



UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
Gaithersburg, Maryland 20899

August 31, 2009

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Director of Nuclear Material Safety and Safeguards
USNRC
11555 Rockville Pike
Rockville, Maryland 20852

Attn: Mary Adams, Project Manager
Fuel Manufacturing Branch
Division of Fuel Cycle Safety and Safeguards
USNRC
Mail Stop EBB 2-C40
Washington, DC 20555
301-492-3110

Ref: Docket #70-398
License-No. SNM-362
TAC # L32643

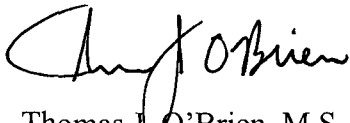
**SUBJECT: RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION ON
 DECOMMISSIONING FUNDING FOR THE NATIONAL INSTITUTE
 OF STANDARDS AND TECHNOLOGY LICENSE RENEWAL
 APPLICATION
 (TAC # L32643)**

As part of the license renewal process for the SNM-362 license, the Nuclear Regulatory Commission sent a series of Requests for Additional Information. The majority of these were resolved via a response provided on February 29, 2008. The remaining RAI involved NIST's estimate of the cost for decommissioning the facilities. As discussed in our telephone conversation with you on August 11, 2009, I have enclosed the final report of the funding analysis performed by Philotechnics under contract with NIST to satisfy these requirements. We have also transmitted this report to you electronically. Please review this submittal and inform us if there are any additional concerns.

As per the statement of intent letter submitted with the license renewal application, NIST acknowledges the responsibility to appropriately decommission the facilities at the time of license termination or transfer from the existing facilities. The enclosed report serves as NIST's good faith estimate and projection of the required funds. This analysis estimates the current cost for decommissioning the laboratory facilities, including a 25 % uncertainty escalation, to be \$3,268,975. It estimates the costs for decommissioning the accelerator facilities, including the 25 % uncertainty escalation, to be \$2,222,204 and is based on the premise that certain sub grade portions linear accelerator facility will be held for restricted use during a decay period of approximately 31 years from the present. As a government entity, NIST commits to seek funding from the appropriate budgetary authorities to cover the expenses at the time of initiating the license termination process.

NIST

Sincerely,

A handwritten signature in black ink, appearing to read "Tom O'Brien". The signature is fluid and cursive, with the first name "Tom" and last name "O'Brien" clearly distinguishable.

Thomas J. O'Brien, M.S., CHP
Radiation Safety Officer
Group Leader, Health Physics
National Institute of Standards and Technology
Building 245 Room C125
100 Bureau Drive MS1731
Gaithersburg MD 20899-1731
301-975-5800
tomo@nist.gov

cc/enc: Patrick Gallagher
Richard Kayser
Rosamond Rutledge Burns

Decontamination and Decommissioning Cost Estimate

**National Institutes of Standards and Technology
Gaithersburg, MD**

Revision 2

Prepared by:



**Philotechnics, Ltd.
201 Renovare Blvd.
Oak Ridge, TN 37830**

August 2009

TABLE OF CONTENTS

1.0	Executive Summary.....	1
2.0	Objectives	2
3.0	Process	2
4.0	General Assumptions	3
4.1	Radioactive Waste Materials	3
4.2	Sealed Sources	4
4.3	Unsealed Sources.....	4
4.4	Labor Estimates	4
5.0	Release Criteria	5
6.0	Review of Previous Clearance Surveys.....	7
7.0	Decommissioning Process and Cost Estimate Details	8
7.1	Tab 3.5, Detailed Descriptions of Facilities and Equipment	8
7.2	Tab 3.6, Planning and Preparation.....	9
7.3	Tab 3.7, Decontamination or Dismantling of Radioactive Facility Components.....	10
7.4	Tab 3.8, Restoration of Contaminated Areas	10
7.5	Tab 3.9, Final Radiation Survey.....	10
7.6	Tab 3.10, Site Stabilization and Long-Term surveillance	11
7.7	Tab 3.11, Total Days by Labor Category	11
7.8	Tab 3.12, Worker Unit Cost Schedule.....	11
7.9	Tab 3.13, Total Labor Costs by Major Decommissioning Task.....	11
7.10	Tab 3.14, Packaging, Shipping, and Disposal of Radioactive Wastes	11
7.11	Tab 3.15, Equipment Supply Costs (excluding containers)	11
7.12	Tab 3.16, Laboratory Costs	11
7.13	Tab 3.17, Miscellaneous Costs	11
8.0	Periodic Updates to Decommissioning Cost Estimate.....	12

TABLE OF APPENDICES

Appendix A – Accelerator Radiological Scoping Reports
Appendix B – Facility Laboratory Cost Estimating Worksheets
Appendix C – Accelerator Component and Area Cost Estimating Worksheets
Appendix D – Sealed Source Inventory for Disposal

ACRONYM LIST

ALARA	As Low As Reasonably Achievable
CFR	Code of Federal Regulations
D&D	Decontamination and Decommissioning
DCGL _{EMC}	Derived Concentration Guideline Level – Elevated Measurement Comparison
DCGL _w	Derived Concentration Guideline Level – Wilcoxon Rank Sum
DOE	United States Department of Energy
DQO	Data Quality Objective
DSV	Default Screening Value
HSA	Historical Site Assessment
HVAC	Heating , Ventilation, Air Conditioning
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDC	Minimum Detectable Concentration
NMSS	Nuclear Materials Safety and Safeguards
NRC	U.S. Nuclear Regulatory Commission
NUREG	Nuclear Regulatory Commission Guidance Document
QAPP	Quality Assurance Project Plan
RSO	Radiation Safety Officer
RSC	Radiation Safety Committee
TEDE	Total Effective Dose Equivalent

1.0 Executive Summary

The National Institute of Standards and Technology (NIST) headquartered in Gaithersburg, Maryland, contracted Philotechnics, Ltd. to develop facility decommissioning cost estimates (DCE) for their non-reactor radiological facilities in Gaithersburg. Such facilities include particle accelerators and laboratories operated under U.S. NRC License No. SNM-0362. Per NIST's request, Philotechnics developed detailed "bottom-up" cost estimates based on review of facility design features, current and historical radionuclide use, present radiological conditions and physical waste inventory. Philotechnics also evaluated Decontamination and Decommissioning (D&D) work approaches and task sequences in order to estimate labor, materials and supplies.

This report describes the overall process applied to developing the cost estimate, the general assumptions regarding facility D&D, general assumptions regarding radioactive waste processing and disposal, and specific assumptions and calculations with respect to this facility. Included in the report are abbreviated Decommissioning Plans for laboratories and accelerator facilities.

Laboratory facilities are expected to be completely decontaminated and remediated. This work will consist of removing all radioactive material, decontamination of contaminated building surfaces, and remediation or removal of volumetrically-contaminated materials. Laboratory facilities will then be surveyed and released for unrestricted use in accordance with NUREG 1575, Multi-Agency Radiation Site Survey and Investigation Manual (MARSSIM),

Radioactive accelerator components, waste, and non-structural material will be removed and disposed of as radioactive waste. Accelerator facilities contain activated structural material that cannot be safely removed without demolishing the entire building, which in most cases consists of several stories. Such activities would be extremely costly and would subject personnel to unnecessary risks during the decommissioning process. Furthermore, the NIST property is U.S. Government owned and is expected to remain long after the facility is decommissioned. For those reasons, a limited release followed by long-term monitoring is the preferred avenue for estimation of decommissioning costs.

Cost estimates were developed using conservative "middle of the road" assumptions regarding likely extent and duration of remediation activities. Remediation was assumed to proceed to levels suitable for unrestricted release of the site. Cost estimates were prepared in accordance with and in the format of NUREG 1757 "Consolidated NMSS Decommissioning Guidance" Volume 3. Per NUREG 1757, a contingency of 25% is required to be added to decommissioning estimates to address unidentified and unanticipated conditions. The overall estimate for the Gaithersburg facility is:

Table 1.1 – NIST Gaithersburg, MD Facilities Overall D&D Cost Estimate

	Estimate	25%	Subtotal
Laboratory Areas	\$2,615,180	\$653,795	\$3,268,975
Accelerator Areas	\$1,777,763	\$444,440	\$2,222,204
TOTAL	\$4,392,943	\$1,098,235	\$5,491,178

In accordance with 10 CFR 30.35, this decommissioning plan should be evaluated in 3 years and revised to account for any changes in the costs required for decommissioning activities.

This report describes the thought process and methodologies used to estimate decommissioning costs. Cost estimate details are included in the attached spreadsheets included as appendices. Additionally, a scoping survey was conducted in the accelerator spaces; that report is also included as Appendix A.

Nothing in this document should be construed as binding at the time of final decommissioning. The survey methods, release limits, radionuclides of concern, and facility configurations described are based on conditions observed during the site visit, historical documentation, sample analysis, and professional opinion as to the process of the final decommissioning and survey.

2.0 Objectives

The principal objectives of this analysis are to: 1) develop reliable estimated total facility decommissioning costs for NIST's Gaithersburg operations, 2) provide a documented inventory of facility features and characteristics, and, 3) describe the steps that will need to be taken to effect complete decommissioning of the site.

3.0 Process

A schedule of equipment, features and characteristics was developed to capture the size of each space and key features relevant to developing decommissioning cost estimates. Specifically, facility floor plans were reviewed, and the principle features and equipment of each laboratory were inventoried and categorized.

Each active laboratory was inspected, and radiation and contamination surveys were reviewed. In most laboratories, direct contamination measurements were impossible due to the presence of radioactive materials; NIST management advised us to use existing routine contamination surveys to determine the likely extent of contamination in laboratory areas. The radioactive materials database was reviewed to determine the radionuclides of concern in each area.

Samples of structural materials and shielding were collected in spaces affected by accelerator operation to determine the radionuclides present and estimate the extent of activation. Historical records were reviewed including the radioactive materials license, previous DCEs, and laboratory closure surveys. NIST management was consulted regarding past and present operations and their effect on future decommissioning.

The work scope and activity sequence to support license termination were developed. Cost estimates for projects were based on anticipated Time and Materials rates for goods, labor and services necessary to complete each project. It became clear that unrestricted release of accelerator facilities would be expensive and dangerous work, because many of those areas are activated throughout the volume of structural materials and possibly into the soil. Some of those areas are below the water table, rendering safe handling of radioactive material and control of the spread of radioactivity virtually impossible while those structures are being dismantled and removed. For those reasons, after consultation with NRC personnel, it was decided to pursue restricted release combined with long-term surveillance for those areas.

Labor estimates were derived from the work scope and a project plan outline. A project plan outline was developed for each facility detailing the sequence of tasks required to decommission the facility and terminate its radioactive material license. An overall project schedule was estimated that considered work to be performed, material flow paths, optimal number of crews and crew size and constraints (i.e., bottlenecks) in the D&D process. Crew sizes and task durations were estimated based on the numbers and locations of tasks to be performed.

Marketplace rates were obtained for each element of the project including project labor, materials, supplies, sampling and waste packaging, processing and disposal. NUREG 1757 requires the cost estimate to assume an out-of-state contractor performs the work; therefore nationwide mean salaries for the appropriate labor categories were used based on the latest available data from the U.S. Department of Labor, Bureau of Labor Statistics. The unit rates were extended through the estimated quantities to determine total cost for each line item. Costs were summed by each element of the project to determine sub-total by element. Element sub-totals were summed to total project cost.

Radioactive waste estimates were based upon the volume of material in the laboratories storage areas and supporting systems. For D&D purposes, contaminated equipment was assumed to be disposed of as radioactive waste rather than being decontaminated and released. This is due to the cost of labor required to decontaminate and survey equipment typically exceeding the cost of disposal. Material that is not likely to be contaminated above release limits is assumed to be surveyed for unconditional release in accordance with Regulatory Guide 1.86. Activated shielding, structural material and equipment, and debris from remediation of contaminated surfaces will be handled and disposed of as radioactive waste.

4.0 General Assumptions

Overall, "middle of the road" assumptions were made concerning the likely extent and duration of necessary remedial activities. For laboratories, remediation to unrestricted levels (i.e., the facility could be released for any future use without restrictions) was assumed, meaning there are no long term costs associated with site surveillance and monitoring following decommissioning. Some accelerator facilities will require surveillance and monitoring after license termination as discussed later. It is assumed decommissioning activities will begin within a few months after accelerator operations cease such that short-lived activation products will have decayed to negligible levels.

4.1 Radioactive Waste Materials

In developing estimates of volume of radioactive waste, overall outside dimensions were used for equipment, components and furnishings. These overall volumes were assumed to be size reduced somewhat on site, so they were multiplied by an average density of 15 lb/ft³ (DAW) and 20 lb/ft³ (metal) to determine the total mass of waste. For example a standard office desk would be estimated as 5 ft. wide by 2.5 ft. deep and 2.5 ft. tall with an overall volume of 31.25 ft³ and an estimated mass of 470 lbs. A waste fraction was then applied based on the anticipated percentage of equipment expected to be contaminated. Consumables used in the D&D process showed up in waste estimates under Dry Active Waste (DAW).

The accelerators and directly affected equipment such as targets, beam dumps, and shielding are assumed to be radioactive and will be disposed as radioactive waste.

Ventilation system waste estimates were based on dimensions of components. Ventilation up to and including the HEPA filters is considered in this report.

Waste mass is multiplied by marketplace rates for waste processing and disposal. Packaging and transportation costs were estimated by volume and were added to the total waste disposal figure. Potential overestimates of component volumes as a result of using overall dimensions were offset by smaller pieces of equipment that were not individually estimated. Actual volume of waste expected to be removed from the site was considered in the cost estimate. No credit was given for reuse at other facilities or possible resale value. Waste processing activities were assumed to take place at a licensed facility in Tennessee, with a one way travel distance of 525 miles.

4.2 Sealed Sources

According to the Health Physics database, NIST possesses approximately 373 sealed or encapsulated sources that will need to be packaged and shipped for disposal or storage. Appendix D contains a list of the current sources at the facilities along with their activity and location at the site.

Since the closure of Barnwell, no disposal option exists for many sources. NIST is critical to the success of a technological society and it is difficult to imagine a scenario whereby it is completely eliminated. Decommissioning of the Gaithersburg site would most likely be associated with construction of a new facility elsewhere and most sources would be moved and put into service in the new facility. Still, complete decommissioning and disposal of all sources remains a remote possibility and some cost should be attributed to it. Rather than itemize individual sources and weigh hypothetical transfer/disposal/storage options, we will assume for now that sealed sources will be transferred to the U.S. Department of Energy. Discussions with DOE personnel indicated \$500,000 may be reasonable. The sources will be shipped as a Type B shipment to Nevada, a distance of 2400 miles. Additional costs are \$100,000 for a Type B package and shielding, \$84,000 for transportation to Nevada, and \$60,000 for security and administration of Increased Controls at NIST during the decommissioning project.

Only sources belonging to NIST and having activity greater than 1 μCi are considered here. Sources belonging to other licensees will be returned to them. Sources less than or equal to 1 μCi will be included with other waste and shipped to a waste processor for treatment and/or disposal.

4.3 Unsealed Sources

The health physics database was used to estimate the amount of radioactive material in the form of unsealed sources on site. The total activity of those sources is approximately 370 mCi. This material can be mixed with other low level waste for disposal. Only sources belonging to NIST are included in this estimate; it is assumed all other sources will be returned to the customer.

4.4 Labor Estimates

All labor estimates are expressed in workdays. Workdays are actual days on the job. Project schedules were based on 5-day workweeks excluding weekends, holidays, etc., consisting of 8 hours per day.

Labor estimates for Planning and Preparation include time for document preparation, decommissioning plan submittal to regulatory agencies, work plan development, equipment procurement, staff training and mobilization. Pre-planning labor estimates assume

straightforward internal and external document, plan and procedure reviews and approvals. The duration of field activities for decontaminating and dismantling the facilities were estimated based on the task sequence and project schedule.

Crew sizes and number of workers were limited to those that could be efficiently utilized in the field. The size of the work force size will vary. At its peak, it is assumed to consist of one Project Manager directing the activities of two crews. Each crew will consist of one Supervisor; two Health Physics Technicians; four Skilled Craftsmen, and four Unskilled Laborers. Additionally, one shipper and one administrative assistant will report directly to the Project Manager.

The duration of activities for remediation of facilities and grounds was based on the expected level of remediation that would be required to return the facility to unrestricted release conditions. Similarly, estimates for the level of effort required for the final radiation survey were based on previous experience with facilities of comparable complexity. As noted above the assumed endpoint is license termination and unrestricted release of the facility; consequently, long term stabilization and monitoring is not required and no costs are incurred for this element.

Annual labor rates were estimated for the project manager, a project supervisor, a health physicist, a shipper, health physics technicians, radiation workers and administrative support. Labor rates included base salary and fringe benefits (e.g., vacation, health insurance, etc.). A rate of 75% was applied for overhead costs. The base annual labor rate plus the overhead expenses was divided by the number of workdays per year (taken as 260) to determine a daily cost for each category of employee.

Living expenses were taken from allowable government per diem rates – \$273 per day for Montgomery County, MD. Project management, supervision and technical staff are paid the daily living allowance since they are assumed to be from outside the local area. Radiation workers (laborers) and administrative support staff were assumed to be local hires and are not paid a living allowance. The daily living expenses were multiplied by 7 days per week then divided by 5 workdays per week to correctly incorporate living expenses into the daily wage rate.

5.0 Release Criteria

The ultimate release criteria is specified in 10 CFR 20.1402: "A site will be considered acceptable for unrestricted use if the residual radioactivity that is distinguishable from background radiation results in a TEDE to an average member of the critical group that does not exceed 25 mrem (0.25 mSv) per year, including that from groundwater sources of drinking water, and the residual radioactivity has been reduced to levels that are as low as reasonably achievable (ALARA). Determination of the levels which are ALARA must take into account consideration of any detriments, such as deaths from transportation accidents, expected to potentially result from decontamination and waste disposal."

For the NIST facilities in Gaithersburg, it is assumed the buildings will be reused for some other, as yet unknown, purpose. The occupant will have unrestricted access. Pathways applicable to such an occupant include external dose, inhalation, soil ingestion, and drinking water from radioactivity that migrates to ground water.

Tools, materials, and removable equipment will be surveyed for unconditional release as applicable using the guidance contained in Regulatory Guide 1.86 for the radionuclides of concern.

Building surfaces and installed equipment will be surveyed using the guidance contained in NUREG 1575, Multi-Agency Radiological Site Survey and Investigation Manual (MARSSIM). Areas adjacent to one another having similar radiological characteristics will be grouped together as applicable into survey units. Contamination release limits will be derived from a number of sources. For planning purposes, the radionuclide known to be present or shown in the database as having been used that is associated with the lowest release limit will be used according to the following guidance:

- Default screening values listed in NUREG 1757, Appendix B, are used where they are listed.
- For radionuclides not listed in NUREG 1757, the release limit will be derived using the NRC DandD Ver. 2.1 software code default parameters.
- At the time of actual decommissioning and License termination, future site usage may be more stringent; in that case the RESRAD family of codes may be used.

Actual radionuclides of concern and the relative abundance of each will be determined early in decommissioning, during the characterization phase; that process will yield accurate derived concentration guideline limits (DCGLs). Therefore, the limits derived in support of this DCE are thought to be quite conservative.

In this DCE, the following values are limiting, assuming no more than ten percent of the total activity is removable:

Table 5.1 – Limiting Radionuclides

Radionuclide(s)	Default Screening Value (dpm/100 cm ²)	Basis
Beta-gamma emitters except H-3 and C-14	7,100	Co-60
Transuranics	23	Am-241
Uranium	88	U-238
H-3	1.2E+07	10% of screening value
C-14	3.7E+06	Screening value

For activated building components, the major dose pathway is external exposure from gamma emitting radionuclides. Default screening values for contaminated surface soil listed in NUREG 1757, Appendix B are used. They are:

Table 5.2 – Surface Soils DSVs

Radionuclide	DSV pCi/g
Co-60	3.8
Eu-152	8.7

6.0 Review of Previous Clearance Surveys

Surveys supporting clearance of several rooms from radiological controls were reviewed as shown below:

Table 6.1 – Previously Cleared Laboratories or Rooms

Building	Room(s)
218	C002
245	C112; C115; B030; C201; B009; B024; C334; B01; C133; B133; C116
224	A114
222	A206; A110; A116; A122; A128; A132; A148; B125; B126
221	A41

In general, surveys appear to indicate no residual radioactive material is likely to be present; however documentation lacks sufficient detail to make that determination with certainty. For instance:

- Dose rate surveys indicate radiation dose rates are at or near ambient levels.
- Results of direct measurements for total contamination are not routinely recorded.
- Smears are counted for gross alpha and beta; however results are reported in units of net cpm. Instrument efficiency is not shown on the survey. Each page bears a statement in bold type that reads, " ≤ 20 dpm/100 cm² Alpha and ≤ 1000 dpm/100 cm² Beta/Gamma removable unless noted."

Residual contamination levels in those labs may in fact be less than the DCGL that would be in effect today based on usage; however in the event of license termination, some follow-up surveys would need to be performed.

- Room 222/A122 contained natural and depleted uranium and thorium. The DCGL for depleted uranium is in the neighborhood of 88 dpm/100 cm² total contamination, assuming less than 10% is removable. It is not clear from reviewing the clearance survey that the DCGL would be met.
- Rooms 222/A132 and 245/C133 contained Pu-238. The DCGL for that radionuclide is approximately 24 dpm/100 cm² total contamination, assuming less than 10% is removable. It is not clear from reviewing the clearance survey that the DCGL would be met.

Philotechnics believes laboratories previously released from radiological controls will require some type of follow-up survey, described in following sections. Many previously-used rooms have been completely gutted and remodeled; others are now offices; still others had adjoined other radiological laboratories and the wall separating them was removed. Rather than list every previously-used room individually; time and resources are allotted to performing follow-up surveys in all previously-used rooms as a group.

7.0 Decommissioning Process and Cost Estimate Details

The work crew consists of:

- Project Manager (1)
- Project Supervisor (2)
- Shipper (1)
- Health Physics Technicians (4)
- Skilled Laborers (2)
- Unskilled Laborers (2)
- Administrative Assistant (1)

The time required to complete the project is approximately 150 days on site: 90 days for the laboratories and 60 for the accelerators. This is less than the maximum limit of 180 days per calendar year to work under reciprocity with the U.S. NRC. Therefore, one reciprocity fee of \$1400 will cover both aspects of the work.

Following is a description of the assumptions made and data entered into individual worksheets to calculate the potential cost of decommissioning. Two sets of spreadsheets were developed for this cost estimate. One set of spreadsheets pertains to laboratory areas and the other to the accelerator areas. The spreadsheets pertaining to the laboratories are provided in Appendix B and the spreadsheets for the accelerator areas are provided in Appendix C.

7.1 Tab 3.5, Detailed Descriptions of Facilities and Equipment

For clarity, this worksheet was split up into multiple parts, each labeled by building number.

Accelerator facilities and associated equipment, housed in Building 245, are attached.

In addition to the accelerators, Building 245 also houses most of the active radiological laboratories.

Laboratories vary in size, configuration, materials, and equipment according to their function. Each individual laboratory that was inventoried for this DCE is listed in Tab 3.5. The inventory lists, as a minimum, room dimensions, amount of furnishings and equipment used and stored in the room, the radionuclide(s) currently or previously used, and the expected MARSSIM class based on current use and survey data.

Initial assignment of MARSSIM class for final status surveys is as follows:

Table 7.1 – Previously Cleared Laboratories or Rooms

CLASS 1	<ul style="list-style-type: none"> • Current use of unsealed material • Current or previous use of neutron sources • Areas adjacent to accelerators • Areas with uncertain history 	<ul style="list-style-type: none"> • Some remediation may be expected • Some radwaste may be expected – fraction inversely proportional to release limit. • Accelerator facilities will have a lot of radwaste • Some rooms are not listed in the database as ever having radioactive materials – so if we don't know what was used, we assume the worst.
CLASS 2	<ul style="list-style-type: none"> • Accelerator support areas separated by shielding • Previous use of unsealed TRU, U, Ra, or Th sources and clearance surveys were done (many have been gutted and remodeled). 	<ul style="list-style-type: none"> • Verification that materials are not activated or contaminated • Removable contamination surveys previously performed cannot detect alpha emitters below DCGL • No remediation is expected • No radwaste (except sources) is expected.
CLASS 3	<ul style="list-style-type: none"> • Current use of sealed beta, gamma or alpha sources • Previous use of unsealed beta-gamma sources but clearance surveys were done • Restrooms and hallways “upstream” of personnel contamination monitors. 	<ul style="list-style-type: none"> • No history of leaking sources. • Removable contamination surveys previously performed should detect most beta-gamma emitters. • No remediation is expected • No radwaste (except sources) is expected

There are approximately 100 previously-used rooms not specifically listed in the inventory. Average dimensions of 20 feet by 25 feet with 15-foot ceilings. They are assumed to be 50% Class 2 and 50% Class 3.

7.2 Tab 3.6, Planning and Preparation

This tab includes such tasks as filing for reciprocity to conduct the decommissioning, preparation of work plans including the Decommissioning Plan, site-specific training for workers, and mobilization to the site. The Project Manager develops work plans and submits reciprocity applications. The laborers and administrative assistant are assumed to be local hires and no time is required for mobilization; the other workers need a full day to mobilize to the site. The Project Manager also must secure a contract for a crane and crew.

This tab also includes facility characterization. Characterization is performed to determine the radionuclides present in each area and the extent of contamination. Health physics technicians will enter each area where radioactive materials have been used, collect samples, scan surfaces, segregate potentially radioactive material from non radioactive, and identify any mixed waste.

In most cases, the health physics database maintained by NIST identifies current and historical use of radionuclides in each room. The time estimated to characterize the room is based on that information. For instance: if a room contained transuranics, uranium, radium, beta-gamma emitters and I-129, the room will be scanned three times. A beta-gamma probe (floor monitor for large floor areas and BP19 or equivalent for other surfaces) will be used to measure contamination from most beta-gamma emitters. An alpha-sensitive probe will be used to measure contamination from alpha emitters. A very slow scan rate of only an inch or so per second is required. Finally, a probe sensitive to gamma and very low energy beta emitters (such as the GP-13 or equivalent) will be used to measure contamination from I-129, Co-57, and similar difficult-to-detect radionuclides. Smears will be collected and counted for gross alpha and gross beta and analyzed on a liquid scintillation counter. Samples will be sent to an independent laboratory for radionuclide identification. These assumptions will also apply to Tabs 3.7 and 3.9.

7.3 Tab 3.7, Decontamination or Dismantling of Radioactive Facility Components

This tab includes removal and packaging of radioactive material such as contaminated equipment and preparation for transport to a licensed processor or disposal facility. Most material is neither contaminated nor activated and will be surveyed for unconditional release. Labor hours are allotted for those unconditional release surveys as well as to move, remove, and break down equipment as necessary to facilitate release surveys or make areas accessible for MARSSIM surveys.

The order in which various buildings will be decommissioned is unknown; however, in Building 245, laboratory areas will be decontaminated and decommissioned before accelerator facilities for a number of reasons: accelerators contain short-lived byproduct material and delaying work allows for some decay; most accelerator spaces are below laboratory spaces and it makes sense to start at upper floors and work down; laboratories will be fully decontaminated and remediated while some accelerator spaces will be locked shut and subject to long-term surveillance.

7.4 Tab 3.8, Restoration of Contaminated Areas

Based on existing survey data, surface scans performed during the site visit, and interviews with knowledgeable individuals, very few laboratory areas will require any remediation.

Accelerator facilities (described separately) will require extensive remediation of floor, walls, equipment, and structural materials. The Time of Flight Facility is above grade and remediation efforts will result in partial demolition of the building. Other activated accelerator spaces are below grade. Many are below the water table, such that demolition of those structures would increase the likelihood of releasing radioactive materials to the environment. Many of the most highly activated areas are load-bearing or exterior walls. Complete remediation would therefore require complete demolition of all of Building 245 – a costly endeavor. For reasons of cost reduction, worker safety and protection of the environment, those areas will be remediated to the extent practicable and then re-evaluated. It is assumed the sub basements containing those accelerators will be secured, and long-term monitoring instituted, until activation products decay to levels acceptable for unconditional release.

7.5 Tab 3.9, Final Radiation Survey

The final radiation survey is performed by health physics technicians, with guidance from the project manager and project supervisors and administrative support. In cases where no

decontamination or remediation was required, the characterization survey may be used as the final status survey for a particular area.

7.6 Tab 3.10, Site Stabilization and Long-Term surveillance

Because the goal is unconditional release of the laboratory facilities, there are no long-term surveillance requirements associated with them.

7.7 Tab 3.11, Total Days by Labor Category

This is the sum of person-days listed in Tabs 3.6 through 3.10.

7.8 Tab 3.12, Worker Unit Cost Schedule

Worker mean nationwide salaries are taken from the Bureau of Labor Statistics and are adjusted to account for the cost of fringe benefits. A 75% multiplier is also added to account for profit to the contractor performing the decommissioning work. Workers who are not local hires are paid the government per diem rate of \$273 daily for the Gaithersburg area.

7.9 Tab 3.13, Total Labor Costs by Major Decommissioning Task

This tab shows the cost of each major task from Tabs 3.6 through 3.10 multiplied by the daily labor cost for each worker shown in Tab 3.12

7.10 Tab 3.14, Packaging, Shipping, and Disposal of Radioactive Wastes

This tab reflects the most costly component of the facility decommissioning. It is assumed waste is shipped to a licensed waste processor in Oak Ridge, Tennessee, a distance of approximately 600 miles.

7.11 Tab 3.15, Equipment Supply Costs (excluding containers)

This tab shows the approximate costs of personnel protective clothing and respirators, rental of specialty equipment including health physics survey instruments, and consumables required to complete the decommissioning.

It is assumed a crane and crew will be needed for removal of accelerators and large equipment. Other equipment includes health physics survey instrumentation, concrete cutters, jack hammers, containment structures, vacuum cleaners, negative ventilation systems, nibblers, and shears.

7.12 Tab 3.16, Laboratory Costs

This tab shows the total of all samples to be collected and sent out for analysis as shown in the various subsections of Tab 3.5. It is assumed all samples will be analyzed for gamma emitters, Sr-90, H-3, C-14, and alpha emitters such as uranium, plutonium, and americium isotopes. Samples collected from accelerator facilities will be analyzed for gamma emitters.

7.13 Tab 3.17, Miscellaneous Costs

This tab shows other costs not specifically captured elsewhere. It is assumed the decommissioning contractor will perform the work under reciprocity agreement with the U.S. NRC at a cost of \$1400. Liability insurance and state/local taxes are included at the rate of 6 percent and 10 percent, respectively, of the on-site labor costs.

