

JAN 06 1994

License No. 06-13022-02  
Docket No. 030-01295  
Control No. 112845

University of Connecticut Health Center  
ATTN: Leslie S. Cutler, D.D.S., Ph.D.  
Vice President and Provost for Health  
Affairs and Executive Director  
263 Farmington Avenue  
Farmington, Connecticut 06030-3800

Dear Dr. Cutler:

Subject: Financial Assurance

This is in reference to your letter dated July 9, 1990, letter dated September 23, 1993 with attached Statement of Intent and description of authority from William N. Kleinman, Assistant Attorney General of the State of Connecticut, and letter dated December 21, 1993 with attached Decommissioning Funding Plan, to provide financial assurance for License No. 06-13022-02. We have reviewed your submittals and within the scope of our review, no further deficiencies were identified.

Based on our review of your submittals, you are now in compliance with the requirements of 10 CFR 30.35. Please note that financial assurance certification and all associated documentation are required to be updated with significant changes in your operation and with each application for license renewal.

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University of Connecticut Health Center -2-

Thank you for your cooperation in this matter.

Sincerely,

Original Signed By:  
Mohamed M. Shanbaky

Mohamed M. Shanbaky, Chief  
Research and Development Section  
Division of Radiation Safety  
and Safeguards

cc: Kenneth W. Price, M.P.H., C.H.P.  
Radiation Safety Officer

bcc: M. Shanbaky, RI  
D. Everhart, RI

DRSS:RI  
Everhart

12/29/93

DRSS:RI  
Shanbaky

MS  
12/3/93



THE UNIVERSITY OF CONNECTICUT HEALTH CENTER

MS16  
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OFFICE OF RADIATION SAFETY MC-3930  
Tel: (203) 679-2250  
December 21, 1993

Dave Everhart  
United States Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 29406

RE: NRC License #06-13022-02

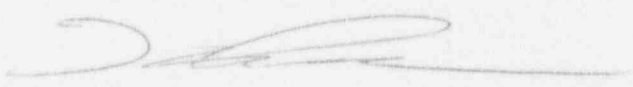
Dear Mr. Everhart:

Please find attached a copy of the University of Connecticut Health Center Broad Scope Human Use License decommissioning funding plan. Cost for terminating licensed activities at the Health Center are, in my opinion, realistic as they are based on current budgetary information and actual "decommissioning like" activities in which we have been involved within the last year. It was assumed that most of the decommissioning activities could be done by the staff of the Office of Radiation Safety. The following is provided as documentation of all requirements of this plan:

1. The decommissioning funding plan will be reviewed every five years and in conjunction with the broad scope human use license renewal process.
2. The decommissioning funding plan is enclosed.
3. The total cost for decommissioning all licensed activities, which includes a 25% contingency, is estimated to be \$610,034.
4. "A Statement of Intent" and a "Description of Authority of Government Entity To Make Statement of Intent" were submitted to NRC on September 23, 1993, in the amount of \$750,000. I have enclosed copies of these letters of intent for your information. No further financial statement is submitted here as the September 23, 1993 statement for \$750,000 is well in excess of the estimated decommissioning cost of \$610,034.

If you have any question or require further information, please contact me at (203) 679-2250.

Sincerely,

  
Kenneth W. Price, M.P.H., C.H.P.  
Radiation Safety Officer

KWP:lf

cc: Dr. A. Lurie  
Mr. L. Paplauskas  
Mr. W. Pickett

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Attachment



# THE UNIVERSITY OF CONNECTICUT HEALTH CENTER

OFFICE OF THE VICE PRESIDENT AND PROVOST FOR HEALTH AFFAIRS  
AND EXECUTIVE DIRECTOR MC-3800

1.1.25.93 7:11:11  
UNH 12-17-93

## THE UNIVERSITY OF CONNECTICUT HEALTH CENTER

### STATEMENT OF INTENT

Licensee: The University of Connecticut Health Center  
263 Farmington Ave.  
Farmington, Connecticut 06030

NRC Byproduct Material License No: 06-13022-02

Facilities where licensed material is used:

The University of Connecticut Health Center  
Farmington, Connecticut

Red Cross Blood Center  
209 Farmington Avenue  
Farmington, Connecticut

Uncas on Thames Hospital  
West Thames Street  
Norwich, Connecticut

Veterans Administration Medical Center  
Research Building No.5  
555 Willard Avenue  
Newington, Connecticut

Office of The Chief Medical Examiner  
11 Shuttle Road  
Farmington, Connecticut

This is to certify that financial assurance in the amount of \$750,000 as prescribed in 10 CFR Part 30.35 will be obtained when necessary for the purpose of decommissioning of facilities upon termination of licensed activities.

I am duly authorized to represent The University of Connecticut Health Center in this Statement of Intent.

\_\_\_\_\_  
Leslie S. Cutler, D.D.S., Ph.D.  
Vice President and Provost for Health Affairs  
and Executive Director

9/21/93

\_\_\_\_\_  
Date



RICHARD BLUMENTHAL  
ATTORNEY GENERAL



University of Connecticut  
Health Center  
Room LM 068  
Farmington, CT 06032  
(203) 679-1114

Office of The Attorney General  
State of Connecticut

September 22, 1993

U. S. Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 19406

RE: Description of Authority of Government Entity  
To Make Statement of Intent

License Numbers: 06 -13022 - 02, 06-13022-05

TO Whom It May Concern:

This correspondence affirms that Leslie S. cutler, D.D.S., Ph.D., Vice President and Provost for Health Affairs and Executive Director, is authorized to represent the University of Connecticut Health Center's licensed activities which include the Red Cross Blood Center, the Veteran's Administration medical Center Research Building No. 5, the Office of the Chief Medical Examiner, and the Uncas on Thames Hospital. Dr. Cutler is authorized to sign a letter of intent for financial assurance for decommissioning as required by 10 CFR 30.35.

Sincerely,

William N. Kleinman  
Assistant Attorney General

WNK:kob

**UNIVERSITY OF CONNECTICUT  
HEALTH CENTER DECOMMISSIONING  
FUNDING PLAN**

**LICENSE #06-13022-02**

**SUBMITTED: DECEMBER 21, 1993**

I. General Information

The University of Connecticut Health Center (UCHC) is a broad scope human use licensee located at 263 Farmington Avenue, Farmington, Connecticut 06030. The UCHC maintains broad scope human use license # 06-13022-02, with a current expiration date of June 30, 1998. Should the UCHC decide to terminate the use of byproduct materials, a request would be made to terminate license number 06-13022-02. Byproduct material is used in biomedical research and in medical applications. The UCHC is a State of Connecticut hospital, medical/dental school and research institution.

II. Decommissioning Objective, Activities, Tasks and Schedules

The objective of the decommissioning plan is to remove all byproduct material from UCHC licensed locations such that no residual contamination exists in excess of the limits published in "Guidelines for Decontamination of facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source or Special Nuclear Material", NRC, November, 1976. The objective is to release the facility for unrestricted use according to these regulatory guidelines.

The UCHC plan utilizes the existing Radiation Safety Office Staff to its fullest extent. Outside contractors would only be used for activities requiring specialized equipment and/or specialized protective actions other than that normally encountered by the UCHC staff. All participants in the decommissioning effort are experienced, well trained professionals and technologists familiar with the facility. Major tasks and activities associated with the decommissioning plan are

Notify NRC of Intent to Decommission

Cease Ordering Radioactive Materials

Collect All Radioactive Materials As Radioactive Waste

Perform Initial Radiation Survey of Facility

Decon Areas of Minor Significance During Initial Survey

Identify Potential Problem Areas

Develop Procedures for Decontamination of Identified Areas

Management Approval and Funding For Identified Areas

UCHC Staff And/or Contractors Decon Identified Areas

Perform A Final Facility Survey

Dispose of Radioactive Waste

The UCHC staff has considerable experience at the facility with regards to time to perform surveys, staffing needed, time to collect radioactive waste, radioactive waste processing and disposal and non-heroic decon procedures. In addition, the Office of Radiation Safety has three liquid scintillation counters, many portable end window GM detectors which are calibrated for both mr/hr and dpm on a surface for various radiation energies, and an experienced team of professionals who have for years maintained all the requirements of a broad scope human use license. The training and experience of the staff and equipment normally available for the current radiation safety program are more than adequate to perform all aspects of the decommissioning plan. The only exception would be major decon efforts (ie: sandblasting, high pressure water, or very large areas of contamination) for which an outside HP Contractor would be required.

The radioactive contamination history of byproduct materials work at the UCHC has been a good one. Although there are areas which have been identified as official "decommissioning decontamination areas", the overall history of contaminating events has been excellent. An analysis of quarterly Radiation Safety Office surveys conducted from June 1991 through October, 1993 indicates that a total of 25,400 wipe tests and associated meter surveys have been done on 3634 labs and/or work areas. If medical use areas are removed, a total of 21,615 wipe tests and associated meter surveys were done in 2025 research areas and/or labs using various radionuclides. A summary is provided in Table I of the average number of labs found to have contamination within the range of values indicated for the period June 1991 through October 1993. None of the instances where contamination was detected represent extensive areas of contamination, and are usually spots or very small areas which were decontaminated when they were found.

