (ml.)	Ventilation Ducting	Cabinet	/Shelves	Equit	iment + cm.)	Comments
	Bidg 17	Ficer						1992	Factor	((1))	(3.5 x 3.5 x 4)	(13)	i'
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			1							1			
	244	1	26	1	40		0	60	04	10	Z	100	
	I					L	<u> </u>			l			
		1	40	· · · · · · · · · · · · · · · · · · ·	<0	·	0	60	0.4	16	2	100	<u> </u>
	021	1	40	<u> </u>	40	<u> </u>							<u> </u>
	- PAG3	· · · · ·	· · · · · ·	· · · ·		·····				•••	· · ·		t
	925	1	0	0	0	0	0	0		0	1	50	<u> </u>
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	408	1	9	0	0	Ú.	0	0	Ő	0	2	100	Î
	Dio Waste Freezer		<u> </u>										
	301	1	<u> </u>	0	0	2	•	60	• <u> </u>	0	• <u>•</u>	200	l
			40		40			100	- **				
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	Ches 3	60353	75%		<u> </u>		I				t		
	Non-Impacted	0	1	1		t					t		†
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3.4 FACILITY DECOMMISSIONING SUMMARY

Radioactive Material license numbers and types (i.e., Byproduct, Source):

The Bristol-Myers Squibb located at Route 206 and Provinceline Rd, Lawrenceville, NJ is licensed under USNRC Byproduct Materials license number 29-00139-02.

Types and quantities of materials authorized under the licenses listed above:

Byproduct Material atomic number 1 through 83, except Sr-90 200 mCi per radionuclide, 6 Ci total; H-3 250 Ci; C 14 25 Ci; P-33 1 Ci; S-35 20 Ci; I-125 500 mCi; Ni-63 sources per registration IAW 10 CFR 32.210; (b)(7)(F) (b)(7)(F)

Description of how licensed materials are used:

Low energy beta emitting radonuclides and radioiodine are used in pharmaceutical research and development. This work involves both labeling compounds and use of labeled compounds. Research includes new discovery, applications testing, metabolic studies, and biological testing involving animal studies. The radioactive materials are used in laboratory facilities on a research and development scale.

Description of facility, including buildings, rooms, grounds, and description of where particular types of materials are used:

The Lawrenceville facility consists of several multi-story laboratory buildings connected by a series of corridors

Quantities of materials or waste accumulated before shipping or disposal

The basement of Building F contains two waste storage areas. Space is limited. For purposes of this cost estimate, 800 ft³ of DAW and 200 ft³ of biological waste is assumed to be present.

3.5 Number and Dimensions of Facilities Components

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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 into one table.

and an anti-sector construction designed in the transmission of the sector of the sect

Name of room, laboratory, or area:	Lawrenceville Building	ng F1			
Level of Contamination:	≈1,000 -10,000 dpm	/100 cm ²			
Component	Quantity of Component	Unit	Dimensions of Component (specify units)	Total Dimensi (specify unit	ons (s)
Glove Boxes	2	Each	AMX330X31	72	ft ³
Fume Hoods	35	Each	5wx4'dx81	5,600	ft ³
Lab Benches (Casework)	1502	Linear Feet	48 x 31	18,024	ft ³
Sinks	43	Each	AwxA'dx31	2,064	ft ³
Drains	2580	Linear Feet	3" diameter	129	ft ³
Floors	See Listing	Class 1 Sq. Feet		16,293	ft²
Walls (Class1)	See Listing	Class 1 Sq. Feet		24,349	ft ²
Walls (Class 2)	See Listing	Class 2 Sq. Feet		21,305	ft ²
Ceilings	See Listing	Class 2 Sq. Feet		16,239	ft²
Ventilation/Ductwork	1600	Linear Feet	19' diameter	1,408	ft ³
Cabinets	601	Linear Feet	336 × 31	5,409	ft ³
Hot Cells	0	Each		0	ea
Equipment/Materials	53	50 Ft ³ Units		2,650	ft3
Soil Plots	0	Sq. Feet		0	ea
Storage Tanks	0	Each		0	ea
Storage Areas	0	Each		0	ft²
Radwaste Areas	2	Each		2	ea
Scrap Recovery Areas	0	Each		0	ft ²
Maintenance Shop	0	Each		0	ft²
Equipment Decontamination	0	Each		0	ft²
Other Class 2 Areas	See Listing	Class 2 Sq. Feet		17,427	ft ²
Other Class 3 Areas	See Listing	Class 3 Sq. Feet	includes 21,400 ff for root	73,680	ft ²
Other (Specify)		Each		0	ea
Other (Specify)		Each		0	ea
			Features/Equipment Volume	35,356	ft ³

	V	lea
Features/Equipment Volume	35,356	ft ¹
Waste Fraction	0.10	
Waste Volume	3,536	ft
Waste Density (lb/ft3)	20	
Waste Mass	70 712	łb

Name of room, laboratory, or area:	Lawrenceville Build	ng H			
Level of Contamination:	=1,000 -10,000 dpm	1/100 cm ²			
Component	Quantity of Component	Unit	Dimensions of Component (specify units)	Total Dimensions (specify units)	
Glove Boxes	0	Each	# ₩x3dx31	0	ft ³
Fume Hoods	15	Each	5W x 4'd x 81	2,400	ft ³
Lab Benches (Casework)	473	Linear Feet	410 x 31	5,676	ft3
Sinks	21	Each	174×40×31	1,008	ft3
Drains	880	Linear Feet	3" diameter	44	ft ³
Floors	See Listing	Class 1 Sq. Feet		6,380	fl ²
Walls (Class1)	See Listing	Class 1 Sq. Feet		10,107	ft ²
Walls (Class 2)	See Listing	Class 2 Sq. Feet		8,843	ft ²
Ceilings	See Listing	Class 2 Sq. Feet		6,380	
Ventilation/Ductwork	400	Linear Feet	18° diamatar	352	ft ³
Cabinets	173	Linear Feet	317×31	1,557	ft3
Hot Cells	0	Each		0	ea
Equipment/Materials	46	50 Ft ³ Units		2,300	ft ³
Soil Plots	. 0	Sq. Feet		0	ea
Storage Tanks	0	Each		0	ea
Storage Areas	0	Each		0	ft ²
Radwaste Areas	0	Each		0	ea
Scrap Recovery Areas	0	Each		0	ft ²
Maintenance Shop	0	Each		0	ft2
Equipment Decontamination	D	Each		0	ft ²
Other Class 2 Areas	See Listing	Class 2 Sq. Feet		20,180	ft ²
Other Class 3 Areas	See Listing	Class 3 Sq. Feet	Includes 30,009 ft ² for roof	90,540	ft ²
Other (Specify)		Each		0	ea
Other (Specify)		Each		0	ea
			Features/Equipment Volume	13,337	ft ³
			Waste Fraction	0.20	T
			Waste Volume	2,667	ft ³

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53,348

lb

Waste Density (lb/ft3)

Waste Mass

Name of room, laboratory, or area:	Lawrenceville Buildi	ing K		· · · · · · · · · · · · · · · · · · ·	
Level of Contamination:	≈1,000 -10,000 dpm	1/100 cm ²			
Component	Quantity of Component	Unit	Dimensions of Component (specify units)	Total Dimensi (specify unit	ons s)
Glove Boxes	3	Each	4Wx3dx31	108	ft ³
Fume Hoods	56	Each	5Wx4dx81	8,960	ft ³
Lab Benches (Casework)	1936	Linear Feet	4'd x 31	23,232	ft ³
Sinks	49	Each	4W×40×31	2,352	ft ³
Drains	2800	Linear Feet	3" diameter	140	ft ³
Floors	See Listing	Class 1 Sq. Feet		22,788	ft ²
Walls (Class1)	See Listing	Class 1 Sq. Feet		25,504	ft²
Walls (Class 2)	See Listing	Class 2 Sq. Feet		31,066	ft²
Ceilings	See Listing	Class 2 Sq. Feet		22,788	ft²
Ventilation/Ductwork	2100	Linear Feet	18" diameter	1,848	ft ³
Cabinets	948	Linear Feet	3'd x 31	8,532	ft ³
Hot Cells	0	Each			ea
Equipment/Materials	85.5	50 Ft ³ Units		4,275	ft ³
Soil Plots	0	Sq. Feet		0	ea
Storage Tanks	. 0	Each		0	ea
Storage Areas	0	Each		0	ft ²
Radwaste Areas	0	Each		0	ea
Scrap Recovery Areas	0	Each		0	ft ²
Maintenance Shop	0	Each		0	ft ²
Equipment Decontamination	0	Each		0	ft²
Other Class 2 Areas	See Listing	Class 2 Sq. Feet		23,853	ft ²
Other Class 3 Areas	See Listing	Class 3 Sq. Feet	Includes 33,000 ft ² for roof	104,559	ft ²
Other (Specify)	1	Each	Self Shielded Inadiator	1	ea
Other (Specify)		Each		0	ea
ber af de la mental de la presenta de la mental de			Features/Equipment Volume	49,447	ft ³
			Waste Fraction	0.10	
			Waste Volume	4,945	ft ³

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Waste Volume

Waste Density (lb/ft3)