8.0 Periodic Updates to Decommissioning Cost Estimate

This cost estimate was prepared using the tables and instructions provided in NUREG 1757. Tables were converted to Excel spreadsheets and modified as necessary to enhance their applicability to the NIST site and to facilitate updating costs in the future. As areas are decommissioned from radiological use or new areas are added, that information may be changed in the spreadsheet. Labor and per diem rates are likely to change in the future. That information may be updated in Tab 3.12 to reflect future labor costs. Transportation costs including mileage, fuel surcharges, overweight/oversize charges; costs of shipping containers; and disposal, site access and license costs may be updated by inserting applicable values into Tab 3.14.

For reference, the table below shows expected escalation of decommissioning costs over the next 20 years. The annual escalation rate was estimated as the average annual United States rate of inflation between 1946 (the first full year after World War II) and 2008 according to the U.S. Consumer Price Index. That rate is 4.1 percent.

Year	Escalation Factor	Laboratory Areas	Accelerator Areas	25% Contingency	TOTAL
2009	---	\$2,615,180	\$1,777,763	\$1,098,236	\$5,491,179
2010	0.041	\$2,722,402	\$1,850,651	\$1,143,263	\$5,716,317
2011	0.041	\$2,834,021	\$1,926,528	\$1,190,137	\$5,950,686
2012	0.041	\$2,950,216	\$2,005,516	\$1,238,933	\$6,194,664
2013	0.041	\$3,071,175	\$2,087,742	\$1,289,729	\$6,448,645
2014	0.041	\$3,197,093	\$2,173,339	\$1,342,608	\$6,713,040
2015	0.041	\$3,328,174	\$2,262,446	\$1,397,655	\$6,988,275
2016	0.041	\$3,464,629	\$2,355,206	\$1,454,959	\$7,274,794
2017	0.041	\$3,606,678	\$2,451,770	\$1,514,612	\$7,573,060
2018	0.041	\$3,754,552	\$2,552,292	\$1,576,711	\$7,883,556
2019	0.041	\$3,908,489	\$2,656,936	\$1,641,356	\$8,206,782
2020	0.041	\$4,068,737	\$2,765,871	\$1,708,652	\$8,543,260
2021	0.041	\$4,235,555	\$2,879,271	\$1,778,707	\$8,893,533
2022	0.041	\$4,409,213	\$2,997,322	\$1,851,634	\$9,258,168
2023	0.041	\$4,589,991	\$3,120,212	\$1,927,551	\$9,637,753
2024	0.041	\$4,778,180	\$3,248,140	\$2,006,580	\$10,032,901
2025	0.041	\$4,974,086	\$3,381,314	\$2,088,850	\$10,444,250
2026	0.041	\$5,178,023	\$3,519,948	\$2,174,493	\$10,872,464
2027	0.041	\$5,390,322	\$3,664,266	\$2,263,647	\$11,318,235
2028	0.041	\$5,611,325	\$3,814,501	\$2,356,457	\$11,782,283
2029	0.041	\$5,841,390	\$3,970,895	\$2,453,071	\$12,265,356

Appendix A

Accelerator Radiological Scoping Report



Radiological Scoping Report



Prepared for:
National Institute for Standards and Technology
Radiation Physics Building
Gaithersburg, MD 20899

Survey Dates: March 23 - 27, 2009
Report Date: May 21, 2009

Prepared by:
Philotechnics, Ltd.
201 Renovare Blvd.
Oak Ridge, TN 37830

Section 1.0 Executive Summary

A scoping survey was performed the Radiation Physics building located at the National Institute of Standards and Technology (NIST) where linear accelerators (LINACS) currently or have historically been in operation. The survey was limited to accelerators which have enough energy to create free neutrons (>8 MV). The purpose of the survey was to determine if any of the facility structures had become neutron activated as a result of the LINAC operation and to provide a cost estimate to remediate any activated areas to unrestricted levels. The project was performed to aid in the writing of the decommissioning funding plan which is required under 10 CFR 30.35 "Financial Assurance and Recordkeeping for Decommissioning".

Core samples were collected throughout the facility and sent to an offsite laboratory for gamma spectroscopy analysis. The sample locations were chosen based on two criteria: areas where elevated readings were detected using the hand-held equipment and professional judgment of the Project Manager. As a general rule, judgmental samples were taken on structures near beam targets, beam dumps and any areas where the beam made a directional change.

A total of 23 volumetric samples were collected and sent to a NVLAP accredited laboratory to be analyzed via gamma spectroscopy. In areas where elevated readings were found, samples were collected from two sampling depths (0 to 6 inches and 6 to 12 inches). In areas where elevated readings were not found, only one core sample was taken from 0 to 6 inches. The results of the two sampling depths will be used to estimate the amount of remediation that will be required to bring the areas below unrestricted release levels. At the time of the survey, the unrestricted release limits were based on a total effective dose equivalent of 25 mrem/yr.

Section 2.0 Scoping Survey

Radiological surveys were conducted using a Canberra portable multi-channel analyzer with a lanthium bromide (LaBr) probe for nuclide identification and a 100 cm² cesium iodide (CsI) hand-held gamma probe connected to a Ludlum 2350-1 survey meter. The gamma probe was selected because the typical activation products (Co-60, Eu-152 and Eu-154) all have gamma emissions which are easily detectable.

Ten (10) one-minute background readings were collected in non-impacted areas of the basement and sub-basement with similar construction materials to the areas being surveyed. The average of the backgrounds counts was calculated and used for purposes of background subtraction. Using a scan rate of 5 cm/sec, the entire tunnel was surveyed, any areas which showed elevated readings were marked and a static measurement was performed. Volumetric samples were taken at the areas with the highest static readings.

Initially we planned on collecting the core samples using a rotary hammer with a 2 inch dry coring bit; however, the concrete was too dense to penetrate. We switched to a chiseling bit and this was effective for the 0 to 6 inch sample. For the 6 to 12 inch sample, a concrete drill bit was used. One benefit of using the chiseling and drill bits is the material collected was a homogenized fine powder and no additional preparation was necessary before sending the sample in for analysis.

The following paragraphs discuss areas in the Radiation Physics building that were surveyed looking for activated components. These areas include: the previously decommissioned 100 MeV linear accelerator tunnel, the Magnet and Measuring rooms, the Medical Industrial Radiation Facility (MIRF), the CLINAC room and the Time of Flight Facility. These areas were chosen because of their potential for neutron activated components.

100 MeV Linear Accelerator Tunnel

The first area surveyed was the previously decommissioned linear accelerator (LINAC) tunnel which housed a 100 MeV accelerator. The tunnel is located in the sub-basement of the Radiation Physics building and is approximately 156 feet long by 9 feet wide. The scan survey was initiated using the gamma probe at the particle source and continued down the tunnel to a concrete wall which was erected after the accelerator was removed. On the other side of the wall are the Measurement and Magnet Rooms which were surveyed separately.

After scanning was completed, four (4) sample locations were selected where elevated readings were detected and two (2) core samples were collected at each location (0 to 6 inches, 6 to 12 inches). It is important to note that all core samples were from the walls of the tunnel; the sub-basement is below the water table and core samples were not collected on the floor to prevent possible flooding from ground water.

The first set of core samples were collected adjacent to the newly erected concrete wall. Using both the chiseling and drill bit, approximately 2000 grams of material was collected from each core depth. Three additional sample locations in the tunnel were chosen based on elevated readings noted during the scan survey. A scaled drawing of LINAC tunnel is attached as Appendix A detailing where the core samples were collected.

Magnet Room and Hallway

The concrete wall separates the LINAC tunnel from the Magnet room and Measurement rooms 1 & 3. After the wall, the accelerator beam had the option of being diverted 3 directions; either to one of the two Magnet rooms that are perpendicular to the beam line or at a 45 degree angle to where the MIRF facility is currently housed. A total of 5 volumetric sample locations were selected based on elevated static readings and professional judgment. Three of the locations had elevated readings and core samples were collected at two depths (0" to 6", 6" to 12"). The other two core sample locations were chosen due to the potential for activation; one at the beam dump and the other where the beam was re-directed to Measurement Room #3. No elevated readings were detected with the hand-held meters so the core samples were only taken from 0 to 6 inches in order to confirm that no activation was present.

Medical Industrial Radiation Facility

The Medical Industrial Radiation Facility (MIRF) currently houses a high energy electron beam accelerator which can produce energies from 7 million to 32 million electron volts (MeV). It is ideally suited for medical radiation calibration research and industrial radiation technology department. The facility is currently located in the space where Measurement Room 2 for the 100 MeV LINAC used to occupy. The facility is rectangular in shape, approximately 45 feet long and 38 feet wide and at one time was the location of the beam stop. The MIRF accelerator

was in use on a daily basis which made it difficult to scan due to activated components from the beam line. Static measurements were performed along the perimeter walls of the facility which were far enough from the beam to avoid any contribution from the activated beam line. One volumetric sample (0" to 6") was collected at the end of the former beam dump tunnel.

CLINAC Room

The CLINAC room houses a 6 MeV to 20 MeV electron-beam (6 MV and 18 MV bremsstrahlung beam) Varian Clinac 2100C to support the development of direct, therapy-level dosimetry calibrations. The square room (30' x 30') was scanned and static measurements were taken. It was determined that no volumetric samples would be collected due to all the static measurements being below 5,000 dpm/100 cm².

Time of Flight Facility

The Time of Flight Facility (TOFF) was previously used to calculate neutron capture cross sections for a variety of different radionuclides. Elevated readings were noticed immediately upon entering the facility ranging from 40,000 to 200,000 cpm/100 cm². Volumetric samples were taken at the two highest static reading locations. There is a pit inside the room where the neutron beam entered the room from the basement and a third sample location was selected in the pit at the highest static reading location.

Positive Ion Van de Graaff Generator

A Van de Graaff generator is an electrostatic machine which uses a moving belt to accumulate very high electrostatically stable voltages on a hollow metal globe. The potential differences achieved at the Van de Graaff generator located in the basement, room 26, can reach 3 MV's. A scan survey using the hand-held gamma meter was performed on all structural surfaces in the room. No elevated readings exceed in the DCGLW were found and the decision was made not to collect any volumetric samples. Based on the hand-held readings, the room meets the release criteria for unrestricted use and no remediation is necessary.

1.5 MeV Dynamitron

The Dynamitron is a dc beam accelerator capable of producing electrons or hundreds of microamps of positive ions from 0.2 to 1.5 MeV. The Dynamitron located in rooms B21, B22 and B23 was scan surveyed using the hand-held gamma meter. No elevated readings exceed in the DCGLW were found and the decision was made not to collect any volumetric samples. Based on the hand-held readings, the room meets the release criteria for unrestricted use and no remediation is necessary.

SURF III Synchrotron

The SURF III Synchrotron Ultraviolet Radiation Facility is the world's senior dedicated source of synchrotron radiation, in continuous operation since 1961. Synchrotron radiation is the light emitted by electrons as they are propelled around a donut-shaped ring in a strong magnetic field. The light emitted from SURF III covers the infrared, visible, ultraviolet and extends into the X-ray region of the electromagnetic spectrum. It is exceptionally pure, and scientists can tune it to a desired wavelength to probe and measure a wide variety of materials and devices.

The maximum energy that electrons are accelerated to in the storage ring is 400 MeV. At injection, the electrons are accelerated to 10 MeV using a Microtron system and then extracted and injected into the storage ring. At injection, 2 micro-second pulses of 10 MeV electrons are sent into the ring at a repetition rate of 7.5 Hz, with an average current of up to 80 mA. Once the injection parameters are optimized, the Microtron injection is stopped and the captured electrons are ramped up in energy. The normal operating energy is 380 MeV and one beam normally lasts for 7 hours which is the time it takes for the beam to decay from 300 mA to 150 mA. The remaining 150 mA is usually dumped and the injection process is repeated.

Based on empirical calculation using neutron detectors located outside the SURF facility, it is estimated that roughly $10E+11$ neutrons per second are generated during the injection process. However, the neutron flux is indistinguishable from background when the storage ring is operational. Concrete is used as shielding material in the room with walls up to 8 feet thick.

Section 3.0 Release Criteria

The radiological release criteria of NRC 10CFR20 Subpart E for unrestricted use will be used for decommissioning the accelerator facilities. Specifically the buildings and facilities being released under this decommissioning effort will be surveyed in accordance with the guidance contained in MARSSIM to demonstrate compliance with the criteria specified in 10CFR20.1402 Radiological Criteria for Unrestricted Use. The specified criteria is that residual radioactivity results in a TEDE to an average member of the critical group that does not exceed 25 mrem per year and that the residual radioactivity has been released to levels that are as low as reasonably achievable (ALARA).

Default Screening Values

The DCGL's for the known radionuclides were determined using NUREG 1757 Vol.2, Table H-1 or calculated using DandD v2.1.

Radionuclide	Half-Life	Radiation Type	Default Screening Value (DPM/100 cm ²)
Co-60	5.27 years	Beta/Gamma	7.0E+03
Eu-152	13.54 years	Beta/Gamma	1.27E+04

For situations where multiple radionuclides with their own DCGLs are present, a gross activity DCGL can be developed. This approach enables field measurement of gross activity, rather than determination of individual radionuclide activity, for comparison to the DCGL. The gross activity DCGL for surfaces with multiple radionuclides is calculated as follows:

$$\text{(Equation 3-1) Gross Activity DCGL} = \frac{1}{\left(\frac{f_1}{DCGL_1} + \frac{f_2}{DCGL_2} + \dots + \frac{f_n}{DCGL_n} \right)}$$

Based on the volumetric sampling results, the following ratios of radionuclides have been established for the heavy and normal concrete used for shielding material:

Sample ID	Location	Depth	Concrete Density	Co-60 (pCi/g)	Eu-152 (pCi/g)	Ratio Co/Eu
NIST-LINAC-004-6	LINAC Tunnel	6 inches	Normal	50.100	16.900	3.0
NIST-LINAC-004-12	LINAC Tunnel	12 inches	Normal	25.700	10.100	2.5
NIST-MAG-001-6	Magnet Room	6 inches	High	9.040	0.254	35.6
NIST-MAG-001-12	Magnet Room	12 inches	High	3.330	U	N/A
NIST-MAG-002-6	Magnet Room	6 inches	High	11.200	0.352	31.8
NIST-MAG-002-12	Magnet Room	12 inches	High	2.920	0.117	25.0
NIST-MAG-003-6	Magnet Room	6 inches	High	4.460	1.460	3.1
NIST-MAG-003-12	Magnet Room	12 inches	High	1.440	0.663	2.2
NIST-MAG-004-6	Magnet Room	6 inches	Normal	0.381	0.152	2.5
NIST-MAG-005-6	Magnet Room	6 inches	Normal	U	U	N/A
NIST-TOFF-001-6	Time of Flight Facility	6 inches	Normal	38.000	11.200	3.4
NIST-TOFF-001-12	Time of Flight Facility	12 inches	Normal	13.600	6.120	2.2
NIST-TOFF-002-6	Time of Flight Facility	6 inches	Normal	46.200	14.800	3.1
NIST-TOFF-002-12	Time of Flight Facility	12 inches	Normal	43.000	13.100	3.3
NIST-TOFF-003-6	Time of Flight Facility	6 inches	Normal	3.610	1.790	2.0
NIST-TOFF-003-12	Time of Flight Facility	12 inches	Normal	1.610	0.811	2.0
NIST-MIRF-001-6	MIRF	6 inches	Normal	0.191	U	N/A

Two different concrete densities were being used in the Radiation Physics building; heavy density and demountable. The heavy concrete has iron added to increase the density. Typically Cobalt-60 (Co-60) is the activated component in heavy concrete and there is very little Europium-152 (Eu-152). For the demountable concrete, the ratio of Eu-152 to Co-60 increases. Using ResRad Build it was determined that the concrete walls would need to be remediated to 3 pCi/g to meet the criteria for unrestricted release.

The volumetric sample data is used to determine the depth of the neutron activation. The overall criteria as to whether the areas meet the release criteria will be based on static measurements.

Section 5.0 Areas Requiring Remediation

In order to release the facility for unrestricted use, significant remediation of the neutron activated concrete will be necessary. Based on the volumetric sample data presented in the table above, the following cost estimate has been put together. The estimates have been based on previous experience remediating activated concrete. Typically normal concrete has a density of 2,400 kg/m³ and high density concrete has a density of 3,400 kg/m³.

Linear Accelerator Tunnel

There are four areas (4) inside the tunnel (identified by the capital letters on the survey map) that require remediation before the area can be released for unrestricted use. The following table outlines the amount of area impacted, the estimated depth of the activation, the total volume of concrete which will need to be removed and the density of the concrete.

Survey Map Location	Area Impacted (L x W)	Estimated Depth	Volume	Weight	Concrete Type
A	1m ² (1m x 1m)	15-30cm	0.15 – 0.30m ³	510–1,020 Kg	High Density
B	0.5m ² (0.5m x 1m)	15-30cm	0.08 – 0.15m ³	272-510 Kg	High Density
C	0.25m ² (0.5m x 0.5m)	15-30cm	0.04 – 0.08m ³	136-272 Kg	High Density
D	2.0m ² (2.0m x 1m)	>30cm	>0.60m ³	≥1,440 Kg	Normal Density

Three of the areas requiring remediation (A, B, C) are on interior, load bearing concrete walls that are thick enough to have up to a foot of material removed without impacting the structure of the building. The fourth area that requires remediation (D) is on an exterior wall that is below the water table. The results of the volumetric sampling show the depth of activation exceeds 30cm (1 foot). The amount of effort involved to remediate this area would be exorbitant. A better option would be to seal off this area and provide long-term surveillance.

Magnet Room & Hallway

There are four (4) areas near the magnet rooms that will require remediation.

Survey Map Location	Area Impacted (L x W)	Estimated Depth	Volume	Weight	Concrete Type
E, F, G, H	1.5m ² (1.5m x 1m)	<30cm	<0.45m ³	<1,080 Kg	Normal Density
I, J	1.5m ² (0.75m x 2m)	15cm	0.23m ³	552 Kg	Normal Density
K	1.0m ² (1m x 1m)	<15cm	<0.15m ³	<360 Kg	Normal Density
L	0.25m ² (0.5m x 0.5m)	5cm	0.013m ³	31 Kg	Normal Density

All of the areas listed above that require remediation are interior walls which are easily accessible and can be remediated using a jackhammer or a Brokk (remote controlled concrete demolition equipment).

Medical Industrial Radiation Facility

All readings were below the release criteria and no remediation is necessary in this area.

CLINAC Facility

All readings were below the release criteria and no remediation is necessary in this area.

Time of Flight Facility

Significant remediation is required in this area in order to meet the free release criteria. The DPM values of the hand-held detector ranged from 200,000 DPM to 1.5 million DPM throughout the facility.

Survey Map Location	Area Impacted (L x W)	Estimated Depth	Volume	Weight	Concrete Type
S	9.0m ² (3.0m x 3.0m)	>30cm	>2.7 m ³	6,480 Kg	Normal Density
T	21.0m ² (7.0m x 3.0m)	>30cm	>6.3 m ³	15,120 Kg	Normal Density
U	21.0m ² (7.0m x 3.0m)	30cm	6.3 m ³	15,120 Kg	Normal Density
V	1.75m ² (2.3m x 0.76m)	2.5cm	0.04m ³	96 Kg	Normal Density
W	3.0m ² (1.0m x 3.0m)	30cm	0.9m ³	2,160 Kg	Normal Density

The Time of Flight Facility is on the ground level and is easily accessible. The data from volumetric sample number NIST-TOFF-002-12 showed Co-60 activation of 43 pCi/g at a 12 inch depth. In order to remediate this area to unrestricted levels it is likely the entire 7 ½ feet thick wall will need to be removed.

Van de Graaff Room

All scans and static readings were below the release criteria and no remediation is necessary in this area.

Dynamitron Facility

All scans and static readings were below the release criteria and no remediation is necessary in this area.

SURF III Synchrotron Facility

No evidence of neutron activation was noted in the SURF III facility and remediation is not necessary in this area.

Section 6.0 Restricted Release

The majority of the areas where activation was found can be remediated to unrestricted levels through the use of hand-held tools or larger equipment such as an excavator. In some circumstances, it is not feasible to remediate these impacted areas and they must be left in place. The LINAC tunnel is located in the sub-basement of the Radiation Physics building which is situated below the water table. Some of the activated areas are on exterior walls and remediation of the concrete is not practical at this time due to the impact the remediation activities would have on the facility. This area would fall under restricted release which means that conditions are placed on future uses of the site. Common restrictions include legally enforceable

institutional controls, such as deed restrictions and describing what the property can and cannot be used for.

There are several stipulations that need to be considered when contemplating restricted release:

- The Radiation Physics building needs to be included in the NRC's Site Decommissioning Management Plan (SMP);
- The licensee must demonstrate that reductions of residual radioactivity to unrestricted levels is not feasible because it would: (1) result in net public or environmental harm; or (2) levels are already ALARA;
- The dose to the average member of the critical group is less than 25 mrem/year with restrictions in place;
- The licensee has made provisions for legally enforceable institutional controls that provide reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group will not exceed 25 mrem per year;
- If institutional controls fail, the annual dose would not exceed 500 mrem;
- The licensee describes the site end use for areas proposed for restricted release.

The restricted release would only be in effect as long as the areas residual radiation is above 25 mrem/yr. Since the activation components have reasonably short half-lives, (Co-60 – 5.27 years, Eu-152 – 13.5 years) administrative controls and area monitoring can be implemented until the radionuclides have had time to decay to unrestricted levels.

Appendix B

Laboratory Areas Cost Estimating Worksheets

Building Room or Area Use

Radionuclides, Extent of Contamination

Area Classification # Floors above Basement # Floors below Roof

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	900	0		0	0	900
Wall Area, ft ²	3000	0		0	0	3000
Ceiling Area, ft ²	900	0		0	0	900

Components	Fraction					ft ³ Concrete
	Total ft ³	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	0		0			
Hoods	60					
Benches/Tables/Desks	120	0				
Casework/Cabinets	270	0				
Reefers, Large Equipment	2000	0				
Misc. Equip./Labware	50					
Hot Cells	0					
Storage Tanks	150					
Other	0					
Sinks	0					
Drains	0					
Ventilation Drops	0					

Drains	No.	<input type="text"/>	Inch Dia.	<input type="text"/>	Total ft ³	<input type="text" value="0.0"/>
Ventilation Drops	No.	<input type="text"/>	Inch Dia.	<input type="text"/>	Total ft ³	<input type="text" value="0.0"/>

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	4	0	0	0	0.5
Equip. Release	0	0	0	0	0	0	0
Pack/Load waste	0.5	1	0	2	4	4	0.5
Decon/Remed.	0	0	0	0	0	0	0
Final Survey	0.5	1	4	0	0	0	0.5

Lab Samples to be collected

Building Room or Area Use

Radionuclides, Extent of Contamination

Area Classification

Floors above Basement

Floors below Roof

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	900			0	0	900
Wall Area, ft ²	3000			0	0	3000
Ceiling Area, ft ²	900			0	0	900

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	60	0				
Benches/Tables/Desks	120	0				
Casework/Cabinets	270	0				
Reefers, Large Equipment	2000	0				
Misc. Equip./Labware	50	0				
Hot Cells						
Storage Tanks	150	0				
Other						
Sinks						
Drains						
Ventilation Drops						

Drains

No.

Inch Dia.

Total ft³

Ventilation Drops

No.

Inch Dia.

Total ft³

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	4				0.5
Equip. Release							
Pack/Load waste	0.5	1		2	4	4	0.5
Decon/Remed.							
Final Survey	0.5	1	4				0.5

Lab Samples to be collected

Building 217

Room or Area

Use

Radionuclides, Extent of Contamination

Area Classification

Floors above Basement

Floors below Roof

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	7200	1250		0	0	5050
Wall Area, ft ²	13630	2250		0	0	9340
Ceiling Area, ft ²	7200	1250		0	0	5050

Components	Fraction					ft ³ Concrete
	Total ft ³	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	0		0			
Hoods	575					
Benches/Tables/Desks	1420	0				
Casework/Cabinets	2000	0				
Reefers, Large Equipment	2725	0				
Misc. Equip./Labware	550					
Hot Cells	0					
Storage Tanks	0					
Other	0					
Sinks	60					
Drains	0					
Ventilation Drops	0					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	11.5	23	60	0	0	0	11.5
Equip. Release	12.6	23.25	61	0	0	0	12.6
Pack/Load waste	1.65	3.5	0	16	27	27	1.65
Decon/Remed.	0.85	0	0	0	0	0	0.85
Final Survey	6.6	13.25	37	0	0	0	6.6

Lab Samples to be collected

3

Building	217	Room or Area	C115				
Use	Surface and Microanalysis						
Radionuclides, Extent of Contamination		Unsealed TRU, U, Th					
Area Classification	1						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	1250	1250	0	0		
Wall Area, ft²	2250	2250	0	0		
Ceiling Area, ft²	1250	1250	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	400	0				
Casework/Cabinets	200	0				
Reefers, Large Equipment	2000	0				
Misc. Equip./Labware	100	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	20	0				
Drains						
Ventilation Drops						

Drains	No.	1	Inch Dia.	2	Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	8	16	32				8
Equip. Release	8	16	32				8
Pack/Load waste					8	8	
Decon/Remed.							
Final Survey	4	8	16				4

Lab Samples to be collected

1

Building	217	Room or Area	D120				
Use	Surface and Microanalysis						
Radionuclides, Extent of Contamination		Sealed Kr-85 only					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	600			0		600
Wall Area, ft ²	1500			0		1500
Ceiling Area, ft ²	600			0		600

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	100	0				
Benches/Tables/Desks						
Casework/Cabinets	600	0				
Reefers, Large Equipment						
Misc. Equip./Labware	200	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	20	0				
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	4				0.5
Equip. Release	2	2	8				2
Pack/Load waste	0.25	0.5		2	4	4	0.25
Decon/Remed.							
Final Survey	0.5	1	4				0.5

# Lab Samples to be collected	1
-------------------------------	---

Building	217	Room or Area	D113				
Use	Surface and Microanalysis						
Radionuclides, Extent of Contamination		Sealed Fe-55 only					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	900			0		900
Wall Area, ft ²	1800			0		1800
Ceiling Area, ft ²	900			0		900

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	120	0				
Casework/Cabinets	150	0				
Reefers, Large Equipment	50	0				
Misc. Equip./Labware	100	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	20	0				
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³		0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³		0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	4				0.5
Equip. Release	0.5	1	4				0.5
Pack/Load waste	0.5	1		2	4	4	0.5
Decon/Remed.	0.5						0.5
Final Survey	0.5	1	4				0.5

# Lab Samples to be collected	1
--------------------------------------	---

Building	217	Room or Area	D101				
Use	Surface and Microanalysis						
Radionuclides, Extent of Contamination		Sealed Fe-55 only					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	600			0		600
Wall Area, ft ²	1500			0		1500
Ceiling Area, ft ²	600			0		600

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	100	0				
Casework/Cabinets	300	0				
Reefers, Large Equipment	25	0				
Misc. Equip./Labware	50	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	4				0.5
Equip. Release	1	2	8				1
Pack/Load waste	0.25	0.5		2	2	2	0.25
Decon/Remed.							
Final Survey	0.5	1	4				0.5

# Lab Samples to be collected	0
--------------------------------------	---

Building	217	Room or Area	D108				
Use	Surface and Microanalysis						
Radionuclides, Extent of Contamination		Sealed Fe-55 only					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft²	1500			0		1500
Wall Area, ft²	1900			0		1900
Ceiling Area, ft²	1500			0		1500

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	200	0				
Casework/Cabinets	150	0				
Reefers, Large Equipment	300	0				
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Person-hours							
Characterize	0.25	0.5	2				0.25
Equip. Release	0.25	0.5	2				0.25
Pack/Load waste	0.1	0.25		2	2	2	0.1
Decon/Remed.							
Final Survey	0.25	0.5	2				0.25

# Lab Samples to be collected	0
--------------------------------------	---

Building	217	Room or Area	D119				
Use	Precision Microdeposition						
Radionuclides, Extent of Contamination		Sealed beta sources only					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	750			0		750
Wall Area, ft ²	1320			0		1320
Ceiling Area, ft ²	750			0		750

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	175	0				
Benches/Tables/Desks	150	0				
Casework/Cabinets	300	0				
Reefers, Large Equipment	100	0				
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	4				0.5
Equip. Release	0.25	0.5	2				0.25
Pack/Load waste	0.25	0.5		2	2	2	0.25
Decon/Remed.	0.25						0.25
Final Survey	0.25	0.5	2				0.25

# Lab Samples to be collected	0
-------------------------------	---

Building	217	Room or Area	C118				
Use	Surface and Microanalysis						
Radionuclides, Extent of Contamination		Sealed sources - beta, Po-210					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	700			0		700
Wall Area, ft²	1320			0		1320
Ceiling Area, ft²	700			0		700

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	150	0				
Casework/Cabinets	100	0				
Reefers, Large Equipment	50	0				
Misc. Equip./Labware	50	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	4				0.5
Equip. Release	0.25	0.5	2				0.25
Pack/Load waste	0.1	0.25		2	1	1	0.1
Decon/Remed.							
Final Survey	0.25	0.5	2				0.25

# Lab Samples to be collected	0
--------------------------------------	---

Building	217	Room or Area	C121				
Use	Particle Metrology						
Radionuclides, Extent of Contamination		Sealed beta sources only					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft²	300			0		
Wall Area, ft²	840			0		
Ceiling Area, ft²	300			0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	300	0				
Benches/Tables/Desks	100	0				
Casework/Cabinets	50	0				
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.25	0.5	2				0.25
Equip. Release	0.1	0.25	1				0.1
Pack/Load waste	0.1	0.25		2	2	2	0.1
Decon/Remed.	0.1						0.1
Final Survey	0.1	0.25	1				0.1

Lab Samples to be collected

0

Building	217	Room or Area	D104				
Use	Surface and Microanalysis						
Radionuclides, Extent of Contamination		Sealed Fe-55 only					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	600			0		
Wall Area, ft ²	1200			0		
Ceiling Area, ft ²	600			0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	200	0				
Casework/Cabinets	150	0				
Reefers, Large Equipment	200	0				
Misc. Equip./Labware	50	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	4				0.5
Equip. Release	0.25	0.5	2				0.25
Pack/Load waste	0.1	0.25		2	2	2	0.1
Decon/Remed.							
Final Survey	0.25	0.5	2				0.25

# Lab Samples to be collected	0
-------------------------------	---

Building 218

Room or Area

Use

Radionuclides, Extent of Contamination

Area Classification

Floors above Basement

Floors below Roof

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	0	0		0		0
Wall Area, ft ²	0	0		0		0
Ceiling Area, ft ²	0	0		0		0

Components	Fraction					ft ³ Concrete
	Total ft ³	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	0		0			
Hoods	0					
Benches/Tables/Desks	0	0				
Casework/Cabinets	0	0				
Reefers, Large Equipment	0	0				
Misc. Equip./Labware	0					
Hot Cells	0					
Storage Tanks	0					
Other	0					
Sinks	0					
Drains	0					
Ventilation Drops	0					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4	0	0	0	1
Equip. Release	0	0	0	0	0	0	0
Pack/Load waste	0	0	0	0	0	0	0
Decon/Remed.	0	0	0	0	0	0	0
Final Survey	0.5	1	2	0	0	0	0.5

Lab Samples to be collected

1

Building	218	Room or Area	C002				
Use	Formerly a lab - now offices						
Radionuclides, Extent of Contamination	None						
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²				0		
Wall Area, ft ²				0		
Ceiling Area, ft ²				0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.5	1	2				0.5

# Lab Samples to be collected	1
-------------------------------	---

Building 220

Room or Area

Use

Radionuclides, Extent of Contamination

Area Classification

Floors above Basement

Floors below Roof

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	1390	400		40	990	0
Wall Area, ft ²	3960	1800		0	2160	0
Ceiling Area, ft ²	1390	400		0	990	0

Components	Fraction					ft ³ Concrete
	Total ft ³	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	0		0			
Hoods	100					
Benches/Tables/Desks	500	0				
Casework/Cabinets	750	0				
Reefers, Large Equipment	0	0				
Misc. Equip./Labware	300					
Hot Cells	0					
Storage Tanks	0					
Other	0					
Sinks	50					
Drains	0.555556					
Ventilation Drops	13.61111					

Drains

No.