TABLE I

SUMMARY OF NON-MEDICAL LAB WIPE TEST RESULTS  
BY AVERAGE LABS WITHIN RANGE

Wipe Test Activity	Number	% Total
100 dpm/100 cm <sup>2</sup>	1949	91.85 %
100-200 dpm/100cm <sup>2</sup>	94	4.43 %
220-2200dpm/100cm <sup>2</sup>	66	3.11 %
2200 dpm/100cm <sup>2</sup>	13	0.613 %

The data in the above table may be used to estimate the number of lab areas which would be expected to be found contaminated at the levels indicated during an initial decommissioning of the facility. From the period September 1992 through October 1993, an average of 195+-12 research labs are surveyed each quarter. These labs represent all areas in which

byproduct materials are used, as license requirements mandate quarterly surveys.

Laboratories which have been used in the past have been identified as byproduct materials use contaminated areas, have been decommissioned and reinstated as unrestricted areas or are currently used as byproduct materials use areas.

Using the percentages shown in Table I it is possible to obtain an estimate of the number of laboratories and/or areas which could be expected to contain byproduct material which would require decon at various levels of effort. Table II provides an estimate of the number of laboratories/areas that would be expected to be contaminated at the levels indicated.

TABLE II

INITIAL DECOMMISSIONING SURVEY LABS EXPECTED  
TO BE FOUND CONTAMINATED

WIPE TEST ACTIVITY	EXPECTED %	NUMBER LABS
100 dpm/100cm <sup>2</sup>	91.85 %	179+-11
100-220 dpm/100cm <sup>2</sup>	4.43 %	9+-1
220-2200dpm/100cm <sup>2</sup>	3.11 %	6+- .4
2200 dpm/100cm <sup>2</sup>	0.61 %	1.2+- .1

This decommissioning plan therefore assumes that the initial facility survey will result in the following number of labs contaminated with the levels shown(at 2 sigma error):

201 Labs 100 dpm/100cm<sup>2</sup>  
11 Labs Between 100-220 dpm/100 cm<sup>2</sup>  
7 Labs Between 220-2200 dpm/100 cm<sup>2</sup>  
2 Labs 2200 dpm/100 cm<sup>2</sup>

In addition, the UCHC has identified 9 lab areas which have contamination levels which could require immediate decon efforts for unrestricted release. In all cases indicated in Table II, the contaminated areas were decontaminated to less than 100 dpm/100 cm<sup>2</sup> with minimal effort by the Radiation Safety Office Staff using standard "janitorial" techniques.

The NRC guidelines for unrestricted release of contaminated surfaces set a release level of removable contamination of 1000 dpm/100 cm<sup>2</sup> beta/gamma for all radionuclides used at the UCHC, except for I-131 and I-125. At present there are no research labs using I-131, and if such contamination were found in an initial decommissioning survey the area would simply be secured and allowed to decay. The acceptable removable contamination level for I-125 is 20 dpm/100cm<sup>2</sup>. It



will be shown later that the total estimated time from initial survey to the final survey report submittal to NRC is scheduled to be approximately 180 days. This represents three half-lives for I-125, and any contamination originally found at 100 dpm/100 cm<sup>2</sup> or less would decay to at least 12.5 dpm/100 cm<sup>2</sup>. Therefore, inherent in the decommissioning plan would be to target those labs using I-125 as initial survey locations. Any lab found with a removable contamination level of 100 dpm/100 cm<sup>2</sup> or less would be secured for at least 2 half lives to allow for decay of I-125 to acceptable levels. Therefore, the number of labs requiring initial decontamination would be those in excess of 1000 dpm/100 cm<sup>2</sup> of removable surface contamination. Experience has shown that decontamination to acceptable removable contamination levels almost always eliminates the fixed contamination. The only exceptions are labs identified as requiring further decontamination at time of decommissioning due to the presence of fixed and/or removable contamination.

It is anticipated that the entire decommissioning process would take approximately 7 months to complete. Attached as Exhibit I is a schedule of planned activities for the decommissioning plan. As stated previously, the NRC will be notified 7 months prior to the planned date for submission of final survey data. Beginning at minus 7 months, all orders of radioactive materials will be stopped. At approximately minus 6 1/2 months, the Radiation Safety Staff will begin a facility wide pickup of all radioactive waste and compounds. The UCHC has had experience in a facility wide waste pickup. The UCHC initiated a radioactive waste radionuclide segregation program in February, 1993. As part of that program, all areas in which radioactive materials were used were visited by Radiation Safety Office Staff and all radioactive waste was picked up. The total time to complete the total pickup of radioactive waste was 1 1/2 months, and as a rule 2 technologists and a Health Physicist were involved. Therefore it is felt that the time and staffing for this task is accurate. The additional 1 1/2 months is added to include pickup of stock vials and other lab items. The time to perform the initial surveys and minor decon is estimated from years of experience at the facility. As was stated previously, all labs are surveyed and decontamination performed on a quarterly basis. This presently is done by 4 technologists who do not work full time on surveys of radioactive materials use areas. It is very reasonable to assume that 2 technologists and 1 Health Physicist can do the job within the time frame shown, 2 1/2 months. Health Physics Contractors would be scheduled to decon known areas of extensive contamination and such work would be scheduled to begin at minus 6 months. Two months is assumed for this activity because of the very few areas for which contractors would be needed. After the initial surveys and decon, areas requiring further effort would be identified by the Radiation Safety Officer at about minus 3 1/2 months. The Radiation Safety Officer would then decide which areas to contract out

and those areas which are within the capabilities of the RSO's staff. Repeat decon would begin at about minus 3 1/2 months and contractors would be called in if necessary. Radioactive processing and shipment for disposal would be done in earnest from minus 3 1/2 months on, but would also be done during the entire decommissioning process. During the repeat decon process areas will be deconned to acceptable levels or contamination will be physically removed. Contractors will be required to bring all of their responsible areas to release levels. It is anticipated that a final facility survey would be conducted beginning at minus 2 months. Experience at the UCHC indicates that 4 technologists, 2 health physicists, one secretary, and the Radiation Safety Officer(all existing staff) can execute the decommissioning plan.

Many methods are available, and are currently used at the UCHC, for decontamination of surfaces and equipment. Attached as Exhibit II is a summary of methods that could be used to accomplish the tasks required by the decommissioning process. Exhibit II provides the generalized method for decon, the primary surface for which the technique would be used, and the intended personnel to do the task. Experience at the UCHC has indicated that a combination of the janitorial, decay, selective removal/decay and selective removal/disposal methods would be very effective in reducing contamination levels to those acceptable for unrestricted release of the facility. Except for identified contaminated areas(provided later), these techniques have kept the radiation environment at the facility to unrestricted release levels as a rule. In addition, surveying and decontamination procedures currently used under the UCHC license conditions have maintained radiation exposures to occupationally exposed workers and the general public to minimal levels. It is intended that all initial decon work will be done as in the past by trained and experienced Radiation Safety Office Staff. The use of chemicals to decon surfaces will be avoided due to the potential for the generation of RCRA mixed waste and the inherent industrial hygiene considerations for such work. Contractors, experienced in major decommissioning projects, would be used for areas determined by the Radiation Safety Officer to be out of the scope of UCHC staff. Decontamination methods which could be left to outside contractors are indicated in Exhibit II.

Decommissioning efforts would proceed from minus 7 months through minus 3 1/2 months using current practices for lab surveys and decon attempts. An outside contractor would be sought at minus 7 months for those labs identified as contaminated to excessive levels and/or areas. Special procedures will be developed only after the byproduct material is picked up as radioactive waste and areas are left with residual contamination after the initial survey and decon phase of the plan. Subsequent to the initial survey and waste pickup period, further decon attempts will require special procedures to be developed. Exhibit III provides a flowchart

for the process. The Radiation Safety Officer will review all initial surveys and determine which areas require further decon for unrestricted release. For each area so identified, the RSO will then decide if the decon effort will be done in-house or using outside Health Physics Contractors. The process would include two instances of management review for contractor work and one review by management for in-house work. Contractors would be required to submit a radiation work plan for intended work, along with controls for keeping all exposures ALARA. This plan would be reviewed by the Radiation Safety Officer and Management. Work done in-house would require a plan for the objectives and scope of the work with all radiological and non-radiological concerns identified. This plan would be developed by the Radiation Safety Officer. The Radiation Safety Officer would appoint a Health Physics Supervisor for the work, and the entire Work Plan approved by Management. The basic elements of each work plan are provided in Exhibit III. All work conducted will be under the direct supervision of the Radiation Safety Officer with management approval and support. The goal of all work will be exposure minimization utilizing the UCHC existing ALARA program. The Radiation Safety Officer will provide management a monthly status report beginning at minus 6 months until completion of the decommissioning plan, including a personnel exposure summary and ALARA evaluation.