Waste Mass

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Name of room, laboratory, or area:	Lawrenceville Buildi	ng G1			
Level of Contamination:	≈1,000 - 10,000 dpm	/100 cm ²			
Component	Quantity of Component	Unit	Dimensions of Component (specify units)	Total Dimensions (specify units)	
Glove Boxes	1	Each	41#x3dx31	36	ft ³
Fume Hoods	0	Each	5'w x 40 x 81	0	ft ³
Lab Benches (Casework)	38	Linear Feet	40 x 31	456	ft3
Sinks	1	Each	41wx4dx31	48	ft ³
Drains	100	Linear Feet	3" diameter	5	ft3
Floors	See Listing	Class 1 Sq. Feet		927	ft ²
Walls (Class1)	See Listing	Class 1 Sq. Feet		2,016	ft ²
Walls (Class 2)	See Listing	Class 2 Sq. Feet		1,764	ft ²
Ceilings	See Listing	Class 2 Sq. Feet		927	ft ²
Ventilation/Ductwork	40	Linear Feet	18° diameter	35	ft ³
Cabinets	6	Linear Feet	3'd x 3'1	54	ft3
Hot Cells	0	Each		0	ea
Equipment/Materials	5	50 Ft ³ Units		250	ft ³
Soil Plots	0	Sq. Feet		0	ea
Storage Tanks	0	Each		0	ea
Storage Areas	0	Each		0	ft²
Radwaste Areas	Ö	Each		0	ea
Scrap Recovery Areas	0	Each		0	ft ²
Maintenance Shop	0	Each		0	ft²
Equipment Decontamination	0	Each		0	ft ²
Other Class 2 Areas	See Listing	Class 2 Sq. Feet		12,068	ft ²
Other Class 3 Areas	See Listing	Class 3 Sq. Feet		36,205	ft²
Other (Specify)	1	Each	Self Shielded Irradiator	1	ea
Other (Specify)		Each		0	ea
			Features/Equipment Volume	884	ft ³
			Waste Fraction	0.10	
			Waste Volume	88	ft ³

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Waste Density (lb/ft3)

Waste Mass

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1,768

lb

3.6 PLANNING AND PREPARATION

(Work Days)

Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting.	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Preparation of Documentation for Regulatory Agencies	15	10	10	5	o	D	20
Submittal of Decommissioning Plan to NRC when required by 10 CFR 30.38(g)(1), 40.42(g)(1), or 70.38(g)(1)	Z	2	2	0	o	o	2
Development of Work Plana	10	15	10	0	D	0	20
Procurement of Special Equipment	3	10	o	o	0	0	4
Staff Training	1	3	2	6	4	12	2
Characterization of Radiological Condition (including sampting, soit and tailings analysis, or groundwater analysis, d applicable)	15	15	15	60	0	o	2
Other (specify) Mobilization	1	3	2	6	4	12	2
TOTALS	47	58	41	77	8	24	52

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3.7 DECONTAMINATION OR DISMANTLING OF RADIOACTIVE FACILITY COMPONENTS (Work Days)

Estimate the number of workdays, by specific labor category, that 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 a	Lawrenceville Building F1							
Level of Contamination:		≈1,000 -10,000 dpm/100 cm2						
Component	Action	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Glove Boxes	Remove/Disp	1	2	2	4	3	8	2
Fume Hoods	Remove/Disp	8	24	8	48	32	96	16
Lab Benches	Decon/Remove	6	20	6	39	26	78	13
Sinks	Decon/Remove	3	9	3	18	12	36	6
Drains	Remove/Disp	4	12	3	24	16	48	88
Floors	Decon/Wipe	8	24	6	48	32	96	16
Walls	Decon/Wipe	4	12	4	24	16	48	8
Ceilings	Decon/Wipe	3	9	4	18	12	36	6
Ventilation/Ductwork	Remove/Disp	7	22	7	44	28	90	15
Cabinets	Decon/Remove	4	12	4	24	16	48	8
Hot Cells	Remove/Disp							
Equipment/Materials	Sur/Rem/Disp	7	20	7	40	28	88	14
Soil Plots	Sample							
Storage Tanks	N/A							
Storage Areas	Remove/Disp	L						
Radwaste Areas	Remove/Disp	2	6	3	12	8	24	4
Scrap Recovery Areas	N/A							
Maintenance Shop	Remove/Disp							
Equipment Decontamination	Remove/Disp							
Other (specify)	Remove/Disp							
Other (specify)	Remove/Disp							
TOTALS		57	172	57	343	229	696	1 16

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Name of room, laboratory, or a	rea:	Lawrenceville Building H						
Level of Contamination:		≈1,000 -10,000 dpm/100 cm2						
Component	Action	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Glove Boxes	Remove/Disp							
Fume Hoods	Remove/Disp	5	10	5	15	10	30	6
Lab Benches	Decon/Remove	1.5	5	1.5	8	_6	18	3
Sinks	Decon/Remove	1	2	1	4	4	10	2
Drains	Remove/Disp	0.5	2		· 3	2	6	1
Floors	Decon/Wipe	1	_3	1	6	4	13	2
Walls	Decon/Wipe	0.5	2	1	3	2	6	1
Ceilings	Decon/Wipe	0.5	1		2	2	5	1
Ventilation/Ductwork	Remove/Disp	2	6	2	12	8	26	4
Cabinets	Decon/Remove	1	4	. 2	6	4	12	2
Hot Cells	Remove/Disp							
Equipment/Materials	Sur/Rem/Disp	2	5	2	10	7	22	4
Soil Plots	Sample							
Storage Tanks	N/A							
Storage Areas	Remove/Disp							
Radwaste Areas	Remove/Disp	0.5	1	1	2	1	3	1
Scrap Recovery Areas	N/A							
Maintenance Shop	Remove/Disp							
Equipment Decontamination	Remove/Disp		·					
Other (specify)	Remove/Disp							
Other (specify)	Remove/Disp							
TOTALS		15.5	41	16.5	71	50	151	27

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Lawrenceville Site

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Name of room, laboratory, or area:		Lawrenceville Building K								
Level of Contamination:		≈1,000 -10,000 dpm/100 cm2								
Component	Action	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical		
Glove Boxes	Remove/Disp	1	3	3	6	4	12	2		
Fume Hoods	Remove/Disp	8	24	8	48	32	96	16		
Lab Benches	Decon/Remove	7	21	6	42	28	84	14		
Sinks	Decon/Remove	2	6	2	14	9	27	4		
Drains	Remove/Disp	4	12	3	24	16	48	8		
Floors	Decon/Wipe	8	24	6	48	32	96	16		
Walls	Decon/Wipe	4	12	4	24	16	48	8		
Ceilings	Decon/Wipe	3	9	4	18	12	36	6		
Ventilation/Ductwork	Remove/Disp	8	24	8	48	32	96	16		
Cabinets	Decon/Remove	4	12	4	24	16	48	8		
Hot Cells	Remove/Disp									
Equipment/Materials	Sur/Rem/Disp	8	24	8	48	32	96	16		
Soil Plots	Sample									
Storage Tanks	N/A									
Storage Areas	Remove/Disp							·······		
Radwaste Areas	Remove/Disp	2	6	3	12	8	24	4		
Scrap Recovery Areas	N/A									
Maintenance Shop	Remove/Disp									
Equipment Decontamination	Remove/Disp									
Other (specify). Irradiator	Remove/Disp	1	2	2	2	0	0	0		
Other (specify)	Remove/Disp									
TOTALS		60	179	61	358	237	711	118		

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Name of room, laboratory, or area:		Lawrenceville Building G1							
Level of Contamination:		≈1,000 -10,000 dpm/100 cm2							
Component	Action	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical	
Glove Boxes	Remove/Disp		0,1		0.1	0.2	0.2	0.1	
Fume Hoods	Remove/Disp				0.2	0.4	0.4	0.1	
Lab Benches	Decon/Remove		0.1		0.1	0.2	0.2	0.1	
Sinks	Decon/Remove				0.1	0.2	0.2	0.1	
Drains	Remove/Disp		0.1		0.2	0.4	0.4	0.1	
Floors	Decon/Wipe		0.1		0.1	0.2	0.2	0.1	
Walls	Decon/Wipe		0.1		0.1	0.2	0.2	0.1	
Ceilings	Decon/Wipe		0.1		0.1	0.2	0.2	0.1	
Ventilation/Ductwork	Remove/Disp		0.2	· ·	0.3	0.6	0.6	0.1	
Cabinets	Decon/Remove		0.1		0.1	0.2	0.2	0.1	
Hot Cells	Remove/Disp								
Equipment/Materials	Sur/Rem/Disp		0.1		0.1	0.2	0.2		
Soil Plots	Sample								
Storage Tanks	N/A								
Storage Areas	Remove/Disp								
Radwaste Areas	Remove/Disp								
Scrap Recovery Areas	N/A								
Maintenance Shop	Remove/Disp						L		
Equipment Decontamination	Remove/Disp								
Other (specify) Irradiator	Remove/Disp		1		1	1			
Other (specify)	Remove/Disp							_	
TOTALS		0	2	0	2.5	4	3	1	

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	(040)	rk Days)			· ··· - ····		_
Estimate the number of wo	rk days, by specific la	abor category, that	will be required	to restore contami	nated areas on t	he facility grounds	i.
Name of room, laboratory,	or area:	Lawrenceville	Building F1				-
Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	
Restore Floors	1.5	1.5	0	0	3	4.5	
Restore Walls	1	1	0	0	2	3	

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3.8 RESTORATION OF CONTAMINATED AREAS ON FACILITY GROUNDS (Work Days)

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Name of room, laboratory, or area:		Lawrenceville Building H								
Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical			
Restore Floors	0.2	0.2	0	0	0.5	0.5	0			
Restore Walls	0.3	0.3	<u>0</u> .	0	0.5	0.5	0			
Restore Roof	0.2	0.2	0	0	0.5	0.5	0			
Restore Utilites	0.3	0.3	0	0	0.5	0.5	0			
TOTALS	1	1	0	0	2	2	0			

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TOTALS

Restore Utilites

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Name of room, laboratory,	or area:	Lawrenceville	Lawrenceville Building K								
Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical				
Restore Floors	1.5	1.5	0	0	3	4.5	1.5				
Restore Walls	1	1	0	0	2	3	11				
Restore Roof	1.5	1.5	0	0	3	4.5	1.5				
Restore Utilites	2	2	0	0	4	6	22				
TOTALS	6	6	0	0	12	18	6				