Inch Dia.

Total ft³

0.0

Ventilation Drops

No.

Inch Dia.

Total ft³

0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	7.5	15	30	0	0	0	7.5
Equip. Release	5.25	11.5	22	0	0	0	5.25
Pack/Load waste	0.7	1.5	0.5	1	7	7	0.7
Decon/Remed.	0.5	1	1	0	2	2	0.5
Final Survey	4.5	9	18	0	0	0	4.5

Lab Samples to be collected

3

Building	220	Room or Area	A226			
Use	Office					
Radionuclides, Extent of Contamination		Unsealed U, Th				
Area Classification	2					
# Floors above Basement						
# Floors below Roof						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	750			0	750	
Wall Area, ft ²	1320			0	1320	
Ceiling Area, ft ²	750			0	750	

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	200	0				
Casework/Cabinets	350	0				
Reefers, Large Equipment						
Misc. Equip./Labware	100	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	20	0				
Drains						
Ventilation Drops						

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	2	4	8				2
Equip. Release	1	2	4				1
Pack/Load waste	0.5	1			2	2	0.5
Decon/Remed.							
Final Survey	2	4	8				2

# Lab Samples to be collected	1
-------------------------------	---

Building	220	Room or Area	A266				
Use	Micro and Nano Analysis Sample Prep						
Radionuclides, Extent of Contamination		Unsealed U, Th					
Area Classification	1						
# Floors above Basement	2						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft²	400	400	0.1	40		
Wall Area, ft²	1800	1800		0		
Ceiling Area, ft²	400	400		0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	100	0.5		1		
Benches/Tables/Desks	200	0				
Casework/Cabinets	300	0				
Reefers, Large Equipment						
Misc. Equip./Labware	200	0.1	0.2	0.8		
Hot Cells						
Storage Tanks						
Other						
Sinks	30	0				
Drains	0.6	0				
Ventilation Drops	13.6	0				

Drains	No.	2	Inch Dia.	2	Total ft ³	0.6
Ventilation Drops	No.	2	Inch Dia.	14	Total ft ³	13.6

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	4	8	16				4
Pack/Load waste	0.1	0.25	0.5	1	4	4	0.1
Decon/Remed.	0.5	1	1		2	2	0.5
Final Survey	2	4	8				2

# Lab Samples to be collected	1
--------------------------------------	---

Building	220	Room or Area	A122				
Use	Office						
Radionuclides, Extent of Contamination		Formerly unsealed U					
Area Classification	2						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	240			0	240	
Wall Area, ft²	840			0	840	
Ceiling Area, ft²	240			0	240	

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	100	0				
Casework/Cabinets	100	0				
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1.5	3	6				1.5
Equip. Release	0.25	1.5	2				0.25
Pack/Load waste	0.1	0.25			1	1	0.1
Decon/Remed.							
Final Survey	0.5	1	2				0.5

# Lab Samples to be collected	1
--------------------------------------	---

Building 221

Room or Area

Use

Radionuclides, Extent of Contamination

Area Classification

Floors above Basement

Floors below Roof

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	1900	200		0		1700
Wall Area, ft ²	4040	600		0		3440
Ceiling Area, ft ²	1900	200		0		1700

Components	Fraction					ft ³ Concrete
	Total ft ³	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	0		0			
Hoods	60					
Benches/Tables/Desks	350	0				
Casework/Cabinets	1000	0				
Reefers, Large Equipment	1000	0				
Misc. Equip./Labware	1000					
Hot Cells	0					
Storage Tanks	60					
Other	0					
Sinks	40					
Drains	0					
Ventilation Drops	0					

Drains

No.

Inch Dia.

Total ft³

0.0

Ventilation Drops

No.

Inch Dia.

Total ft³

0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4.35	8.75	27	0	0	0	3.35
Equip. Release	1.2	2.5	12	0	0	0	1.2
Pack/Load waste	0.55	1.25	0	12	8	8	0.55
Decon/Remed.	0	0	0	0	0	0	0
Final Survey	2.45	5	16	0	0	0	1.45

Lab Samples to be collected

1

Building	221	Room or Area	A47				
Use	X-ray Calibration						
Radionuclides, Extent of Contamination		Sealed Fe-55 only					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²				0		
Wall Area, ft ²				0		
Ceiling Area, ft ²				0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains						
Ventilation Drops						

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	4				0.5
Equip. Release			2				
Pack/Load waste				2			
Decon/Remed.							
Final Survey	0.25	0.5	2				0.25

# Lab Samples to be collected	0
-------------------------------	---

Building	221	Room or Area	B149				
Use	X-ray Optics						
Radionuclides, Extent of Contamination		Sealed Fe-55 only					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	400			0		400
Wall Area, ft ²	800			0		800
Ceiling Area, ft ²	400			0		400

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	150	0				
Casework/Cabinets	300	0				
Reefers, Large Equipment						
Misc. Equip./Labware	200	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	20	0				
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	4				0.5
Equip. Release	0.25	0.5	2				0.25
Pack/Load waste	0.1	0.25		2	2	2	0.1
Decon/Remed.							
Final Survey	0.25	0.5	2				0.25

# Lab Samples to be collected	0
-------------------------------	---

Building	221	Room or Area	A142				
Use	Atomic Energy Level Data Center						
Radionuclides, Extent of Contamination		Sealed Fe-55 only					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	200			0		200
Wall Area, ft²	600			0		600
Ceiling Area, ft²	200			0		200

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	200	0				
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware	100	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.25	0.5	2				0.25
Equip. Release	0.1	0.25	1				0.1
Pack/Load waste				2	1	1	
Decon/Remed.							
Final Survey	0.1	0.25	1				0.1

# Lab Samples to be collected	0
--------------------------------------	---

Building	221	Room or Area	A146				
Use							
Radionuclides, Extent of Contamination		Sealed Fe-55 only					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	200			0		200
Wall Area, ft ²	600			0		600
Ceiling Area, ft ²	200			0		200

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets	200					
Reefers, Large Equipment						
Misc. Equip./Labware	300					
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.1	0.25	1				0.1
Equip. Release	0.1	0.25	1				0.1
Pack/Load waste	0.1	0.25		2	1	1	0.1
Decon/Remed.							
Final Survey	0.1	0.25	1				0.1

# Lab Samples to be collected	0
-------------------------------	---

Building	221	Room or Area	A58				
Use	Low level counting						
Radionuclides, Extent of Contamination		C-14; Sealed Am-241, Kr-85					
Area Classification	1						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	200	200	0	0		
Wall Area, ft ²	600	600	0	0		
Ceiling Area, ft ²	200	200	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets	200	0				
Reefers, Large Equipment	300	0				
Misc. Equip./Labware	200	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	8				1
Equip. Release	0.5	1	4				0.5
Pack/Load waste	0.1	0.25		2	2	2	0.1
Decon/Remed.							
Final Survey	0.5	1	4				0.5

# Lab Samples to be collected	0
-------------------------------	---

Building	221	Room or Area	B21-23				
Use							
Radionuclides, Extent of Contamination		Sealed Kr-85					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	900			0		900
Wall Area, ft²	1440			0		1440
Ceiling Area, ft²	900			0		900

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	60	0				
Benches/Tables/Desks						
Casework/Cabinets	300	0				
Reefers, Large Equipment	700	0				
Misc. Equip./Labware	200	0				
Hot Cells						
Storage Tanks	60	0				
Other						
Sinks	20	0				
Drains	0.0	0				
Ventilation Drops	0.0	0				

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	0.25	0.5	2				0.25
Pack/Load waste	0.25	0.5		2	2	2	0.25
Decon/Remed.							
Final Survey	0.25	0.5	2				0.25

# Lab Samples to be collected	0
--------------------------------------	---

Building Room or Area Use

Radionuclides, Extent of Contamination

Area Classification # Floors above Basement # Floors below Roof

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	0	0		0		0
Wall Area, ft ²	0	0		0		0
Ceiling Area, ft ²	0	0		0		0

Components	Fraction					ft ³
	Total ft ³	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	Concrete
Glove Boxes	0		0			
Hoods	0					
Benches/Tables/Desks	0	0				
Casework/Cabinets	0	0				
Reefers, Large Equipment	0	0				
Misc. Equip./Labware	0					
Hot Cells	0					
Storage Tanks	0					
Other	0					
Sinks	0					
Drains	0					
Ventilation Drops	0					

Drains	No.	<input type="text"/>	Inch Dia.	<input type="text"/>	Total ft ³	<input type="text" value="0.0"/>
Ventilation Drops	No.	<input type="text"/>	Inch Dia.	<input type="text"/>	Total ft ³	<input type="text" value="0.0"/>

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16	0	0	0	4
Equip. Release	0	0	0	0	0	0	0
Pack/Load waste	0	0	0	0	0	0	0
Decon/Remed.	0	0	0	0	0	0	0
Final Survey	7	14	28	0	0	0	7

Lab Samples to be collected

9

Building	222	Room or Area	A-206, 110, 116, 122, 128, 132, 148				
Use	Formerly radiological labs; previously released, now offices						
Radionuclides, Extent of Contamination		All nuclides					
Area Classification	2						
# Floors above Basement							
# Floors below Roof							
	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3	
Floor Area, ft²				0			
Wall Area, ft²				0			
Ceiling Area, ft²				0			

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains						
Ventilation Drops						

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	4	8	16				4

# Lab Samples to be collected	7
--------------------------------------	---

Building Room or Area Use

Radionuclides, Extent of Contamination

Area Classification # Floors above Basement # Floors below Roof

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	4400	0		0		3500
Wall Area, ft ²	7680	0		0		6180
Ceiling Area, ft ²	4400	0		0		3500

Components	Fraction					ft ³ Concrete
	Total ft ³	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	0		0			
Hoods	0					
Benches/Tables/Desks	920	0				
Casework/Cabinets	550	0				
Reefers, Large Equipment	2850	0				
Misc. Equip./Labware	1005					
Hot Cells	0					
Storage Tanks	0					
Other	0					
Sinks	0					
Drains	0					
Ventilation Drops	0					

Drains

No. Inch Dia. Total ft³

Ventilation Drops

No. Inch Dia. Total ft³

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4.25	8.5	26	0	0	0	4.25
Equip. Release	1.9	3.75	15	0	0	0	1.9
Pack/Load waste	1.05	2.25	0	8	11	11	1.05
Decon/Remed.	0	0	0	0	0	0	0
Final Survey	1.3	2.75	11	0	0	0	1.3

Lab Samples to be collected

1

Building 223

Room or Area B151

Use

Radionuclides, Extent of Contamination

Sealed Co-57, Sn-119

Area Classification

3

Floors above Basement

Floors below Roof

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	500			0		500
Wall Area, ft ²	1100			0		1100
Ceiling Area, ft ²	500			0		500

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	150	0				
Casework/Cabinets	100	0				
Reefers, Large Equipment	500	0				
Misc. Equip./Labware	600	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains						
Ventilation Drops						

Drains

No.

Inch Dia.

Total ft³

0.0

Ventilation Drops

No.

Inch Dia.

Total ft³

0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	4				0.5
Equip. Release	0.25	0.5	2				0.25
Pack/Load waste	0.25	0.5		2	2	2	0.25
Decon/Remed.							
Final Survey	0.25	0.5	2				0.25

Lab Samples to be collected

0

Building	223	Room or Area	B221				
Use	X-ray Diffraction						
Radionuclides, Extent of Contamination		Sealed Fe-55					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	400			0		400
Wall Area, ft ²	1000			0		1000
Ceiling Area, ft ²	400			0		400

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	200	0				
Casework/Cabinets	150	0				
Reefers, Large Equipment	800	0				
Misc. Equip./Labware	150	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.25	0.5	2				0.25
Equip. Release	0.25	0.5	2				0.25
Pack/Load waste	0.25	0.5		2	2	2	0.25
Decon/Remed.							
Final Survey	0.1	0.25	1				0.1

# Lab Samples to be collected	0
-------------------------------	---

Building	223	Room or Area	A132				
Use	MSEL Microscopy						
Radionuclides, Extent of Contamination		Sealed Fe-55					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	800			0		800
Wall Area, ft ²	1200			0		1200
Ceiling Area, ft ²	800			0		800

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	120	0				
Casework/Cabinets	100	0				
Reefers, Large Equipment	300	0				
Misc. Equip./Labware	80	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	0.4	0.75	3				0.4
Pack/Load waste	0.1	0.25		2	2	2	0.1
Decon/Remed.							
Final Survey	0.25	0.5	2				0.25

# Lab Samples to be collected	0
-------------------------------	---

Building	223	Room or Area	B313				
Use							
Radionuclides, Extent of Contamination		Formerly sealed, unsealed U					
Area Classification	2						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	900			0	900	
Wall Area, ft ²	1500			0	1500	
Ceiling Area, ft ²	900			0	900	

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	8				1
Equip. Release	0.5	1	4				0.5
Pack/Load waste	0.25	0.5			1	1	0.25
Decon/Remed.							
Final Survey	0.5	1	4				0.5

# Lab Samples to be collected	1
--------------------------------------	---

Building	223	Room or Area	A150				
Use	Structure Destruction Methods						
Radionuclides, Extent of Contamination		Formerly unsealed Co-57					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	900			0		900
Wall Area, ft²	1440			0		1440
Ceiling Area, ft²	900			0		900

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	300	0				
Casework/Cabinets	200	0				
Reefers, Large Equipment	500	0				
Misc. Equip./Labware	75	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	4				0.5
Equip. Release	0.25	0.5	2				0.25
Pack/Load waste	0.1	0.25			2	2	0.1
Decon/Remed.							
Final Survey	0.1	0.25	1				0.1

# Lab Samples to be collected	0
--------------------------------------	---

Building	223	Room or Area	A232				
Use	X-ray Diffraction						
Radionuclides, Extent of Contamination		Sealed Fe-55					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	900			0		900
Wall Area, ft ²	1440			0		1440
Ceiling Area, ft ²	900			0		900

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	150	0				
Casework/Cabinets						
Reefers, Large Equipment	750	0				
Misc. Equip./Labware	100	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	0.25	0.5	2				0.25
Pack/Load waste	0.1	0.25		2	2	2	0.1
Decon/Remed.							
Final Survey	0.1	0.25	1				0.1

# Lab Samples to be collected	0
-------------------------------	---

Building Room or Area Use

Radionuclides, Extent of Contamination

Area Classification # Floors above Basement # Floors below Roof

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	3065	840		0		1525
Wall Area, ft ²	5800	1500		0		2800
Ceiling Area, ft ²	3065	840		0		1525

Components	Fraction					ft ³ Concrete
	Total ft ³	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	0		0			
Hoods	80					
Benches/Tables/Desks	870	0				
Casework/Cabinets	1140	0				
Reefers, Large Equipment	900	0				
Misc. Equip./Labware	475					
Hot Cells	0					
Storage Tanks	4					
Other	0					
Sinks	94					
Drains	0					
Ventilation Drops	0					

Drains

No. Inch Dia. Total ft³

Ventilation Drops

No. Inch Dia. Total ft³

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	8	16	32	0	0	0	3.55
Equip. Release	4.25	8.5	21	0	0	0	2.25
Pack/Load waste	1	2	0	3	8	7	1
Decon/Remed.	0	0	0	0	0	0	0
Final Survey	3.75	7.5	17	0	0	0	1.75

Lab Samples to be collected

4

Building	224	Room or Area	B225				
Use							
Radionuclides, Extent of Contamination		None					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	625			0		625
Wall Area, ft²	1200			0		1200
Ceiling Area, ft²	625			0		625

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	300	0				
Casework/Cabinets	300	0				
Reefers, Large Equipment	400	0				
Misc. Equip./Labware	75	0				
Hot Cells						
Storage Tanks	4	0				
Other						
Sinks	20	0				
Drains						
Ventilation Drops						

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	0.5	1	4				0.5
Pack/Load waste	0.25	0.5			2	2	0.25
Decon/Remed.							
Final Survey	0.25	0.5	2				0.25

# Lab Samples to be collected	1
--------------------------------------	---

Building	224	Room or Area	B365			
Use						
Radionuclides, Extent of Contamination		Formerly Kr-85				
Area Classification	3					
# Floors above Basement						
# Floors below Roof						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	600			0		600
Wall Area, ft²	900			0		900
Ceiling Area, ft²	600			0		600

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	250	0				
Casework/Cabinets	350	0				
Reefers, Large Equipment	500	0				
Misc. Equip./Labware	80	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	0.5	1	4				0.5
Pack/Load waste	0.25	0.5			2	2	0.25
Decon/Remed.							
Final Survey	0.25	0.5	2				0.25

# Lab Samples to be collected	0
--------------------------------------	---

Building	224	Room or Area	A264				
Use	Aerosol Measurement Lab						
Radionuclides, Extent of Contamination		Kr-85, Sealed Am-241					
Area Classification	2						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	200			0	200	
Wall Area, ft ²	600			0	600	
Ceiling Area, ft ²	200			0	200	

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	80	0				
Benches/Tables/Desks	120	0				
Casework/Cabinets	100	0				
Reefers, Large Equipment						
Misc. Equip./Labware	100	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	20	0				
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	2				0.5
Equip. Release	0.5	1	2				0.5
Pack/Load waste	0.25	0.5		2	1	1	0.25
Decon/Remed.							
Final Survey	0.5	1	2				0.5

# Lab Samples to be collected	1
-------------------------------	---

Building	224	Room or Area	B363				
Use	Fire Emulator Lab						
Radionuclides, Extent of Contamination		Kr-85					
Area Classification	2						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	500			0	500	
Wall Area, ft ²	900			0	900	
Ceiling Area, ft ²	500			0	500	

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	100	0				
Casework/Cabinets	120	0				
Reefers, Large Equipment						
Misc. Equip./Labware	100	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	50	0				
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	0.5	1	2				0.5
Pack/Load waste	0.25	0.5		1	1		0.25
Decon/Remed.							
Final Survey	0.5	1	2				0.5

# Lab Samples to be collected	1
-------------------------------	---

Building	224	Room or Area	A363				
Use	Office						
Radionuclides, Extent of Contamination		Formerly Sealed Kr-85					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	300			0		300
Wall Area, ft²	700			0		700
Ceiling Area, ft²	300			0		300

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	100	0				
Casework/Cabinets	50	0				
Reefers, Large Equipment						
Misc. Equip./Labware	20	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Person-hours							
Characterize	0.5	1	2				0.05
Equip. Release	0.25	0.5	1				0.25
Pack/Load waste							
Decon/Remed.							
Final Survey	0.25	0.5	1				0.25

# Lab Samples to be collected	0
--------------------------------------	---

Building	224	Room or Area	B154				
Use							
Radionuclides, Extent of Contamination		Unsealed Th					
Area Classification	1						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	840	840	0	0		
Wall Area, ft²	1500	1500	0	0		
Ceiling Area, ft²	840	840	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets	220	0				
Reefers, Large Equipment						
Misc. Equip./Labware	100	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	4	0				
Drains	0.0	0				
Ventilation Drops	0.0	0				

Drains	No.	2	Inch Dia.	2	Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				
Equip. Release	2	4	8				
Pack/Load waste					2	2	
Decon/Remed.							
Final Survey	2	4	8				

# Lab Samples to be collected	1
--------------------------------------	---

Building 226

Room or Area

Use

Radionuclides, Extent of Contamination

Area Classification

Floors above Basement

Floors below Roof

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	2300	0		0		1200
Wall Area, ft ²	3200	0		0		1700
Ceiling Area, ft ²	2300	0		0		1200

Components	Fraction					ft ³ Concrete
	Total ft ³	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	0		0			
Hoods	175					
Benches/Tables/Desks	500	0				
Casework/Cabinets	750	0				
Reefers, Large Equipment	600	0				
Misc. Equip./Labware	200					
Hot Cells	0					
Storage Tanks	75					
Other	0					
Sinks	60					
Drains	0					
Ventilation Drops	0					

Drains

No.

Inch Dia.

Total ft³

0.0

Ventilation Drops

No.

Inch Dia.

Total ft³

0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	2.25	4.5	9	0	0	0	2.25
Equip. Release	2.5	5	10	0	0	0	2.5
Pack/Load waste	0.75	1.5	1	4	4	4	0.75
Decon/Remed.	0	0	0	0	0	0	0
Final Survey	1.25	2.5	5	0	0	0	1.25

Lab Samples to be collected

3

Building Room or Area Use

Radionuclides, Extent of Contamination

Area Classification

Floors above Basement

Floors below Roof

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	1200			0		1200
Wall Area, ft ²	1700			0		1700
Ceiling Area, ft ²	1200			0		1200

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	300	0				
Casework/Cabinets	400	0				
Reefers, Large Equipment	500	0				
Misc. Equip./Labware						
Hot Cells						
Storage Tanks	75	0				
Other						
Sinks	20	0				
Drains						
Ventilation Drops						

Drains	No.	<input type="text"/>	Inch Dia.	<input type="text"/>	Total ft ³	<input type="text" value="0.0"/>
Ventilation Drops	No.	<input type="text"/>	Inch Dia.	<input type="text"/>	Total ft ³	<input type="text" value="0.0"/>

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.25	0.5	1				0.25
Equip. Release	0.5	1	2				0.5
Pack/Load waste	0.25	0.5	1	2	2	2	0.25
Decon/Remed.							
Final Survey	0.25	0.5	1				0.25

Lab Samples to be collected

Building	226	Room or Area	B225				
Use	Microstructure lab						
Radionuclides, Extent of Contamination	Sealed AmBe						
Area Classification	2						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	1100			0	1100	
Wall Area, ft²	1500			0	1500	
Ceiling Area, ft²	1100			0	1100	

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	175	0				
Benches/Tables/Desks	200	0				
Casework/Cabinets	350	0				
Reefers, Large Equipment	100	0				
Misc. Equip./Labware	200	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	40	0				
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	2	4	8				2
Equip. Release	2	4	8				2
Pack/Load waste	0.5	1		2	2	2	0.5
Decon/Remed.							
Final Survey	1	2	4				1

Lab Samples to be collected

3

Building 227

Room or Area

Use

Radionuclides, Extent of Contamination

Area Classification

Floors above Basement

Floors below Roof

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	8533	1688		0		6445
Wall Area, ft ²	15970	3220		0		11950
Ceiling Area, ft ²	8533	1688		0		6445

Components	Fraction					ft ³ Concrete
	Total ft ³	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	60		0			
Hoods	430					
Benches/Tables/Desks	2180	0				
Casework/Cabinets	2280	0				
Reefers, Large Equipment	2280	0				
Misc. Equip./Labware	1390					
Hot Cells	0					
Storage Tanks	20					
Other	0					
Sinks	155					
Drains	0.277778					
Ventilation Drops	0					

Drains

No.

Inch Dia.

Total ft³

0.0

Ventilation Drops

No.

Inch Dia.

Total ft³

0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	16	32	64	0	0	0	16
Equip. Release	10.5	21	42	0	0	0	10.5
Pack/Load waste	2.85	5.75	0.5	11	16	16	2.85
Decon/Remed.	0.5	0	0	0	0	0	0.5
Final Survey	8.25	16.5	33	0	0	0	8.25

Lab Samples to be collected

4

Building Room or Area Use

Radionuclides, Extent of Contamination

Area Classification

Floors above Basement

Floors below Roof

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	1200			0		1200
Wall Area, ft ²	2000			0		2000
Ceiling Area, ft ²	1200			0		1200

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	120	0				
Benches/Tables/Desks						
Casework/Cabinets	1000	0				
Reefers, Large Equipment	700	0				
Misc. Equip./Labware	100	0				
Hot Cells						
Storage Tanks	20	0				
Other						
Sinks	30	0				
Drains						
Ventilation Drops						

Drains	No.	<input type="text"/>	Inch Dia.	<input type="text"/>	Total ft ³	<input type="text" value="0.0"/>
Ventilation Drops	No.	<input type="text"/>	Inch Dia.	<input type="text"/>	Total ft ³	<input type="text" value="0.0"/>

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	0.5	1	2				0.5
Pack/Load waste	0.5	1		2	2	2	0.5
Decon/Remed.							
Final Survey	0.5	1	2				0.5

Lab Samples to be collected

Building	227	Room or Area	B147				
Use	Instrument Development						
Radionuclides, Extent of Contamination		Sealed H-3 only					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	375			0		375
Wall Area, ft ²	900			0		900
Ceiling Area, ft ²	375			0		375

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	300	0				
Casework/Cabinets	100	0				
Reefers, Large Equipment	200	0				
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	2				0.5
Equip. Release	0.25	0.5	1				0.25
Pack/Load waste	0.25	0.5		1	1	1	0.25
Decon/Remed.							
Final Survey	0.25	0.5	1				0.25

# Lab Samples to be collected	0
--------------------------------------	---

Building	227	Room or Area	B326				
Use	Inorganic Chemical Metrology						
Radionuclides, Extent of Contamination		Formerly unsealed U233					
Area Classification	2						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	400			0	400	
Wall Area, ft ²	800			0	800	
Ceiling Area, ft ²	400			0	400	

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	400	0				
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	2	4	8				2
Equip. Release	0.5	1	2				0.5
Pack/Load waste					1	1	
Decon/Remed.							
Final Survey	1	2	4				1

# Lab Samples to be collected	1
-------------------------------	---

Building	227	Room or Area	B141				
Use							
Radionuclides, Extent of Contamination		H-3, C-14					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	200	200	0	0		
Wall Area, ft²	720	720	0	0		
Ceiling Area, ft²	200	200	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	100	0.1		1		
Benches/Tables/Desks	120	0				
Casework/Cabinets	80	0				
Reefers, Large Equipment	150	0				
Misc. Equip./Labware	80	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	25	0				
Drains	0.1	0				
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	2	Total ft ³	0.1
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	2				0.5
Equip. Release	0.5	1	2				0.5
Pack/Load waste	0.1	0.25	0.5	1	2	2	0.1
Decon/Remed.							
Final Survey	0.25	0.5	1				0.25

# Lab Samples to be collected	1
--------------------------------------	---

Building	227	Room or Area	B143				
Use							
Radionuclides, Extent of Contamination		Sealed Po-210 only					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	150			0		150
Wall Area, ft²	600			0		600
Ceiling Area, ft²	150			0		150

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	80	0				
Casework/Cabinets	80	0				
Reefers, Large Equipment	200	0				
Misc. Equip./Labware	20	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	20	0				
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	2				0.5
Equip. Release	0.25	0.5	1				0.25
Pack/Load waste	0.25	0.5		2	1	1	0.25
Decon/Remed.							
Final Survey	0.25	0.5	1				0.25

# Lab Samples to be collected	0
--------------------------------------	---

Building 227

Room or Area B243

Use

Radionuclides, Extent of Contamination

H-3, P-32, S-35

Area Classification

1

Floors above Basement

1

Floors below Roof

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	1200	1200	0	0		
Wall Area, ft ²	1600	1600	0	0		
Ceiling Area, ft ²	1200	1200	0	0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	80	0.5	0.1	0.9		
Benches/Tables/Desks	300	0				
Casework/Cabinets	250	0				
Reefers, Large Equipment	350	0				
Misc. Equip./Labware	300	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	40	0				
Drains	0.1	0				
Ventilation Drops	0.0	0				

Drains	No.	1	Inch Dia.	2	Total ft ³	0.1
Ventilation Drops	No.	1	Inch Dia.	6	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	2	4	8				2
Pack/Load waste	0.25	0.5		1	2	2	0.25
Decon/Remed.							
Final Survey	1	2	4				1

Lab Samples to be collected

1

Building	227	Room or Area	B153				
Use	Magnet Lab						
Radionuclides, Extent of Contamination		None					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	300			0		300
Wall Area, ft ²	1000			0		1000
Ceiling Area, ft ²	300			0		300

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	80	0				
Casework/Cabinets	200	0				
Reefers, Large Equipment	80	0				
Misc. Equip./Labware	50	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	2				0.5
Equip. Release	0.5	1	2				0.5
Pack/Load waste	0.5	1			2	2	0.5
Decon/Remed.							
Final Survey	0.25	0.5	1				0.25

Lab Samples to be collected

0

Building	227	Room or Area	B123				
Use	Inorganic Lab						
Radionuclides, Extent of Contamination		Sealed Po-210 only					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft²	420			0		420
Wall Area, ft²	1150			0		1150
Ceiling Area, ft²	420			0		420

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	30	0				
Benches/Tables/Desks	200	0				
Casework/Cabinets	250	0				
Reefers, Large Equipment	400	0				
Misc. Equip./Labware	100	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	20	0				
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	0.5	1	2				0.5
Pack/Load waste	0.5	1		2	2	2	0.5
Decon/Remed.	0.5						0.5
Final Survey	0.25	0.5	1				0.25

# Lab Samples to be collected	0
--------------------------------------	---

Building	227	Room or Area	B311				
Use	Inorganic Chemical Metrology						
Radionuclides, Extent of Contamination		Sealed Kr-85. Po-210					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	1000			0		1000
Wall Area, ft ²	2100			0		2100
Ceiling Area, ft ²	1000			0		1000

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	100	0				
Casework/Cabinets	100	0				
Reefers, Large Equipment						
Misc. Equip./Labware	40	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	0.5	1	2				0.5
Pack/Load waste	0.5	1		2	1	1	0.5
Decon/Remed.							
Final Survey	0.5	1	2				0.5