### III. Training

The Radiation Safety Officer will be responsible for ensuring that all individuals are properly trained for intended work tasks. Radiation Safety Office staff are trained as part of the current license condition and currently maintain the Radiation Safety Program. All tasks will involve a Health Physicist Supervisor. Ancillary staff will be trained specifically by task, as they are needed. Ancillary staff could be needed for various labor tasks such as cutting, etc. Non Radiation Safety Office staff will be trained in the basics of radioactivity and control of radiation exposure using the existing training programs at the UCHC. The Radiation Safety Officer or Health Physicists will in addition train each ancillary staff member on the specifics of each required task and unique hazards associated with the task. Training outlines will be kept on file along with those attending such sessions. Outside contractors will be required to document to the Radiation Safety Officer and Management that they have proper experience and training to perform the required tasks. After the contractor is selected, the Radiation Safety Officer will provide additional training relating to the unique characteristics of the task. Such training will be documented.

### IV. Health Physics Monitoring

The UCHC currently has an active radioactivity monitoring program, and would continue all aspects of this monitoring



program during the decommissioning plan. All equipment is calibrated as required by NRC license conditions, and documented QA programs exist and will continue during the implementation of the plan. Basic health physics monitoring during the decommissioning, as determined by the Radiation Safety Officer, would include:

Wipe Test Surveys

GM Surveys for Gamma and Beta

Tritium Air Sampling

Particulate Air Sampling

Iodine Air Sampling

Thyroid Monitoring

Film Badge Monitoring

Extremity Monitoring.

Engineering controls will be used to avoid the necessity of using respirators and/or self contained breathing apparatus. Methods chosen for decontamination of the facility in the past have been adequate to keep airborne concentrations of radioactive materials to minimal levels. Any cutting or removal of contamination on surfaces will be done outside a perimeter which has been determined to be free of contamination and of trivial risk to workers. Such operations will be assessed within the framework of a workplan developed according to Exhibit III. Tasks which would pose an airborne problem would be done by a Health Physics Contractor and approved by the Radiation Safety Officer and Management.

All radiation detection equipment will be calibrated monthly using NBS traceable calibration sources, and records will be kept documenting such calibrations. An example instrument calibration report for beta particle detection is provided as Exhibit IV. Typical sensitivities to be expected from various types of radiation detection equipment currently available to the UCHC Radiation Safety Office Staff are:

Removable Contamination Wipe Tests	
Liquid Scintillation	
Radionuclide	MDA, dpm/100 cm <sup>2</sup>
3-H	120
35-S, 14-C	51
45-Ca	43
32-P, 36-Cl	41
125-I	256
131-I	62

Fixed Contamination  
Ludlum Model 44-9 Pancake GM  
dpm/ 100 cm<sup>2</sup>

Radionuclide	Contact MDA	0.5 cm MDA
35-S, 14-C	1044	1374
45-Ca	300	318
36-Cl, 32-P	110	120
131-I	342	390

Ludlum Model 44-3 NaI Scintillator

125-I	460	650
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Removable Contamination Wipe Test  
3x3 in NaI Well Counter

Radionuclide	MDA, dpm/100 cm <sup>2</sup>
125-I	53
131-I	78

Thyroid Bioassay  
5x5 NaI Crystal

Radionuclide	MDA, uCi	Committed Dose, mrem
125-I	2.4 E-04	1.0
131-I	6.0 E-04	3.6

Air Sampling

Radionuclide	MDA, uCi/ml	% DAC
3-H(water)	4.8 E-09	0.024
125-I	5.7 E-13	0.00053
low energy beta	5.6 E-12	0.19
med energy beta	1.3 E-12	0.043
high energy beta	1.1 E-12	0.037

The only radionuclide which would pose a problem in detection to acceptable levels of fixed and removable contamination is 125-I, which has a maximum removable limit of 20 dpm/100cm<sup>2</sup> and an average and maximum fixed level of 100 and 300 dpm/100 cm<sup>2</sup>, respectively. Identified 125-I use areas would be initially surveyed, and if wipe tests using a NaI well counter and fixed contamination using a gamma scintillator were at the respective MDA's, these areas would subsequently be secured for just over two half-lives (120+days) to insure compliance with fixed and removable contamination decommissioning levels. All other sensitivities are more than adequate to demonstrate compliance with the decommissioning contamination limits. In addition, in areas the Radiation Safety Officer decides to

perform air sampling sensitivities are more than adequate.

V. Protection of The Public

Should the UCHC notify the NRC at 7 months prior to submission of a final facility survey, all previously identified areas and current use areas would be secured from access to the general public. There have been no events which have lead to releases of activity or accidental exposure to the public due to licensed operations. The initial phase of the decommissioning plan would pose no unusual threat to the public. The planned initial surveys and first decon efforts are identical to practices which have been conducted at the UCHC for the duration of the license. Subsequent decon efforts would require planning, including ALARA considerations, as detailed in Exhibit III. Any decon effort would require adherence to strict procedures, reviewed by the Radiation Safety Officer and Management, to virtually eliminate the possibility that the public would be exposed.

VI. Decommissioning Cost Estimates

Decommissioning costs are based on a combination of actual UCHC operational costs and estimates provided from standard tasks as given in NUREG/CR-1754 when reliable numbers were not available. As was stated previously, the major objective is to use UCHC Radiation Safety Office Staff and support personnel for the decommissioning.

**PERSONNEL**

The cost of manpower to perform the planned decommissioning was taken from the most recent (FY93/94) Office of Radiation Safety Budget. These estimated costs include salary plus fringe benefits. The schedule of work provided in Exhibit I requires 4 technologists, 2 health physicists, 1 clerical worker, and an estimated 60% of a Radiation Safety Officer for a period of 7 months. This 7 month period represents 58% of the yearly operating budget. Table III summarized the estimated personnel costs to implement the decommissioning plan, exclusive of work identified for outside contractors and/or UCHC labor.

TABLE III  
Radiation Safety Office Costs

Function	7 Month Cost	25% Contingency	Total
4 Techs	\$ 85,436	\$ 21,359	\$ 106,795
2 HP's	\$ 71,848	\$ 17,962	\$ 89,810
1 Clerical	\$ 31,547	\$ 7,887	\$ 39,434
RSO	\$ 66,198	\$ 16,550	\$ 82,748
			Total \$ 318,787

**INCIDENTAL OPERATING SUPPLIES**

The costs of normal operating supplies and services was also taken from the FY 93/94 operating budget for the Office of

Radiation Safety. These costs are provided in Table IV and include everything necessary to maintain the support needed, except for radioactive waste supply costs. As discussed above, 58% of the operating budget was used for the cost estimates.

TABLE IV  
Operational Supplies Costs

Function	7 Month Cost	25% Contingency	Total
Office Supplies	\$ 1,160	\$ 290	\$ 1,450
Lab Supplies	\$ 5,926	\$ 1,482	\$ 7,408
Telephone	\$ 4,176	\$ 1,044	\$ 5,220
Copies	\$ 754	\$ 188	\$ 942
Van Rental	\$ 986	\$ 246	\$ 1,232
Minor Equip.	\$ 1,160	\$ 290	\$ 1,450
		Total	\$ 17,702

#### WASTE DISPOSAL COSTS INITIAL PICKUP PHASE

The UCHC, during February and March of 1993, instituted a radioactive waste sorting program wherein radionuclides were segregated. All waste in active byproduct materials use areas were collected and either processed or disposed as radioactive waste. Waste shipped offsite for disposal was all Class A, and consisted of mostly 3-H, 14-C, and 45-Ca. Waste that was shipped for disposal as result of this "cleaning house" program included 90 ft<sup>3</sup> (12- 55 gal drums) of dry compacted waste containing a total of 90.7 mCi of activity(65.6 mCi of 3-H, 7.5 mCi 14-C, + others), 8 ft<sup>3</sup> of animals (2- 55 gal drums) containing a total of 21 mCi of activity(20 mCi 45-Ca, 1 mCi 3-H), and 105 ft<sup>3</sup> of liquid scintillation fluid waste (14- 55 gal drums) containing a total of 3.08 mCi of activity(2 mCi 3-H, .17 mCi 14-C, + others). It is estimated that an equivalent volume of animals and liquid scintillation waste destined for burial would be generated during the initial waste pickup phase of the decommissioning plan, and about twice the volume of compacted dry waste would be generated requiring burial. Other waste picked up would be temporarily placed for decay in storage, as is done at the present time in the UCHC Radioactive Waste Processing Facility. The current cost for disposal of a dry waste drum is \$ 1795, an animal drum is \$ 2499 and on the average a LSV drum \$ 300. The current cost of a new 55 gallon drum is about \$ 40 and a pallet of compaction disks is \$ 683. Using these assumptions Table V was computed to estimate the disposal costs of the "Collect All Material" phase of the plan.