Name of room, laboratory, or	lame of room, laboratory, or area:		Lawrenceville Building G1					
Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled) 0.3	Clerical	
Restore Floors	0	0.2	0	0	0.2		0	
Restore Walls	0	0.2	0	0	0.2	0.3	0	
Restore Roof	0	0.2	0	0	0.2	0.3	0	
Restore Utilites	0	0.4	0	0	0.4	0.1	0	
TOTALS	0	1	0	0	1	1	0	

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3.9 FINAL RADIATION SURVEY

(Work Days)

Estimate the number of wo	ork days, by specific la	ibor category, that	will be required	to conduct a final r	adiation survey.						
Name of room, laboratory,	ame of room, laboratory, or area:		Lawrenceville Building F1								
Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical				
FSS Setup	4	4	4	4	0	0	4				
Survey Packages	4	4	4	4	0	0	4				
Class 1	10	10	10	63	0	0	10				
Class 2	1.5	1.5	1	9	0	0	1.5				
Class 3	1.5	1.5	1	6	0	0	1.5				
TOTALS	21	21	20	86	0	0	21				

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Name of room, laboratory, or area:		Lawrenceville	Building H				
Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
FSS Setup	0.5	0.5	0.5	1	0	0	0.5
Survey Packages	0.5	0.5	0.5	1	0	0	0.5
Class 1	1	1	1	18	0	0	1
Class 2	0.5	0.5	0.5	5	0	0	0.5
Class 3	0.5	0.5	0.5	3	0	0	0.5
TOTALS	3	3	3	28	0	0	3

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Name of room, laboratory, or area: Lawrenceville Building K							•
Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
FSS Setup	4	4	4	4	0	0	4
Survey Packages	4	4	4	· 4	0	0	4
Class 1	10	10	10 [.]	84	0	0	10
Class 2	1.5	1.5	1.5	12	0	0	1.5
Class 3	1.5	1.5	1.5	6	0	0	1.5
TOTALS	21	21	21	110	0	0	21

Name of room, laboratory, or area:		Lawrenceville	Building G1				
Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
FSS Setup	0.5	0.5	0.5	0.5	0	0	0.2
Survey Packages	0.5	0.5	0	0.5	0	0	0.2
Class 1	0.1	0.1	0	3	0	0	0.2
Class 2	0.1	0.1	0	3	0	Ö	0.2
Class 3	0.1	0.1	0	3	0	0	0.2
TOTALS	1.3	1.3	0.5	10	0	0	1

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3.10 SITE STABILIZATION AND LONG-TERM SURVEILLANCE (Work Days)

Estimate the number of work	days, by specific lal	oor category, that	will be required	to complete site st	abilization and Ic	ing-term surveillan	ce activities.
Activity	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
No Site Stabilization or							
Long Term Maintenance			· · · · · · · · · · · · · · · · · · ·				
		······································					
TOTALS	0	0	0	0	0	0	0

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3.11 TOTAL WORK DAYS BY LABOR CATEGORY

Enter the total work days for ea	ch specific labor o	ategory from the	applicable table	above (i.e., from t	he bottom rows o	of Tables 3.6 throu	igh 3.10).
Task	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Planning and Preparation (TOTALS from Table 3.6)	47	58	41	77	8	24	52
Decontamination and/or Dismantling of Radioactive Facility Components (Sum of TOTALS from all copies of Table 3.7)	132.5	394	134.5	774.5	520	1561	262
Restoration of Contaminated Areas on Facility Grounds (TOTALS from Table 3.8)	13	15	0	0	28	40	12
Final Radiation Survey (TOTALS from Table 3.9)	48.9	48.9	45.5	252	0	0	48.6
Site Stabilization and Long- Term Surveillance (TOTALS from Table 3.10)	0	0	0	0	0	0	0

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3.12 WORKER UNIT COST SCHEDULE

Estimate labor costs (including Foreman, Craftsman, Technicia	salary, fringe ben in, Health Physici	efits, and corpora st, Laborer, Cleric	te overhead). In cal, and others as	clude all appropria needed.	ite labor categori	es, including Sup	ervisor,
Labor Cost Component	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Salary & Fringe (\$/year)	\$96,000	\$67,000	\$67,000	\$45,000	\$50,000	\$34,000	\$25,000
Overhead Rate (%)	100%	100%	100%	. 100%	100%	100%	100%
Total Cost Per Year	\$192,000	\$134,000	\$134,000	\$90,000	\$100,000	\$68,000	\$50,000
Living Expenses (PD*7/5) ¹	\$224	\$224	\$224	\$224	\$0	0	0
Total Cost Per Work Day ²	\$962	\$739	\$739	\$570	\$385	\$262	\$192

¹ Per Diem Rate: \$160 per day. ² Based on 260 work days per year (e.g., 260).

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3.13 TOTAL LABOR COSTS BY MAJOR DECOMMISSIONING TASK

Multiply the estimated work days for each specific labor category (from Table 3.11) by the total cost per work day for the corresponding labor category (from Table 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.

Labor Cost Component	Project Mgr	Supervisor	Health Physicist/ Shipper	HPT's/Drafting	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical	Total Labor Cost
Planning and Preparation	\$45,236	\$42,884	\$30,315	\$43,902	\$3,077	\$6,277	\$10,000	\$181,690
Decontamination and/or Dismantling of Radioactive Facility Components	\$127,526	\$291,318	\$99,447	\$441,584	\$200,000	\$408,262	\$50,385	\$1,618,521
Restoration of Contaminated Areas on Facility Grounds	\$12,512	\$11,091	\$0	\$0	\$10,769	\$10,462	\$2,308	\$47,141
Final Radiation Survey	\$47,064	\$36,156	\$33,642	\$143,679	\$O	\$0	\$9,346	\$269,887
Site Stabilization and Long- Term Surveillance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

3.14 PACKAGING, SHIPPING, AND DISPOSAL OF RADIOACTIVE WASTES (Excluding Labor Costs)

(a) Packing Material Costs

Estimate the types and packaging	volumes of waste exponent	ected to be gene y the number of c	rated, along with t containers required	the number and ty d by the unit cost	pes of containers required for per container.
Waste Type	Volume (ft3)	Number of Containers	Type of Containers	Unit Cost of Container	Total Packaging Costs
DAW	1,600	17	B-25	\$700	\$11,900
Metal	11,236	5	40' Sea-Land	\$1,000	\$5,000
Liquids	64	9	55 gal. inner 85 gal.overpack	\$200	\$1,800
Biological	275	36	55 gal. inner 85 gal.overpack	\$200	\$7,200
. TOTAL					\$25,900

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(b) Shipping Costs						
Estimate the types and volue packaging the waste. Multip	mes of waste expect bly the number of co	ted to be generate ntainers required t	d, along with the by the unit cost p	number and type er container.	s of containers re	quired for
Waste Type	Number of Truckloads	Unit Cost (\$/mile/truckload)	Surcharges (\$/mile)	Overweight Charges(\$/mile)	Distance Shipped (mites)	Total Shipping Costs
DAW	1	\$0.00	1	1	800	\$0
Metal	6	\$0.00	1	1	800	\$0
Liquids	0	\$0.00	1	1	1	\$0
Biological	0	\$0.00	1	1	1	\$0
TOTAL	7					\$0

(c) Waste Disposal Costs

Estimate the volume of waste to be disposed. Multiply the volume of waste disposed by the unite\disposal cost (including any volume based surcharges). Add any surcharges that are based on the number of containers of waste. 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	Disposal Volume (ft3)	Density (lb/ft3)	Disposal Mass (lbs)	Unit Cost	Surcharges (\$/ft3 or \$/container)	Total Disposal Costs
DAW	1,600	15	24000	7.25	1	\$174,000
Metal	11236	20	224722	2.50	1	\$561,806
Liquids	64	60	3840	4.00	1	\$15,360
Biological	275	20	5500	25.00	1	\$137,500
TOTAL	13175					\$888,666

3.15 EQUIPMENT/SUPPLY COSTS (Excluding Containers)

Estimate the quantity of equipme	ent and supplies required t appropriate u	for decommissioning an nit costs.	nd multiply that quantity by the
Equipment/Supplies	Quantity	Unit Cost	Total Equipment/Supply Cost
Protective Clothing	1	\$30,000	\$30,000
Respirators	0		\$0
Misc Tools	1	\$10,000	\$10,000
Consumables	1	\$30,000	\$30,000
TOTAL			\$70,000

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3.16 LABORATORY COSTS

Concentrations was experienced water and the

If applicable, estimate the	costs for analyses	to be performed by an	independent third party laboratory.
Activity	Quantity	Unit Cost	Total Item Cost
Sampling	150	\$100	\$15,000
Transport of Samples	15	\$50	\$750
Testing and Analysis	150	\$100	\$15,000
Other (specify)			
TOTAL			\$30,750

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3.17 MISCELLANEOUS COSTS

Estimate any other applicable costs.		
Activity	Total Cost	
License Fees		
Insurance	\$21,928	
Taxes	\$313,256	
Irradiator Disposal (JL Shepherd)	\$70,000	
TOTAL	\$405,184	

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3.18 TOTAL DECOMMISSIONING COSTS

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

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Task/Component	Cost	Percentage
Planning and Preparation (from Table 3.13)	\$181,690	5.1%
Decontamination and/or Dismantling of Radioactive Facility (From Table 3.13)	\$1,618,521	45.8%
Restoration of Contaminated Areas on Facility Grounds (From Table 3.13)	\$47 <mark>,1</mark> 41	1.3%
Final Radiation Survey (From Table 3.13)	\$269,887	7.6%
Packing Material Costs (TOTAL from Table 3.14(a))	\$25,900	0.7%
Shipping Costs (TOTAL from Table 3.14(b))	\$0	0.0%
Waste Disposal Costs (TOTAL from Table 3.14(c))	\$888,666	25.1%
Equipment/Supply Costs (TOTAL from Table 3.15)	\$70,000	2.0%
Laboratory Costs (TOTAL from Table 3.16)	\$30,750	0.9%
Miscellaneous Costs (TOTAL from Table 3.17)	\$405,184	11.5%
SUBTOTAL	\$3,537,740	100.0%
25% Contingency	\$884,435	25.0%
TOTAL DECOMMISSIONING COST ESTIMATE	\$4,422,175	125.0%