# Lab Samples to be collected	0
-------------------------------	---

Building	227	Room or Area	B333				
Use							
Radionuclides, Extent of Contamination		U233					
Area Classification	1						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	288	288	0	0		
Wall Area, ft ²	900	900	0	0		
Ceiling Area, ft ²	288	288	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	100	0				
Benches/Tables/Desks						
Casework/Cabinets	120	0				
Reefers, Large Equipment						
Misc. Equip./Labware	100	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	10	0				
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	2	4	8				2
Pack/Load waste					2	2	
Decon/Remed.							
Final Survey	2	4	8				2

# Lab Samples to be collected	1
-------------------------------	---

Building	227	Room or Area	A316				
Use	Office						
Radionuclides, Extent of Contamination		Formerly sealed H-3 only					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	1200			0		1200
Wall Area, ft ²	1800			0		1800
Ceiling Area, ft ²	1200			0		1200

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets	100	0				
Reefers, Large Equipment	200	0				
Misc. Equip./Labware	100	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	2	4	8				2
Equip. Release	1	2	4				1
Pack/Load waste							
Decon/Remed.							
Final Survey	1	2	4				1

Lab Samples to be collected

Building	227	Room or Area	B111				
Use							
Radionuclides, Extent of Contamination		Sealed Ni-63 and Kr-85 only					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft²	1800			0		1800
Wall Area, ft²	2400			0		2400
Ceiling Area, ft²	1800			0		1800

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes	60					
Hoods						
Benches/Tables/Desks	600	0				
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware	500	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	10	0				
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	2	4	8				2
Equip. Release	2	4	8				2
Pack/Load waste							
Decon/Remed.							
Final Survey	1	2	4				1

# Lab Samples to be collected	0
--------------------------------------	---

Building	245	Room or Area	A Wing				
Use							
Radionuclides, Extent of Contamination							
Area Classification							
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	24425	5140		88	5590	14295
Wall Area, ft ²	35102	7900		0	10800	17202
Ceiling Area, ft ²	24425	5140		0	5590	14295

Components	Total ft ³	Fraction				Concrete
		RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	125		27.5			
Hoods	0					
Benches/Tables/Desks	3996	0				
Casework/Cabinets	6250	0				
Reefers, Large Equipment	20690	0				
Misc. Equip./Labware	14085					
Hot Cells	0					
Storage Tanks	500					
Other	4705					
Sinks	43					
Drains	1.527778					
Ventilation Drops	43.05556					

Drains	No.	Inch Dia.	Total ft ³
Ventilation Drops	No.	Inch Dia.	Total ft ³

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	55.5	111	222	0	0	0	54.7
Equip. Release	46.5	93	186	0	0	0	45.7
Pack/Load waste	7	14	7	15	32.5	31.5	7
Decon/Remed.	2	4	4	0	8	8	2
Final Survey	29	58	114	0	0	0	28.6

Lab Samples to be collected

17

Building		Room or Area	
Use			
Radionuclides, Extent of Contamination			
Area Classification			
# Floors above Basement			
# Floors below Roof			

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²				0		
Wall Area, ft ²				0		
Ceiling Area, ft ²				0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize							
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey							

Lab Samples to be collected

Building	245	Room or Area	A005				
Use							
Radionuclides, Extent of Contamination		TRU, U, Beta					
Area Classification	1						
# Floors above Basement	0						
# Floors below Roof	6						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	320	320	0.1	32		
Wall Area, ft ²	480	480		0		
Ceiling Area, ft ²	320	320		0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	180	0.1	0.2	0.8		
Casework/Cabinets	250	0.1	0.2	0.8		
Reefers, Large Equipment	6000	0.2	0.05	0.95		
Misc. Equip./Labware	400	0.2	0.2	0.8		
Hot Cells						
Storage Tanks						
Other	2200	0.1				1
Sinks	20	0.1		1		
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	2	Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	8	16	32				8
Pack/Load waste	1	2		2	2	2	1
Decon/Remed.	1	2			4	4	1
Final Survey	2	4	8				2

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	A006-1				
Use							
Radionuclides, Extent of Contamination			Sealed Sr-90				
Area Classification	3						
# Floors above Basement	0						
# Floors below Roof	3						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	204			0		204
Wall Area, ft ²	522			0		522
Ceiling Area, ft ²	204			0		204

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	10	0				
Casework/Cabinets	70	0				
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks	2	0				
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	2	Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	0.5	1	2				0.5
Pack/Load waste	0.25	0.5	1	1	1		0.25
Decon/Remed.							
Final Survey	1	2	2				1

# Lab Samples to be collected	0
-------------------------------	---

Building		Room or Area	
Use			
Radionuclides, Extent of Contamination			
Area Classification			
# Floors above Basement			
# Floors below Roof			

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²				0		
Wall Area, ft ²				0		
Ceiling Area, ft ²				0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware			0.5			
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains						
Ventilation Drops						

Drains	No.	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize							
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey							

Lab Samples to be collected

Building	245	Room or Area	A01			
Use	Storage					
Radionuclides, Extent of Contamination		Beta-gamma, Sr-90				
Area Classification	1					
# Floors above Basement	0					
# Floors below Roof	3					

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	600	600	0	0		600
Wall Area, ft²	800	800	0	0		800
Ceiling Area, ft²	600	600	0	0		600

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	200	0				
Casework/Cabinets	800	0				
Reefers, Large Equipment						
Misc. Equip./Labware	1000	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1.5	3	6				1.5
Equip. Release	1.5	3	6				1.5
Pack/Load waste	0.25	0.5			1	1	0.25
Decon/Remed.							
Final Survey	0.75	1.5	3				0.75

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	A02/A04				
Use	SURF Lab						
Radionuclides, Extent of Contamination		Sr-90					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	2000	2000	0	0		
Wall Area, ft²	1440	1440	0	0		
Ceiling Area, ft²	2000	2000	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	1200	0				
Casework/Cabinets	2800	0				
Reefers, Large Equipment						
Misc. Equip./Labware	7000	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	4	8	16				4
Pack/Load waste	0.5	1		2	2	2	0.5
Decon/Remed.							
Final Survey	2	4	8				2

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	A06			
Use	Storage					
Radionuclides, Extent of Contamination		Sealed Sr-90				
Area Classification	3					
# Floors above Basement	0					
# Floors below Roof	2					

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	2400			0		2400
Wall Area, ft²	2000			0		2000
Ceiling Area, ft²	2400			0		2400

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes	50	0.5	0.9	0.1		
Hoods						
Benches/Tables/Desks	800	0				
Casework/Cabinets	800	0				
Reefers, Large Equipment	1200	0				
Misc. Equip./Labware	1000	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.	0	Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.	0	Total ft ³	0.0

	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Person-hours							
Characterize	4	8	16				4
Equip. Release	4	8	16				4
Pack/Load waste	0.5	1		2	2	2	0.5
Decon/Remed.							
Final Survey	2	4	8				2

# Lab Samples to be collected	0
--------------------------------------	---

Building	245	Room or Area	A09				
Use	EUV Optic & Diagnostic Lab						
Radionuclides, Extent of Contamination		None listed					
Area Classification	3						
# Floors above Basement	0						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	5100			0		5100
Wall Area, ft²	6000			0		6000
Ceiling Area, ft²	5100			0		5100

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	500		0			
Casework/Cabinets	500		0			
Reefers, Large Equipment	1000		0			
Misc. Equip./Labware	200		0			
Hot Cells						
Storage Tanks						
Other						
Sinks	20		0			
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	2	Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	8	16	32				8
Equip. Release	2	4	8				2
Pack/Load waste	0.5	1			2	2	0.5
Decon/Remed.							
Final Survey	4	8	16				4

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	A010				
Use							
Radionuclides, Extent of Contamination		Beta-gamma, Sr-90					
Area Classification	1						
# Floors above Basement	0						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft²	1860	1860	0	0		
Wall Area, ft²	3900	3900	0	0		
Ceiling Area, ft²	1860	1860	0	0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes	50	0				
Hoods						
Benches/Tables/Desks	216	0				
Casework/Cabinets						
Reefers, Large Equipment	3000	0				
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	4	8	16				4
Pack/Load waste	0.5	1			2	2	0.5
Decon/Remed.							
Final Survey	2	4	8				2

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	A10 East Basement			
Use	Ionizing Dosimetry					
Radionuclides, Extent of Contamination			Sealed Sources			
Area Classification	2					
# Floors above Basement	3					
# Floors below Roof	1					

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	350			0	350	
Wall Area, ft²	800			0	800	
Ceiling Area, ft²	350			0	350	

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	10	0				
Casework/Cabinets						
Reefers, Large Equipment	80	0				
Misc. Equip./Labware	20	0				
Hot Cells						
Storage Tanks						
Other	10	0				
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				0.2
Equip. Release	1	2	4				0.2
Pack/Load waste					0.5	0.5	
Decon/Remed.							
Final Survey	0.5	1	2				0.1

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	A011				
Use	Calibration Room						
Radionuclides, Extent of Contamination		Cs-137 Irradiators					
Area Classification	3						
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	975			0		975
Wall Area, ft ²	1560			0		1560
Ceiling Area, ft ²	975			0		975

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	130	0				
Casework/Cabinets						
Reefers, Large Equipment	110	0				
Misc. Equip./Labware	65	0				
Hot Cells						
Storage Tanks						
Other	400	0				
Sinks						
Drains	1.3	0				
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	6	Total ft ³	1.3
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1.5	3	6				1.5
Equip. Release	1	2	4				1
Pack/Load waste	0.5	1	2	4	4	4	0.5
Decon/Remed.							
Final Survey	0.75	1.5	3				0.75

# Lab Samples to be collected	0
-------------------------------	---

Building	245	Room or Area	A012				
Use	Radioactive Material Storage						
Radionuclides, Extent of Contamination		Cs-137, Ra-Be, I-125					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	160	160	0.1	16		
Wall Area, ft²	560	560		0		
Ceiling Area, ft²	160	160		0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes	25	1		1		
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	1	2	4				1
Pack/Load waste	0.25	0.5			1	1	0.25
Decon/Remed.							
Final Survey	1	2	4				1

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	A017-A018			
Use						
Radionuclides, Extent of Contamination		U, Sr-90				
Area Classification	1					
# Floors above Basement						
# Floors below Roof						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	3800			0	3800	
Wall Area, ft²	6500			0	6500	
Ceiling Area, ft²	3800			0	3800	

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	500	0				
Casework/Cabinets	800	0				
Reefers, Large Equipment	5000	0				
Misc. Equip./Labware	1000	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	16	32	64				16
Equip. Release	10	20	40				10
Pack/Load waste	1	2			4	4	1
Decon/Remed.							
Final Survey	8	16	32				8

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	A019				
Use	Dosimetry Calibration						
Radionuclides, Extent of Contamination							
Area Classification	3						
# Floors above Basement	0						
# Floors below Roof	3						

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft²	1440			0	1440	
Wall Area, ft²	3500			0	3500	
Ceiling Area, ft²	1440			0	1440	

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	150	0				
Casework/Cabinets	150	0				
Reefers, Large Equipment	300	0				
Misc. Equip./Labware	200	0				
Hot Cells						
Storage Tanks						
Other	20	0				
Sinks						
Drains	0.0					
Ventilation Drops	40.8	0				

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	2	Inch Dia.	14	Total ft ³	40.8

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	2	4	8				2
Equip. Release	2.5	5	10				2.5
Pack/Load waste	0.5	1			2	2	0.5
Decon/Remed.							
Final Survey	1	2	4				1

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	A020			
Use	Storage					
Radionuclides, Extent of Contamination		Sealed Sr-90				
Area Classification	3					
# Floors above Basement	1					
# Floors below Roof	2					

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	1296			0		1296
Wall Area, ft ²	4320			0		4320
Ceiling Area, ft ²	1296			0		1296

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets	5					
Reefers, Large Equipment						
Misc. Equip./Labware	200					
Hot Cells						
Storage Tanks						
Other						
Sinks	1	0				
Drains	0.3	0				
Ventilation Drops	2.2	0				

Drains	No.	2	Inch Dia.	2	Total ft ³	0.3
Ventilation Drops	No.	2	Inch Dia.	4	Total ft ³	2.2

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1.5	3	6				1.5
Equip. Release	1	2	4				1
Pack/Load waste	0.25	0.5			1	1	0.25
Decon/Remed.							
Final Survey	1	2	4				1

# Lab Samples to be collected	0
-------------------------------	---

Building	245	Room or Area	A141				
Use	Spallation Source						
Radionuclides, Extent of Contamination		CF-252					
Area Classification	1						
# Floors above Basement	0						
# Floors below Roof	3						

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	200	200	0.2	40		
Wall Area, ft ²	720	720		0		
Ceiling Area, ft ²	200	200		0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment	1000	1		1		
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other	75	1			1	
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	2	4	8				2
Equip. Release	1	2	4				1
Pack/Load waste	0.5	1	2	2	4	4	0.5
Decon/Remed.	1	2	4		4	4	1
Final Survey	1	2	4				1

# Lab Samples to be collected	3
-------------------------------	---

Building	245	Room or Area	A145			
Use	First floor Loading Dock					
Radionuclides, Extent of Contamination		None				
Area Classification	3	Wait on Trimble				
# Floors above Basement	1					
# Floors below Roof	1					

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	3720			0		3720
Wall Area, ft ²	2000			0		2000
Ceiling Area, ft ²	3720			0		3720

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	100	0				
Casework/Cabinets	75	0				
Reefers, Large Equipment	3000	0				
Misc. Equip./Labware	3000	0				
Hot Cells						
Storage Tanks	500	0				
Other	2000	0.1			0.5	0.5
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	5	10	20				5
Pack/Load waste	0.5	1	2	2	4	4	0.5
Decon/Remed.							
Final Survey	2	4	8				2

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	B Wing - Below Grade				
Use							
Radionuclides, Extent of Contamination							
Area Classification							
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	17584	9804		346	1000	6780
Wall Area, ft ²	56744	31514		605.2	3250	21780
Ceiling Area, ft ²	18344	9804		250	1000	7540

Components	Fraction					ft ³ Concrete
	Total ft3	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	90		31.5	13.5	0	0
Hoods	440		0	270	0	0
Benches/Tables/Desks	2811		68.8	146.7	0	0
Casework/Cabinets	4238		78	101.8	0	0
Reefers, Large Equipment	4890		177.5	181.5	0	0
Misc. Equip./Labware	2905		104.1	87.4	0	0
Hot Cells	0		0	0	0	0
Storage Tanks	1620		0	360	0	0
Other	1545		0	27	5.2	10
Sinks	163		1.275	30.475	0	0
Drains	1.666667		0.006944	0.076389	0	0
Ventilation Drops	436.25		6.25	6.25	0	0

Drains	No.	21 Inch Dia.		Total ft ³	1.666667
Ventilation Drops	No.	21 Inch Dia.		Total ft ³	436.25

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	117	234	468	0	4	4	117
Equip. Release	97	194	392	0	2	2	97
Pack/Load waste	16.5	33	29	52	74	74	16.5
Decon/Remed.	2	4	8	0	12	12	2
Final Survey	56.5	113	224	0	0	0	56.6

# Lab Samples to be collected	41
-------------------------------	----

Building 245

Room or Area B51

Use Equipment setup lab

Radionuclides, Extent of Contamination

Unsleaed U; Sealed U, TRU, Co-60

Area Classification

1

Floors above Basement

0

Floors below Roof

3

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	200	200	0	0		
Wall Area, ft ²	900	900	0	0		
Ceiling Area, ft ²	200	200	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets	130	0				
Reefers, Large Equipment	100	0				
Misc. Equip./Labware	100	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains						
Ventilation Drops						

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	4	8	16				4
Pack/Load waste	0.5	1	2	2	2	2	0.5
Decon/Remed.							
Final Survey	2	4	8				2

Lab Samples to be collected

1

Building	245	Room or Area	B52				
Use	Heat Absolute UV Radiometry						
Radionuclides, Extent of Contamination		None					
Area Classification	3						
# Floors above Basement	0						
# Floors below Roof	3						

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	200			0		200
Wall Area, ft ²	960			0		960
Ceiling Area, ft ²	200			0		200

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	100	0				
Casework/Cabinets	84	0				
Reefers, Large Equipment	30	0				
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains						
Ventilation Drops						

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.5	1	2				0.5

Lab Samples to be collected

1

Building	245	Room or Area	B001				
Use	RAM Storage Area						
Radionuclides, Extent of Contamination		Beta-gamma, Th-232					
Area Classification	1						
# Floors above Basement	0						
# Floors below Roof	3						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	552	552	0.1	55.2		
Wall Area, ft ²	1400	1400		0		
Ceiling Area, ft ²	552	552		0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	40	0.5		1		
Benches/Tables/Desks	250	0				
Casework/Cabinets	400	0				
Reefers, Large Equipment						
Misc. Equip./Labware	300	0				
Hot Cells						
Storage Tanks	100	1		1		
Other	3	0				
Sinks	3	0				
Drains	0.0					
Ventilation Drops	102.1	0				

Drains	No.	1	Inch Dia.	14	Total ft ³	0.0
Ventilation Drops	No.	5	Inch Dia.	14	Total ft ³	102.1

	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Person-hours							
Characterize	4	8	16				4
Equip. Release	8	16	32				8
Pack/Load waste	0.5	1	1	2	2	2	0.5
Decon/Remed.							
Final Survey	2	4	8				2

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B02				
Use							
Radionuclides, Extent of Contamination			Beta-gamma, Sr-90				
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	200	200	0	0		
Wall Area, ft ²	1080	1080	0	0		
Ceiling Area, ft ²	200	200	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	150	0.05	0.5	0.5		
Casework/Cabinets	80	0.05	0.5	0.5		
Reefers, Large Equipment	100	0.05	0.5	0.5		
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks	20	0.05	0.5	0.5		
Drains	0.1					
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	2	Total ft ³	0.1
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	1	2	4				1
Pack/Load waste					2	2	
Decon/Remed.							
Final Survey	0.5	1	2				0.6

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B03				
Use							
Radionuclides, Extent of Contamination		Beta-gamma, U, Sr-90					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	200	200	0	0		
Wall Area, ft ²	1080	1080	0	0		
Ceiling Area, ft ²	200	200	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	120	0.05	0.5	0.5		
Casework/Cabinets	200	0.05	0.5	0.5		
Reefers, Large Equipment						
Misc. Equip./Labware	150	0.05	0.5	0.5		
Hot Cells						
Storage Tanks						
Other						
Sinks	25	0.05	0.5	0.5		
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	1	2		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	1	2	4				1
Pack/Load waste	0.5	1	2	2	2	2	0.5
Decon/Remed.							
Final Survey	1	2	4				1

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B06				
Use	Brachytherapy						
Radionuclides, Extent of Contamination		Beta-gamma, Sr-90					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	625	625	0	0		
Wall Area, ft ²	1400	1400	0	0		
Ceiling Area, ft ²	625	625	0	0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	276	0.25	0.25	0.75		
Casework/Cabinets	120	0.05	0.25	0.75		
Reefers, Large Equipment	200	0.5	0.5	0.5		
Misc. Equip./Labware	50	0.75	0.5	0.5		
Hot Cells						
Storage Tanks						
Other						
Sinks	20	0.25		1		
Drains	0.1					
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	2	Total ft ³	0.1
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	2	4	8				2
Equip. Release	4	8	16				4
Pack/Load waste	0.5	1		2	2	2	0.5
Decon/Remed.							
Final Survey	1	2	4				1

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B08				
Use	Brachytherapy Calibration Lab						
Radionuclides, Extent of Contamination		TRU, Beta-gamma, Iodine					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft²	375	375	0	0		
Wall Area, ft²	2000	2000	0	0		
Ceiling Area, ft²	375	375	0	0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	25	0.2		1		
Casework/Cabinets	85					
Reefers, Large Equipment						
Misc. Equip./Labware	100	0.15	0.5	0.5		
Hot Cells						
Storage Tanks	40					
Other	100	0.3		0.9	0.1	
Sinks						
Drains	0.1					
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	2	Total ft ³	0.1
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	8	16	32				8
Equip. Release	8	16	32				8
Pack/Load waste	0.5	1		2	2	2	0.5
Decon/Remed.							
Final Survey	3	6	12				3

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	B011				
Use	420 kV Control Room						
Radionuclides, Extent of Contamination		Beta-gamma, Sr-90					
Area Classification	3						
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	187			0		187
Wall Area, ft²	600			0		600
Ceiling Area, ft²	187			0		187

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	3	0				
Casework/Cabinets	30	0				
Reefers, Large Equipment	30	0				
Misc. Equip./Labware	510	0				
Hot Cells						
Storage Tanks	60	0				
Other	10	0				
Sinks						
Drains	0.0	0				
Ventilation Drops	20.0	0				

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	1	Inch Dia.	24	Total ft ³	20.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	2	4	8				2
Equip. Release	4	8	16				4
Pack/Load waste					2	2	
Decon/Remed.							
Final Survey	1	2	4				1

# Lab Samples to be collected	0
--------------------------------------	---

Building	245	Room or Area	B013				
Use	X-ray						
Radionuclides, Extent of Contamination		Sealed Am-241					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	300			0		300
Wall Area, ft ²	1050			0		1050
Ceiling Area, ft ²	300			0		300

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	40	0				
Casework/Cabinets						
Reefers, Large Equipment	1000	0				
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other	100	0				
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	2	4	8				2
Equip. Release	4	8	16		1	1	4
Pack/Load waste	0.5	1		2	2	2	0.5
Decon/Remed.							
Final Survey	1	2	4				1

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B014				
Use	Gamma Calibration						
Radionuclides, Extent of Contamination	None						
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	800			0		800
Wall Area, ft ²	3060			0		3060
Ceiling Area, ft ²	800			0		800

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment	50	0				
Misc. Equip./Labware	40	0				
Hot Cells						
Storage Tanks						
Other	200	0				
Sinks						
Drains	0.0	0				
Ventilation Drops	0.0	0				

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	2	Inch Dia.	4	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1.5	3	6				1.5
Equip. Release	1	2	4				1
Pack/Load waste	0.5	1			2	2	0.5
Decon/Remed.							
Final Survey	1	2	4				1

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B015				
Use	Horizontal Beam calibration						
Radionuclides, Extent of Contamination		Sealed Co-60, unsealed Co-57					
Area Classification	1						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	600	600	0	0		
Wall Area, ft ²	1500	1500	0	0		
Ceiling Area, ft ²	600	600	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	50	0				
Casework/Cabinets	100	0				
Reefers, Large Equipment	200	0				
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other	250	0				
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	2	4	8				2
Equip. Release	1	2	4				1
Pack/Load waste	0.5	1		2	2	2	0.5
Decon/Remed.							
Final Survey	1	2	4				1

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B017				
Use	X-ray						
Radionuclides, Extent of Contamination		Sealed beta-gamma, unsealed Co-57					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	360			0		360
Wall Area, ft²	1000			0		1000
Ceiling Area, ft²	360			0		360

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	20	0				
Casework/Cabinets						
Reefers, Large Equipment	100	0				
Misc. Equip./Labware	10	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	2	4	8				2
Equip. Release	2	4	8				2
Pack/Load waste	0.25	0.5			1	1	0.25
Decon/Remed.							
Final Survey	1	2	4				1

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	B019			
Use	X-ray					
Radionuclides, Extent of Contamination		Sealed Cs-137				
Area Classification	3					
# Floors above Basement						
# Floors below Roof						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²				0		
Wall Area, ft²				0		
Ceiling Area, ft²				0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	100	0				
Casework/Cabinets	20	0				
Reefers, Large Equipment						
Misc. Equip./Labware	40	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	0.25	0.5	1				0.25
Pack/Load waste	0.5	1		2	2	2	0.5
Decon/Remed.							
Final Survey	0.5	1	2				0.5

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	B021				
Use	Sealed sources						
Radionuclides, Extent of Contamination		Sealed Co-60, Cs-137, Sr-90					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²				0		
Wall Area, ft ²				0		
Ceiling Area, ft ²				0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets	10	0				
Reefers, Large Equipment	20	0				
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other	5	0				
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	0.5	1	2				0.5
Pack/Load waste	0.5	1		2	2	2	0.5
Decon/Remed.							
Final Survey	0.5	1	2				0.5

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	B023				
Use	Setup Lab						
Radionuclides, Extent of Contamination		TRU, Beta-gamma, low energy					
Area Classification	1						
# Floors above Basement	0						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	288	288	0.1	28.8		
Wall Area, ft²	1000	1000		0		
Ceiling Area, ft²	288	288		0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	80	0.05		1		
Casework/Cabinets	80	0.05		1		
Reefers, Large Equipment						
Misc. Equip./Labware	50	0.05	1			
Hot Cells						
Storage Tanks						
Other	4	0.1			1	
Sinks	2	0.1		1		
Drains	0.0	0.1		1		
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	2	Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	8	16	32				8
Equip. Release	8	16	32				8
Pack/Load waste	0.5	1	1	2	2	2	0.5
Decon/Remed.							
Final Survey	3	6	12				3

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	B024				
Use	Detector Storage						
Radionuclides, Extent of Contamination		Cf-252 sealed source					
Area Classification	1						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	20	20	0.1	2		
Wall Area, ft²	252	52	0.1	5.2		
Ceiling Area, ft²	20	20		0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets	60	0				
Reefers, Large Equipment						
Misc. Equip./Labware	150	0				
Hot Cells						
Storage Tanks						
Other	10	1				1
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	2	4	8		4	4	2
Equip. Release	0.5	1	2				0.5
Pack/Load waste	1	2	4	2	8	8	1
Decon/Remed.							
Final Survey	1	2	4				1

# Lab Samples to be collected	3
--------------------------------------	---

Building	245	Room or Area	B50				
Use	Counting lab						
Radionuclides, Extent of Contamination		All radionuclides					
Area Classification	1						
# Floors above Basement	0						
# Floors below Roof	3						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	400	400	0	0		
Wall Area, ft ²	1200	1200	0	0		
Ceiling Area, ft ²	400	400	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	90	0.5		1		
Benches/Tables/Desks	50	0				
Casework/Cabinets	150	0				
Reefers, Large Equipment	250	0				
Misc. Equip./Labware	40	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	3	0				
Drains	0.0	0				
Ventilation Drops	83.3	0				

Drains	No.	1	Inch Dia.	2	Total ft ³	0.0
Ventilation Drops	No.	2	Inch Dia.	20	Total ft ³	83.3

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	4	8	16				4
Pack/Load waste	0.5	1	2	2	2	2	0.5
Decon/Remed.							
Final Survey	2	4	8				2

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B49				
Use	SRM Storage						
Radionuclides, Extent of Contamination		All Radionuclides					
Area Classification	1						
# Floors above Basement	0						
# Floors below Roof	3						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	160	160	0	0		
Wall Area, ft²	672	672	0	0		
Ceiling Area, ft²	160	160	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	60	0.5		1		
Benches/Tables/Desks						
Casework/Cabinets	100	0				
Reefers, Large Equipment						
Misc. Equip./Labware	50	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	24	0				
Drains	0.0	0				
Ventilation Drops	41.7	0				

Drains	No.	1	Inch Dia.	2	Total ft ³	0.0
Ventilation Drops	No.	1	Inch Dia.	20	Total ft ³	41.7

	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Person-hours							
Characterize	4	8	16				4
Equip. Release	4	8	16				4
Pack/Load waste	0.5	1	2	2	2	2	0.5
Decon/Remed.							
Final Survey	2	4	8				2

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	B029				
Use	Accelerator Support						
Radionuclides, Extent of Contamination			Sealed sources				
Area Classification	3						
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	400			0		400
Wall Area, ft ²	2000			0		2000
Ceiling Area, ft ²	400			0		400

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	15	0				
Casework/Cabinets	67	0				
Reefers, Large Equipment	30	0				
Misc. Equip./Labware	75	0				
Hot Cells						
Storage Tanks						
Other	75	0				
Sinks	5	0				
Drains	0.1	0				
Ventilation Drops	22.5	0				

Drains	No.	1	Inch Dia.	2	Total ft ³	0.1
Ventilation Drops	No.	2	Inch Dia.	18	Total ft ³	22.5

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	3	6	12				3
Equip. Release	2	4	8				2
Pack/Load waste	1	2			2	2	1
Decon/Remed.							
Final Survey	1	2	4				1

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B033			
Use	X-ray standards					
Radionuclides, Extent of Contamination			Pu, Sr-90 sealed sources			
Area Classification	3					
# Floors above Basement						
# Floors below Roof						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	2000			0		2000
Wall Area, ft²	2700			0		2700
Ceiling Area, ft²	2000			0		2000

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	600	0				
Casework/Cabinets	600	0				
Reefers, Large Equipment	1000	0				
Misc. Equip./Labware	50	0				
Hot Cells						
Storage Tanks						
Other	500	0				
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	8	16	32				8
Equip. Release	4	8	16				4
Pack/Load waste	0.5	1	2		2	2	0.5
Decon/Remed.							
Final Survey	2	4	8				2

# Lab Samples to be collected	0
--------------------------------------	---

Building 245

Room or Area B034

Use C0-60 vertical calibration room

Radionuclides, Extent of Contamination

C0-60 sealed source

Area Classification

3

Floors above Basement

0

Floors below Roof

3

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	266			0		266
Wall Area, ft ²	1500			0		1500
Ceiling Area, ft ²	266			0		266

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment	200	0				
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other	50	0				
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains

No.

Inch Dia.

Total ft³

0.0

Ventilation Drops

No.

Inch Dia.