TABLE V  
Waste Disposal Costs

Waste Item	Volume, ft <sup>3</sup>	Cost	25% Cont.	Total
Compacted Dry	180	\$ 43,000	\$ 10,750	\$ 53,750
Animals	8	\$ 5,000	\$ 1,250	\$ 6,250
Liquid Scint.	100	\$ 4,200	\$ 1,050	\$ 5,250
42 Drums @ \$40 ea.	--	\$ 1,680	\$ 420	\$ 2,100
Compaction Disks	--	\$ 2,040	\$ 510	\$ 2,561
				Total \$ 69,911

#### REPEAT DECON PHASE

Reference to Table II allows for estimates of the number of labs or areas which might require a repeated decon effort. It is expected that a total of 221 labs and/or areas will be surveyed with subsequent minor decon efforts performed. Table II also indicates 7 labs with contamination between 220-2200 dpm/100 cm<sup>2</sup> would be found, and 2 labs would be found with contamination in excess of 2200 dpm/100cm<sup>2</sup>. It is assumed that the 7 labs could be decontaminated to acceptable unrestricted release levels using Radiation Safety Office Staff and UCHC labor. The two labs expected to be contaminated in excess of 2200 dpm/100 cm<sup>2</sup> will be assumed to require the services of an outside HP Contractor. UCHC labor currently costs \$25 per hour, and this figure will be used to estimate the costs of decommissioning the 7 labs below 2200 dpm/100cm<sup>2</sup>. It is assumed that all waste generated is non-decayable and is compacted for disposal. One 55 gallon compacted drum per lab is assumed and disposal costs presented previously apply. This cost is summarized in Table VI.

TABLE VI  
Repeat Decon Phase Costs

Function	Cost	25% Cont.	Total Cost
7 Compacted Drums	\$ 12,565	\$ 3,141	\$ 15,706
7 55 gal Drums	\$ 280	\$ 70	\$ 350
Compaction Discs	\$ 683	\$ 171	\$ 854
Labor, 8 hr/lab	\$ 1,400	\$ 350	\$ 1,750
			Total \$ 18,660

#### IODINATION FACILITIES

The UCHC has three iodination facilities which would require attention should decommissioning become necessary. All filters would be removed by UCHC Radiation Safety Office Staff (as is done presently for filter changes) and stored for decay (125-I, 60 day half-life). Although it is not expected that initial surveys of these facilities would yield significant contamination levels (based on historical data), it will be assumed that an outside HP Contractor would be required to decontaminate the fume hoods and ductwork to



levels which would permit contamination levels to decay to acceptable levels within the 7 month period. These areas would be dealt with initially to allow for this decay period. Cost estimates for decon of these areas were taken from NUREG/CR-1754, and these costs include the contingency. Table VII summarizes these estimated costs.

TABLE VII  
Contractor Decon Costs Iodination Hoods

Lab Area	Item	NUREG Table	Cost	Estimated Cost
L-1045	Decon Duct	E.6-1		\$ 3,500
	Decon Hood	E.1-1		\$ 3,200
L-7028	Decon Duct	E.6-1		\$ 3,500
	Decon Hood	E.1-1		\$ 3,200
VA Bldg. 5	Decon Duct	E.6-1		\$ 3,500
	Decon Hood	E.1-1		\$ 3,200
Total				\$ 20,100

PREVIOUSLY IDENTIFIED DECOMMISSIONING SITES

During the years of use of byproduct material at the UCHC several areas have been identified as potential candidates for decommissioning. Appendix I provides a summary of each lab area along with sketches for reference. Table VIII provides a concise summary of these areas and whether decon is required, and if so, who would perform the task.

TABLE VIII  
Previously Identified Potential Decommissioning Sites

Area	Description	Decon?	Who ?	Dry Waste	Labor
B-7012	14-C, floors sink, 49ft <sup>2</sup>	Yes	Contractor	—	—
L-5040	Benchtop, floor 450 cm <sup>2</sup> , 45-Ca	Yes	RSO Staff	1 ft <sup>3</sup>	1 hr
L-5041	Benchtop, 45-Ca 25 cm <sup>2</sup>	No	--		0
L-6032, L-6014	Benchtop, floor 400 cm <sup>2</sup>	Yes	RSO Staff	7.5ft <sup>3</sup>	3 hr
BB#4	Fume Hood, 68-Ge 68-Ga, 260cm <sup>2</sup>	No	—		0
L-5049	Benchtop, 36-Cl 10 cm <sup>2</sup>	Yes	RSO Staff	0.5ft <sup>3</sup>	1 hr
L-1098	Benchtop, 36-Cl	No	--		0
AM-046F	Floor, 45-Ca	Yes	RSO Staff	1 ft <sup>3</sup>	1 hr

The above table indicates that most of the identified areas can be deconned by UCHC Radiation Safety Office Staff and UCHC labor, and only B-7012 would require an HP Contractor. The total estimated time for labor is 6 hours, and the total dry waste volume generated is estimated to be 9.5 ft<sup>3</sup>. Table IX summarizes the cost for UCHC staff to decon identified areas indicated in Table VIII.

TABLE IX  
UCHC Staff Costs for Decon Identified Areas

Function	Cost	25% Contingency	Total Cost
Waste Disposal	\$ 2,300	\$ 575	\$ 2,875
2-55 gal Drums	\$ 80	\$ 20	\$ 100
Compaction Disks	\$ 100	\$ 25	\$ 125
UCHC Labor @\$25/h	\$ 150	\$ 38	\$ 188
			Total \$ 3,288

Outside contractors would be called upon to decon B-7012 and to decon the expected 2 labs identified previously in this plan which might be expected during a decommissioning of the UCHC. Costs of these decon efforts are summarized in Table X, and estimates are taken from NUREG/CR-1754. These costs include contingency and waste.

TABLE X  
Contractor Decon of Contaminated Areas

Lab Area	Item	NUREG Table Cost	Estimated Cost
B-7012	Floor, 49ft <sup>2</sup>	E.7-6, Decon	\$ 4,100
	Sink/Drain	E.5-1, Dispose	\$ 1,200
Lab 1	Fume Hood	E.1-1, Decon	\$ 3,000
	Duct	E.6-1, Decon	\$ 3,500
	Lab Bench	E.4-1, Decon	\$ 1,000
	Sink/Drain	E.5-1, Dispose	\$ 1,200
Lab 2	Fume Hood	E.1-1, Decon	\$ 3,000
	Duct	E.6-1, Decon	\$ 3,500
	Lab Bench	E.4-1, Decon	\$ 1,000
	Sink/Drain	E.5-1, Dispose	\$ 1,200
		Total	\$ 22,700

#### ACCUMULATED DECAY IN STORAGE RADIOACTIVE WASTE

It is assumed that when the decision is made to decommission the facility, there will be a volume of waste stored at the UCHC Environmental Health Facility (EHF) for decay-in-storage. This facility was described in a license amendment to license #06-13022-02 and is currently in operation. Surveys of this area and decon are continuous, and such costs are included in costing estimates provided previously. The decommissioning time schedule provided in Exhibit I for

radioactive waste processing would include the packaging and removal of all waste in this facility, except for mixed waste for which there is no current alternative for disposal. NRC would be asked for advice at that time as to the proper method of dealing with this mixed waste, which should amount to about 100 gallons. Personnel costs have already been computed and the packaging process would be done as is done currently under existing NRC licensing conditions. No unusual problem are expected. It is estimated, based on the current inventory of the EHF facility, that the volumes and activities provided in Table XI could be present for decay-in-storage when decommissioning begins.

TABLE XI  
Estimated Decay-In-Storage Volumes

Waste Stream	Ft <sup>3</sup> Present	Total Activity, mCi
Dry Waste	1068	241
Animals	16	25
LSV	236	37

Using the information in the above table, the additional cost of packaging this waste for disposal instead of maintaining the EHF for decay-in-storage may be calculated. It is assumed that an equal volume of dry waste which is decayable would be picked up during the "collect all material" phase of the decommissioning plan. A compaction ratio of 6 to 1 for dry waste can be expected, and costing for disposal and supplies as described previously was used to compute these costs. Summarized in Table XII is a cost summary for disposal of waste on hand at the time decommissioning is decided upon.

TABLE XII  
Existing Decayable Radioactive Waste Disposal Costs

Waste Stream	Ft <sup>3</sup>	Cost	25% Cont.	Total Cost
Compacted Dry	356	\$ 84,365	\$ 21,091	\$ 105,456
LSV	236	\$ 9,600	\$ 2,400	\$ 12,000
Animals	16	\$ 9,996	\$ 2,499	\$ 12,495
Container Cost	--	\$ 3,320	\$ 830	\$ 4,150
Compaction Disks	--	\$ 3,828	\$ 957	\$ 4,785
			Total	\$ 138,886

**TOTAL DECOMMISSIONING ESTIMATED COST SUMMARY**

Summarized in Table XIII is a summary by tasking area for the decommissioning of the UCHC according to the present plan.