							Fea	1005					
		Floor	Casework (linear fl.)	Şirıkə (89.)	Drains (fl.)	Hoods (68.)	Giove Boxes (ea.)	Ventilation Ducting (fl.)	Cabinet	u/Shelves	Equit (50 fc	omani 3 - 69.)	Commente
									Fector	<u>. (n.)</u>	(3.5 x 3.5 x 4)	(13)	<u> </u>
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	F1.2600	1 1	27	21	567		2	27	15	810		1	27	21	567		DAW	103		
					I	11	2	21	15	630			[1			Biological			
	F1.3100	1	26	31	806		2	26	15	780		1	26	31	606		DAW	160		
					Į		2	31	15	930							Biological			i
1	F1.3103	1	26	21	546		2	20	15	/80	ł	1	26	21	546	ļ	DAW	96		ļ
	61 7105	ł	20	21	546			21	15	780				21	548		DAW		··	
	F1.3103		70	<u> </u>			2	21	15	630		·		<u> </u>	340	<u> </u>	Bological			}
	F1.3107	1 1	26	31	806	1	2	26	15	760	I	1	26	31	605	{	DAW	138		
						1	2	31	15	930						1	Biological			
1	F1.3110	1 1	26	21	546	1	2	26	15	780		1	26	21	546	1	DAW	99		I
							2	21	15	630							Siological			
	F1.3112	1	26	21	546	L	2	26	15	780	1	1	26	21	546		DAW	97		
2	F4 1043	ł			E04		<u></u>	21	15	830						<u> </u>	Biological	~~~~		
ノ	F1.3013			21			2	21	15	630		·'		<u></u>	304	<u> </u>	Binlogical	30		
-	F1 3811	· · · · · · · · ·	24	21	504		2	24	15	720		1	24	21	504	<u> </u>	DAW	90		<u> </u>
				1	1	1	2	21	15	630	1	· · · · ·		t		1	Biological			
	F1.3809	1 1	26	21	546		2	26	15	780		1	26	21	548		DAW	84		
							2	21	15	630			I				Bological			
	F1.3806	1	26	21	546		2	26	15	760		<u> </u>	26	21	546		DAW	98		
1	C4 2001	l			£46	ł		21	13	630				- <u>-</u>	F 40		Biological			
i	F1.3004	1 1		<u></u>		+	÷	20	15	630	+	<u>'</u>	°	<u></u>	340	<u> </u>	Biological	50		
1	F1.3802	1 1	28	21	546	1	2	26	15	780	1	1	26	21	546	<u> </u>	DAW	97		
		1		1	1	1	2	21	15	630			1	1	1	1	Biological			1
	F1.3800	1	26	21	546		2	26	15	780		1	26	21	546	I	WAG	102		
-					L	ļ	2	21	15	630	1						Biological			
	F1.3601	·····	21	15	1 <u>315</u>		2	21	15	630		1	21	15	315	1	DAW	40		ļ
	61.96D2	<u> </u>		47	105	t	2	15	15	450	h	·		1	105	Į	Biological			ļ
	r 1.3603	 '-		13	192	1		13	8	209		├ [!]	¹³	1	185	ł	Historicat			<u> </u>
	E1 3603A	1	10	13	130	†	2	10	8	160		1	10	13	130		DAW	0		
		1			1	1	2	13	8	208	t		1 <u> </u>	t		t	Biotogical	• • •		
	F1.3605	1	21	22	452		2	21	15	630		1	21	22	462		DAW	43		
				L			2	22	15	660							Biological			
	F1.3305	1	20	22	440		L	20	15	1200		11	20	22	440	l	DAW	5		
	CACO Lab					ł	<u> </u>	22	15	1320	<u> </u>						Biotogical			
	Cold Boom	↓ −−−− ¹ −−−−−	¹¹	19		ł		19		304	<u> </u>	1	<u>↓ </u>	19	209	<u>}</u> -	WAG Biotomical	28		
	F1 35094	1		19	133		2	7	8	112	<u> </u>	1	7	19	133	<u> </u>	WAD	5		
	Freezer	1		1	1	1	2	19	8	304			i	t	h	<u> </u>	Biological	- <u>-</u>		
,	F1.3309	1 1	21	21	441		2	21	15	630		1	21	21	441	<u> </u>	DAW	86		
		1		1	1		2	21	15	630				L			Biological			

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Laboratory						Fea	tures			••••		
	Floor	Casework (linear ft.)	Sinks (ea.)	Draine (fL)	Hoods (ea.)	Glove Boxes (sa.)	Ventitation Ducting (ft.)	Cebinet	/Shalwea	Equip (50 ft3	ment + ca.)	Comments
								Factor	(1.)	(3.5x3.5x4)]	(#3)	<u> </u>
F1.3301	3	45	1 0	0	0	0	0	0	0		50	1
												1
F1 3300	3	24	1	80	1	0	60	02	4.8	1	50	1
F4 0007												
F1.330/		15	<u> </u>	80	·	0	60	0.2	3	1	50	
F1 3507		46			<u> </u>				19 6	<u> </u>		
11.0007				QV	<u> </u>	V	00	V.3	13.5	+	50	
F1.4100	4	30	1	100	1	0	40	0.3	9	- , -	100	+
Dank Room			1			1	•			1		
F1.4600	4	12B	4	160	3	0	80	0.5	64	0	Ö	1
					ł				_			
F1.4600A	4	6	0	0	0	0	0	0.5	3	0.5	25	1
61 46000				<u> </u>	<u> </u>	<u> </u>		L		<u> </u>		I
71,4000		• <u>•</u> ••••			U	0		05	3	<u> </u>	50	
F1.4600C	4	6	0		6	0		0.5				
					•	<u> </u>	-	U.J	······································	+		
F1.4600D	4	26	1	100	0	1	40	0.3	7.8	0.5	25	1
			1		1					1		1
		1502	43	2580	35	2	1500		601	53	2650	
Total Coults	97.024	ļ	J							L		
(Janes 1)	15201		Class & Mintle	24248.4						<u>├</u> ────		+
Class 2	17427	25%	Class 2 Walls	21305.2	1					++		. <u> </u>
Class 3	52280	75%			1				·····	tt		1
Non-Impacted	0				I					1		T
G (Animal)	·					Eng	t mus					
		1	1	1 _	Y	1.00	Vantilation			<u> </u>		1
		Casework (linear ft.)	Sinks (ee.)	Diains (fL)	Hoods (88.)	Glove Boxes (ea.)	Ducting	Cabinets	/Shelves	Equip (50 ft3	- ea.)	Commenza
		·····	+	t	}		<u>\a.j</u>	Factor	(11.)	G513514		
G1.2712A	2	8	0	0	0	0	0	0		3	150	1
			1						· · · · · · · · · · · · · · · · · · ·			1
G2.4614/4614A	4	Q	0	0	0	0	0	0	0	0	Ó]
irradiator	· · · · · · · · · · · · · · · · · · ·		1									
G1,4804	4	30	<u> </u> 1	100	 	1	40	0.2	6	2	100	
G1-4107					£					<u>+</u>		·
<u> </u>			+						· · ·	l	<u> </u>	+
		38	1 1	100	6	1	40		6	 	250	<u> </u>
			1	1	1	t		·····		<u>+</u> †		t
Total Facility	49200		1	1		1				t t	• • • • • • •	1
Class 1	927		Class 1 Watta	2016	I							1
Cless 2	12068	25%	Class 2 Walls	1764	I	<u> </u>						1
Lizse J	36205	75%	4	<u> </u>	ŧ	+	ļ	····	·	<u>↓</u> ↓		<u> </u>
NULTINDALIEU		1	1	1	1	1	1			1 1		1