Total ft³

0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	2				0.5
Equip. Release	0.5	1	2				0.5
Pack/Load waste	0.5	1		2	2	2	0.5
Decon/Remed.							
Final Survey	0.5	1	2				0.5

Lab Samples to be collected

0

Building	245	Room or Area	B035				
Use	Vertical beam calibration						
Radionuclides, Extent of Contamination		None					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	300			0		300
Wall Area, ft²	1000			0		1000
Ceiling Area, ft²	300			0		300

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	80	0				
Casework/Cabinets						
Reefers, Large Equipment	50	0				
Misc. Equip./Labware	80	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.5	1	2				0.5

Lab Samples to be collected

0

Building	245	Room or Area	B036				
Use	Co/Cs Vertical Calibration						
Radionuclides, Extent of Contamination		Co-60, Cs-137 sealed sources					
Area Classification	3						
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	266			0		266
Wall Area, ft²	1360			0		1360
Ceiling Area, ft²	266			0		266

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	10	0				
Casework/Cabinets	16	0				
Reefers, Large Equipment	1000	0				
Misc. Equip./Labware	15	0				
Hot Cells						
Storage Tanks						
Other	200	0				
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	2				0.5
Equip. Release	0.5	1	2				0.5
Pack/Load waste	0.5	1		2	2	2	0.5
Decon/Remed.							
Final Survey	0.5	1	2				0.5

# Lab Samples to be collected	0
--------------------------------------	---

Building	245	Room or Area	B041				
Use	RAM Storage						
Radionuclides, Extent of Contamination		TRU, U					
Area Classification	1						
# Floors above Basement	0						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	12	12	0	0		
Wall Area, ft ²	280	280	0	0		
Ceiling Area, ft ²	12	12	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets	10	0.1		1		
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³		
Ventilation Drops	No.		Inch Dia.		Total ft ³		
						0.0	
						0.0	

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	0.5	1	2				0.5
Pack/Load waste	0.25	0.5		1	1	1	0.25
Decon/Remed.							
Final Survey	0.5	1	2				0.5

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B043			
Use	Dosimetry processing					
Radionuclides, Extent of Contamination		Beta-gamma				
Area Classification	1					
# Floors above Basement						
# Floors below Roof						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	300	300	0	0		
Wall Area, ft ²	1280	1280	0	0		
Ceiling Area, ft ²	300	300	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	90	0				
Casework/Cabinets	120	0				
Reefers, Large Equipment						
Misc. Equip./Labware	215	0				
Hot Cells						
Storage Tanks	20	0				
Other	2	0				
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	1	2	4				1
Pack/Load waste	0.25	0.5			1	1	0.25
Decon/Remed.							
Final Survey	1	2	2				1

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B044				
Use	RAM Storage						
Radionuclides, Extent of Contamination		U, TRU, Beta-gamma					
Area Classification	1						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	1000	1000	0	0		
Wall Area, ft ²	1950	1950	0	0		
Ceiling Area, ft ²	1000	1000	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	18	0				
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware	25	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	0.5	1	2				0.5
Pack/Load waste							
Decon/Remed.							
Final Survey	2	4	8				2

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B045				
Use	Liquid waste tanks						
Radionuclides, Extent of Contamination		All					
Area Classification	2						
# Floors above Basement	3						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	1000			0	1000	
Wall Area, ft ²	3250			0	3250	
Ceiling Area, ft ²	1000			0	1000	

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks	1300	0.2		1		
Other						
Sinks						
Drains	0.8	0				
Ventilation Drops	0.0					

Drains	No.	2	Inch Dia.	2	Total ft ³	0.8
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	6	12	24		1	1	6
Pack/Load waste	0.25	0.5	1	1	1	1	0.25
Decon/Remed.							
Final Survey	2	4	8				2

# Lab Samples to be collected	2
-------------------------------	---

Building	245	Room or Area	1 Floor B Wing Womens Locker room				
Use	Locker room						
Radionuclides, Extent of Contamination	None						
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	168			0		168
Wall Area, ft²	630			0		630
Ceiling Area, ft²	168			0		168

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	2				0.5
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.5	1	2				0.5

# Lab Samples to be collected	0
--------------------------------------	---

Building	245	Room or Area	B11				
Use	Gamma ray measurement						
Radionuclides, Extent of Contamination		Sealed Beta-gamma, Sr-90					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	525	525	0	0		
Wall Area, ft ²	1500	1500	0	0		
Ceiling Area, ft ²	525	525	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	140	0				
Casework/Cabinets	195	0				
Reefers, Large Equipment						
Misc. Equip./Labware	215	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0	0				
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	2	Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	1	2	4				1
Pack/Load waste	0.25	0.5			1	1	0.25
Decon/Remed.							
Final Survey	0.5	1	2				0.5

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B15				
Use	Industrial Radiography						
Radionuclides, Extent of Contamination		Sealed ssources					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	500			0		500
Wall Area, ft²	2000			0		2000
Ceiling Area, ft²	500			0		500

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1.5	3	6				1.5
Equip. Release	1	2	4				1
Pack/Load waste							
Decon/Remed.							
Final Survey	1	2	4				1

# Lab Samples to be collected	0
--------------------------------------	---

Building	245	Room or Area	B21			
Use	Neutron calibration and detector testing					
Radionuclides, Extent of Contamination		Sealed beta-gamma; unsealed U, Sr-90				
Area Classification	1					
# Floors above Basement						
# Floors below Roof						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	375	375	0	0		
Wall Area, ft²	1440	1440	0	0		
Ceiling Area, ft²	375	375	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	160	0				
Casework/Cabinets	120	0				
Reefers, Large Equipment						
Misc. Equip./Labware	100	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	1	2	8				1
Pack/Load waste	1	2		4	4	4	1
Decon/Remed.							
Final Survey	2	4	8				2

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	B23				
Use	Calibration lab						
Radionuclides, Extent of Contamination		Unsealed beta-gamma; sealed TRU					
Area Classification	1						
# Floors above Basement	3						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	2500	2500	0.1	250		
Wall Area, ft²	6000	6000	0.1	600		
Ceiling Area, ft²	2500	2500	0.1	250		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	50	1	0.5	0.5		
Casework/Cabinets	80	1	0.5	0.5		
Reefers, Large Equipment	250	1	0.5	0.5		
Misc. Equip./Labware	70	1	0.5	0.5		
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Person-hours							
Characterize	8	16	32				8
Equip. Release	2	4	8				2
Pack/Load waste	0.5	1	2	2	2	2	0.5
Decon/Remed.	1	2	4		8	8	1
Final Survey	4	8	16				4

# Lab Samples to be collected	2
--------------------------------------	---

Building	245	Room or Area	B24				
Use							
Radionuclides, Extent of Contamination		Sealed AmBe, Sr-90, Beta-gamma					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	400			0		400
Wall Area, ft ²	1200			0		1200
Ceiling Area, ft ²	400			0		400

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	30	0				
Casework/Cabinets	90	0				
Reefers, Large Equipment						
Misc. Equip./Labware	20	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	2	4	8				2
Equip. Release	0.5	1	2				0.5
Pack/Load waste	1	2		4	4	4	1
Decon/Remed.							
Final Survey	1	2	4				1

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B25			
Use						
Radionuclides, Extent of Contamination		TRU, U				
Area Classification	1					
# Floors above Basement	1					
# Floors below Roof	3					

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	600	600	0	0		
Wall Area, ft ²	4000	4000	0	0		
Ceiling Area, ft ²	600	600	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	100	0.5	0.3	0.7		
Casework/Cabinets	50	0.1		1		
Reefers, Large Equipment	40	0.1		1		
Misc. Equip./Labware	40	0.1	0.4	0.6		
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.1	0.5		1		
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	2	Total ft ³	0.1
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	8	16	32				8
Equip. Release	4	8	16				4
Pack/Load waste	0.5	1	2	2	4	4	0.5
Decon/Remed.							
Final Survey	4	8	16				4

# Lab Samples to be collected	1
-------------------------------	---

Nuclide Name	Curies	Primary Storage (Bldg/Room)		Nuclide Name	Curies	Primary Storage (Bldg/Room)
CS137	9.68E-06	245/B132		PO210	3.14E-06	227/B123
CS137	9.68E-06	245/B132		PO210	3.14E-06	227/B123
CS137	9.68E-06	245/B132		PO210	3.14E-06	227/B123
CS137	9.68E-06	245/B132		PO210	3.14E-06	227/B123
PO210	3.14E-06	227/B123		CO60	2.57E-06	245/C11
PO210	3.14E-06	227/B143		CF252	2.55E-06	245/B143
PO210	3.14E-06	227/B143		CF252	2.35E-06	245/B143
PO210	3.14E-06	227/B143		PU238	2.24E-06	245/B131
PO210	3.14E-06	227/B143		TH228	2.02E-06	245/C11
PO210	3.14E-06	227/B143		TH228	1.96E-06	245/C11
CO60	3.00E-06	245/B132		CO57	1.96E-06	245/C11
RA226	2.92E-06	245/B47		CO57	1.96E-06	245/C11
CO57	2.89E-06	245/C11		CO57	1.96E-06	245/C11
CO57	2.89E-06	245/C11		TH228	1.96E-06	245/C11
CO57	2.89E-06	245/C11		CO57	1.96E-06	245/C11
CS137	2.86E-06	245/B50		CO57	1.96E-06	245/C11
CS137	2.86E-06	245/B50		CO57	1.96E-06	245/C11
CS137	2.86E-06	245/B50		CO57	1.96E-06	245/C11
CS137	2.86E-06	245/B50		CO57	1.96E-06	245/C11
CO57	2.86E-06	245/C11		TH228	1.92E-06	245/C11
CO57	2.86E-06	245/C11		MBYP	1.76E-06	245/C10
CO57	2.86E-06	245/C11		CO60	1.61E-06	245/B132
CO57	2.86E-06	245/C11		CF252	1.46E-06	245/B143
CO57	2.86E-06	245/C11		CO57	1.33E-06	245/C11
CO60	2.78E-06	245/B132		H3	1.21E-06	245/E107
MBYP	2.78E-06	245/C10		PB210	1.07E-06	245/B46
CD109	2.63E-06	245/B044		CO57	1.07E-06	245/C11
CO60	2.57E-06	245/C11		UF6	1.03E-06	245/B041
CO60	2.57E-06	245/C11				

Building	245	Room or Area	B48				
Use	Radiochemistry Lab						
Radionuclides, Extent of Contamination		All radionuclides					
Area Classification	1						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	240	240	0	0		
Wall Area, ft ²	700	700	0	0		
Ceiling Area, ft ²	240	240	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes	90	0.5	0.7	0.3		
Hoods	100	1		1		
Benches/Tables/Desks						
Casework/Cabinets	360	0.05	0.2	0.8		
Reefers, Large Equipment						
Misc. Equip./Labware	100	0.1	0.9	0.1		
Hot Cells						
Storage Tanks						
Other						
Sinks	24	1		1		
Drains	0.0	1	0.5	0.5		
Ventilation Drops	0.0	0.1		1		

Drains	No.	1	Inch Dia.	2	Total ft ³	0.0
Ventilation Drops	No.	4	Inch Dia.	10	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	4	8	16				4
Pack/Load waste	0.5	1	2	2	2	2	0.5
Decon/Remed.							
Final Survey	2	4	8				2

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B47				
Use	Ion chamber measurements						
Radionuclides, Extent of Contamination		TRU, U, Sr-90, beta-gamma, low energy					
Area Classification	1						
# Floors above Basement	0						
# Floors below Roof	3						

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	232	232	0	0		
Wall Area, ft ²	900	900	0	0		
Ceiling Area, ft ²	232	232	0	0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	36	0				
Casework/Cabinets	196	0.05	0.5	0.5		
Reefers, Large Equipment						
Misc. Equip./Labware	100	0.05		1		
Hot Cells						
Storage Tanks						
Other	36	0.05			1	
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	4	8	16				4
Pack/Load waste	0.5	1	2	2	2	2	0.5
Decon/Remed.							
Final Survey	2	4	8				2

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B30			
Use	Document storage room					
Radionuclides, Extent of Contamination		None				
Area Classification	3					
# Floors above Basement	0					
# Floors below Roof	3					

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	135			0		135
Wall Area, ft ²	1050			0		1050
Ceiling Area, ft ²	135			0		135

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets	300	0				
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	2				0.5
Equip. Release	0.25	0.5	1				0.25
Pack/Load waste							
Decon/Remed.							
Final Survey	0.25	0.5	1				0.25

Lab Samples to be collected

1

Building	245	Room or Area	B37				
Use	Vacuum Systems Setup						
Radionuclides, Extent of Contamination		Co-60, Sr-90 sealed sources					
Area Classification	3						
# Floors above Basement	0						
# Floors below Roof	3						

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft²	200			0		200
Wall Area, ft²	840			0		840
Ceiling Area, ft²	200			0		200

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	80	0				
Casework/Cabinets	120	0				
Reefers, Large Equipment	200	0				
Misc. Equip./Labware	50	0				
Hot Cells						
Storage Tanks	100	0				
Other						
Sinks	20	0				
Drains	0.0	0				
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	2	Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	1	2	4				1
Pack/Load waste	0.25	0.5			1	1	0.25
Decon/Remed.							
Final Survey	0.25	0.5	1				0.25

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	B40				
Use	Women's Restroom						
Radionuclides, Extent of Contamination		None					
Area Classification	3						
# Floors above Basement	0						
# Floors below Roof	3						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	70			0		70
Wall Area, ft ²	340			0		340
Ceiling Area, ft ²	70			0		70

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	18	0				
Casework/Cabinets	40	0				
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks	10	0				
Drains	0.0	0				
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	2	Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.25	0.5	1				0.25
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.25	0.5	1				0.25

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B41			
Use	Men's Restroom					
Radionuclides, Extent of Contamination		None				
Area Classification	3					
# Floors above Basement	0					
# Floors below Roof	3					

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	100			0		100
Wall Area, ft²	320			0		320
Ceiling Area, ft²	100			0		100

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets	15	0				
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks	3	0				
Drains	0.0	0				
Ventilation Drops	0.0					

Drains	No.	3	Inch Dia.	2	Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.25	0.5	1				0.25
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.25	0.5	1				0.25

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	B42			
Use	Cleaning closet					
Radionuclides, Extent of Contamination		None				
Area Classification	3					
# Floors above Basement	0					
# Floors below Roof	3					

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	64			0		64
Wall Area, ft ²	450			0		450
Ceiling Area, ft ²	64			0		64

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware	40	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.25	0.5	1				0.25
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.25	0.5	1				0.25

Lab Samples to be collected

1

Building	245	Room or Area	B43				
Use	Cleaning closet						
Radionuclides, Extent of Contamination		None					
Area Classification	3						
# Floors above Basement	0						
# Floors below Roof	3						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	64			0		64
Wall Area, ft ²	480			0		480
Ceiling Area, ft ²	64			0		64

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware	40	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.25	0.5	1				0.25
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.25	0.5	1				0.25

Lab Samples to be collected

1

Building	245	Room or Area	B44				
Use	HPLC Validation & Radioactive labeling						
Radionuclides, Extent of Contamination		TRU, U, Beta-gamma					
Area Classification	1						
# Floors above Basement	0						
# Floors below Roof	3						

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	100	100	0.1	10		
Wall Area, ft ²	480	480		0		
Ceiling Area, ft ²	100	100		0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	60	0.5		1		
Benches/Tables/Desks						
Casework/Cabinets	210	0.2	0.5	0.5		
Reefers, Large Equipment	40	0		1		
Misc. Equip./Labware	60	0.5	0.8	0.2		
Hot Cells						
Storage Tanks						
Other						
Sinks	1	0				
Drains	0.0	0				
Ventilation Drops	41.7	0				

Drains	No.	1	Inch Dia.	2	Total ft ³	0.0
Ventilation Drops	No.	1	Inch Dia.	20	Total ft ³	41.7

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	4	8	16				4
Pack/Load waste	0.5	1	2	2	2	2	0.5
Decon/Remed.	0.5	1	2		2	2	0.5
Final Survey	2	4	8				2

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B46				
Use							
Radionuclides, Extent of Contamination			TRU, U, Sr-90, beta-gamma, low energy				
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	3						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	300	300		0		
Wall Area, ft²	700	700		0		
Ceiling Area, ft²	300	300		0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	90	0.5		1		
Benches/Tables/Desks	120	0.2	0.2	0.8		
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware	20	0.5	0.2	0.8		
Hot Cells						
Storage Tanks						
Other						
Sinks	3	0.1	0.5	0.5		
Drains	0.1	0.1	0.5	0.5		
Ventilation Drops	125.0	0.1	0.5	0.5		

Drains	No.	1	Inch Dia.	2	Total ft ³	0.1
	Ventilation Drops	No.	3	Inch Dia.	20	Total ft ³

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	4	8	16				4
Pack/Load waste	0.5	1	2	2	2	2	0.5
Decon/Remed.	0.5	1	2		2	2	0.5
Final Survey	2	4	8				2

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	B Wing - Above Grade				
Use							
Radionuclides, Extent of Contamination							
Area Classification							
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft²	9495	5481		1090	480	3534
Wall Area, ft²	28181	16242		112	1400	10539
Ceiling Area, ft²	9495	5481		0	480	3534

Components	Total ft ³	Fraction				Concrete
		RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	30		30			
Hoods	175					
Benches/Tables/Desks	539	0				
Casework/Cabinets	1285	0				
Reefers, Large Equipment	2025	0				
Misc. Equip./Labware	424					
Hot Cells	27					
Storage Tanks	1000					
Other	78					
Sinks	35					
Drains	4.027778					
Ventilation Drops	46.38889					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	78.5	157	314	0	0	0	78.5
Equip. Release	31.75	63.5	129	0	0	0	29.75
Pack/Load waste	3.05	6.25	10.5	13.5	26	26	3.05
Decon/Remed.	2.75	5.5	11	4	20	20	2.35
Final Survey	49.75	100.3	199	0	0	0	49.75

Lab Samples to be collected

25

Building	245	Room or Area	B110				
Use	Office						
Radionuclides, Extent of Contamination		Formerly sealed DU					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft²	200			0		200
Wall Area, ft²	720			0		720
Ceiling Area, ft²	200			0		200

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	120	0				
Casework/Cabinets	120	0				
Reefers, Large Equipment						
Misc. Equip./Labware	150	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains						
Ventilation Drops						

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	2				0.5
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.25	0.5	1				0.25

# Lab Samples to be collected	0
--------------------------------------	---

Building	245	Room or Area	B119				
Use							
Radionuclides, Extent of Contamination		Co-60					
Area Classification	1						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft²	200	200	0	0		
Wall Area, ft²	720	720	0	0		
Ceiling Area, ft²	200	200	0	0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	150	0				
Casework/Cabinets	40	0				
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains						
Ventilation Drops						

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	0.25	0.5	1				0.25
Pack/Load waste							
Decon/Remed.							
Final Survey	0.5	1	2				0.5

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	B123				
Use	X-ray Tube Test						
Radionuclides, Extent of Contamination		Sealed and unsealed TRU					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	2500	2500	0.2	500		
Wall Area, ft ²	6000	6000		0		
Ceiling Area, ft ²	2500	2500		0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	80	0.1	0.5	0.5		
Casework/Cabinets	140	0.1	0.5	0.5		
Reefers, Large Equipment	400	0.1	0.5	0.5		
Misc. Equip./Labware	120	1	0.5	0.5		
Hot Cells						
Storage Tanks	1000	0.1		1		
Other	1	0.1			1	
Sinks						
Drains	0.0	0				
Ventilation Drops	10.0	0				

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	4	Inch Dia.	6	Total ft ³	10.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	16	32	64				16
Equip. Release	16	32	64				16
Pack/Load waste	0.5	1	2	2	4	4	0.5
Decon/Remed.	0.5	1	2		4	4	0.5
Final Survey	8	16	32				8

# Lab Samples to be collected	2
-------------------------------	---

Building	245	Room or Area	B125				
Use	Setup Lab						
Radionuclides, Extent of Contamination		Sealed Ra-Be					
Area Classification	1						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	120	120	0	0		
Wall Area, ft ²	880	880	0	0		
Ceiling Area, ft ²	120	120	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	20	0				
Casework/Cabinets	45	0				
Reefers, Large Equipment	625	0				
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	1	2	4				1
Pack/Load waste							
Decon/Remed.							
Final Survey	0.5	2	2				0.5

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B131				
Use	RAM Receiving						
Radionuclides, Extent of Contamination		Th, Beta-gamma, low energy					
Area Classification	2						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft²	480			0	480	
Wall Area, ft²	1400			0	1400	
Ceiling Area, ft²	480			0	480	

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	25	0.1				
Benches/Tables/Desks	70	0				
Casework/Cabinets	4	0				
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other	4	0				
Sinks						
Drains	0.0	0				
Ventilation Drops	0.8	0				

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	3	Inch Dia.	2	Total ft ³	0.8

	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	1	2	4				1
Pack/Load waste							
Decon/Remed.							
Final Survey	2	4	8				2

# Lab Samples to be collected	1
--------------------------------------	---

Building Room or Area Use

Radionuclides, Extent of Contamination

All: TRU, U, Beta-gamma, Low E, Sr-90

Area Classification

Floors above Basement

Floors below Roof

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	280	280	1	280		
Wall Area, ft ²	1050	1050	0	0		
Ceiling Area, ft ²	280	280	0	0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other	20	1			1	
Sinks						
Drains	0.0					
Ventilation Drops	0.3	1		1		

Drains	No.	<input type="text" value="1"/>	Inch Dia.	<input type="text" value="2"/>	Total ft ³	<input type="text" value="0.0"/>
Ventilation Drops	No.	<input type="text" value="1"/>	Inch Dia.	<input type="text" value="2"/>	Total ft ³	<input type="text" value="0.3"/>

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release							
Pack/Load waste	0.25	0.5		1	1	1	0.25
Decon/Remed.	0.25	0.5	1	4	4	4	0.25
Final Survey	2	4	8				2

Lab Samples to be collected

Building	245	Room or Area	B133				
Use	RAM Receiving						
Radionuclides, Extent of Contamination		Beta-gamma, U, Th					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	160	160	0	0		
Wall Area, ft ²	952	952	0	0		
Ceiling Area, ft ²	160	160	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	15	0.5		1		
Benches/Tables/Desks	30	0				
Casework/Cabinets	48	0				
Reefers, Large Equipment						
Misc. Equip./Labware	40	0				
Hot Cells						
Storage Tanks						
Other	5	0				
Sinks	4	0				
Drains	0.3	0				
Ventilation Drops	0.0					

Drains	No.	2	Inch Dia.	2	Total ft ³	0.3
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	3	6	12				3
Equip. Release	1	2	4				1
Pack/Load waste	0.25	0.5			1	1	0.25
Decon/Remed.							
Final Survey	1	2	4				1

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B140				
Use	High Dose Calibration Lab						
Radionuclides, Extent of Contamination		Sealed Co-60 source only					
Area Classification	3						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	1400			0		1400
Wall Area, ft ²	2800			0		2800
Ceiling Area, ft ²	1400			0		1400

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment	1000	0				
Misc. Equip./Labware	30	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	3	0				
Drains	0.1	0				
Ventilation Drops	1.9	0				

Drains	No.	1	Inch Dia.	2	Total ft ³	0.1
Ventilation Drops	No.	7	Inch Dia.	2	Total ft ³	1.9

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1.5	3	6				1.5
Equip. Release	0.5	1	4				0.5
Pack/Load waste	0.5	1	2	2	4	4	0.5
Decon/Remed.							
Final Survey	0.75	1.3	3				0.75

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B141				
Use	Neutron Calibration Lab						
Radionuclides, Extent of Contamination		Sealed AmBe, PuBe, RaBe, Cf-252					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	250	250	0.1	25		
Wall Area, ft ²	1120	1120	0.1	112		
Ceiling Area, ft ²	250	250	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	3	0.25	0.5	0.5		
Casework/Cabinets	5	0.25	0.5	0.5		
Reefers, Large Equipment						
Misc. Equip./Labware	4	0				
Hot Cells	12	1	0.75	0.25		
Storage Tanks						
Other						
Sinks	2	0				
Drains	0.1	0				
Ventilation Drops	0.8	0				

Drains	No.	1	Inch Dia.	2	Total ft ³	0.1
Ventilation Drops	No.	3	Inch Dia.	2	Total ft ³	0.8

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	1	2	4				1
Pack/Load waste	0.5	1	2	2	4	4	0.5
Decon/Remed.	0.5	1	2		4	4	0.5
Final Survey	2	4	8				2

# Lab Samples to be collected	2
-------------------------------	---

Building	245	Room or Area	B142 & B143				
Use	RAM Storage						
Radionuclides, Extent of Contamination		Sealed sources - all nuclides					
Area Classification	3						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	720			0		720
Wall Area, ft ²	1400			0		1400
Ceiling Area, ft ²	720			0		720

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets	40	0				
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other	6	0				
Sinks						
Drains	0.0					
Ventilation Drops	0.8	0				

Drains	No.	3	Inch Dia.	2	Total ft ³	0.0
Ventilation Drops	No.	3	Inch Dia.	2	Total ft ³	0.8

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	2.5	5	10				2.5
Equip. Release	1	2	4				1
Pack/Load waste	0.5	1	2	4	4	4	0.5
Decon/Remed.							
Final Survey	0.5	1	2				0.5

# Lab Samples to be collected	0
-------------------------------	---

Building	245	Room or Area	B145				
Use	Source calibration						
Radionuclides, Extent of Contamination		TRU, Ra, Beta-gamma, Sr-90, Low E					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	288	288	0.5	144		
Wall Area, ft ²	1120	1120	0	0		
Ceiling Area, ft ²	288	288	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	3					
Casework/Cabinets	2	0.5	0.5	0.5		
Reefers, Large Equipment						
Misc. Equip./Labware	10					
Hot Cells						
Storage Tanks						
Other	4					
Sinks						
Drains	0.0					
Ventilation Drops	0.6					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	2	Inch Dia.	2	Total ft ³	0.6

	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	6	12	24				6
Equip. Release	1	2	4				1
Pack/Load waste	0.25	0.5	1	1	2	2	0.25
Decon/Remed.	0.5	1	2		2	2	0.5
Final Survey	3	6	12				3

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	1st Floor B-wing Hallway				
Use	Hallway						
Radionuclides, Extent of Contamination			Potentially all radionuclides from labs				
Area Classification	3						
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	216			0		216
Wall Area, ft ²	864			0		864
Ceiling Area, ft ²	216			0		216

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize							
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	2	4	8				2

# Lab Samples to be collected	0
-------------------------------	---

Building	245	Room or Area	B146				
Use	Packaging						
Radionuclides, Extent of Contamination		TRU, Ra, Beta-gamma, Sr-90, Low E					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft²	273	273	0	0		
Wall Area, ft²	1100	1100	0	0		
Ceiling Area, ft²	273	273	0	0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	30	0				
Casework/Cabinets	60	0				
Reefers, Large Equipment						
Misc. Equip./Labware	10	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	6	12	24				6
Equip. Release	1	2	4				1
Pack/Load waste							
Decon/Remed.							
Final Survey	3	6	12				3

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	B147				
Use	Electrical Room						
Radionuclides, Extent of Contamination		None					
Area Classification	3						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	84			0		84
Wall Area, ft ²	560			0		560
Ceiling Area, ft ²	84			0		84

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize							
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.5	1	2				0.5

Lab Samples to be collected

0

Building	245	Room or Area	B149				
Use	Telephone Room						
Radionuclides, Extent of Contamination		None					
Area Classification	3						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	84			0		84
Wall Area, ft ²	560			0		560
Ceiling Area, ft ²	84			0		84

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize							
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.5	1	2				0.5

Lab Samples to be collected 0

Building	245	Room or Area	B150				
Use	Men's locker room						
Radionuclides, Extent of Contamination		None					
Area Classification	3						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	280			0		280
Wall Area, ft ²	1120			0		1120
Ceiling Area, ft ²	280			0		280

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks	4					
Drains	0.3					
Ventilation Drops	0.0					

Drains	No.	2	Inch Dia.	2	Total ft ³	0.3
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.5	1	2				0.5

# Lab Samples to be collected	0
-------------------------------	---

Building	245	Room or Area	B152				
Use	Radiochemistry						
Radionuclides, Extent of Contamination		TRU, Ra, Beta-gamma, Sr-90, Low E					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	480	480	0.1	48		
Wall Area, ft ²	1100	1100		0		
Ceiling Area, ft ²	480	480		0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	60	0.5		1		
Benches/Tables/Desks	20	0				
Casework/Cabinets	250	0				
Reefers, Large Equipment						
Misc. Equip./Labware	30	0				
Hot Cells						
Storage Tanks						
Other	10	0				
Sinks	8	0.1				
Drains	1.1	0				
Ventilation Drops	1.1	0.1		1		

Drains	No.	8	Inch Dia.	2	Total ft ³	1.1
Ventilation Drops	No.	8	Inch Dia.	2	Total ft ³	1.1

	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Person-hours							
Characterize	8	16	32				8
Equip. Release	4	8	16				4
Pack/Load waste	0.1	0.25	0.5	0.5	2	2	0.1
Decon/Remed.	0.5	1	2		2	2	0.5
Final Survey	6	12	24				6

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B153				
Use	Restroom						
Radionuclides, Extent of Contamination		None					
Area Classification	3						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	84			0		84
Wall Area, ft²	315			0		315
Ceiling Area, ft²	84			0		84

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize							
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.5	1	2				0.5

# Lab Samples to be collected	0
--------------------------------------	---

Building	245	Room or Area	B155				
Use	Non-rad storage						
Radionuclides, Extent of Contamination		None					
Area Classification	3						
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	70			0		70
Wall Area, ft ²	280			0		280
Ceiling Area, ft ²	70			0		70

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets	6	0				
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other	8	0				
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize							
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.25	0.5	1				0.25

Lab Samples to be collected

0

Building 245

Room or Area Hallway

Use Adjacent to B-152, 156, 157

Radionuclides, Extent of Contamination

None (all nuclides in adjacent rooms)

Area Classification

3

Floors above Basement

1

Floors below Roof

1

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	396			0		396
Wall Area, ft ²	1920			0		1920
Ceiling Area, ft ²	396			0		396

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains

No.

Inch Dia.

Total ft³

0.0

Ventilation Drops

No.

Inch Dia.