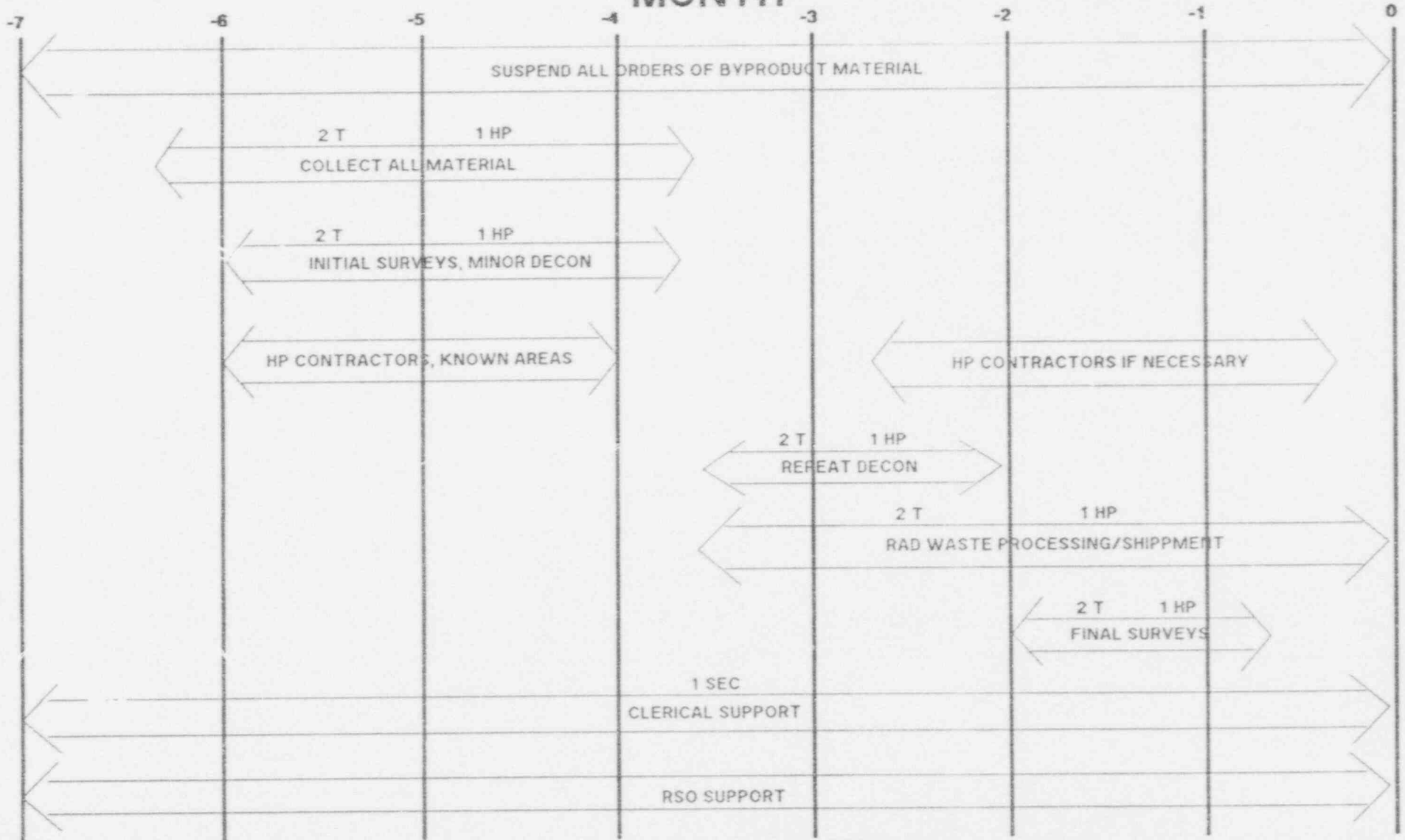


TABLE XIII  
UCHC Decommissioning Cost Summary

Tasking Area	Estimated Cost
UCHC RSO Staff	\$ 318,787
Incidental Supplies	\$ 17,702
Initial Waste	\$ 69,911
Repeat Decon	\$ 18,660
Iodination Hoods	\$ 20,100
Identified Sites	
UCHC Staff	\$ 3,288
Contractors	\$ 22,700
On-Hand Waste Disp.	\$ 138,886
Total Cost	\$ 610,034

# SCHEDULE AND STAFFING FOR UCHC DECOMMISSIONING PLAN

**MONTH**



**STAFFING:**  
 4 TECH'S  
 2 HP'S  
 1 CLER  
 1 RSO

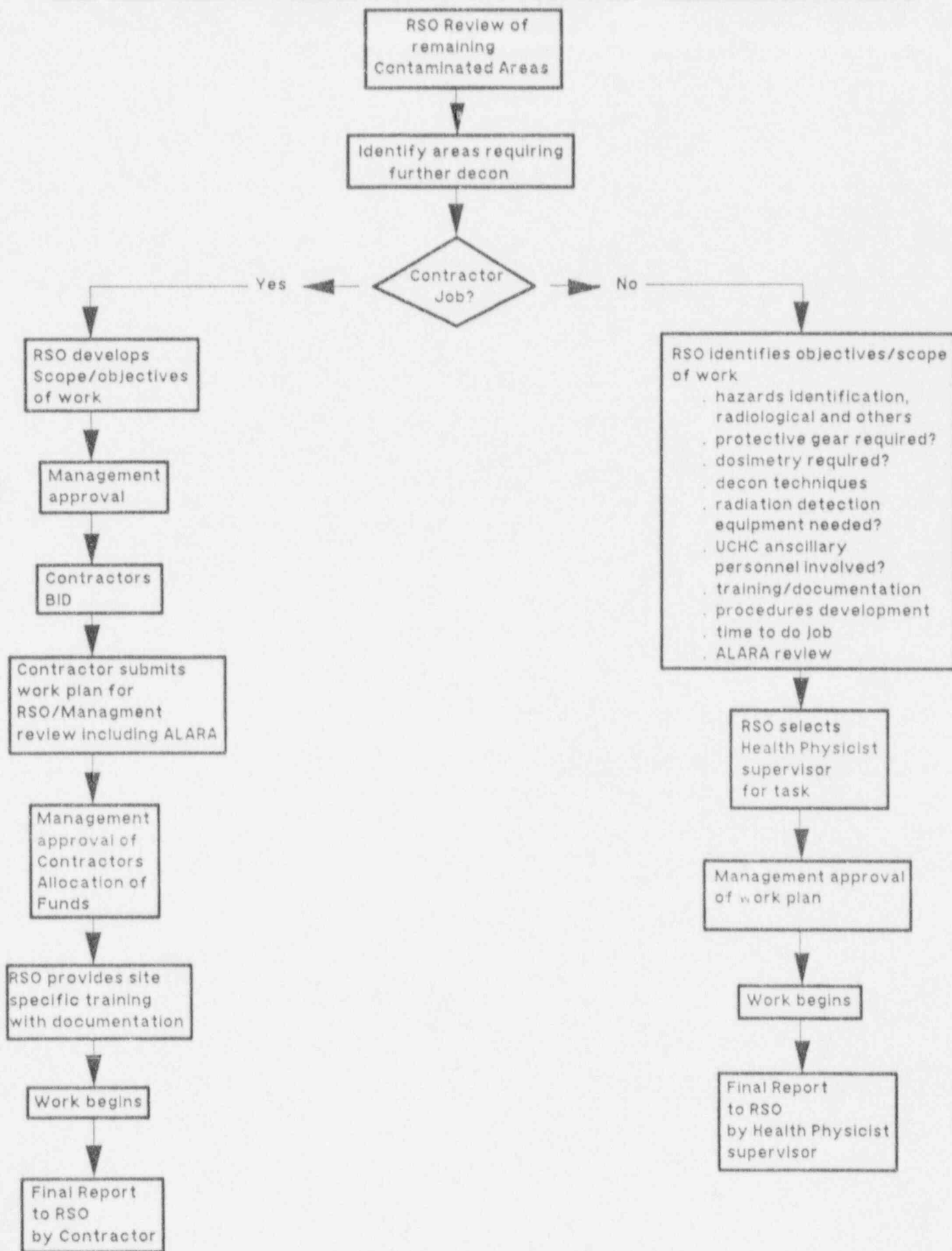
**LEGEND:**  
 T = Technologist  
 HP = Health Physicist  
 RSO = Radiation Safety Officer  
 SEC = Secretary

## DECONTAMINATION METHODS BY PERSONNEL PERFORMING SERVICE

---

METHODS	PRIMARY SURFACE	INITIAL DECON	AGGRESSIVE DECON/LARGE AREA
JANITORIAL	ALL	UCHC	----
DISSASSEMBLY	equipment, hardware, etc.	UCHC	----
DECAY	ALL	UCHC	----
SELECTIVE REMOVAL/DECAY	plastics, glassware, bench tops, fume hoods, duct work, sinks, drains, floor tiles	UCHC	Contractor/UCHC
SELECTIVE REMOVAL/DISPOSAL	plastics, glassware, bench tops, fume hoods, duct work, sinks, drains, floor tiles	UCHC	Contractor/UCHC
CHEMICAL	grease, painted surfaces, floor tile, metals, glassware, bench tops, drains, pipes	UCHC	----
ABRASIVE			
Planing	wood	UCHC	----
Wet Sanding/Shaving	wood	UCHC	Contractor
Steel Wool	painted surfaces, wood/metal	UCHC	----
Stripping Compounds	painted surfaces	UCHC	Contractor
Abrasive Paste	painted surfaces	UCHC	Contractor
Grinding, Eroding	wood/metal, concrete, pourous surfaces	----	Contractor
Sand Blasting	concrete, pourous surfaces	----	Contractor
HIGH PRESSURE STEAM/WATER	walls, equipment, non-pourous surfaces	----	Contractor