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	Laboratory			Floors				W	uis.					Cellings			1	Wa	ista	
)		Number	Langth (fL)	Width (ft.)	Алаа (ft2)	Comments	Number	Width (fL)	Helght (fl.)	Ansa (ft2)	Comments	Number	Length (fL)	Width (ft.)	Атва (ft2)	Comments	Туре	Volume (ft3)	Commenta	
1																	1			
	F1.3301	1	21	15	315		2	21	15	630		1	21	15	315		DAW	59		
							2	15	15	450			l				Bological			
	F1.3300	1	24	17	406		2	24	15	720		1	24	17	408		DAW	42		
						I	2	17	15	510			1				Biological			
	F 1,3307	1	10	15	150		2	10	15	300		1	10	15	150		DAW	31		
							2	15	15	450							Biological	·····		
]	F1.3507	1	28	15	420		2	28	15	840			28	15	420		DAW	69		
							2	15	15	450							BICODICAL			
	F1.4100	11	10	21	210			10	15	300		h	10	21	210		UAW	53	[
	Dank Room						2	21	15	6.30			ł				BOOGICAL			
	F1.4600			32	960		2	30	15	900		·····	30	<u>¥</u>	960		UAW	175		
						ļ	2	32	15	960							190001281			
	F1.4500A	1	12	6	72	ļ	2	12	15	360			12	5	72		DAW	10		
					1	k	2	8	15	180							BOODICE			
	F1.48008	1	12	13	156		2	12	15	360		1	12	13	156		UAW	13		
			<u> </u>				2	13	15	390							DAIN			
	F1.4500C	1	12	6			2	12	15	360	ļ	1	12	6	/2		DAW	10		
					L	· · · · · · · · · · · · · · · · · · ·	<u> </u>		15	100	L	- · _					CALL!			
	F1.46000	1	21	9	189		2	21	15	030			<u></u>		169		Distantiant	40		
							<u> </u>		15	270	f		ł				Diviogram			
								·		43034			<u> </u>					2312		
	Total Condition						·····				}		 	·						
	Cherry												<u> </u>							
	Class 1				<u> </u>						t		+							
				······································	<u> </u>															
	Non-impacted		· · · · · · · · · · · · · · · · · · ·		<u>+</u>	· · · ·							<u> </u>							
)	G (Animal)	•			•		-						······································				: : :		A	4
	Laboratory			Floons	·			W	365		1			Cetings	,			Wi	1510	
		Number	Length (fl.)	Witsth (R.)	Area (ftZ)	Comments	Number	Width (ft.)	Height (fL)	Area (ft2)	Comments	Number	Length (fL)	Wisth (fL)	Araa (fi2)	Comments	а Туре	Volume (83)	Comments	
			<u> </u>		L	ļ		.			<u> </u>	L	ļ							ļ
	G1,2712A	↓	17	19	323	ł		17	15	510	l	·	17	19	323			25	L	
	L		<u> </u>		ł	4	2	19	15	5/0	<u> </u>	l	ļ			J		25	L	
	G2.4614/4614A	ļ	6	9	54		2	6	15	180	······································	· · · · · · · · · · · · · · · · · · ·	6		54		DAW	0		
	17/30/3107	<u> </u>	L		1		2	9	15	2/0		<u> </u>				l	Biological		L	
	G1.4804	Į	30	10	300		<u></u>	30	15	900		· · · · ·	30	10			DAW	52		
		<u>↓</u>	<u>+</u>			+	⊢	10	13	300	Į	<u> </u>	10.	26			BROUGE		ļ	
	61-410/	+	10			÷	+	10	15	300	<u>↓·</u> ······	·			250	łi	Distriction		ļ	
	J	t		ł		+		ļ		730	·····	·		<u> </u>	017		Biological		ļ	
	h	ł	t		+	·	-	<u> </u>		3/80	+	··		••••••••••••••••••••••••••••••••••••••	321	l	ļ	120.32	 	
	Total Cardin	t	ŧ		 	+	ł	ł		<u> </u>	+	f	ŧ	ŧ				<u> </u>		
	Class 1	t	<u>+</u>	+	ł	+	ŧ	ł		t	+		·	ŧ	I	•	<u> </u>	· · · · · · · · · · · · · · · · · · ·	ł	h
	Class 1	1	<u> </u>	ł	+	1	t	f		ŧ	+	ł	+	t	f	ł		ŧ	<u> </u>	
	Classe 7	; †	1	<u> </u>	+	+	t	·		÷	+	+	1	i		<u>+</u>			·····	<u>↓</u>
	hine impedded		1	+	÷	+	<u>†</u>	t		÷	+	<u>}</u>		† •••••••	<u> </u>	†	ł		 	

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Laboratory						Feat	ures					•••••••	;		
		r			1	T	Ventilation			1					
1		Casework	Sinks	Drains	Hoods	Glove Boxes	Oucting	Cebinet	s/Shelves	Equit	ment	Comments			
		(linear fL)	(ca.)	(n.)	(ca.)	(62.)	(fL)			(50 ft)	i - 60.)				
					1			Factor	(ft.)	(3.5 x 3.5 x 4)	(ft3)	1			
H-4000	4	220	14	360	12	0	260	0.4	68	10	500	Empty Room			
Radiosynth Suite		1				1						1		•	
H.3315 &	3	10	1	60	0	1 0	D	0.2	2	1	50				
H.3315A												1			
H.3319	3	30	1 1	80	0	0	0	0,2	6	1	50	1	,		
						T						1			
H 3324	3	\$0	1	80	1	0	60	0.3	27	6	300				
					1	I							:		
H.3322	3	20	1	80	0	0	0	0	C	1	50				
									<u> </u>				. 1		
H.3619	3	16	1	80	0	10	<u> </u>	0.2	32	1	50		;		
						1				1					
H 1305	11	37	0	0	0	0	00	1	37	2	100	_	ţ		
		1		ļ					1	1					
H Penthouse	5	0		0	0	°	200	0	0	20	1000				
			+	495	<u> </u>	4		• • •	<u> </u>						
M-4106	4	<u> </u>		120	·			U.2	10	+	200				
<u></u>		<u> </u>				+	100			+	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~				
		4/3 		000	13	+				40	£300				
					·	+					·	+			
Total Facility	87100	<u> </u>	+		l	-{			<u> </u>						
Char 1	6390	t	Class 1 Walk	10107	ł	+			+	<u>+</u>					
Class 1	20180	25%	Class 2 Walk	A843	1				+	+		·+			
{	20100	1 2010	1	1 0010	1	J	1	L	1	1	L	1			

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Laboratory			Floors				W	'als					Cellings				W	tste	
	Number	Length (IL.)	Width (ft.)	Ална (112)	Comments	Number	Width (ft.)	Helght (R.)	Ansa (ft2)	Commenta	Number	Length (ft_)	Width (fL)	Area (112)	Comments	Тура	Votume (ft3)	Comments	
									7300					7400		Daite			
H-4000		- 80	30	2400		0	20	15	2700			80	30	2400		CUAVY	3/8	i	
Catalogy and Suite		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			ļ			1 13	2700	Calif Baser				200	ļ	Outrai		ļ	
H.3315 6		20		200			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	ļ	320	23154		~~~~		200		Distantia	18		
H 3315A							10		320							Delogical			
H.3319	······	15		150	I	ž	15	8	240		·	12	10	150		- UAW	47.		
							10		100							Douglas			
H.3324	·	30	30	900	·		30	12	900			- 30	30	900		Distaglant	149	↓	
						<u></u>		1	300	·				400		Diciogram			
M.3322	·	10	10	100		·	10	15	300			10	10	100		UAW	30	 	
						<u> </u>	10	15	300						1	- acoupican		ļ	
H.3619	· · · ·	10	10	100		2	10	12	300		<u> </u>	10	10	100		UAW		· · · · · · · · · · · · · · · · · · ·	
							10	13	300	ł						- ciclogical		}	
H.1305	1	15	Z2	330		2	15	15	450	ļ		15		3.50		UAW	58	·	
						2	22	15	660							Biological		ļ ļ	
H Penthouse	1	40	40	1600	Į	2	40	15	1200	<u> </u>	<u>`</u>	40	40	1600	J	LANY	\$18	ļļ	
						2	40	15	1200							Bibliogical			
H-4106	1	20	30	600		2	20	15	600		,	20	30	600		DAW		····· · · · · · · · · · · · · · · · ·	
					i	2		15	900							Bloogcal			
	L			6380			0	15 .	18950			Q	0	6380	· · · · · · · · · · · · · · · · · · ·	DAW			
					4		0	15	0						·	Hidlogical			
	<u>i</u>							ļ						·				· · · · · · · · · · · · · · · · · · ·	
Total Facility	L				4			ļ		ļ					L				
Class 1				L				ļ		ļi					1		······································	 	• • • • • • • • • • • • • • • • • • •
Class 2	1				4			<u></u>		L					1			L	
Class 3	1				1			<u>↓</u>		ļ									
Non-Impacted	1			1	1		L	1	L,										

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Laboratory	<u></u>					Faa	1/108					
		Casework (linear (L)	Sinks (ca.)	Drains (fl.)	Hoods (ca.)	Glove Boxes (ea.)	Ventilation Ducting (ft.)	Cabinet	s/Shelves	Equip (50 ft)	ment -ca.)	Comments
Karament								Factor	(R.)	(3.5 x 3.5 x 4)	(ff3)	
Irradiator		°	0	0		0	0	00	<u> </u>	+ ··· •	<u> </u>	ļ
K-4312	4	35	1	100	3	0	80	0.5	15	2	100	i
K.4107	4	140	3	140	1		40		- 98	5	250	
						×				<u> </u>		l
K.4122	4	72	2	120	7	0	160	0.7	50.4	8	400	
K.4614	4	20	1	100	1	0	40	0.3	6	2	100	<u> </u>
K 4422	4			100					06			
			···	100			<u> </u>		9.0	0.3		· · · · · · · · · · · · · · · · · · ·
K.4324	4	32	0	0	7	0	160	0.5	16	8	400	
K.4319	4	30	0	0	0	1	40	0.1		0.5	25	
× 4118										1		
K.4310	·			100	0	•	0	0.2		1	50	
K.4306	4	10		100	2	0	60	0.2	2	1	50	
K-4810	4	20	2	120	3	0	80	0.7	14	2	100	
V 3654								l				
K.3325	3		· · · · · ·	80	<u>1</u>	0	60	0.2	6	<u>↓</u>	50	
K.3326	3	20	0	0	0	0	0	0.2	4	1	50	
K.3622	3	20	1	80	- 0		0	0.1	2	0.5	25	
V 1316												
K.3313	3	20	1	B0	2	0	80	02	4	<u>↓</u>	50	
K.3615	3	10	1	80	0	0	0	0	0	0.5	25	
K.3314	3	20	1	80	1		60	C.2	4	2	100	
F 3210												
K.3310	3	- '8		80	0	- 0	0	├	18	0,5	25	
K.3310A	3	0	0	0	0	0	0	0	0	0.5	25	
K.3610	3	18	1	80	0		0		18	0.5	25	
K 9 Wanta Cha												
N.3 Waste Std.	<u> </u>		<u> </u>	0	0	0	0		. 0	O	0	
K.3308	3	20	0	0	0	0	0	0.3	6	1	50	
K.2807	2	80	2	80	1		80		40		50	
K.2809			6	160	4	1	160	0.6	168	66	300	
K.2819	2	190	4	120	3	0	120	0.5	95	4	200	
K.2826	2	240	2	80	,		100	0.5	120		150	
									120	, in the second se		
K.2123		···· 0	0	0	0	0	0	0	0		0	
K 2119	2	240	4	120	5	0	160	0.6	144	3	150	
K.2307	2	26		60	0			0.5			300	
			· · ·	L~	· · · · · ·		`	0.5	'			