Total ft³

0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize							
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	1	2	4				1

Lab Samples to be collected

0

Building	245	Room or Area	B156				
Use	Radiochemisstry						
Radionuclides, Extent of Contamination		TRU, Ra, Beta-gamma, Sr-90, Low E					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	480	480	0.1	48		
Wall Area, ft²	1100	1100		0		
Ceiling Area, ft²	480	480		0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	45	0.5		1		
Benches/Tables/Desks	10					
Casework/Cabinets	275					
Reefers, Large Equipment						
Misc. Equip./Labware	25					
Hot Cells	15	0.5	0.75		0.25	
Storage Tanks						
Other	20					
Sinks	10					
Drains	1.0					
Ventilation Drops	20.0	0.1		1		

Drains	No.	7	Inch Dia.	2	Total ft ³	1.0
Ventilation Drops	No.	4	Inch Dia.	12	Total ft ³	20.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	8	16	32				8
Equip. Release	2	4	8				1
Pack/Load waste	0.1	0.25	0.5	0.5	2	2	0.1
Decon/Remed.	0.25	0.5	1		2	2	0.05
Final Survey	6	12	24				6

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	B157				
Use	SRM Production						
Radionuclides, Extent of Contamination		TRU, Ra, Beta-gamma, Sr-90, Low E					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	450	450	0.1	45		
Wall Area, ft ²	1100	1100		0		
Ceiling Area, ft ²	450	450		0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes	30	1		1		
Hoods	30	1		1		
Benches/Tables/Desks	3	0.1	0.5	0.5		
Casework/Cabinets	250	0.1	0.5	0.5		
Reefers, Large Equipment						
Misc. Equip./Labware	5	0.1	0.5	0.5		
Hot Cells						
Storage Tanks						
Other						
Sinks	4	0.1		1		
Drains	1.1	0.1		1		
Ventilation Drops	10.0	0.1		1		

Drains	No.	2	Inch Dia.	4	Total ft ³	1.1
Ventilation Drops	No.	2	Inch Dia.	12	Total ft ³	10.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	8	16	32				8
Equip. Release	2	4	8				1
Pack/Load waste	0.1	0.25	0.5	0.5	2	2	0.1
Decon/Remed.	0.25	0.5	1		2	2	0.05
Final Survey	6	12	24				6

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	B009				
Use	Formerly lab; released, now non-rad						
Radionuclides, Extent of Contamination		Sealed and unsealed Beta-gamma					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²				0		
Wall Area, ft ²				0		
Ceiling Area, ft ²				0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	1	2	4				1

Lab Samples to be collected

1

Building	245	Room or Area	B024				
Use	Formerly lab; released, now non-rad						
Radionuclides, Extent of Contamination		Formerly sealed Cf-252					
Area Classification	1						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²				0		
Wall Area, ft ²				0		
Ceiling Area, ft ²				0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	2	4	8				2
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	1	2	4				1

# Lab Samples to be collected	4
-------------------------------	---

Building	245	Room or Area	B133				
Use	Formerly lab; released, now non-rad						
Radionuclides, Extent of Contamination		U, Th					
Area Classification	2						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²				0		
Wall Area, ft ²				0		
Ceiling Area, ft ²				0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	1	2	4				1

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	C Wing				
Use							
Radionuclides, Extent of Contamination							
Area Classification							
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	7819	3865		524	680	3274
Wall Area, ft ²	26244	12984		0	1590	10860
Ceiling Area, ft ²	7819	3865		0	680	3274

Components	Fraction					ft ³ Concrete
	Total ft ³	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	30		30			
Hoods	271					
Benches/Tables/Desks	1408	0				
Casework/Cabinets	3397	0				
Reefers, Large Equipment	1256	0				
Misc. Equip./Labware	1227					
Hot Cells	0					
Storage Tanks	95					
Other	555					
Sinks	244					
Drains	2.152778					
Ventilation Drops	55					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	75.5	151	306	0	0	0	71.5
Equip. Release	42.5	84	168	0	0	0	42.5
Pack/Load waste	2.85	6.5	3	10	24	24	2.35
Decon/Remed.	2	4	8	0	14	14	1.75
Final Survey	36.25	72.5	147	0	0	0	34.25

Lab Samples to be collected

17

Building	245	Room or Area	C Wing Rest Room				
Use	Rest Room						
Radionuclides, Extent of Contamination	None						
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft²	150			0		150
Wall Area, ft²	450			0		450
Ceiling Area, ft²	150			0		150

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets	20	0				
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks	60	0				
Drains	0.0	0				
Ventilation Drops	0.0	0				

Drains	No.	5	Inch Dia.	2	Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize							
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.5	1	2				0.5

# Lab Samples to be collected	0
--------------------------------------	---

Building	245	Room or Area	C06			
Use	Contact Shop					
Radionuclides, Extent of Contamination	None					
Area Classification	3					
# Floors above Basement						
# Floors below Roof						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	1500			0		1500
Wall Area, ft²	4320			0		4320
Ceiling Area, ft²	1500			0		1500

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	1	0				
Benches/Tables/Desks	200	0				
Casework/Cabinets	450	0				
Reefers, Large Equipment	650	0				
Misc. Equip./Labware	200	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains						
Ventilation Drops						

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	3	Inch Dia.	20	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	1.5	3	6				1.5

# Lab Samples to be collected	0
--------------------------------------	---

Building	245	Room or Area	C006				
Use	SRM Storage						
Radionuclides, Extent of Contamination		All radionuclides					
Area Classification	1						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	400	400		0		
Wall Area, ft ²	1120	1120		0		
Ceiling Area, ft ²	400	400		0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets	200	0				
Reefers, Large Equipment	36	0				
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other	100	0				
Sinks						
Drains						
Ventilation Drops						

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Person-hours							
Characterize	4	8	16				4
Equip. Release	4.5	8	16				4.5
Pack/Load waste	0.1	1			2	2	0.1
Decon/Remed.							
Final Survey	2	4	8				2

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	C10				
Use	Environmental Radiochemistry						
Radionuclides, Extent of Contamination		Beta-gamma, Low E					
Area Classification	1						
# Floors above Basement	2						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	800	800	0.5	400		
Wall Area, ft ²	1800	1800		0		
Ceiling Area, ft ²	800	800		0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes	30	1		1		
Hoods	60	0.5		1		
Benches/Tables/Desks	312	0.1	1			
Casework/Cabinets	250	0.1	0.25	0.75		
Reefers, Large Equipment	200	0		1		
Misc. Equip./Labware	300	0.1	0.25	0.75		
Hot Cells						
Storage Tanks						
Other						
Sinks	20	1		1		
Drains	0.3	1		1		
Ventilation Drops	27.8	0				

Drains	No.	1	Inch Dia.	2	Total ft ³	0.3
Ventilation Drops	No.	1	Inch Dia.	20	Total ft ³	27.8

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	4	8	16				4
Pack/Load waste	0.25	0.5	1	2	2	2	0.25
Decon/Remed.	0.5	1	2		4	4	0.5
Final Survey	1.5	3	6				1.5

# Lab Samples to be collected	1
-------------------------------	---

Building 245

Room or Area C11

Use Gas Counting

Radionuclides, Extent of Contamination

TRU, U, Ra, Sr-90, Beta-gamma, Low E

Area Classification

1

Floors above Basement

Floors below Roof

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	200	200	0	0		
Wall Area, ft ²	900	900	0	0		
Ceiling Area, ft ²	200	200	0	0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	16	0				
Casework/Cabinets	132	0				
Reefers, Large Equipment						
Misc. Equip./Labware	50	0				
Hot Cells						
Storage Tanks						
Other	30	0				
Sinks	20	0				
Drains	0.0	0				
Ventilation Drops	0.0	0				

Drains	No.	1	Inch Dia.	2	Total ft ³	0.0
Ventilation Drops	No.	1	Inch Dia.	3	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	8	16	32				8
Equip. Release	4	8	16				4
Pack/Load waste					1	1	
Decon/Remed.							
Final Survey	4	8	16				4

Lab Samples to be collected

1

Building	245	Room or Area	C13				
Use	Low level counting						
Radionuclides, Extent of Contamination		TRU, U, Ra, Sr-90, Beta-gamma, Low E					
Area Classification	1						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	200	200	0.1	20		
Wall Area, ft²	1200	1200		0		
Ceiling Area, ft²	200	200		0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	30	0				
Casework/Cabinets	160	0				
Reefers, Large Equipment						
Misc. Equip./Labware	90	0				
Hot Cells						
Storage Tanks	45	0				
Other	25	0				
Sinks	20	0				
Drains	0.0	0				
Ventilation Drops	0.0	0				

Drains	No.	1	Inch Dia.	2	Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	4	8	16				4
Pack/Load waste	0.25	0.5		1	2	2	0.25
Decon/Remed.	0.25	0.5	1		2	2	0.25
Final Survey	2	4	8				2

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	C15				
Use	Activity measurements						
Radionuclides, Extent of Contamination		TRU, U, Ra, Sr-90, Beta-gamma, Low E					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	3						

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	200	200	0.1	20		
Wall Area, ft ²	900	900	0	0		
Ceiling Area, ft ²	200	200	0	0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	120	0				
Casework/Cabinets	40	0				
Reefers, Large Equipment	80	0				
Misc. Equip./Labware	80	0				
Hot Cells						
Storage Tanks						
Other	20	0				
Sinks	20	0				
Drains	0.1	0				
Ventilation Drops	0.0	0				

Drains	No.	1	Inch Dia.	2	Total ft ³	0.1
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	8	16	32				8
Equip. Release	4	8	16				4
Pack/Load waste					1	1	
Decon/Remed.	0.25	0.5	1		2	2	0.25
Final Survey	2	4	8				2

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	C17				
Use							
Radionuclides, Extent of Contamination			TRU, U, Ra, Sr-90, Beta-gamma, Low E				
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	3						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	200	200	0.1	20		
Wall Area, ft²	900	900	0	0		
Ceiling Area, ft²	200	200	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	120	0				
Casework/Cabinets	40	0				
Reefers, Large Equipment	80	0				
Misc. Equip./Labware	80	0				
Hot Cells						
Storage Tanks						
Other	20	0				
Sinks	20	0				
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³		0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³		0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	8	16	32				8
Equip. Release	4	8	16				4
Pack/Load waste	0.25	0.5		1	2	2	0.25
Decon/Remed.	0.25	0.5	1		2	2	0.25
Final Survey	2	4	8				2

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	C25				
Use	Gamma Spectroscopy						
Radionuclides, Extent of Contamination		TRU, U, Ra, Sr-90, Beta-gamma, Low E					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	3						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	400	400	0.1	40		
Wall Area, ft²	1200	1200	0	0		
Ceiling Area, ft²	400	400	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	70	0				
Casework/Cabinets						
Reefers, Large Equipment	60	0				
Misc. Equip./Labware	80	0				
Hot Cells						
Storage Tanks						
Other	60	0				
Sinks	20	0				
Drains	0.1	0				
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	2	Total ft ³	0.1
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	4	8	16				4
Pack/Load waste	0.25	0.5		1	2	2	0.25
Decon/Remed.	0.25	0.5	1		2	2	0.25
Final Survey	2	4	8				2

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	C Wing Fan Room				
Use	Ventilation						
Radionuclides, Extent of Contamination		Potentially all					
Area Classification	1						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	225	225	0	0		
Wall Area, ft ²	1200	1200	0	0		
Ceiling Area, ft ²	225	225	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other	300	1	0.25	0.75		
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release							
Pack/Load waste	0.5	1	2	2	4	4	
Decon/Remed.							
Final Survey	2	4	8				2

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	C103				
Use	Office						
Radionuclides, Extent of Contamination		Formerly H-3, C-14					
Area Classification	3						
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	240			0		240
Wall Area, ft ²	630			0		630
Ceiling Area, ft ²	240			0		240

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets	370	0				
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	2				0.5
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.25	0.5	1				0.25

# Lab Samples to be collected	0
-------------------------------	---

Building	245	Room or Area	C104				
Use	Storage closet						
Radionuclides, Extent of Contamination		None					
Area Classification	3						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	54			0		54
Wall Area, ft ²	560			0		560
Ceiling Area, ft ²	54			0		54

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks	4	0				
Drains	0.3	0				
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	3	Total ft ³	0.3
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	2				0.5
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.25	0.5	1				0.25

# Lab Samples to be collected	0
-------------------------------	---

Building	245	Room or Area	C105				
Use	Office						
Radionuclides, Extent of Contamination		Formerly TRU, Beta-gamma, Low E					
Area Classification	2						
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	200			0	200	
Wall Area, ft ²	600			0	600	
Ceiling Area, ft ²	200			0	200	

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	2	4	8				2

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	C106				
Use	Office						
Radionuclides, Extent of Contamination		None					
Area Classification	3						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	240			0		240
Wall Area, ft ²	900			0		900
Ceiling Area, ft ²	240			0		240

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize							
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	1	2	4				1

Lab Samples to be collected

0

Building	245	Room or Area	C107				
Use	Biology, Nuclear medicine						
Radionuclides, Extent of Contamination		I-125, P-32					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	240	240	0	0		
Wall Area, ft²	900	900	0	0		
Ceiling Area, ft²	240	240	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	70	0				
Benches/Tables/Desks	70	0				
Casework/Cabinets	300	0				
Reefers, Large Equipment	10	0				
Misc. Equip./Labware	65	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	2					
Drains	0.1	0				
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	2	Total ft ³	0.1
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release							
Pack/Load waste	0.25	0.5			1	1	0.25
Decon/Remed.							
Final Survey	1	2	4				1

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	C108				
Use	Office						
Radionuclides, Extent of Contamination		Formerly unsealed U					
Area Classification	2						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	240			0	240	
Wall Area, ft ²	900			0	90	
Ceiling Area, ft ²	240			0	240	

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	30	0				
Casework/Cabinets	40	0				
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks	2	0				
Drains	0.1	0				
Ventilation Drops	0.0	0				

Drains	No.	1	Inch Dia.	2	Total ft ³	0.1
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	8				1
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.5	1	4				0.5

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	C109				
Use	Counting Lab						
Radionuclides, Extent of Contamination			TRU, U, Ra, Sr-90, Beta-gamma, Low E				
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft²	240	240	0.1	24		
Wall Area, ft²	900	900	0	0		
Ceiling Area, ft²	240	240	0	0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	50	0.1	0.5	0.5		
Casework/Cabinets	60	0.1	0.5	0.5		
Reefers, Large Equipment						
Misc. Equip./Labware	100	1	1			
Hot Cells						
Storage Tanks						
Other						
Sinks	3	1		1		
Drains	0.0	0.1		1		
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	1	Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	8	16	32				4
Equip. Release	4	8	16				4
Pack/Load waste	0.25	0.5		1	2	2	0.25
Decon/Remed.	0.5	1	2		2	2	0.25
Final Survey	4	8	16				2

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	C112				
Use	Office						
Radionuclides, Extent of Contamination		Formerly sealed source - Low E					
Area Classification	3						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	240			0		240
Wall Area, ft ²	900			0		900
Ceiling Area, ft ²	240			0		240

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	50	0				
Casework/Cabinets	30	0				
Reefers, Large Equipment						
Misc. Equip./Labware	20	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	2				0.5
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.25	0.5	1				0.25

# Lab Samples to be collected	0
-------------------------------	---

Building	245	Room or Area	C115				
Use	Formerly lab - now office						
Radionuclides, Extent of Contamination		Beta-gamma					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	200			0		200
Wall Area, ft ²	720			0		720
Ceiling Area, ft ²	200			0		200

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	100	0				
Casework/Cabinets	200	0				
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	2				0.5
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.25	0.5	1				0.25

Lab Samples to be collected

1

Building	245	Room or Area	C116				
Use	Office						
Radionuclides, Extent of Contamination		Formerly sealed Ra-226					
Area Classification	3						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	100			0		100
Wall Area, ft²	560			0		560
Ceiling Area, ft²	100			0		100

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets	120	0				
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks	4	0				
Drains	0.1	0				
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	2	Total ft ³	0.1
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	2				0.5
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.5	1	2				0.5

# Lab Samples to be collected	0
--------------------------------------	---

Building	245	Room or Area	C133				
Use	Office						
Radionuclides, Extent of Contamination		Formerly unsealed Pu					
Area Classification	2						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	240			0	240	
Wall Area, ft²	900			0	900	
Ceiling Area, ft²	240			0	240	

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets	40	0				
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks	2	0				
Drains	0.6	0				
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	4	Total ft ³	0.6
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	1	2	4				1
Pack/Load waste							
Decon/Remed.							
Final Survey	1.5	3	6				1.5

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	C135				
Use	Low level Radiochemistry						
Radionuclides, Extent of Contamination		TRU, U, Ra, Beta-gamma					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	2						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	240	240	0	0		
Wall Area, ft ²	900	900	0	0		
Ceiling Area, ft ²	240	240	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	100	0.5		1		
Benches/Tables/Desks						
Casework/Cabinets	45	0.1	0.5	0.5		
Reefers, Large Equipment						
Misc. Equip./Labware	40	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	4	0				
Drains	0.1	0				
Ventilation Drops	27.2	0				

Drains	No.	1	Inch Dia.	2	Total ft ³	0.1
Ventilation Drops	No.	2	Inch Dia.	14	Total ft ³	27.2

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	4	8	16				4
Pack/Load waste	0.25	0.5		1	2	2	0.25
Decon/Remed.							
Final Survey	2	4	8				2

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	C137 & C138				
Use	Clean Room						
Radionuclides, Extent of Contamination		TRU, U, Ra, Beta-gamma					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	520	520	0	0		
Wall Area, ft²	1064	1064	0	0		
Ceiling Area, ft²	520	520	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	50	0				
Casework/Cabinets	260	0				
Reefers, Large Equipment						
Misc. Equip./Labware	2	0				
Hot Cells						
Storage Tanks	30	0				
Other						
Sinks	3	0				
Drains	0.1	0				
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	2	Total ft ³	0.1
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	4	8	16				4
Equip. Release	4	8	16				4
Pack/Load waste	0.25	0.5		1	2	2	0.25
Decon/Remed.							
Final Survey	2	4	8				2

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	C201				
Use	Formerly lab - now office						
Radionuclides, Extent of Contamination		C-14, H-3 only					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	200		0	0		200
Wall Area, ft ²	600		0	0		600
Ceiling Area, ft ²	200		0	0		200

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	40	0.5		1		
Benches/Tables/Desks	100					
Casework/Cabinets	80					
Reefers, Large Equipment	100					
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks	20					
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	2	Total ft ³	0.0
Ventilation Drops	No.	1	Inch Dia.	20	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	2				0.5
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.25	0.5	1				0.25

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	C203				
Use	Dosimetry Lab						
Radionuclides, Extent of Contamination		Sealed I-125 only					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	150			0		150
Wall Area, ft ²	500			0		500
Ceiling Area, ft ²	150			0		150

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	30	0				
Casework/Cabinets	160	0				
Reefers, Large Equipment	40	0				
Misc. Equip./Labware	120	0				
Hot Cells						
Storage Tanks	20	0				
Other						
Sinks	20	0				
Drains	0.0	0				
Ventilation Drops	0.0	0				

Drains	No.	1	Inch Dia.	2	Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	1	2	4				1
Pack/Load waste	0.25	0.5			1	1	0.25
Decon/Remed.							
Final Survey	0.5	1	2				0.5

# Lab Samples to be collected	0
-------------------------------	---

Building	245	Room or Area	C211				
Use	Office						
Radionuclides, Extent of Contamination		Sealed Sr-90 only					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	200			0		200
Wall Area, ft ²	720			0		720
Ceiling Area, ft ²	200			0		200

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	60	0				
Casework/Cabinets	400	0				
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	2				0.5
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.5	1	2				0.5

# Lab Samples to be collected	0
-------------------------------	---

Building	245	Room or Area	E Wing				
Use							
Radionuclides, Extent of Contamination							
Area Classification							
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	4497	3672		170.4	0	825
Wall Area, ft ²	9760	7680		119	0	2080
Ceiling Area, ft ²	4497	3672		0	0	825

Components	Total ft ³	Fraction				
		RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	ft ³ Concrete
Glove Boxes	22		0			
Hoods	45					
Benches/Tables/Desks	662	0				
Casework/Cabinets	1319	0				
Reefers, Large Equipment	75	0				
Misc. Equip./Labware	1144					
Hot Cells	20					
Storage Tanks	0					
Other	415					
Sinks	62					
Drains	1.944444					
Ventilation Drops	2.291667					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	51	102	204	0	0	0	51
Equip. Release	33	66	132	0	0	0	33
Pack/Load waste	4	8	18	8	28	28	4
Decon/Remed.	3	6	12	0	12	12	3
Final Survey	26	52	104	0	0	0	27

Lab Samples to be collected

7

Building	245	Room or Area	E102				
Use	Office						
Radionuclides, Extent of Contamination		None					
Area Classification	3						
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	225			0		225
Wall Area, ft ²	540			0		540
Ceiling Area, ft ²	225			0		225

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	240	0				
Casework/Cabinets	60	0				
Reefers, Large Equipment	3	0				
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	0	Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.	0	Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	2				0.5
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.5	1	2				0.5

Lab Samples to be collected

0

Building	245	Room or Area	E103				
Use	Laser Radiation						
Radionuclides, Extent of Contamination		TRU, U, Ra, Sr90, Beta-gamma, Low E					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	1800	1800	0.05	90		
Wall Area, ft²	2380	2380	0.05	119		
Ceiling Area, ft²	1800	1800	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes	2	1	1			
Hoods						
Benches/Tables/Desks	100	0.05	0.25	0.75		
Casework/Cabinets	780	0.05	0.5	0.5		
Reefers, Large Equipment						
Misc. Equip./Labware	1000	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	24	0				
Drains	0.1	0				
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	2	Total ft ³	0.1
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	16	32	64				16
Equip. Release	16	32	64				16
Pack/Load waste	1	2	4	2	4	4	1
Decon/Remed.	1	2	4		4	4	1
Final Survey	8	16	32				8

# Lab Samples to be collected	2
--------------------------------------	---

Building	245	Room or Area	E104				
Use	Mechanical Room						
Radionuclides, Extent of Contamination		None					
Area Classification	3						
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	600			0		600
Wall Area, ft ²	1540			0		1540
Ceiling Area, ft ²	600			0		600

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	2				0.5
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.5	1	2				0.5

# Lab Samples to be collected	0
-------------------------------	---

Building	245	Room or Area	E105				
Use	High level radiochemistry						
Radionuclides, Extent of Contamination							
Area Classification	1	TRU, U, Ra, Sr90, Beta-gamma, Low E. Fe-55 contamination marked on floor					
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	336	336	0.1	33.6		
Wall Area, ft ²	1000	1000		0		
Ceiling Area, ft ²	336	336		0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes	20	1				
Hoods	30	0.25				
Benches/Tables/Desks	42	0.05				
Casework/Cabinets	48	0.05	0.5	0.5		
Reefers, Large Equipment	72	0				
Misc. Equip./Labware	15	0.05	0.5	0.5		
Hot Cells	20	0.25	0.33	0.33	0.34	
Storage Tanks						
Other						
Sinks	4	0				
Drains	1.1	0				
Ventilation Drops	1.7	0				

Drains	No.	2	Inch Dia.	4	Total ft ³	1.1
Ventilation Drops	No.	3	Inch Dia.	4	Total ft ³	1.7

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	8	16	32				8
Equip. Release	5	10	20				5
Pack/Load waste	1	2	4	2	4	4	1
Decon/Remed.	0.5	1	2		2	2	0.5
Final Survey	4	8	16				4

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	E106				
Use	Medium Level Radiochemistry						
Radionuclides, Extent of Contamination		TRU, U, Ra, Sr90, Beta-gamma, Low E					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	336	336	0.05	16.8		
Wall Area, ft ²	1100	1100		0		
Ceiling Area, ft ²	336	336		0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods	15	0				
Benches/Tables/Desks	8	0				
Casework/Cabinets	7	0				
Reefers, Large Equipment						
Misc. Equip./Labware	4	0				
Hot Cells						
Storage Tanks						
Other	15	0				
Sinks	4	0				
Drains	0.4	0				
Ventilation Drops	0.6	0				

Drains	No.	3	Inch Dia.	2	Total ft ³	0.4
Ventilation Drops	No.	2	Inch Dia.	3	Total ft ³	0.6

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	8	16	32				8
Equip. Release	5	10	20				5
Pack/Load waste							
Decon/Remed.	0.5	1	2		2	2	0.5
Final Survey	4	8	16				4

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	E107				
Use	Alpha, beta measurements						
Radionuclides, Extent of Contamination		TRU, U, Ra, Sr90, Beta-gamma, Low E					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	450	450	0	0		
Wall Area, ft²	900	900	0	0		
Ceiling Area, ft²	450	450	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	200	0.05	0.5	0.5		
Casework/Cabinets	300	0				
Reefers, Large Equipment						
Misc. Equip./Labware	25	0.05	0.5	0.5		
Hot Cells						
Storage Tanks						
Other						
Sinks	6	0.1		1		
Drains	0.1	0				
Ventilation Drops	0.0	0				

Drains	No.	1	Inch Dia.	2	Total ft ³	0.1
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	8	16	32				8
Equip. Release	5	10	20				5
Pack/Load waste			2	2	4	4	
Decon/Remed.	0.5	1	2		2	2	0.5
Final Survey	4	8	16				4

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	E108				
Use	Radioactivity measurement lab						
Radionuclides, Extent of Contamination		Sealed H-3 only					
Area Classification	1						
# Floors above Basement	1						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	450	450	0	0		
Wall Area, ft ²	900	900	0	0		
Ceiling Area, ft ²	450	450	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	72	0				
Casework/Cabinets	124	0				
Reefers, Large Equipment						
Misc. Equip./Labware	100	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	24	0				
Drains	0.1	0				
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	2	Total ft ³	0.1
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	2	4	8				2
Equip. Release	2	4	8				2
Pack/Load waste							
Decon/Remed.							
Final Survey	1	2	4				2
							1

# Lab Samples to be collected	1
--------------------------------------	---

Building	245	Room or Area	Ventilation Penthouse				
Use	Ventilation equipment						
Radionuclides, Extent of Contamination		Potentially TRU, Ra, U, Beta-gamma					
Area Classification	1						
# Floors above Basement	2						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	300	300	0.1	30		
Wall Area, ft ²	1400	1400		0		
Ceiling Area, ft ²	300	300		0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other	400	1	0.25	0.75		
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	8	16	32				8
Equip. Release							
Pack/Load waste	2	4	8	2	16	16	2
Decon/Remed.	0.5	1	2		2	2	0.5
Final Survey	4	8	16				4

# Lab Samples to be collected	1
-------------------------------	---

Building	245	Room or Area	F Wing			
Use						
Radionuclides, Extent of Contamination						
Area Classification						
# Floors above Basement						
# Floors below Roof						

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	625	0		0	0	625
Wall Area, ft ²	1400	0		0	0	1400
Ceiling Area, ft ²	625	0		0	0	625

Components	Fraction					Concrete
	Total ft ³	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	0		0			
Hoods	0					
Benches/Tables/Desks	175	0				
Casework/Cabinets	100	0				
Reefers, Large Equipment	0	0				
Misc. Equip./Labware	30					
Hot Cells	0					
Storage Tanks	0					
Other	5					
Sinks	4					
Drains	0					
Ventilation Drops	0					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4	0	0	0	1
Equip. Release	4	8	16	0	0	0	4
Pack/Load waste	2	4	8	4	8	8	2
Decon/Remed.	0	0	0	0	0	0	0
Final Survey	1	2	4	0	0	0	1

# Lab Samples to be collected	0
-------------------------------	---

Building 245

Room or Area F101

Use Co-60 sources and well

Radionuclides, Extent of Contamination

Sealed Co-60 only

Area Classification

3

Floors above Basement

Floors below Roof

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	625			0		625
Wall Area, ft ²	1400			0		1400
Ceiling Area, ft ²	625			0		625

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	175	0				
Casework/Cabinets	100	0				
Reefers, Large Equipment						
Misc. Equip./Labware	30	0				
Hot Cells						
Storage Tanks						
Other	5	0				
Sinks	4	0				
Drains	0.0	0				
Ventilation Drops	0.0					

Drains

No.

1

Inch Dia.

2

Total ft³

0.0

Ventilation Drops

No.

Inch Dia.

Total ft³

0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	4	8	16				4
Pack/Load waste	2	4	8	4	8	8	2
Decon/Remed.							
Final Survey	1	2	4				1

Lab Samples to be collected

0

Building Room or Area Use

Radionuclides, Extent of Contamination

Area Classification # Floors above Basement # Floors below Roof

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	4400	0		0		4400
Wall Area, ft ²	5200	0		0		5200
Ceiling Area, ft ²	4400	0		0		4400

Components	Fraction					ft ³ Concrete
	Total ft ³	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	0		0			
Hoods	0					
Benches/Tables/Desks	800	0				
Casework/Cabinets	100	0				
Reefers, Large Equipment	2500	0				
Misc. Equip./Labware	1000					
Hot Cells	0					
Storage Tanks	0					
Other	0					
Sinks	0					
Drains	0					
Ventilation Drops	0					

Drains	No. <input type="text"/>	Inch Dia. <input type="text"/>	Total ft ³ <input type="text" value="0.0"/>
Ventilation Drops	No. <input type="text"/>	Inch Dia. <input type="text"/>	Total ft ³ <input type="text" value="0.0"/>

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4	0	0	0	1
Equip. Release	1	2	4	0	0	0	1
Pack/Load waste	0.5	1	0	0	2	2	0.5
Decon/Remed.	0	0	0	0	0	0	0
Final Survey	1	2	4	0	0	0	1

Lab Samples to be collected

Building	301	Room or Area	B185 A and C				
Use	Shipping						
Radionuclides, Extent of Contamination		Sealed Ni-63 only					
Area Classification	3						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	4400			0		4400
Wall Area, ft ²	5200			0		5200
Ceiling Area, ft ²	4400			0		4400

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	800	0				
Casework/Cabinets	100	0				
Reefers, Large Equipment	2500	0				
Misc. Equip./Labware	1000	0				
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains						
Ventilation Drops						

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4				1
Equip. Release	1	2	4				1
Pack/Load waste	0.5	1			2	2	0.5
Decon/Remed.							
Final Survey	1	2	4				1

# Lab Samples to be collected	0
-------------------------------	---

Building 303

Room or Area

Use

Radionuclides, Extent of Contamination

Area Classification

Floors above Basement

Floors below Roof

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	6400	0		0		6400
Wall Area, ft ²	8000	0		0		8000
Ceiling Area, ft ²	6400	0		0		6400

Components	Fraction					ft ³ Concrete
	Total ft ³	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	0		0			
Hoods	0					
Benches/Tables/Desks	300	0				
Casework/Cabinets	200	0				
Reefers, Large Equipment	1000	0				
Misc. Equip./Labware	0					
Hot Cells	0					
Storage Tanks	0					
Other	0					
Sinks	0					
Drains	0					
Ventilation Drops	0					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1.5	3	6	0	0	0	1.5
Equip. Release	1.5	3	6	0	0	0	1.5
Pack/Load waste	0.5	1	0	0	2	2	0.5
Decon/Remed.	0	0	0	0	0	0	0
Final Survey	1.5	3	6	0	0	0	1.5

Lab Samples to be collected

0

Building Room or Area Use

Radionuclides, Extent of Contamination

Area Classification

Floors above Basement

Floors below Roof

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	6400			0		6400
Wall Area, ft ²	8000			0		8000
Ceiling Area, ft ²	6400			0		6400

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	300	0				
Casework/Cabinets	200	0				
Reefers, Large Equipment	1000	0				
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains						
Ventilation Drops						

Drains	No.	<input type="text"/>	Inch Dia.	<input type="text"/>	Total ft ³	<input type="text" value="0.0"/>
Ventilation Drops	No.	<input type="text"/>	Inch Dia.	<input type="text"/>	Total ft ³	<input type="text" value="0.0"/>

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1.5	3	6				1.5
Equip. Release	1.5	3	6				1.5
Pack/Load waste	0.5	1			2	2	0.5
Decon/Remed.							
Final Survey	1.5	3	6				1.5

Lab Samples to be collected

Building	423	Room or Area					
Use							
Radionuclides, Extent of Contamination							
Area Classification							
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft²	630	0		0		630
Wall Area, ft²	1080	0		0		1080
Ceiling Area, ft²	630	0		0		630

Components	Total ft ³	Fraction				Concrete
		RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	0		0			
Hoods	0					
Benches/Tables/Desks	6	0				
Casework/Cabinets	120	0				
Reefers, Large Equipment	200	0				
Misc. Equip./Labware	50					
Hot Cells	0					
Storage Tanks	0					
Other	0					
Sinks	2					
Drains	0					
Ventilation Drops	0					

Drains	No.		Inch Dia.		Total ft ³		0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³		0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	1	2	4	0	0	0	1
Equip. Release	0.5	1	2	0	0	0	0.5
Pack/Load waste	0.5	1	0	0	2	2	0.5
Decon/Remed.	0	0	0	0	0	0	0
Final Survey	1	2	4	0	0	0	1

# Lab Samples to be collected	1
--------------------------------------	---

Building 423

Room or Area X100

Use

Radionuclides, Extent of Contamination

Sealed Kr-85, Ni-63

Area Classification

3

Floors above Basement

Floors below Roof

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	180			0		180
Wall Area, ft ²	360			0		360
Ceiling Area, ft ²	180			0		180

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	6	0				
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains						
Ventilation Drops						

Drains

No.