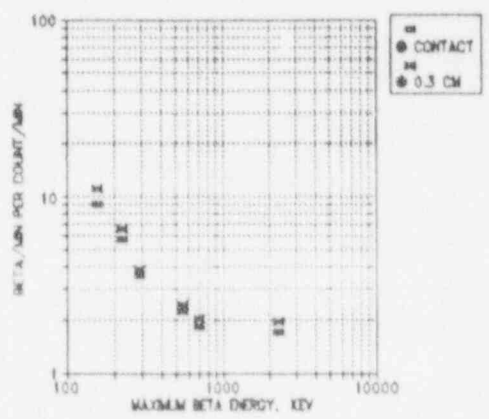
# DEVELOPMENT OF DECOMMISSIONING PROCEDURES



# INSTRUMENT CALIBRATION REPORT

TYPE : **LIIDIUM**      MODEL : **1B**      SERIAL: **91445**  
 PROBE : **GM PANCAKE**      MODEL: **44-9**      SERIAL: **90267**  
 DATE: **03/16/93**

NUCLIDE	KEY MAX	1 ST DISTANCE			2ND DISTANCE		
		CM(1)	CPM	BPM/CPM	CM(2)	CPM	BPM/CPM
14-C	156.5	<b>CONTACT</b>	<b>36000</b>	8.940	<b>0.3</b>	<b>29000</b>	11.097
147-PM	224.7		<b>24000</b>	5.685		<b>21000</b>	6.497
99-TC	292		<b>25000</b>	3.552		<b>23000</b>	3.861
36-CL	709.3		<b>23000</b>	1.834		<b>21000</b>	2.009
90-Y	2283	-0.745	<b>44000</b>	1.693	-0.736	<b>39000</b>	1.959
90-SR	546			2.229			2.435
BPM/CPM SR-90 =		2.229	BPM/CPM SR-90 =		2.435		



PULSER CALIBRATION

X SCALE	PULSE CPM	CPM
x1000	<b>100000</b>	<b>100000</b>
	<b>200000</b>	<b>200000</b>
x100	<b>10000</b>	<b>10000</b>
	<b>20000</b>	<b>20000</b>
x10	<b>1000</b>	<b>1000</b>
	<b>2000</b>	<b>2000</b>
x1	<b>100</b>	<b>100</b>
	<b>200</b>	<b>200</b>

BETACAL.WQ1

## UCHC FIXED CONTAMINATION EVALUATION

12/13/93

B-7012 (T-House) (14-C assumed for the following)  
 (75% eff. for LSC counting)  
 (8.940 BPM/CPM for meter readings)  
 (~44,950 cm<sup>2</sup> of floor/sink area involved)

Sink Drain: 613 dpm/100cm<sup>2</sup> removable contamination  
 fixed contamination not possible to assess

Rear Floor: 21,223 dpm/100cm<sup>2</sup> removable contamination  
 893,464 dpm/100cm<sup>2</sup> fixed contamination

Cart: 481 dpm/100cm<sup>2</sup> removable contamination  
 35,224 dpm/100cm<sup>2</sup> fixed contamination

Floor Mats: 284 dpm/100cm<sup>2</sup> removable contamination  
 17,344 dpm/100cm<sup>2</sup> fixed contamination

Front Floor: 305 dpm/100cm<sup>2</sup> removable contamination  
 44,164 to 178,264 dpm/100cm<sup>2</sup> fixed contam.

L-5040 & L-5041 (45-Ca assumed for the following)  
 (90% eff. for LSC counting)  
 (5.0 BPM/CPM for meter readings)

L-5040 bench: 56 dpm/100cm<sup>2</sup> removable contamination  
 (50cm<sup>2</sup>) 9,700 dpm/100cm<sup>2</sup> fixed contamination

L-5040 floor: 0 dpm/100cm<sup>2</sup> removable contamination (<MDA)  
 (4 spots @  
 100cm<sup>2</sup> total 700 dpm/100cm<sup>2</sup> fixed contamination ea. spot  
 area)

L-5041 bench: 0 dpm/100cm<sup>2</sup> removable contamination (<MDA)  
 (25cm<sup>2</sup>) 1,200 dpm/100cm<sup>2</sup> fixed contamination

## UCHC FIXED CONTAMINATION EVALUATION

L-6032 & L-6014 (35-S contamination for the following)  
(75% eff. for LSC counting)  
(8.940 BPM/CPM for meter readings)

Area 1:  
(77.42cm<sup>2</sup>) 0 dpm/100cm<sup>2</sup> removable contamination (<MDA)  
1,252 dpm/100cm<sup>2</sup> fixed contamination

Area 2:  
(38.71cm<sup>2</sup>) 0 dpm/100cm<sup>2</sup> removable contamination (<MDA)  
6,616 dpm/100cm<sup>2</sup> fixed contamination

Area 3:  
(116.13cm<sup>2</sup>) 0 dpm/100cm<sup>2</sup> removable contamination (<MDA)  
10,192 dpm/100cm<sup>2</sup> fixed contamination

Area 4:  
(103.23 cm<sup>2</sup>) 0 dpm/100cm<sup>2</sup> removable contamination (<MDA)  
8.404 dpm/100cm<sup>2</sup> fixed contamination

Area 5:  
(51.61 cm<sup>2</sup>) 0 dpm/100cm<sup>2</sup> removable contamination (<MDA)  
536 dpm/100cm<sup>2</sup> fixed contamination

BB#4, rm6 (68-Ge/68-Ga assumed for the following)  
(20% eff. for LSC counting)  
(2 DPM/CPM for meter readings)

Rear Wall  
of Hood:  
(260cm<sup>2</sup>) 0 dpm/100cm<sup>2</sup> removable contamination (<MDA)  
1,000 dpm/100cm<sup>2</sup> fixed contamination

L-5049 (36-Cl assumed for the following)  
(90% eff. for LSC counting)  
(3.515 BPM/CPM for meter readings)

Benchtop/sink:  
(10cm<sup>2</sup>) 76 dpm/100cm<sup>2</sup> removable contamination  
17,575 dpm/100cm<sup>2</sup> fixed contamination

UHC FIXED CONTAMINATION EVALUATION

L-1098

(36-Cl assumed for the following)  
(90% eff. for LSC counting)  
(14,060 DPM/mR/hr for meter readings)

Removable  
Platform:

111 dpm/100cm<sup>2</sup> removable contamination  
844 dpm/100cm<sup>2</sup> fixed contamination

AM-046F

(45-Ca assumed for the following)  
(90% eff. for LSC counting)  
(53,650 DPM/mR/hr (14-C eff.) for meter  
readings)

Floor tiles (2):  
(26cm<sup>2</sup>)

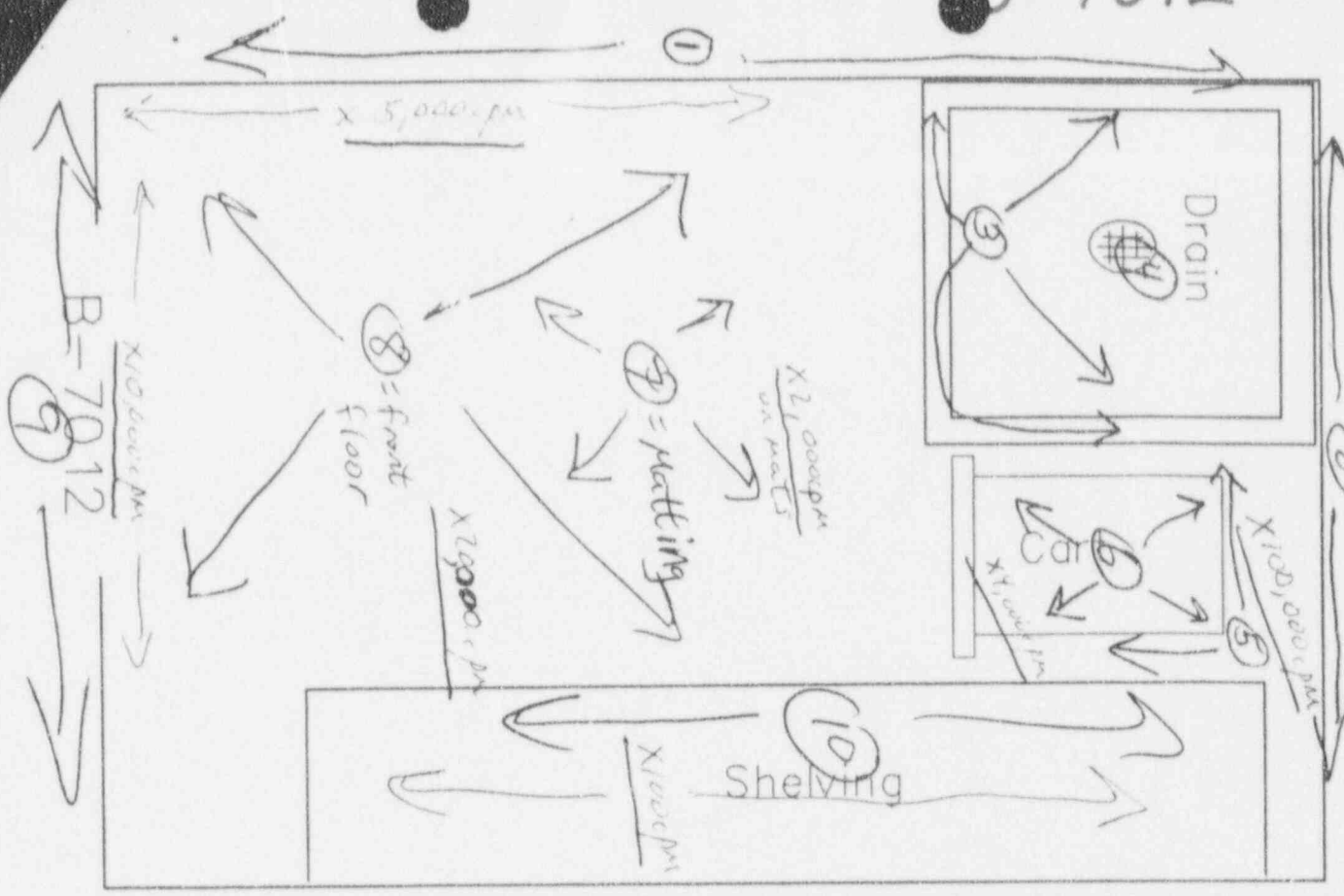
11 dpm/100cm<sup>2</sup> removable contamination  
37,555 dpm/100cm<sup>2</sup> fixed contamination