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` r`	Laboratory]			Floors				W	ats					Cettings				We	isla	
Γ		Number	Length (ft.)	Width (fl.)	Area (f12)	Comments	Number	Widsh (fL)	Height (fL)	Area (fi2)	Comments	Number	Length (ft.)	Width (ft.)	Алеа (112)	Comments	: Type	Volume (ft3)	Comments	
E	1		1															#VALUE!		
F	K Basement	1	10	8	80		2	10	15	300		1	10	8	80		DAW	0		
⊢	Inediator			20	300		;		13	450			15	20	300	ļ	DAW	82		
-	<u></u>			20			2	20	15	600							Biological	¥		
F	K.4107	1	36	42	1512		2	36	15	1080		1	36	42	1512		DAW	210		
							2	42	15	1260							Bological			
	K.4122	1	36	21	755		2	36	15	1080			36	21	156		DAW	163		
H	R 4614			11	165			15	15	450			15	11	165	·	DAW	41	· · · · ·	
H		······			10,5		2	11	15	330					1		Biological			1 1
t	K.4422	1	9	16	144		2	9	15	270		1	9	16	144		DAW	23		
							2	16	15	480		L					Biological			
	<u>K.4324</u>	11	31	19	589		2	31	15	930			31	19	589		Bological	111		
-	K 4110		15	10	150			15	15	450			15	10	150		DAW	43		
F	1.4318						2	10	15	300							Biological			
E	K 4318	1	15	15	240		2	15	15	450		1	15	16	240		DAW	48		
							2	16	15	480	1					ļ	Bological			
-	K.4306	1	15	10	150		<u></u>	15	15	450		·	15	10	150		Britosteal	28		<u>↓</u>
H	K-4810		- 25	12	300		- 5 -	25	1 - 15 - 1	750	<u>}</u>	1	25	12	300		DAW	50		
		·····	23				2	12	15	350					1		Biologicat			[
	K 3625 &	1	30	10	300		2	30	15	900	· · · · · · · · · · · · · · · · · · ·	1	30	10	300		DAW	50		
	K 3325						4	10	15	600	L	l			<u> </u>		Bological			
-	K.3326	ļ!	15	10	150		2	15	15	450	ŧ	 '	15	16	150	łi	Biological	29		
H	K 3622		10	10	100		2	10	15	300	+	1	10	10	100		DAW	27	h	
ነ ተ					·····		2	10	15	300					1	1	Biological	5		
Έ	r(.33iS	1	20	10	200		2	20	15	600		1	20	10	200		DAW	42		
					L		2	10	15	300		ļ		1		ļ	Bological			
-	K 3615		10	10 .	100	<u> </u>		10	15	300	ł		10	10	100	{	Bological	12		
	K.3314	1	20	15	300		2	20	15	600	1	1	20	15	300	1	DAW	43		
							2	15	15	450	[1		[I		Botogical			
	K.3310	1	10	12	120		2	10	15	300		1	10	12	120		DAW	26		
-		ł			470		2	12	15	360		ļ	10	12	120		Bological		h	
⊢	A.3310A	'		12	120	*		12	15	360	<u> </u>	{		16	120	<u>† – – – – – – – – – – – – – – – – – – –</u>	Biotopical			
F	K 3610	,	10	12	120		2	10	15	300		1	10	12	120	1	DAW	26	L	
E						ļ	2	12	15	360	1						Biological			
- P	K.3 Waste Sig.	11	3	8	24		<u></u>	3	15	90	ł	1	3	8	24		DAW	0	<u> </u>	
- H	K 3309	<u> </u>		20	600	łi	÷	20	15	240	<u> </u>	·	30	20	600		DAW	30	ļ	
ŀ	A.3300	1		~~~~~		łi	2	20	15	600	<u> </u>	t	j		1	t	Balogical			
F	K 2807	1	40	32	1280	2807 Overall	1 4	40	15	2400		1	40	32	1780		DAW	115		
E						Suite	2	32	15	960				1		1	Bological		L	1
F	K.2809	1	40	73	2920	2809 Overall	4	40	15	2400		11	40	73	2920	I	DAW	409	 	
-	6 2910	+	40	52	2080	2819 Chart	<u> </u>	40	15	2400		·····	40	52	2080	l	DAW	276	· · · · ·	·
ŀ	1.2013	t'		<u></u>	2000	Suite	1	52	15	3120	1		t	t	<u> </u>	1	Bological	<u>*/*</u>		
F	K.2826	1 1	40	52	2050	2826 Overall	4	40	15	2400		1	40	52	2080		DAW	329		
						Sunte	4	52	15	3120	1		[1	Biological			
F	K.2123	ļ	40	52	2080	2123 Overall		40	15	2400	ł	1	40	52	2080	ł	DAW	•		
H	¥ 2119	 	40	52	2080	2119 Overall		40	15	2400	<u> </u>	1	40	52	2080		DAW	344	<u> </u>	<u> </u>
F	A 1112	t	1			Suite	1 1	52	1 15	3120	1	1	t	t	1	1	Bulogical		l	
	K.2307	1	30	15	450		2	30	15	900		1	30	15	450		DAW	63		
Ē		l	L	L	L	L	2	15	15	450	1	1	L	ł	L	1	Biological	L		

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1	Laboratory	·······					Fea	11781					· · · · · · · · · · · · · · · · · · ·
()			Casework (linear fL)	Sinks (ea.)	Drains (fL)	Hoods (ea)	Glove Boxes (ez.)	Ventilation Ducting (ft.)	Cabinet	shelves	Equip (50 ft3	ment - 68)	Comments
							1		Factor	(7)	(3.5x3.5x4)	(13)	
	K.2309	2	15	1	60	2	C	100	0.3	4.5	3	150	1
1	K-2623	2	20	<u> </u>	60	2	0	100	02	5.6	1	50	
	K 2315	2		<u> </u>	60		<u> </u>		0.1	ļ			
			<u> </u>	·		· · · · · · · · · · · · · · · · · · ·			0.2	+		25	
	K.2323	2	25	1	60	2	0	100	0.4	1 :0	1	50	
			1							1			1
	K.2324	2	18	1	60	0	0	0	0.1	1.8	0.5	25	T
	- K 33344	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<u> </u>	+	·					L			
	n.2324A	2	······			U		⁰	0	1	05	25	+
	K 2326	2	62	†	60	0	+	0	0.3	12.5		200	
			1	1			1			1	+	200	+
	K.2624	2	18	1	60	Q	0	0	01	1.8	0.5	25	1
	K.2619	2	<u> </u>	· · · · · ·	<u> </u>	0	<u> </u>	0	0	0	0	0	
	K-4512		f	<u> </u>	100	· · ·		80		<u> </u>			
			t	<u>+</u>				~		······································		200	+
	K.2610	2	25	1	60	3	0	120	0.2	5	4	200	
	K.2608	2	18	1	60	0	0	0	0.2	3.6	0.5	25	
-	# 2508A		-							<u> </u>			·
		<u>-</u>	t		¥	v		·····				25	-
	K-4313	4	20	1 1	100	0	0	0	0.4	8		100	+
										1			
	K-4326	4	40	0	0	0	1	40	0.4	16	2	100	1
	┝━━━━━┥		4010	<u> </u>	7000		<u> </u>						1
	} ∤		1830	49	4000		<u></u>	2100		<u>947,9</u>	85.5	4275	+
	Total Facility	118200	t	1			1			<u> </u>			+
	Class 1	22788		Class 1 Walls	35504		1			1			1
	Class 2	23853	25%	Class 2 Walls	31066					I	1		1
	Class 3	71559	75%		1]					l			
	Non-unpacted	0	1	1	L		1			1			