Inch Dia.

Total ft³

0.0

Ventilation Drops

No.

Inch Dia.

Total ft³

0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	2				0.5
Equip. Release							
Pack/Load waste							
Decon/Remed.							
Final Survey	0.5	1	2				0.5

Lab Samples to be collected

0

Building	423	Room or Area	Modular building				
Use	Ventilation testing						
Radionuclides, Extent of Contamination		None					
Area Classification	3						
# Floors above Basement	0						
# Floors below Roof	1						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	450			0		450
Wall Area, ft²	720			0		720
Ceiling Area, ft²	450			0		450

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets	120	0				
Reefers, Large Equipment	200	0				
Misc. Equip./Labware	50	0				
Hot Cells						
Storage Tanks						
Other						
Sinks	2	0				
Drains	0.0	0				
Ventilation Drops	0.0					

Drains	No.	1	Inch Dia.	2	Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0.5	1	2				0.5
Equip. Release	0.5	1	2				0.5
Pack/Load waste	0.5	1			2	2	0.5
Decon/Remed.							
Final Survey	0.5	1	2				0.5

# Lab Samples to be collected	1
--------------------------------------	---

Building	Various	Room or Area	Various labe previously used		
Use	See list below				
Radionuclides, Extent of Contamination		All			
Area Classification	2 and 3				
# Floors above Basement					
# Floors below Roof					

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	50000	0		0	25000	25000
Wall Area, ft ²	135000	0		0	67500	67500
Ceiling Area, ft ²	50000	0		0	25000	25000

Components	Total ft3	Fraction				Concrete
		RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	0		0			
Hoods	0					
Benches/Tables/Desks	0	0				
Casework/Cabinets	0	0				
Reefers, Large Equipment	0	0				
Misc. Equip./Labware	0					
Hot Cells	0					
Storage Tanks	0					
Other	0					
Sinks	0					
Drains	0					
Ventilation Drops	0					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	62.5	125	250	0	0	0	62.5
Equip. Release	25	50	100	0	0	0	25
Pack/Load waste	12.5	25	0	0	50	50	12.5
Decon/Remed.	0	0	0	0	0	0	0
Final Survey	25	50	100	0	0	0	25

# Lab Samples to be collected	25
-------------------------------	----

TAB 3.5: FACILITY ROLL-UP - Laboratories

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	155563	32340		2258.4	33740	86083
Wall Area, ft ²	363991	85690		836.2	86700	184051
Ceiling Area, ft ²	156323	32340		250	33740	86843

Components	Fraction					ft ³ Concrete
	Total ft ³	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	357		119	13.5	0	0
Hoods	2411		0	270	0	0
Benches/Tables/Desks	17557		68.8	146.7	0	0
Casework/Cabinets	25749		78	101.8	0	0
Reefers, Large Equipment	44991		177.5	181.5	0	0
Misc. Equip./Labware	25835		104.1	87.4	0	0
Hot Cells	47		0	0	0	0
Storage Tanks	3524		0	360	0	0
Other	7303		0	27	5.2	10
Sinks	1012		1.275	30.475	0	0
Drains	12.15278		0.006944	0.076389	0	0
Ventilation Drops	596.5972		6.25	6.25	0	0
Waste in Storage	960		768	192	0	0

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	503.85	1007.75	2054	0	4	4	493.6
Equip. Release	320.95	640	1318	0	2	2	316.15
Pack/Load waste	58.45	118.5	77.5	159.5	333.5	331.5	57.95
Decon/Remed.	13.6	24.5	44	4	68	68	12.95
Final Survey	263.1	527.3	1077	0	0	0	258.8

Lab Samples to be collected 162

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	HP Technician	Shipper	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Preparation of Documentation for Regulatory Agencies	15.0	15.0	5.0	15.0			10.0
Submittal of Decommissioning Plan to NRC when required by 10 CFR 30.36(g)(1), 40.42(g)(1), or 70.38(g)(1)	5.0			5.0			5.0
Development of Work Plans	10.0	10.0		10.0			10.0
Procurement of Special Equipment	20.0	5.0		5.0			5.0
Staff Training	2.0	4.0	8.0	2.0	40.0	40.0	5.0
Characterization of Radiological Condition (including sampling, soil and tailings analysis, or groundwater analysis, if applicable)	63.0	126.0	256.8	0.0	0.5	0.5	61.7
Other (specify) Mobilization	1.0	2.0	8.0	1.0			
TOTALS	116.0	162.0	277.8	38.0	40.5	40.5	96.7

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 area:								
Level of Contamination:								
Component	Action	Project Mgr	Supervisor	HP Technician	Shipper	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Glove Boxes	Remove/Disp	3	6	12	1	2	2	2
Fume Hoods	Remove/Disp	4	8	16	1	2	2	2
Lab Benches	Decon/Remove					4	4	
Sinks	Decon/Remove					2	2	
Drains	Remove/Disp	2	4	4	1	1	1	2
Floors	Decon/Wipe	2	4	8		3	3	2
Walls	Decon/Wipe	1	2	2		5	5	1
Ceilings	Decon/Wipe							
Ventilation/Ductwork	Remove/Disp	2	4	7	1	2	2	2
Cabinets	Decon/Remove	2	5	2		4	4	2
Hot Cells	Remove/Disp	1	2	2		3	3	1
Equipment/Materials	Sur/Rem/Disp	27	53	107	1	17	17	27
Soil Plots	Sample							
Storage Tanks	N/A							
Storage Areas	Remove/Disp	1	2	4				1
Radwaste Areas	Remove/Disp	1	2	4	1	2	2	1
Scrap Recovery Areas	N/A							
Maintenance Shop	Remove/Disp							
Equipment Decontamination	Remove/Disp							
Sources	Remove/Disp	3	6	12	14	5	5	5
Other (specify)	Remove/Disp							
TOTALS		49	98	20	180	50	50	48

RESTORATION OF CONTAMINATED AREAS ON FACILITY GROUNDS
(Work Days)

Estimate 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:							
Activity	Project Mgr	Supervisor	HP Technician	Shipper	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Restore Floors	1	1	2	1	2	2	1
Restore Walls							
Restore Roof							
Restore Utilities							
TOTALS	1	1	2	1	2	2	1

3.9 FINAL RADIATION SURVEY (Work Days)

Estimate 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:

Activity	Project Mgr	Supervisor	HP Technician	Shipper	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
FSS Setup	10	5	5				16
Survey Packages	10	5	5				16
Class 1	5	33	79				
Class 2	4	12	24				
Class 3	4	10	22				
TOTALS	33	65	135	0	0	0	32

3.10 SITE STABILIZATION AND LONG-TERM SURVEILLANCE

(Work Days)

Estimate the number of work days, by specific labor category, that will be required to complete site stabilization and long-term surveillance activities.							
Activity	Project Mgr	Supervisor	HP Technician	Shipper	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
No Site Stabilization or							
Long Term Maintenance							
TOTALS	0	0	0	0	0	0	0

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	HP Technician	Shipper	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Planning and Preparation (TOTALS from Table 3.6)	116	162	278	38	41	41	97
Decontamination and/or Dismantling of Radioactive Facility Components (Sum of TOTALS from all copies of Table 3.7)	49	98	20	180	50	50	48
Restoration of Contaminated Areas on Facility Grounds (TOTALS from Table 3.8)	1	1	2	1	2	2	1
Final Radiation Survey (TOTALS from Table 3.9)	33	65	135	0	0	0	32
Site Stabilization and Long-Term Surveillance (TOTALS from Table 3.10)	0	0	0	0	0	0	0

3.12 WORKER UNIT COST SCHEDULE

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

Labor Cost Component	Project Mgr	Supervisor	HP Technician	Shipper	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Salary & Fringe (\$/year)	\$106,951	\$88,487	\$80,442	\$65,850	\$43,479	\$39,870	\$35,658
Overhead Rate (%)	75%	75%	75%	75%	75%	75%	75%
Total Cost Per Year	\$187,164	\$154,852	\$140,774	\$115,238	\$76,088	\$69,773	\$62,402
Living Expenses (PD*7/5) ¹	\$382	\$382	\$382	\$382	\$0	0	0
Total Cost Per Work Day ²	\$1,102	\$978	\$924	\$825	\$293	\$268	\$240

¹ Per Diem Rate: \$273 per day.

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

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	HP Technician	Shipper	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical	Total Labor Cost
Planning and Preparation	\$127,819	\$158,371	\$256,540	\$31,366	\$11,852	\$10,868	\$23,209	\$620,025
Decontamination and/or Dismantling of Radioactive Facility Components	\$54,139	\$95,701	\$18,877	\$148,524	\$14,760	\$13,468	\$11,612	\$357,081
Restoration of Contaminated Areas on Facility Grounds	\$622	\$1,104	\$2,086	\$466	\$661	\$606	\$136	\$5,681
Final Radiation Survey	\$36,368	\$63,556	\$124,691	\$0	\$0	\$0	\$7,680	\$232,295
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 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	1323	1.5	20' Sea-Land	\$1,100	\$1,650
Metal	1417	1.5	20' Sea-Land	\$1,100	\$1,650
Lead	5	1.0	55 gal. Drum	\$200	\$200
Concrete	177	2.0	B-25	\$750	\$1,500
Sealed Sources		1.0	Cask	\$100,000	\$100,000
TOTAL					\$105,000

(b) Shipping 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	Number of Truckloads	Unit Cost (\$/mile/truckload)	Surcharges (\$/mile)	Overweight Charges(\$/mile)	Distance Shipped (miles)	Total Shipping Costs
DAW	1	\$1.25	\$1.50	\$0.00	525	\$1,444
Metal	1	\$1.25	\$1.50	\$0.00	525	\$1,444
Lead	0	\$1.25		\$0.00	525	\$0
Concrete	0	\$1.25		\$0.00	525	\$0
Sealed Sources	1	\$5.00	\$20.00	\$10.00	2400	\$84,000
TOTAL	3					\$86,888

(c) Waste Disposal Costs

Estimate the volume of waste to be disposed. Multiply the volume of waste disposed by the unit/disposal cost (including any volume based surcharges). Add any surcharges that are based on the number of containers of waste, 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	1323	15	19844	\$7.25	0	\$143,869
Metal	1417	20	28334	\$3.25	0	\$92,086
Lead	5	60	312	\$4.00	0	\$1,248
Concrete	177	20	3545	\$3.75	0	\$13,292
Sealed Sources						\$500,000
TOTAL	2922					\$750,495

3.15 EQUIPMENT/SUPPLY COSTS (Excluding Containers)

Estimate the quantity of equipment and supplies required for decommissioning and multiply that quantity by the appropriate unit costs.			
Equipment/Supplies	Quantity	Unit Cost	Total Equipment/Supply Cost
Protective Clothing	2740	\$3	\$8,219
Respirators	227	\$10	\$2,268
HP Instruments	12	\$800	\$9,600
Misc Tools	1	\$25,000	\$25,000
Consumables	1	\$5,000	\$5,000
TOTAL			\$50,088

3.16 LABORATORY COSTS

If applicable, estimate the costs for analyses to be performed by an independent third party laboratory.			
Activity	Quantity	Unit Cost	Total Item Cost
Sampling	162	\$10	\$1,620
Transport of Samples	162	\$10	\$1,620
Testing and Analysis	162	\$275	\$44,550
Other (specify)			
TOTAL			\$47,790

3.17 MISCELLANEOUS COSTS

Estimate any other applicable costs.	
Activity	Total Cost
License Fees	\$1,400
Insurance	\$72,905
Taxes	\$225,534
Security	\$60,000
TOTAL	\$359,839

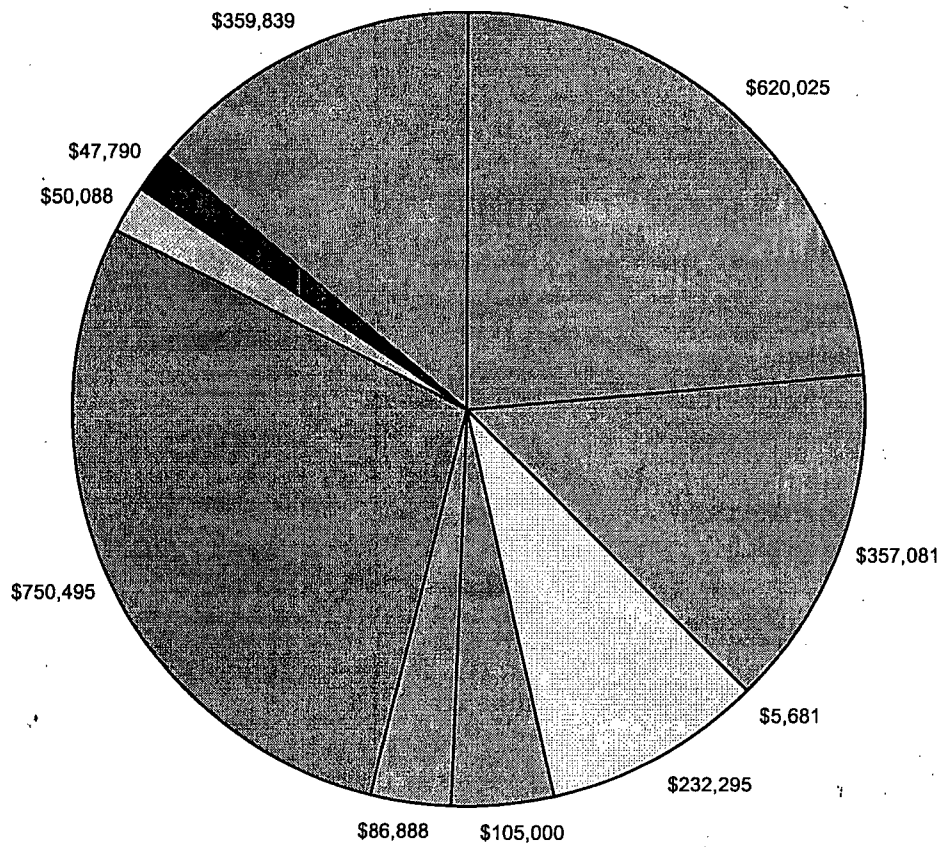
*Security; Increased Controls

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)	\$620,025	23.7%
Decontamination and/or Dismantling of Radioactive Facility (From Table 3.13)	\$357,081	13.7%
Restoration of Contaminated Areas on Facility Grounds (From Table 3.13)	\$5,681	0.2%
Final Radiation Survey (From Table 3.13)	\$232,295	8.9%
Packing Material Costs (TOTAL from Table 3.14(a))	\$105,000	4.0%
Shipping Costs (TOTAL from Table 3.14(b))	\$86,888	3.3%
Waste Disposal Costs (TOTAL from Table 3.14(c))	\$750,495	28.7%
Equipment/Supply Costs (TOTAL from Table 3.15)	\$50,088	1.9%
Laboratory Costs (TOTAL from Table 3.16)	\$47,790	1.8%
Miscellaneous Costs (TOTAL from Table 3.17)	\$359,839	13.8%
SUBTOTAL	\$2,615,180	100.0%
25% Contingency	\$653,795	25.0%
TOTAL DECOMMISSIONING COST ESTIMATE	\$3,268,975	125.0%

Decommissioning Cost Breakdown



- Planning and Preparation (from Table 3.13)
- Decontamination and/or Dismantling of Radioactive Facility (From Table 3.13)
- Restoration of Contaminated Areas on Facility Grounds (From Table 3.13)
- Final Radiation Survey (From Table 3.13)
- Packing Material Costs (TOTAL from Table 3.14(a))
- Shipping Costs (TOTAL from Table 3.14(b))
- Waste Disposal Costs (TOTAL from Table 3.14(c))
- Equipment/Supply Costs (TOTAL from Table 3.15)
- Laboratory Costs (TOTAL from Table 3.16)
- Miscellaneous Costs (TOTAL from Table 3.17)

Appendix C

Accelerator Areas Cost Estimating Worksheets

Building	245	Room or Area	LINAC				
Use							
Radionuclides, Extent of Contamination							
Area Classification							
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	3020	3020		600	0	0
Wall Area, ft ²	8500	8500		0	0	0
Ceiling Area, ft ²	3020	3020		0	0	0

Components	Total ft ³	Fraction				ft ³ Concrete
		RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	0		0	0	0	0
Hoods	0		0	0	0	0
Benches/Tables/Desks	50		0	50	0	0
Casework/Cabinets	75		0	75	0	0
Reefers, Large Equipment	1500		0	1500	0	0
Misc. Equip./Labware	100		50	50	0	0
Hot Cells	0		0	0	0	0
Storage Tanks	0		0	0	0	0
Other	4000		0	0	0	4000
Sinks	0		0	0	0	0
Drains	0		0	0	0	0
Ventilation Drops	750		0	750	0	0
Accumulated Waste	100		100	0	0	0
Drains	No.	Inch Dia.		Total ft ³	0.0	
Ventilation Drops	No.	Inch Dia.		Total ft ³	0.0	

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	0	60	120	0	60	60	30
Equip. Release	0	5	10	0	0	0	2.5
Pack/Load waste	0	12.5	30	30	80	80	6
Decon/Remed.	0	25	50	0	120	120	2.5
Final Survey	0	28	56	0	0	0	4

# Lab Samples to be collected	62
-------------------------------	----

Building	245	Room or Area	LINAC Hallway				
Use	Decommissioned Accelerator						
Radionuclides, Extent of Contamination		Accelerator product: Co-60, Eu-152					
Area Classification	1						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	1820	1820	0	0		
Wall Area, ft ²	4000	4000	0	0		
Ceiling Area, ft ²	1820	1820	0	0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Shielding						
Sinks						
Drains						
Ventilation Drops						
Accumulated Waste	100	1	1			
Drains	No.	Inch Dia.		Total ft ³	0.0	
Ventilation Drops	No.	Inch Dia.		Total ft ³	0.0	

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize		20	40		20	20	10
Equip. Release							
Pack/Load waste		10	20	20	40	40	5
Decon/Remed.		20	40		80	80	
Final Survey		20	40				

# Lab Samples to be collected	50
-------------------------------	----

Building	245	Room or Area	Magnet Room				
Use	Magnet Room						
Radionuclides, Extent of Contamination		Extensive. Accelerator products					
Area Classification	1						
# Floors above Basement	0						
# Floors below Roof	6						

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft²	1200	1200	0.5	600		
Wall Area, ft²	4500	4500	0	0		
Ceiling Area, ft²	1200	1200	0	0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	50	1		1		
Casework/Cabinets	75	1		1		
Reefers, Large Equipment	1500	1		1		
Misc. Equip./Labware	100	1	0.5	0.5		
Hot Cells						
Storage Tanks						
Shielding	4000	1				1
Sinks						
Drains	0.0					
Ventilation Drops	750.0	1		1		

Drains	No.	2	Inch Dia.	6	Total ft ³	0.0
Ventilation Drops	No.	4	Inch Dia.	30	Total ft ³	750.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize		40	80		40	40	20
Equip. Release		5	10				2.5
Pack/Load waste		2.5	10	10	40	40	1
Decon/Remed.		5	10		40	40	2.5
Final Survey		8	16				4

# Lab Samples to be collected	12
--------------------------------------	----

Building	245	Room or Area	MIRF				
Use							
Radionuclides, Extent of Contamination							
Area Classification							
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	2200	1900		0	0	300
Wall Area, ft ²	5280	4000		0	0	1280
Ceiling Area, ft ²	2200	1900		0	0	300

Components	Fraction					ft ³ Concrete
	Total ft ³	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	0		0	0	0	0
Hoods	0		0	0	0	0
Benches/Tables/Desks	125	0	0	0	0	0
Casework/Cabinets	90	0	0	0	0	0
Reefers, Large Equipment	250	0	0	0	0	0
Misc. Equip./Labware	1000		0	500	0	500
Hot Cells	0		0	0	0	0
Storage Tanks	0		0	0	0	0
Other	0		0	0	0	0
Sinks	0		0	0	0	0
Drains	0		0	0	0	0
Ventilation Drops	0		0	0	0	0

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	12	24	48	0	42	42	12
Equip. Release	12	24	48	0	5	5	10
Pack/Load waste	10	20	40	20	40	40	10
Decon/Remed.	2	5	10	0	10	10	2.5
Final Survey	5	10	20	0	0	0	5

Lab Samples to be collected 24

Building	245	Room or Area	A004				
Use	MIRF Control Room						
Radionuclides, Extent of Contamination			Potential accelerator products				
Area Classification	3						
# Floors above Basement	0						
# Floors below Roof	6						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	300			0		300
Wall Area, ft ²	1280			0		1280
Ceiling Area, ft ²	300			0		300

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	125	0				
Casework/Cabinets	90	0				
Reefers, Large Equipment	250	0				
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	2	4	8		2	2	2
Equip. Release	2	4	8				
Pack/Load waste							
Decon/Remed.							
Final Survey	1	2	4				1

# Lab Samples to be collected	4
-------------------------------	---

Building	245	Room or Area	A004 and A005				
Use	Accelerator						
Radionuclides, Extent of Contamination		Accelerator products Co-60, Eu-152					
Area Classification	1						
# Floors above Basement	0						
# Floors below Roof	6						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	1900	1900		0		
Wall Area, ft²	4000	4000		0		
Ceiling Area, ft²	1900	1900		0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware	1000	1		0.5		0.5
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains	0.0					
Ventilation Drops	0.0					

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	10	20	40		40	40	10
Equip. Release	10	20	40		5	5	10
Pack/Load waste	10	20	40	20	40	40	10
Decon/Remed.	2	5	10		10	10	2.5
Final Survey	4	8	16				4

# Lab Samples to be collected	20
--------------------------------------	----

Building	245	Room or Area	Time of Flight Facility				
Use							
Radionuclides, Extent of Contamination							
Area Classification							
# Floors above Basement							
# Floors below Roof							
	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3	
Floor Area, ft ²	300	300		225			0
Wall Area, ft ²	1800	1800		1800			0
Ceiling Area, ft ²	300	300		300			0

Components	Fraction					ft ³ Concrete
	Total ft ³	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	0		0	0	0	0
Hoods	0		0	0	0	0
Benches/Tables/Desks	0	0	0	0	0	0
Casework/Cabinets	0	0	0	0	0	0
Reefers, Large Equipment	0	0	0	0	0	0
Misc. Equip./Labware	0		0	0	0	0
Hot Cells	0		0	0	0	0
Storage Tanks	0		0	0	0	0
Other	3975		0	198.75	0	1788.75
Sinks	0		0	0	0	0
Drains	0		0	0	0	0
Ventilation Drops	0		0	0	0	0

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	10	20	40	0	40	40	10
Equip. Release	10	20	40	0	5	5	10
Pack/Load waste	10	20	40	20	40	40	10
Decon/Remed.	40	80	160	0	160	160	40
Final Survey	10	20	40	0	0	0	10

# Lab Samples to be collected	50
-------------------------------	----

Building	245	Room or Area						Time of Flight Facility			
Use	Neutron activation										
Radionuclides, Extent of Contamination		Co-60, Eu-152									
Area Classification	1										
# Floors above Basement	0										
# Floors below Roof	1										

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	300	300	0.75	225		
Wall Area, ft ²	1800	1800	1	1800		
Ceiling Area, ft ²	300	300	1	300		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Shielding	3975	0.5		0.1		0.9
Sinks						
Drains						
Ventilation Drops						

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	10	20	40		40	40	10
Equip. Release	10	20	40		5	5	10
Pack/Load waste	10	20	40	20	40	40	10
Decon/Remed.	40	80	160		160	160	40
Final Survey	10	20	40				10

# Lab Samples to be collected	50
-------------------------------	----

Building	245	Room or Area	SURF III				
Use							
Radionuclides, Extent of Contamination							
Area Classification							
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	1200	1200		120	0	0
Wall Area, ft ²	5600	5600		0	0	0
Ceiling Area, ft ²	1200	1200		0	0	0

Components	Fraction					Concrete
	Total ft ³	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	0		0	0	0	0
Hoods	0		0	0	0	0
Benches/Tables/Desks	180	0	0	0	0	0
Casework/Cabinets	200	0	0	0	0	0
Reefers, Large Equipment	500	0	0	0	0	0
Misc. Equip./Labware	0		0	0	0	0
Hot Cells	0		0	0	0	0
Storage Tanks	0		0	0	0	0
Other	20		0	0	0	0
Sinks	20		0	0	0	0
Drains	0		0	0	0	0
Ventilation Drops	0		0	0	0	0

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvrs	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	8	16	32	0	0	0	8
Equip. Release	4	8	16	0	0	0	4
Pack/Load waste	8	16	32	0	32	32	8
Decon/Remed.	2	4	8	0	8	8	2
Final Survey	1	2	4	0	0	0	1

# Lab Samples to be collected	4
-------------------------------	---

Building	245	Room or Area	SURF III				
Use							
Radionuclides, Extent of Contamination			Possible accelerator products				
Area Classification	1						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	1200	1200	0.1	120		
Wall Area, ft ²	5600	5600	0	0		
Ceiling Area, ft ²	1200	1200	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	180	0				
Casework/Cabinets	200	0				
Reefers, Large Equipment	500	0				
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other	20	0				
Sinks	20	0				
Drains						
Ventilation Drops						

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	8	16	32				8
Equip. Release	4	8	16				4
Pack/Load waste	8	16	32		32	32	8
Decon/Remed.	2	4	8		8	8	2
Final Survey	1	2	4				1

# Lab Samples to be collected	4
-------------------------------	---

Building	245	Room or Area	CLINAC				
Use							
Radionuclides, Extent of Contamination							
Area Classification							
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft²	1000	1000		0		0
Wall Area, ft²	3000	3000		0		0
Ceiling Area, ft²	1000	1000		0		0

Components	Fraction					ft ³ Concrete
	Total ft ³	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	0		0	0	0	0
Hoods	0		0	0	0	0
Benches/Tables/Desks	0	0	0	0	0	0
Casework/Cabinets	0	0	0	0	0	0
Reefers, Large Equipment	0	0	0	0	0	0
Misc. Equip./Labware	0		0	0	0	0
Hot Cells	0		0	0	0	0
Storage Tanks	0		0	0	0	0
Other	2000		0	50	0	150
Sinks	0		0	0	0	0
Drains	0		0	0	0	0
Ventilation Drops	0		0	0	0	0

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	10	20	40	0	40	40	10
Equip. Release	10	20	40	0	5	5	10
Pack/Load waste	10	20	40	20	40	40	10
Decon/Remed.	5	10	20	0	20	20	5
Final Survey	4	8	16	0	0	0	4

# Lab Samples to be collected	20
--------------------------------------	----

Building	245	Room or Area	CLINAC				
Use	Accelerator						
Radionuclides, Extent of Contamination		Co-60, Eu-152					
Area Classification	1						
# Floors above Basement	0						
# Floors below Roof	6						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	1000	1000	0	0		
Wall Area, ft ²	3000	3000	0	0		
Ceiling Area, ft ²	1000	1000	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks						
Casework/Cabinets						
Reefers, Large Equipment						
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other	2000	0.1		0.25		0.75
Sinks						
Drains						
Ventilation Drops						

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	10	20	40		40	40	10
Equip. Release	10	20	40		5	5	10
Pack/Load waste	10	20	40	20	40	40	10
Decon/Remed.	5	10	20		20	20	5
Final Survey	4	8	16				4

# Lab Samples to be collected	20
-------------------------------	----

Building	245	Room or Area	B29				
Use	4 MV Van der Graaff						
Radionuclides, Extent of Contamination			Possible accelerator products				
Area Classification	1						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	1200	1200	0.1	120		
Wall Area, ft ²	5600	5600	0	0		
Ceiling Area, ft ²	1200	1200	0	0		

Components	Total ft ³	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	180	0.5	0.3	0.7		
Casework/Cabinets	200	0.1		1		
Reefers, Large Equipment	500	0.25	0.4	0.6		
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other	20	1			1	
Sinks	20	0				
Drains						
Ventilation Drops						

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	8	16	32				8
Equip. Release	4	8	16				4
Pack/Load waste	8	16	32	16	32	32	8
Decon/Remed.	2	4	8		8	8	2
Final Survey	1	2	4				1

# Lab Samples to be collected	4
-------------------------------	---

Building	245	Room or Area	B027 and B031				
Use	Targets						
Radionuclides, Extent of Contamination		All nuclides					
Area Classification	1						
# Floors above Basement	2						
# Floors below Roof	4						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	3000	3000	0	0		
Wall Area, ft²	3100	3100	0	0		
Ceiling Area, ft²	3000	3000	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	300	0.25	0.5	0.5		
Casework/Cabinets	450	0.2	0.5	0.5		
Reefers, Large Equipment	1800	0.2	0.5	0.5		
Misc. Equip./Labware	700	0.2	0.5	0.5		
Hot Cells						
Storage Tanks						
Other	600	0.1			1	
Sinks	20	0				
Drains	0.6	0				
Ventilation Drops	27.8	0.1		1		

Drains	No.	2	Inch Dia.	2	Total ft ³	0.6
Ventilation Drops	No.	2	Inch Dia.	10	Total ft ³	27.8

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	8	16	32		4	4	8
Equip. Release	8	16	32		4	4	8
Pack/Load waste	4	8	16	8	16	16	4
Decon/Remed.	10	20	40				10
Final Survey	2	4	8				2

# Lab Samples to be collected	4
--------------------------------------	---

Building	245	Room or Area	1.5 MV Dynamatron				
Use							
Radionuclides, Extent of Contamination							
Area Classification							
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft²	500	500		0		0
Wall Area, ft²	3600	3600		0		0
Ceiling Area, ft²	500	500		0		0