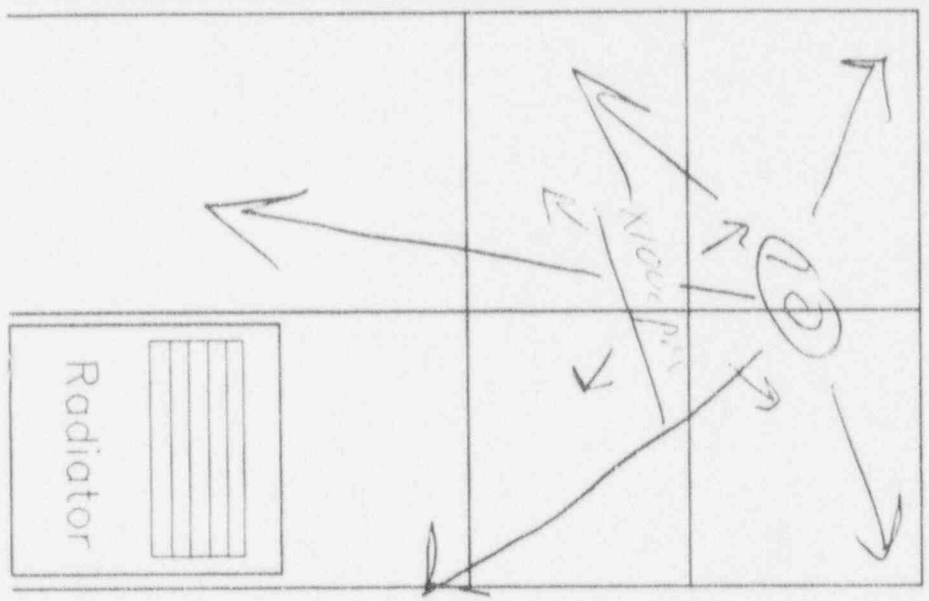
B-7012

Date: 12/13/93

By: [Signature]



B-7012 Dimensions:  
 Length = 6' 9"  
 Width = 7' 2"  
 Height = 9'



Radionuclides in use \_\_\_\_\_

O - indicates the location of contamination wipe surveys. Positive results are recorded in dpm/100 cm<sup>2</sup> on the attached record form. Radiation Safety (X2250) is to be notified of any result in excess of 2000 dpm/100 cm<sup>2</sup>. Net results greater than 100 dpm indicate the need for decontamination. Disposition of contaminated areas is recorded on the attached results sheet.  
 Instruments used:  
 Searle Delta 300 SN033527  
 Packard Tri-Carb 2000CA SN85562  
 Other \_\_\_\_\_

X - indicates the location of survey meter, <sup>dpm</sup> measurements. Readings are shown in mR/hr on this diagram. Radiation Safety (X2250) is to be notified of any reading in excess of 2.0 mR/hr. Instruments used:  
 \_\_\_\_\_ Ludlum 3 w/ 44-7 SN \_\_\_\_\_  
 Other Ludlum 18 w/ 44-7 SN 91495  
 Instrument background: 60 dpm/mR/hr  
 Entire area surveyed with meter  
4750 Meter reading(s) above background

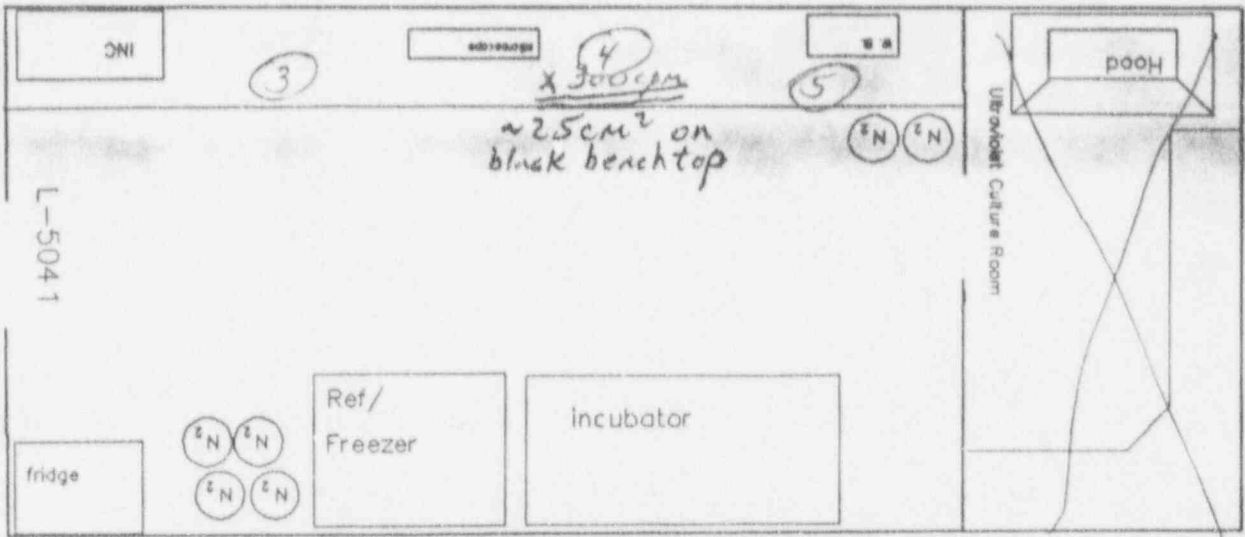
L 5040, L-5041

Date: 12/03/91

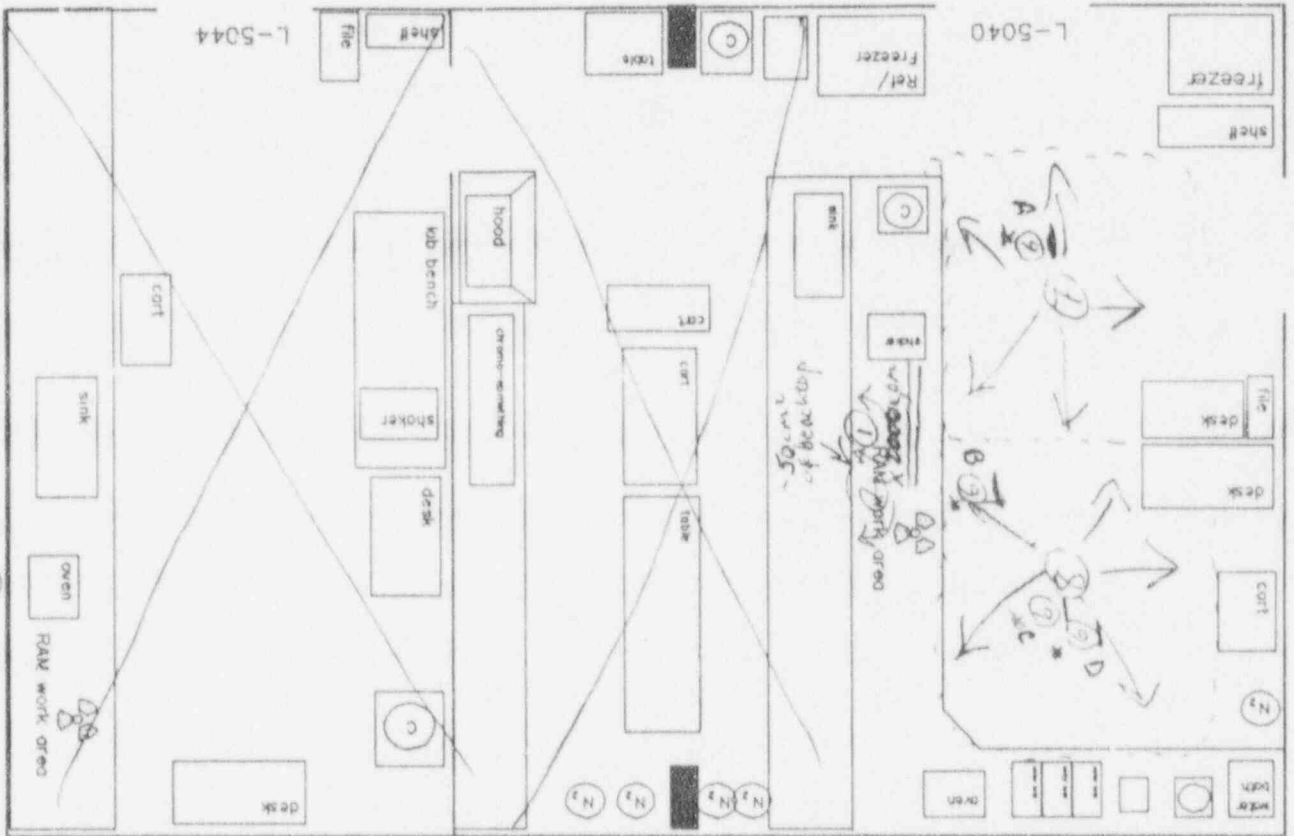
By: guy

Radionuclides in use

<sup>45</sup>Ca fixed contamination



A = 2 tiles  
B = 2 tiles  
C = 1 tile  
D = 3 tiles



\* All spots labeled (C), (N), (A), (B), (D) are fixed contamination of <sup>45</sup>Ca, each @ ~ 200 cpm @ contact