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Laboratory	1		Floors				Ŵ	alla					Cellings				W	ksko	
	Number	Length (fL)	Wicth (fL)	Area (ft2)	Comments	Number	Width (fL)	Height (11.)	Area (ft2)	Commenta	Number	Length (fl.)	Wigth (R.)	Area (ft2)	Comments	Тура	Volume (f13)	Comments	
								I	· · · ·							i	#VALUE!		
K.2309	1	20	10	200]	2	20	15	600		1	20	10	200		DAW	47		
	1		1			2	10	15	300			í				Batogical	1		
K-2623	1	22	14	308		2	22	15	660	L	1	22	14	308		DAW	53		
	1		1	1		2	14	15	420			1			1	Biological		L	1
K 2315	1	15	10	150		2	15	15	450		11	15	10	150	J	DAW	37		L
			1	j		2	10	15	300	<u> </u>						Biological	L	<u> </u>	
K 2323	1	15	21	315	L	2 .	15	15	450		1	15	21	315		DAW	50	ļ	L
			1		1	2	21	15	630			L	1	<u> </u>		Rictogical	·		
K 2324	1	8	13	104]	2	8	8	128		1	8	13	104	l	DAW	25		L
			I			2	13	8	208							Biological		L	<u> </u>
K 2324A	1	8	13	104		2	в	в	128	+	1	8	13	104		DAW	3		
	i					2	13	8	208	<u></u>			1	<u>.</u>	<u></u>	Biological		<u>ا</u> ـــــ	Į
K.2326		30	19	570		2	30	15	900		1	30	1 19	570		DAW	72	<u>í</u>	
	<u> </u>		1	1	1	2	19	15	570	1	<u> </u>		<u> </u>			Biological		<u> </u>	
K 2624	11	8	13	104	L	2	8	8	128	1	1	8	13	104	<u> </u>	DAW	25	<u> </u>	L
	1	1		1	1	2	13	6	208	1			<u> </u>	<u> </u>		Biological	1		
K.2819	11	20	10	200		2	20	15	600		1	20	10	200	l	DAW	0	1	
					1	2	10	15	300				<u> </u>	1	L	Biological			
K-4612	1	20	15	300		2	20	15	600		1	20	15	300		DAW	72	1	
				1	1	2	15	15	450		i			1	1	Biological	1	1	
K.2610	1	15	19	285		2	15	15	450	1	1 1	15	19	285	_	DAW	69	L	L
L		<u> </u>		1		2	19	15	570	<u> </u>	j		1		L	Biological		L	
K.2608	1	8	13	104		2	8	8	128	1	1		13	104	L	DAW	25		!
			1	I		2	13	8	208	1			1			Biological		1	1
K.2508A	1	8	13	104	L	2	8	8	128	1	11	8	13	104		DAW	3	ļ	ļ
	1	<u> </u>				2	13	8	208	1	L			<u> </u>	ļ	Biological	4	L	1
K-4313	1	10	15	150	1	1 2	10	15	300	1	1 1	10	15	150		DAW	35	I	
	1	4		1	<u> </u>	1	15	15	450		l			<u> </u>		Biological	<u> </u>	L	<u> </u>
K-4326	1	30	10	1 300	1	2	30	15	900	4	1	30	10	300		DAW	64	ļ	ļ
	L					2	10	15	300		1	ļ	L	<u>.</u>		Evological			1
ļ		 	1	22788	4	L	0	15	66570	+	.	ļ	· · · · ·	ZZ788		DAW	3187	1	4
	J	<u> </u>	1	L	1	t	L	1	4	+	{	↓	+ · · · · · · · · · · · · · · · · · · ·	.		L	↓	1	ļ
Total Facility	<u>+</u>	<u> </u>		+		Ļ	.	L	<u> </u>			1	<u> </u>		· · · · · · · · · · · · · · · · · · ·	J			·
Class 1	¥	<u> </u>	L		4	L	Į	<u> </u>		+	j	l		ļ	ļ	Ļ		L	ļ
Class 2	4		J	4	1	L		ļ	1		I	1		ļ		L	ł	ļ	ļ
Class 3	3		<u> </u>	1	4	Ļ	Į	Ļ	4		.	<u>+</u>			ļ	L	ļ	ļ	1
Non-Impacted	a]	1	1	1	1	1	1	1	1	1	1	1	1	1	1	L	1	1	L

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NRC FORM 374 U	S. NUCLEAR REGUL	ATORY COMMISSION	PAGE <u>1</u> OF <u>6</u> PAGE Amendment No. 10
	MATERIAL	S LICENSE	
Pursuant to the Atomic Energy Act of 1954, as a of Federal Regulations, Chapter I, Parts 30, 3 heretofore made by the licensee, a license is he source, and special nuclear material designate deliver or transfer such material to persons auth shall be deemed to contain the conditions spe applicable rules, regulations, and orders of the below.	amended, the Energ 1, 32, 33, 34, 35, 36 areby issued authoriz d below; to use such orized to receive it in cified in Section 183 Nuclear Regulatory (y Reorganization Act of 1 6, 39, 40, and 70, and In zing the licensee to receiv h material for the purpose accordance with the regi 3 of the Atomic Energy A Commission now or here	1974 (Public Law 93-438), and Title 10, Co reliance on statements and representative, acquire, possess, and transfer byprod a(s) and at the place(s) designated below ulations of the applicable Part(s). This lice ct of 1954, as amended, and is subject to after in effect and to any conditions speci
Licensee	· · · · · · · · · · · · · · · · · · ·	in accordance w	ith the letter dated
		August 29, 2005	5,
1. E. R. Squibb & Sons, Inc.		3. License number	29-00139-02 is amended in
	. EAH	its entirety to rea	ad as follows:
2. 311 Pennington-Rocky Hill Road		4. Expiration dire	September 30, 2008
Mail Stop HW8T-1.12	•	5. Docket No. 030	05222
Pennington, New Jersey 08534-213	0	Reference No.	
<u>215 5</u>			sk'z
6. Byproduct, source, and/or special nuclear material	7. Chemical and	<u>or physical form</u>	8. Weximum amount that licensee m possess at any one time under the
A. Any byproduct material with atomic numbers 1 through 83, except Strontium 90	AT ANY		A. 20 millicuries per radionuc and 2 curies total
B. Hydrogen 3	ALL PATTY		B - 150 curies
C. Carbon 14	C' Any L'	My Soft of	≂j℃. 20 curies
D. Strontium 90	D. Any	la to	D, 2 millicuries
E. Technetium 99m	E. Any 🕎 -	in the second	E. 750 millicuries
F. Any byproduct material with atomic numbers 84 through 103	F. Any		F. 1 millicurie
G. Nickel 63	G. Foil or plate registered e Nuclear Reg Commission 10 CFR 32. Agreement	ed sources bither with the U.S. gulatory n under 210 or with an State.	G. No single source to exceed maximum activity specified the certificate of registration issued by the U.S. Nuclear Regulatory Commission or Agreement State
 H. Any byproduct material with atomic numbers 1 through 83, except Strontium 90 	H. Any		 H. 200 millicuries per radionuc and 6 curies total

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للراسات المرادية ويتحادث

NRC FORM 374A U.S. NUC	LEAR REGULATORY COMMISSION	PAGE 2 of 6 PAGES License Number 29-00139-02
MATERIALS I SUPPLEMENTA	LICENSE RY SHEET	Docket or Reference Number 030-05222
		Amendment No. 109
 Byproduct, source, and/or special nuclear material Hydrogen 3 	7. Chemical and/or physica	I form 8. Maximum amount that licensee may possess at any one time under this license I. 250 curies
J. Carbon 14	J. Any	J. 25 curies
K. Phosphorus 33	K WAR REG	K. 1 curie
L. Sulfur 35	Any	L. 10 curies
M. lodine 125	M, Any	M. 500 millicuries
N. Any byproduct material why atomic numbers 1 through/83, except, Strontium 90	N. Any	N. 200 millicuries per radionuclic And 6 curies total
O, Hydrogen 3	O ANY	O. Ocurie
P. Carbon 14	Pr Any	P. Ecurie
Q. Sulfur 35	ANYLLI	
b)(4),(b)(7)(F)		,
9. Authorized use:		
 A. through F. and H. through R. B. and C. Preparation and distributed in CFR 32.72. G. To be used for sample analyse either with the U.S. Nuclear R and have been distributed in a authorizing distribution to perareceive, possess, and use the 	Research and developme and calibration and check oution of radioactive drugs to is in compatible gas chromat legulatory Commission under accordance with a Commissio sons specifically authorized b e devices.	nt as defined in 10 CFR 30.4; animal studies; ing of the licensee's instruments. authorized recipients in accordance with tography devices that have been registered 10 CFR 32.210 or with an Agreement State on or Agreement State specific license y a Commission or Agreement State license to

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NRC	C FOR	M 374A		U.	s. Nuc	LEAR F	REGUL	ATORY	СОММ	ISSION	Lícen	se Nun	nber		PA	GE	3	of	6	PAG
											29-0	0139	9-02							
,			MA' SUP		NLS L ENTAF	ICEN	NSE				Docki Q30-	et or Re -0522	eferenc 22	e Nurr	ber					
											Ame	endm	ent N	0.10	9					<u></u>
(h)(7)		· · · · · · · · · · · · · · · · · · ·									. I		****		••••• <u>•</u> ••••					
ωχr	<u> </u>																			
								6.1		K	5.	* <u>····</u>								
10.	A.	License One So	ed mat Juibb E	erial in Vrive, N	Item: New B	s 6 A	wick,	ugh 6. New .	.G, ma Jersey	ay onl /.	y be i	ised	at the	lice	nsee	e's fa	acilit	ies lo	cate	ed at
	В.	License facilitie	ed mat s locat	erial in ed at F	Jtem:	s 6,G 206 a	., 6.H and P	l. throi Provinc	ugh 6. æline	M ^(b) Road)(7)(F , Law		iy only ville	n be New	useo / Jer:	d at i sey.	the	lcen	see's	;
	C.	License located	ed mat at 311	erial/in Pepi	Litems ingtor	s 6 9 1-Ros	, and ky Hi	6.N. t ill R oa	hroug	ih 6.R Aningi	, may lan, N	only w J	be u: ersey	sęd j	at the	e lice	ense	e's f	acilit	ies
11.	Α.	License	ed mat e's Rai		hall be Safel	use Viçe	t by, mmitt	orlund tee1		i sişupi luj	ervisio	ŵn of,	indiv	id a la	s de	sign	ate	i by	the	
	В,	The Ra	diatior	Safet	office		ilita jis	Tran		vilotta)	i J. V		CHP.							
12.	spe	licensed cific con	a shall dition d	not us of this	icané	nseor e v 3	The			(huma V	i) bei	ngs e	xcep C	t as	prov	ided	oth	erwi	se by	1
13.	The othe	licensed arwise by	e shall / speci	not us fic cor	e lice Idition	nsed of th	matę is lięc	rial in	field a	applic -	ations	whe	re it i	s rele	ease	d ex	ксер	t as	pro∨i	ded
14.	Exp con:	erimenta sumption	al anim n.	als ad	minist	tered	licens	sed m	ateria	ils or t	h e ir p	rodu	cts sł	nali n	ot be	e us	ed fi	or hu	iman	1
1 5.	This purs licer Stat	s license suant to hsing put le.	does (10 CF) rsuant	not au R Part to 10	ihorize 31 or CFR 3	e com equiv 30,14	nmero valeni throu	cial dis t regu ugh 30	stributi lation:).20 ir	ion of s of ai nclusiv	licens ny Ag ve, or	sed n reem equiv	nateri Ient S Valent	al to itate i regi	pers or to ulatio	ons per ons (ger rson of ar	nerali s exe ny Ag	ly lice empt greer	ensei from nent
16.	This	license	does	not aut	horize	e com	nmerc	cial dis	stributi	ion of	licens	sed n	nateri	al.						
17.	A.	Sealed interval: under 1	source s spec 0 CFR	s shal fied in 32.21	l be te the c 0 or u	ested ertific Inder	for le cate o equiv	eakage of regis valent	e and/ stratio regul	for con issu ations	ntamin led by l of an	nation the Agre	n at ir U.S. I eeme	nterva Nucle nt St	als n ear F tate.	iot to Regu	o exe ulato	ceed ry C	the omm	nissio
	В.	Notwith	standi	ng Par	agrap	h A o	of this	Cond	lition,	seale	d sou		desig	ned 1	to pr	imar	rily e	mit a	alpha	1