Components	Fraction					ft ³ Concrete
	Total ft ³	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	0		0	0	0	0
Hoods	0		0	0	0	0
Benches/Tables/Desks	120	0	0	0	0	0
Casework/Cabinets	0	0	0	0	0	0
Reefers, Large Equipment	1200	0	0	120	0	0
Misc. Equip./Labware	0		0	0	0	0
Hot Cells	0		0	0	0	0
Storage Tanks	0		0	0	0	0
Other	0		0	0	0	0
Sinks	0		0	0	0	0
Drains	0		0	0	0	0
Ventilation Drops	0		0	0	0	0

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	2	4	8	1	1	0	2
Equip. Release	5	10	20	0	0	0	5
Pack/Load waste	0	0	1	2	4	4	1
Decon/Remed.	0.5	1	2	0	0	0	0.5
Final Survey	1	2	4	0	0	0	1

Lab Samples to be collected 4

Building	245	Room or Area	B26				
Use	1.5 MV Dynamatron						
Radionuclides, Extent of Contamination		Possible accelerator products					
Area Classification	1						
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft²	500	500	0	0		
Wall Area, ft²	3600	3600	0	0		
Ceiling Area, ft²	500	500	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	120	0				
Casework/Cabinets						
Reefers, Large Equipment	1200	0.1		1		
Misc. Equip./Labware						
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains						
Ventilation Drops						

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	2	4	8	1	1		2
Equip. Release	5	10	20				5
Pack/Load waste			1	2	4	4	1
Decon/Remed.	0.5	1	2				0.5
Final Survey	1	2	4				1

# Lab Samples to be collected	4
--------------------------------------	---

Building	202	Room or Area	500 KeV Accelerator				
Use							
Radionuclides, Extent of Contamination							
Area Classification							
# Floors above Basement							
# Floors below Roof							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft²	1400	1400		0		0
Wall Area, ft²	4800	4800		0		0
Ceiling Area, ft²	1400	1400		0		0

Components	Fraction					ft ³ Concrete
	Total ft ³	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	
Glove Boxes	0		0	0	0	0
Hoods	0		0	0	0	0
Benches/Tables/Desks	60	0	0	0	0	0
Casework/Cabinets	120	0	0	0	0	0
Reefers, Large Equipment	250	0	0	250	0	0
Misc. Equip./Labware	500		0	50	0	0
Hot Cells	0		0	0	0	0
Storage Tanks	0		0	0	0	0
Other	0		0	0	0	0
Sinks	0		0	0	0	0
Drains	0		0	0	0	0
Ventilation Drops	0		0	0	0	0

Drains	No.		Inch Dia.		Total ft ³	0.0
Ventilation Drops	No.		Inch Dia.		Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	10	20	40	0	10	10	10
Equip. Release	4	8	16	0	0	0	4
Pack/Load waste	1	2	4	4	4	4	1
Decon/Remed.	5	10	20	0	0	0	5
Final Survey	3	6	12	0	0	0	3

# Lab Samples to be collected	4
--------------------------------------	---

Building	245	Room or Area	B028				
Use		500 VK accelerator					
Radionuclides, Extent of Contamination		Possible accelerator products					
Area Classification	1						
# Floors above Basement	0						
# Floors below Roof	3						

	Total	Class 1	% needing Remed.	ft2 needing Remed.	Class 2	Class 3
Floor Area, ft ²	1400	1400	0	0		
Wall Area, ft ²	4800	4800	0	0		
Ceiling Area, ft ²	1400	1400	0	0		

Components	Total ft3	Fraction RW	Fraction DAW	Fraction Metal	Fraction Lead	Fraction Concrete
Glove Boxes						
Hoods						
Benches/Tables/Desks	60	0				
Casework/Cabinets	120	0				
Reefers, Large Equipment	250	1		1		
Misc. Equip./Labware	500	0.1		1		
Hot Cells						
Storage Tanks						
Other						
Sinks						
Drains						
Ventilation Drops						

Drains	No.	Inch Dia.	Total ft ³	0.0
Ventilation Drops	No.	Inch Dia.	Total ft ³	0.0

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	10	20	40		10	10	10
Equip. Release	4	8	16				4
Pack/Load waste	1	2	4	4	4	4	1
Decon/Remed.	5	10	20				5
Final Survey	3	6	12				3

# Lab Samples to be collected	4
-------------------------------	---

Building	245	Room or Area	Accelerator Facility Totals				
Use							
Radionuclides, Extent of Contamination							

	Total	Class 1	% needing Remed.	ft ² needing Remed.	Class 2	Class 3
Floor Area, ft ²	13820	13520		1065	0	300
Wall Area, ft ²	41280	40000		1800	0	1280
Ceiling Area, ft ²	13820	13520		300	0	300

Components	Fraction					
	Total ft ³	RW	ft ³ DAW	ft ³ Metal	ft ³ Lead	Concrete
Glove Boxes	0		0	0	0	0
Hoods	0		0	0	0	0
Benches/Tables/Desks	1015		64.5	150.5	0	0
Casework/Cabinets	1135		45	140	0	0
Reefers, Large Equipment	6000		230	2125	0	0
Misc. Equip./Labware	2300		120	670	0	500
Hot Cells	0		0	0	0	0
Storage Tanks	0		0	0	0	0
Other	10615		0	248.75	80	5938.75
Sinks	60		0	0	0	0
Drains	0.555556		0	0	0	0
Ventilation Drops	777.7778		0	752.7778	0	0

Drains	No.	Inch Dia.	Total ft ³
Ventilation Drops	No.	Inch Dia.	Total ft ³

Person-hours	Mgr	Supvsr	HP Tech	Shipper	Skilled	Unskilled	Clerical
Characterize	68	196	392	1	197	196	98
Equip. Release	57	119	238	0	19	19	57.5
Pack/Load waste	51	114.5	235	120	288	288	58
Decon/Remed.	66.5	159	318	0	326	326	69.5
Final Survey	27	82	164	0	0	0	31

# Lab Samples to be collected	176
-------------------------------	-----

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	HP Technician	Shipper	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Preparation of Documentation for Regulatory Agencies	15.0	15.0	5.0	10.0			5.0
Submittal of Decommissioning Plan to NRC when required by 10 CFR 30.36(g)(1), 40.42(g)(1), or 70.38(g)(1)	5.0			5.0			5.0
Development of Work Plans	10.0	10.0		10.0			5.0
Procurement of Special Equipment	20.0	5.0					5.0
Staff Training	2.0	4.0	8.0	2.0	40.0	40.0	5.0
Characterization of Radiological Condition (including sampling, soil and tailings analysis, or groundwater analysis, if applicable)	8.5	24.5	49.0	0.1	24.6	24.5	12.3
Other (specify) Mobilization	1.0	2.0	8.0	1.0			
TOTALS	61.5	60.5	70.0	28.1	64.6	64.5	37.3

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 area:								
Level of Contamination:								
Component	Action	Project Mgr	Supervisor	HP Technician	Shipper	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Glove Boxes	Remove/Disp							
Fume Hoods	Remove/Disp							
Lab Benches	Decon/Remove	0.5	1	2		2	2	0.5
Sinks	Decon/Remove							
Drains	Remove/Disp							
Floors	Decon/Wipe							
Walls	Decon/Wipe	7	14	30		30	30	7
Ceilings	Decon/Wipe	0.5	1	2		2	2	1
Ventilation/Ductwork	Remove/Disp	0.5	1	2		2	2	1
Cabinets	Decon/Remove							
Hot Cells	Remove/Disp							
Equipment/Materials	Sur/Rem/Disp	5	16	28	10	21	21	5
Soil Plots	Sample							
Storage Tanks	N/A							
Storage Areas	Remove/Disp							
Radwaste Areas	Remove/Disp				2	2	2	
Scrap Recovery Areas	N/A							
Maintenance Shop	Remove/Disp							
Equipment Decontamination	Remove/Disp	0.5	1	3		4	4	0.5
Sources	Remove/Disp							
Shielding	Remove/Disp	8	16	32	3	16	16	8
TOTALS		22	50	99	15	79	79	23

RESTORATION OF CONTAMINATED AREAS ON FACILITY GROUNDS
(Work Days)

Estimate 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:							
Activity	Project Mgr	Supervisor	HP Technician	Shipper	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Restore Floors							
Restore Walls							
Restore Roof							
Restore Utilities							
TOTALS	0	0	0	0	0	0	0

3.9 FINAL RADIATION SURVEY (Work Days)

Estimate 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:							
Activity	Project Mgr	Supervisor	HP Technician	Shipper	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
FSS Setup	2	6					2
Survey Packages	1	4					2
Class 1			18				
Class 2			0				
Class 3			2				
TOTALS	3	10	20	0	0	0	4

3.10 SITE STABILIZATION AND LONG-TERM SURVEILLANCE

(Work Days)

Estimate the number of work days, by specific labor category, that will be required to complete site stabilization and long-term surveillance activities.

Activity	Project Mgr	Supervisor	HP Technician	Shipper	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Security							19
Annual Sampling	40		100				
Quarterly surveys	80		160				
TOTALS	120	0	260	0	0	0	19

Figures are total for a 20-year period.

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	HP Technician	Shipper	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Planning and Preparation (TOTALS from Table 3.6)	15	15	5	10	0	0	5
Decontamination and/or Dismantling of Radioactive Facility Components (Sum of TOTALS from all copies of Table 3.7)	22	50	99	15	79	79	23
Restoration of Contaminated Areas on Facility Grounds (TOTALS from Table 3.8)	0	0	0	0	0	0	0
Final Radiation Survey (TOTALS from Table 3.9)	3	10	20	0	0	0	4
Site Stabilization and Long-Term Surveillance (TOTALS from Table 3.10)	120	0	260	0	0	0	19

3.12 WORKER UNIT COST SCHEDULE

Estimate labor costs (including salary, fringe benefits, and corporate overhead). Include all appropriate labor categories, including Supervisor, Foreman, Craftsman, Technician, Health Physicist, Laborer, Clerical, and others as needed.							
Labor Cost Component	Project Mgr	Supervisor	HP Technician	Shipper	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical
Salary & Fringe (\$/year)	\$106,951	\$88,487	\$80,442	\$65,850	\$43,479	\$39,870	\$35,658
Overhead Rate (%)	75%	75%	75%	75%	75%	75%	75%
Total Cost Per Year	\$187,164	\$154,852	\$140,774	\$115,238	\$76,088	\$69,773	\$62,402
Living Expenses (PD*7/5) ¹	\$382	\$382	\$382	\$382	\$0	0	0
Total Cost Per Work Day ²	\$1,102	\$978	\$924	\$825	\$293	\$268	\$240

¹ Per Diem Rate: \$273 per day.

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

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	HP Technician	Shipper	Radiation Workers (Craftsmen)	Radiation Workers (Non-skilled)	Clerical	Total Labor Cost
Planning and Preparation	\$16,531	\$14,667	\$4,618	\$8,254	\$0	\$0	\$1,200	\$45,270
Decontamination and/or Dismantling of Radioactive Facility Components	\$24,245	\$48,889	\$91,440	\$12,381	\$23,119	\$21,200	\$5,520	\$226,795
Restoration of Contaminated Areas on Facility Grounds	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Final Radiation Survey	\$3,306	\$9,778	\$18,473	\$0	\$0	\$0	\$960	\$32,517
Site Stabilization and Long-Term Surveillance	\$132,248	\$0	\$240,146	\$0	\$0	\$0	\$4,560	\$376,953

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	460	5	B-25	\$750	\$3,590
Metal	4,087	3	20' Sea-Land	\$1,100	\$3,300
Lead	80	11	55 gal. Drum	\$200	\$2,133
Concrete	6597	3	20' Sea-Land	\$1,100	\$3,300
TOTAL					\$12,323

(b) Shipping 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	Number of Truckloads	Unit Cost (\$/mile/truckload)	Surcharges (\$/mile)	Overweight Charges(\$/mile)	Distance Shipped (miles)	Total Shipping Costs
DAW	1	\$1.00	1.5	0	525	\$789
Metal	2	\$1.00	1.5	0	525	\$1,577
Lead	0	\$0.00	1.5	0	0	\$0
Concrete	2	\$1.00	1.5	0	525	\$1,577
TOTAL	5					\$3,943

(c) Waste Disposal Costs

Estimate the volume of waste to be disposed. Multiply the volume of waste disposed by the unit disposal cost (including any volume based surcharges). Add any surcharges that are based on the number of containers of waste, 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	460	15	6892.5	7.25	1	\$49,971
Metal	4,087	20	81741	3.00	1	\$245,222
Lead	80	60	4800	4.00	1	\$19,200
Concrete	6,597	20	131940	3.75	1	\$494,775
TOTAL	11224					\$809,167

3.15 EQUIPMENT/SUPPLY COSTS (Excluding Containers)

Estimate the quantity of equipment and supplies required for decommissioning and multiply that quantity by the appropriate unit costs.			
Equipment/Supplies	Quantity	Unit Cost	Total Equipment/Supply Cost
Protective Clothing	20000	\$3	\$60,000
Respirators	5000	\$10	\$50,000
HP Instruments	12	\$800	\$9,600
Misc Tools*	1	\$150,000	\$150,000
Security System - long term	1	\$50,000	\$50,000
Consumables	1	\$120,000	\$120,000
TOTAL			\$439,600

Misc. Tools:

Crane and crew

Concrete cutting equipment

Shears

Containments

Brokk

3.16 LABORATORY COSTS

If applicable, estimate the costs for analyses to be performed by an independent third party laboratory.			
Activity	Quantity	Unit Cost	Total Item Cost
Sampling	176	\$50	\$8,800
Transport of Samples	176	\$10	\$1,760
Testing and Analysis	176	\$110	\$19,360
Other (specify)			
TOTAL			\$29,920

3.17 MISCELLANEOUS COSTS

Estimate any other applicable costs.	
Activity	Total Cost
License Fees*	\$0
Insurance	\$18,275
Taxes	\$159,954
TOTAL	\$178,228

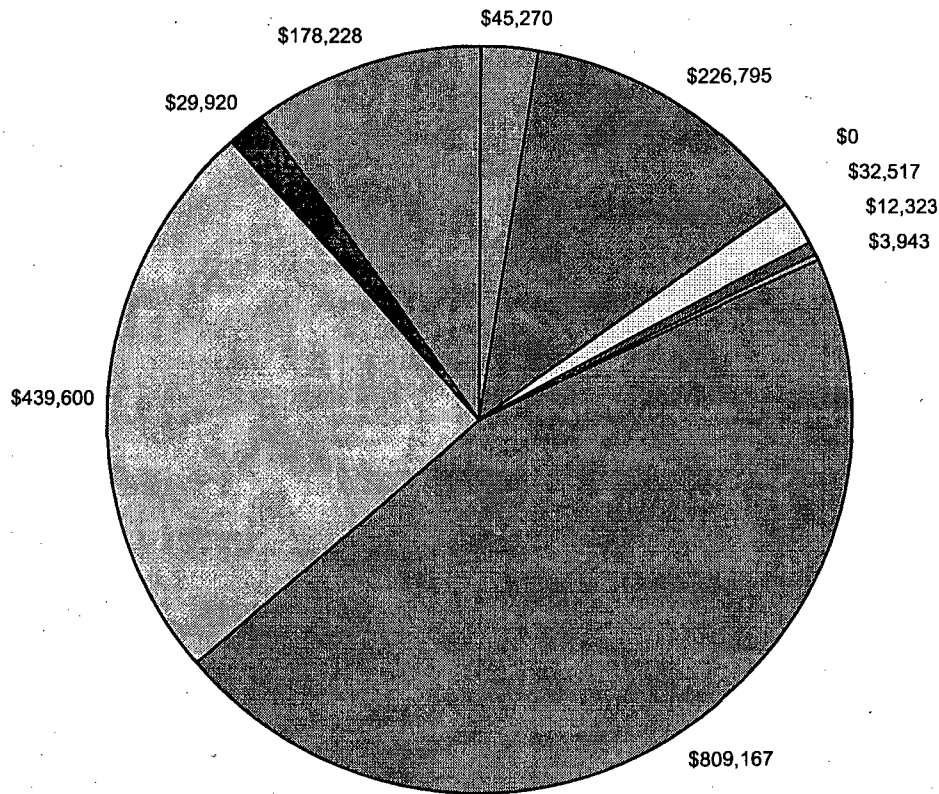
Reciprocity is covered under Laboratory decommissioning

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)	\$45,270	2.5%
Decontamination and/or Dismantling of Radioactive Facility (From Table 3.13)	\$226,795	12.8%
Restoration of Contaminated Areas on Facility Grounds (From Table 3.13)	\$0	0.0%
Final Radiation Survey (From Table 3.13)	\$32,517	1.8%
Packing Material Costs (TOTAL from Table 3.14(a))	\$12,323	0.7%
Shipping Costs (TOTAL from Table 3.14(b))	\$3,943	0.2%
Waste Disposal Costs (TOTAL from Table 3.14(c))	\$809,167	45.5%
Equipment/Supply Costs (TOTAL from Table 3.15)	\$439,600	24.7%
Laboratory Costs (TOTAL from Table 3.16)	\$29,920	1.7%
Miscellaneous Costs (TOTAL from Table 3.17)	\$178,228	10.0%
SUBTOTAL	\$1,777,764	100.0%
25% Contingency	\$444,441	25.0%
TOTAL DECOMMISSIONING COST ESTIMATE	\$2,222,205	125.0%

Decommissioning Cost Breakdown



- Planning and Preparation (from Table 3.13)
- Decontamination and/or Dismantling of Radioactive Facility (From Table 3.13)
- Restoration of Contaminated Areas on Facility Grounds (From Table 3.13)
- Final Radiation Survey (From Table 3.13)
- Packing Material Costs (TOTAL from Table 3.14(a))
- Shipping Costs (TOTAL from Table 3.14(b))
- Waste Disposal Costs (TOTAL from Table 3.14(c))
- Equipment/Supply Costs (TOTAL from Table 3.15)
- Laboratory Costs (TOTAL from Table 3.16)
- Miscellaneous Costs (TOTAL from Table 3.17)

Appendix D

Sealed Source Inventory for Disposal

Nuclide Name	Curies	Primary Storage (Bldg/Room)		Nuclide Name	Curies	Primary Storage (Bldg/Room)
CO60	1.33E+04	245/B140		H3	7.43E-02	217/C118
CO60	3.97E+03	245/B034		PUBE-9	6.89E-02	245/B132
CO60	2.76E+03	245/B140		CO60	5.95E-02	245/B015
CS137	2.04E+03	245/B143		I125	5.89E-02	245/B46
CO60	9.38E+02	245/B036		KR85	5.00E-02	245/B003
CO60	7.32E+02	245/B140		SR90	4.68E-02	245/B20
CS137	6.46E+02	245/B036		RA226	4.65E-02	245/B145
CO60	1.94E+02	245/B143		NI63	4.57E-02	245/B131
CS137	1.22E+02	245/B021		AMBE	3.81E-02	245/B132
CS137	9.49E+01	245/A10E		SR90	3.76E-02	245/B20
CO60	9.30E+01	245/F101		SR90	3.73E-02	245/B20
CS137	4.35E+01	245/B132		SR90	3.73E-02	245/B20
CO60	2.55E+01	245/B143		RA226	3.73E-02	245/B142
CS137	1.31E+01	245/B015		CO60	3.62E-02	245/B132
AMBE	6.03E+00	245/B143		NI63	2.95E-02	217/C118
H3	3.95E+00	245/A018		CO60	2.76E-02	245/B132
CS137	1.85E+00	245/B132		SR90	2.70E-02	245/B20
CS137	1.61E+00	245/A012		RA226	2.43E-02	245/B132
H3	1.31E+00	227/B151		SR90	2.37E-02	245/B003
H3	1.05E+00	227/B151		SR90	2.31E-02	245/B003
RABE	9.89E-01	245/B143		RA226	2.29E-02	245/B145
AMBE	9.78E-01	245/B143		SR90	2.26E-02	245/B20
RABE	9.70E-01	245/A012		RA226	2.00E-02	245/B142
RABE	9.68E-01	245/A012		C14	1.99E-02	245/B023
RABE	9.30E-01	245/B132		CS137	1.91E-02	245/B145
CO60	8.00E-01	245/B021		CS137	1.85E-02	245/B132
PUBE-9	6.00E-01	245/B132		CS137	1.69E-02	245/B145
RABE	4.95E-01	245/B143		RA226	1.52E-02	245/B142
RABE	2.52E-01	245/A012		NI63	1.48E-02	217/D119
RABE	2.52E-01	245/A012		NI63	1.48E-02	217/C121
RA226	2.24E-01	245/B145		NI63	1.46E-02	227/A126
H3	2.11E-01	227/B151		NI63	1.45E-02	217/C118
H3	2.11E-01	227/B151		NI63	1.44E-02	217/C118
RABE	1.99E-01	245/B143		NI63	1.38E-02	227/A126
CS137	1.91E-01	245/B145		RA226	1.38E-02	245/B145
CS137	1.51E-01	245/B132		NI63	1.36E-02	227/B111
RABE	9.92E-02	245/B132		RA226	1.35E-02	245/B132
RABE	9.78E-02	245/A012		NI63	1.33E-02	227/A126
AMBE	9.35E-02	245/B132		CO60	1.31E-02	245/B132

Nuclide Name	Curies	Primary Storage (Bldg/Room)		Nuclide Name	Curies	Primary Storage (Bldg/Room)
RA226	9.22E-02	245/B145		NI63	1.20E-02	227/A126
NI63	1.15E-02	227/A126		CO60	4.43E-03	245/B132
CS137	1.06E-02	245/B145		SR90	4.32E-03	245/B143
CS137	1.06E-02	245/B145		CO60	4.30E-03	245/B132
CS137	1.04E-02	245/B145		SR90	4.30E-03	245/B143
NI63	9.95E-03	217/C118		RA226	3.89E-03	245/B132
NI63	9.95E-03	301/B185		RA226	3.89E-03	245/B132
NI63	9.78E-03	217/D119		CO60	3.62E-03	245/B132
NI63	9.76E-03	217/C104		SR90	3.59E-03	245/B20
NI63	9.70E-03	303/X112		CS137	3.43E-03	245/B145
RA226	9.65E-03	245/B145		PO210	2.92E-03	218/F005
EU152	9.59E-03	245/C109		CO60	2.81E-03	245/B132
AM241	9.54E-03	245/B023		CO60	2.40E-03	245/B132
AM241	9.54E-03	245/B023		CS137	2.28E-03	245/B132
RA226	9.51E-03	245/B132		CS137	2.28E-03	245/B132
KR85	9.49E-03	227/B311		CS137	2.28E-03	245/B132
PM147	9.00E-03	245/B003		CS137	2.28E-03	245/B132
RADBE	8.95E-03	245/B132		MO99	2.10E-03	245/B156
KR85	8.68E-03	423/X100		CO60	1.95E-03	245/B132
CO60	7.11E-03	245/B132		CS137	1.91E-03	245/B145
CO60	6.49E-03	245/B145		KR85	1.90E-03	227/B311
CS137	5.89E-03	245/B145		AM241	1.88E-03	245/B132
CS137	5.89E-03	245/B145		RA226	1.88E-03	245/B145
CS137	5.89E-03	245/B145		KR85	1.61E-03	224/B363
PM147	5.78E-03	245/B003		CO60	1.52E-03	245/B132
CS137	5.30E-03	245/B145		I131	1.33E-03	245/B46
CS137	5.30E-03	245/B145		CO60	1.30E-03	245/B145
CS137	5.30E-03	245/B145		CO60	1.21E-03	245/B132
CS137	5.30E-03	245/B145		PO210	1.18E-03	224/A264
CS137	5.30E-03	245/B145		CS137	1.15E-03	245/B145
MN54	5.22E-03	245/B46		PO210	1.14E-03	227/B311
CS137	5.11E-03	245/B132		CO60	1.14E-03	245/B132
NI63	4.92E-03	226/A326		KR85	1.12E-03	217/C121
NI63	4.92E-03	226/A326		RADBE	1.10E-03	245/B132
NI63	4.92E-03	226/A326		SR90	1.06E-03	245/B003
NI63	4.92E-03	226/A326		CO60	1.01E-03	245/B132
AM241	4.92E-03	245/B08		RA226	1.01E-03	245/B145
NI63	4.92E-03	423/X100		RA226	9.86E-04	245/B47
RA226	4.92E-03	245/B47		RA226	9.86E-04	245/B49
RA226	4.73E-03	245/B145		CO60	9.24E-04	245/B145

Nuclide Name	Curies	Primary Storage (Bldg/Room)		Nuclide Name	Curies	Primary Storage (Bldg/Room)
SR90	4.49E-03	245/B043		CO60	9.03E-04	245/B132
CO60	4.43E-03	245/B132		CS137	8.51E-04	245/B132
SR90	8.05E-04	245/B20		RA226	9.86E-05	245/B49
KR85	7.70E-04	224/A264		RA226	9.84E-05	245/B47
CO60	7.41E-04	245/B145		CO57	9.68E-05	223/B151
KR85	7.19E-04	217/C121		CO60	8.57E-05	245/B132
KR85	7.16E-04	217/D119		PB210	7.84E-05	245/B46
CO60	5.54E-04	245/B145		CS137	7.81E-05	245/C11
RA226	4.97E-04	245/B145		CS137	7.81E-05	245/C11
KR85	4.92E-04	224/A264		CO60	7.81E-05	245/B132
KR85	4.92E-04	224/B363		PD103	7.76E-05	245/B06
RA226	4.92E-04	245/B47		NP237	6.35E-05	245/C11
SR90	3.89E-04	245/B143		CO60	6.24E-05	245/B132
CS137	3.84E-04	245/B145		FE55	6.19E-05	217/D104
CO60	3.70E-04	245/B145		SR90	5.19E-05	245/B20
CO60	3.24E-04	245/B132		C14	5.00E-05	227/B141
CO60	3.22E-04	245/B132		CO60	4.95E-05	245/B132
CO60	3.22E-04	245/B132		CO60	4.95E-05	245/B132
CS137	2.95E-04	245/B132		CO60	4.95E-05	245/B132
CO60	2.89E-04	245/B132		CO60	4.95E-05	245/B132
CO60	2.84E-04	245/B132		CO60	4.95E-05	245/B132
KR85	2.78E-04	227/B311		CO60	4.95E-05	245/B132
CO57	2.66E-04	245/C11		CO60	4.95E-05	245/B132
KR85	2.58E-04	227/B111		RA226	4.92E-05	245/B47
PM147	2.47E-04	245/B003		XE133	4.89E-05	245/C11
H3	2.46E-04	227/B243		RA226	4.86E-05	245/B47
CO60	2.44E-04	245/B132		AM241	4.68E-05	245/C11
CO60	2.17E-04	245/C11		CO60	4.41E-05	245/B132
CS137	2.14E-04	245/B132		BA133	4.35E-05	245/B132
RA226	1.94E-04	245/B47		CO60	4.24E-05	245/B132
I125	1.91E-04	245/B06		AM241	4.19E-05	245/B023
CO60	1.85E-04	245/B145		CO60	4.11E-05	245/B132
CO60	1.81E-04	245/B132		TL204	3.59E-05	245/B003
IR192	1.69E-04	245/B06		CF252	3.59E-05	245/B143
CO60	1.65E-04	245/B132		RA223	3.51E-05	245/E105
CO60	1.45E-04	245/B132		FE55	3.35E-05	223/A232
MO99	1.29E-04	245/B46		CO60	3.30E-05	245/B132
BA133	1.22E-04	245/C11		BA133	3.08E-05	245/B132
BA133	1.22E-04	245/C11		CS137	2.97E-05	245/C11
CO60	1.19E-04	245/B132		CD109	2.50E-05	245/B044

Nuclide Name	Curies	Primary Storage (Bldg/Room)		Nuclide Name	Curies	Primary Storage (Bldg/Room)
CO60	1.19E-04	245/B145		CO60	2.46E-05	245/B132
CO60	1.19E-04	245/B145		CS137	2.21E-05	245/B132
C14	1.15E-04	245/B50		RA226	1.97E-05	245/B47
RA226	1.94E-05	245/B47		CS137	9.68E-06	245/B132
I125	1.90E-05	245/B06		CS137	9.68E-06	245/B132
CS137	1.65E-05	245/C11		CS137	9.68E-06	245/B132
CO60	1.61E-05	245/B132		CS137	9.68E-06	245/B132
CO60	1.51E-05	245/C11		CS137	9.68E-06	245/B132
CS137	1.35E-05	245/B143		CS137	8.81E-06	245/B131
CD109	1.32E-05	245/B044		CO60	8.32E-06	245/B132
CO60	1.25E-05	245/B132		CO60	8.22E-06	245/B132
BA133	1.09E-05	245/C11		BA133	7.05E-06	245/B131
BA133	1.09E-05	245/C11		MAP	7.00E-06	217/D105
U238	1.00E-05	245/B51		BA133	7.00E-06	245/C11
RA226	9.92E-06	245/B132		BA133	7.00E-06	245/C11
RA226	9.70E-06	245/B47		AM241	6.86E-06	221/A58
CS137	9.68E-06	245/B131		CS137	6.22E-06	245/B131
CS137	9.68E-06	245/B131		CS134	6.08E-06	245/B131
CS137	9.68E-06	245/B132		NB94	5.95E-06	245/C11
CS137	9.68E-06	245/B132		TH232	5.49E-06	227/A334
CS137	9.68E-06	245/B132		CF252	5.32E-06	245/B143
CS137	9.68E-06	245/B132		BI207	5.19E-06	245/C11
CS137	9.68E-06	245/B132		RA226	4.95E-06	245/B131
CS137	9.68E-06	245/B132		P32	4.54E-06	227/B243
CS137	9.68E-06	245/B132		P32	4.54E-06	227/B243
CS137	9.68E-06	245/B132		CO60	4.24E-06	245/C11
CS137	9.68E-06	245/B132		CO60	4.24E-06	245/C11
CS137	9.68E-06	245/B132		FE55	4.24E-06	245/B131
CS137	9.68E-06	245/B132		EU152	4.22E-06	245/B023
CS137	9.68E-06	245/B132		TL204	4.05E-06	245/B003
CS137	9.68E-06	245/B132		CF252	3.95E-06	245/B143
CS137	9.68E-06	245/B132		CO57	3.95E-06	245/C11
CS137	9.68E-06	245/B132		CO57	3.95E-06	245/C11
CS137	9.68E-06	245/B132		CO57	3.95E-06	245/C11
CS137	9.68E-06	245/B132		CO57	3.95E-06	245/C11
CS137	9.68E-06	245/B132		CO60	3.92E-06	245/B132
CS137	9.68E-06	245/B132		AM241	3.49E-06	224/A264
CS137	9.68E-06	245/B132		CF252	3.38E-06	245/B143
CS137	9.68E-06	245/B132		PO210	3.14E-06	227/B123
CS137	9.68E-06	245/B132		PO210	3.14E-06	227/B123