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NRC	FOR	M 374A	U.S. NUCLEAR F	REGULATORY COMMISSION	License Number	PAGE	4	of 6	PAC	<u>3es</u>
		мат	FRIALS LICE	NSF	29-00139-02 Docket or Reference Nul	mber				
/		SUPF	LEMENTARY SH	IEET	030-05222					-
•••••••••••••••••••••••••••••••••••••••					Amendment No. 1	09				
	C.	Each sealed s leakage, and c	ource fabricated ontamination pri	by the licensee shall b ior to any use or transf	e inspected and tes er as a sealed sour	sted for c ce.	onsti	ruction	defe	cts,
	D.	In the absence intervals speci under 10 CFR sealed source received.	of a certificate t led in the certific 32.210 or under received from a	from a transferor indicate of registration issuer equivalent regulations nother percon shalling	ating that a leak tes led by the U.S. Nuc of an Agreement s be put into use un	t has bee lear Reg State, prid til tested	en ma ulato or to and t	ede wit ry Con the tra the tes	hin th nmiss nsfer, t resu	ie ion , a lits
	E.	Sealed source gas; or the hal betan and/or g	s need not be te f-life of the soto amma-emitting r	sted if they contain on pe is 30 days or less; c naterial or not more the	y hydrogen 3; or th or they contain not r an 10 microcen os o	ey contal nore thar f alpha-e	n oni n 100 mittir	ly a rac micro ng mat	dioact curies erial.	ive s oʻ
	F.	Sealed source are removed fi the required le stored for a pe	s neliginot bo to omistorage for j ak test interval, nod of more tha	sted if they are in stora use or transferred to ar they shall be to the to are in 10 years without bein Mutany	age and are not bein other person and to fore use or transfer to tested for leakage	ng used; ave not l No sea e and/or	howe been led s cont	ever, w tested ource aminal	hen t withi shall ion.	he n be
J	G.	The leak test s radioactive ma (185 becquere Regulatory Co immediately fr Commission re	halilitie capable terial on the trai is) driftore one mmission in action om service and gulations	et getachting in eine en aangle. If the test re move blet contamination angence swith #OICERN 2000 manning south	oe of 0.005 microit (aais the presence), a report shall be 0.50(c)(2), and the end or disposed of i	drie (185 of 0.005 filed with source s in accord	beca micro the l shall ance	querels ocurie U.S. Ni be rem with	s) of uclear loved	-
	н.	Tests for leaka performed by Commission o	ge and/or conta he licensee or b r an Agreement	mination, including lea y other persons specifi State to perform such	k test sample collect cally licensed by th services.	tion and e U.S. Ni	anal uclea	ysis, sl Ir Regi	nall be liatory	€ /
18.	The U.S. pos	licensee shall . Nuclear Regu sessed under ti	conduct a physic atory Commissi ne license.	al Inventory every six r on, to account for all se	nonths, or at other aled sources and/	interval a or devicer	ippro s rec	ved by eived a	the and	
19.	Sea from	led sources or 1 source holder	detector cells co s by the licenses	ntaining licensed mate	rial shall not be ope	ned or s	ource	es rem	oved	
(b)(7)(F)									
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										Цсе 29-	nse Nur 00139	nber)-02							
			MAT SUPP	ERIA	LS LI	CENS / SHE	E ET			Doc 030	ket or R 0-0522	afaren 22	ce Nut	mber				-	
										Arr	endm	ent	NO. 1	09	,·····				
21.	A.	Detect conjun tempe 10 CF	or cells (action with ratures f R 32.21(contaii h a pr rom ei),	ning a operly xceedi	titaniu opera ng tha	im tritid iling ter at speci	e foil npera fied in	or a so iture co the ce	andiu ontrol ertifica	um triti mech ate of	ide fo anisi regis	oil sh m wh stratic	all o hich j on re	nly b orev sferro	e us ents ed to	ied in the in	n foil	
	Β.	When the out	in use, d tside.	letecto	or cells	: conta	aining a	titani A	um triti	ide fo	il or a	scair	ndiun	n triti	de f	oil si	hall b	e ve	ente
22.	The 120	license days fo	e is auth or decay	norize in-sto	d to ho rage b	nd-byr efore	voduct dispos	mater al with	rial with out reg	n a pi gard i	nysica to itsi	l half	-life activi	of le ity if	ss th the l	ian d icen	or eq see:	val 1	0
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	В.	Remov contair license	ves or ot ners and ee; and	literat that v	es all vill be	radieti manag	on labe	biome	Cept fo dical v	vesta	atter	label they	s on have	mat bee	erial en re	s tha leas	at are ed fr	e wit rom	hin the
ŕ	C.	Mainta of disp at the s	ins reco osal, the surface (rds <u>of</u> suive of eac	the di y inst wast		at liger tused Giner t	nsed i the b and th	najeria ackgro	und r		on le lividu		recol the ra ho p	rd m adla erfor	ust i tion med	nclu level I the	de ti me disp	ne di asur osa
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NRC FOR	M 374A	1	J.S. NUCLEAR REGULATO	RY COMMISSION	l	PAGE	6	of f	3 P/	AGES
					License Number 29-00139-02					
 /			ALS LICENSE		Docket of Reference Numb 030-05222	01				
					Amendment No. 10	9				
24. Exc accurany the mor A. B. C. D. E. F. G. H. I.	ept as spo ordance v enclosurd statemen e restricti Letter da Letter da Letter da Letter da Letter da Letter da Letter da	ecifically p vith the sta es, listed I ts, represe ve than the fed June on dated ited Augu ited Octob ited Octob ited Augu ited Augu ited Augu ited Nove	provided otherwise in atements, representa- below. The U.S. Nuc- entations and procedu- e regulations. 20, 1994 February 18, 1997 St 19, 1998 Der 2, 2007 [ML01284 Der 15, 2001 [ML01284 Der 15, 2001 [ML01284 Der 15, 2002 [ML021220 Der 2, 2003 [ML0203 Der 22, 2004 [ML0	this license, the tions, and pro- lear Regulator ures in the lice 00012] 920254] 390283] 488] 00805] 43380281]	ne licensee shall cond cadures contained in y Commission's regu insee's application ar	duct its the do lations nd corro	prog cumo shal	gram ir ents, in Il gove ndenc	n ncludi rn un je are	ing less
Date	_March_3	_2006		For the U.S By Eliz Cor Rec Kin	S. Nuclear Regulaton	ranch		on Lie 6	£	-
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Page 1 of 3

Glenn	R. Marshall
- From:	Annette Hansen
Sent:	Tuesday, March 21, 2006 4:53 PM
To:	Glenn R. Marshall
Subject	FW (b)(7)(F)
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lt is ever	ything!
Annette I	Tansen
Philotecl	inics. Ltd.
118 Mite	hell Road
Oak Ridg	ze, TN 37830
865-285-	3009 direct
865-220-	<u>.0686</u> fax
(b)(6)	cell
www.phi	lotechnics.com
Origin	nal Message
From: Ma	ary Shepherd [mailto:mary.f.shepherd@gte.net]
Sent: Tu	esday, March 21, 2006 4:56 PM
To: Anne Subject:	re Hansen
(D)(7)(F)	
	· · · · · · · · · · · · · · · · · · ·
From: Ar	nnette Hansen [mailto:ahansen@philotechnics.com]
Sent: Tu	esday, March 21, 2006 1:31 PM
To: Mary	Shepherd PE-1(b)(7)(E)
Subjecti	
(b)(7)(F)	
Annette	Hansen
Philofec	hnics, Lid.
	INCH KOUU Las INT 27920
Our Kiu	ge, 11 - 57650
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3/27/20	06

Page 2 of 3

	Original Message
	Sent: Tuesday, March 21, 2006 4:22 PM
<u>``</u>	To: Annette Hansen Subject: RE (b)(7)(F)
	Dear Annette, Mary is out of the office until Thursday, March 23. Per JL, (b)(7)(F) Regards, Diana Shepherd for JL
	From: Annette Hansen [mailto:ahansen@philotechnics.com] Sent: Tuesday, March 21, 2006 8:31 AM To: mary.f.shepherd@gte.net Subject: FW: (b)(7)(F)
	Hi Mary,
	Can you help with the request below?
	Thanks, Annette
	Annette Hansen Philotechnics, I.td. 118 Mitchell Road Oak Ridge, TN 37830
	865-285-3009 direct <u>865-220-0686 fax</u> (b)(6) :ell
	www.philotechnics.com
	Original Message From: Glenn R. Marshall Sent: Tuesday, March 21, 2006 11:00 AM To: Annette Hansen Subject: (b)(7)(F)
	Annette,
	Bristol Myers Squibb in N I has $(b)(7)(F)$
	(b)(7)(F) Can you get me a current estimate for
	disposal? (b)(7)(F)
	Thanks,
!	Glenn Marshall, CHP Health Physicist Badiation Sofety Officer

Page 3 of 3

	Philotechnics, Ltd.
-	(865) 285-3018
	Cell: (b)(6)
to,	Fax: (865) 220-0686
	www.philotechnics.com

This is to acknowledge the receipt of your letter/application dated

412112006, and to inform you that the initial processing which includes an administrative review has been performed.

K FINCHCICLI ASSURGUCC 29-00139-02 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 Mall Control Number 3876. 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) (8-96) Sincerely, Licensing Assistance Team Leader