○ - indicates the location of contamination wipe surveys. Positive results are recorded in dpm/100 cm<sup>2</sup> on the attached record form. Radiation Safety (X2250) is to be notified of any result in excess of 2000 dpm/100 cm<sup>2</sup>. Net results greater than 100 dpm indicate the need for decontamination. Disposition of contaminated areas is recorded on the attached results sheet.

X - indicates the location of survey meter measurements. Readings are shown in mR/hr on this diagram. Radiation Safety (X2250) is to be notified of any reading in excess of 2.0 mR/hr. Instruments used:

- ✓ Searle Delta 300 SN033527
- Packard Tri-Carb 2000CA SN85562
- Other -----

✓ Ludlum 18 w/ 44-9 SN 91445

Other -----

Instrument background: 60 <sup>cpm</sup> <sub>mR/hr</sub>

- ⑥ Entire area surveyed with meter
- ⑥ Meter reading(s) above background

Date: 12/09/93

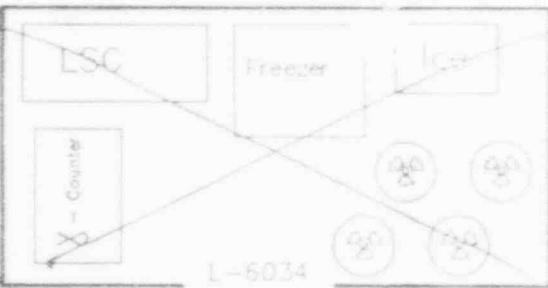
By Jay

Radionuclides in use \_\_\_\_\_

L-6032 ● L-6014



- ① - 2" x 6" area on (77.42 cm<sup>2</sup>) black benchtop
- ② - 2" x 3" on 1 floor tile (38.71 cm<sup>2</sup>)
- ③ - 3" x 6" on 3 floor tiles (116.13 cm<sup>2</sup>)
- ④ - 4" x 4" on 4 floor tiles (103.23 cm<sup>2</sup>)
- ⑤ - 2" x 4" on black benchtop (51.61 cm<sup>2</sup>)



Q - indicates the location of contamination wipe surveys. Positive results are recorded in dpm/100 cm<sup>2</sup> on the attached record form. Radiation Safety (X2250) is to be notified of any result in excess of 2000 dpm/100 cm<sup>2</sup>. Net results greater than 100 dpm indicate the need for decontamination. Disposition of contaminated areas is recorded on the attached results sheet.

Instrument(s) used: Searle Delta 390 GVD33527

Other: Packard Tri-Carb 2000CA SM85562

Other \_\_\_\_\_

X - indicates the location of survey meter measurements. Readings are shown in mR/hr on this diagram. Radiation Safety (X2250) is to be notified of any reading in excess of 2.0 mR/hr. Instruments used:

✓ Ludlum 8 w/ 44-9 SN 9445

Other \_\_\_\_\_

Instrument background: 6.0 ~~5.0~~ ~~4.0~~

Other: \_\_\_\_\_ Entire area surveyed with meter

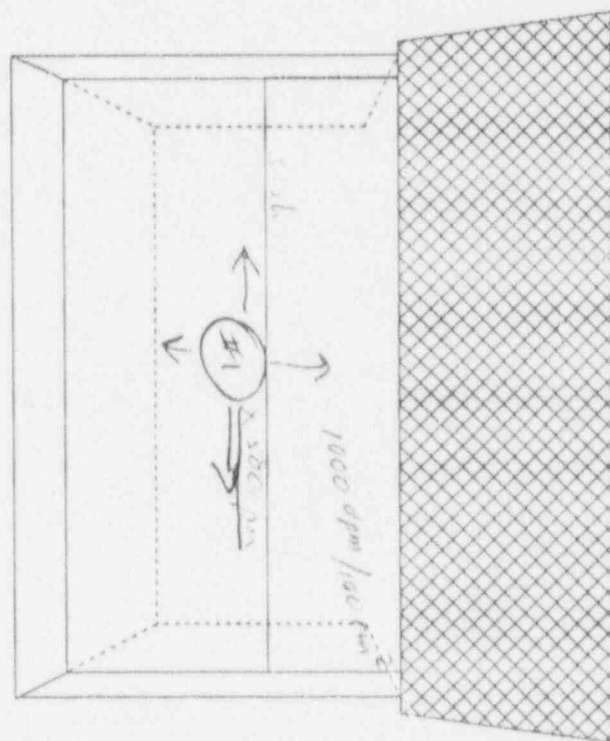
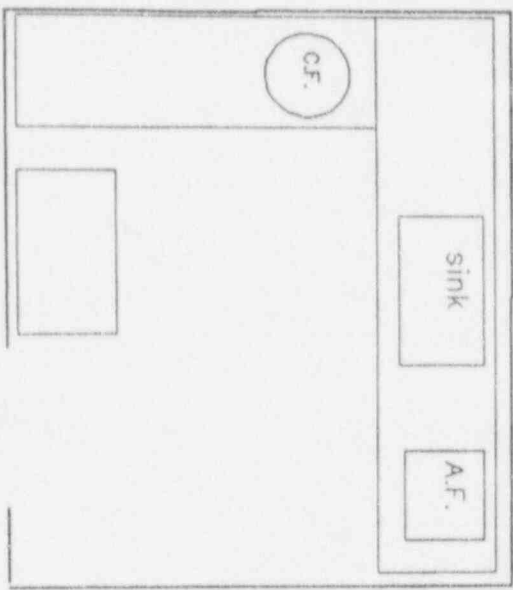
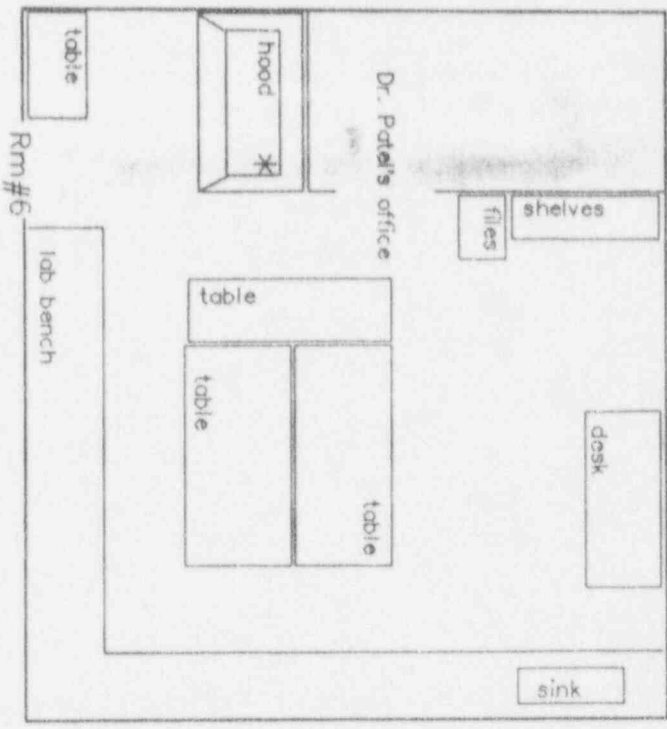
Other: 5 Meter reading(s) above background

Date: 12/13/93

By Amy

Radionuclides in use

9/13/93 11/14/93 11/14/93



\* Blow-up of Hood

#1 = rear wall of hood w/ fixed <sup>68</sup>Ga? Contamination (Area = 260 cm²)  
<sup>68</sup>Ge / <sup>68</sup>Ga (B<sup>+</sup>)  
 287 d 68m

○ - indicates the location of contamination wipe surveys. Positive results are recorded in dpm/100 cm² on the attached record form. Radiation Safety (X2250) is to be notified of any result in excess of 2000 dpm/100 cm². Net results greater than 100 dpm indicate the need for decontamination. Disposition of contaminated areas is recorded on the attached results sheet.

- Instruments used:  
 - Searle Delta 300 SN033527  
 - Packard Tri-Carb 2000CA SN85562  
 Other \_\_\_\_\_

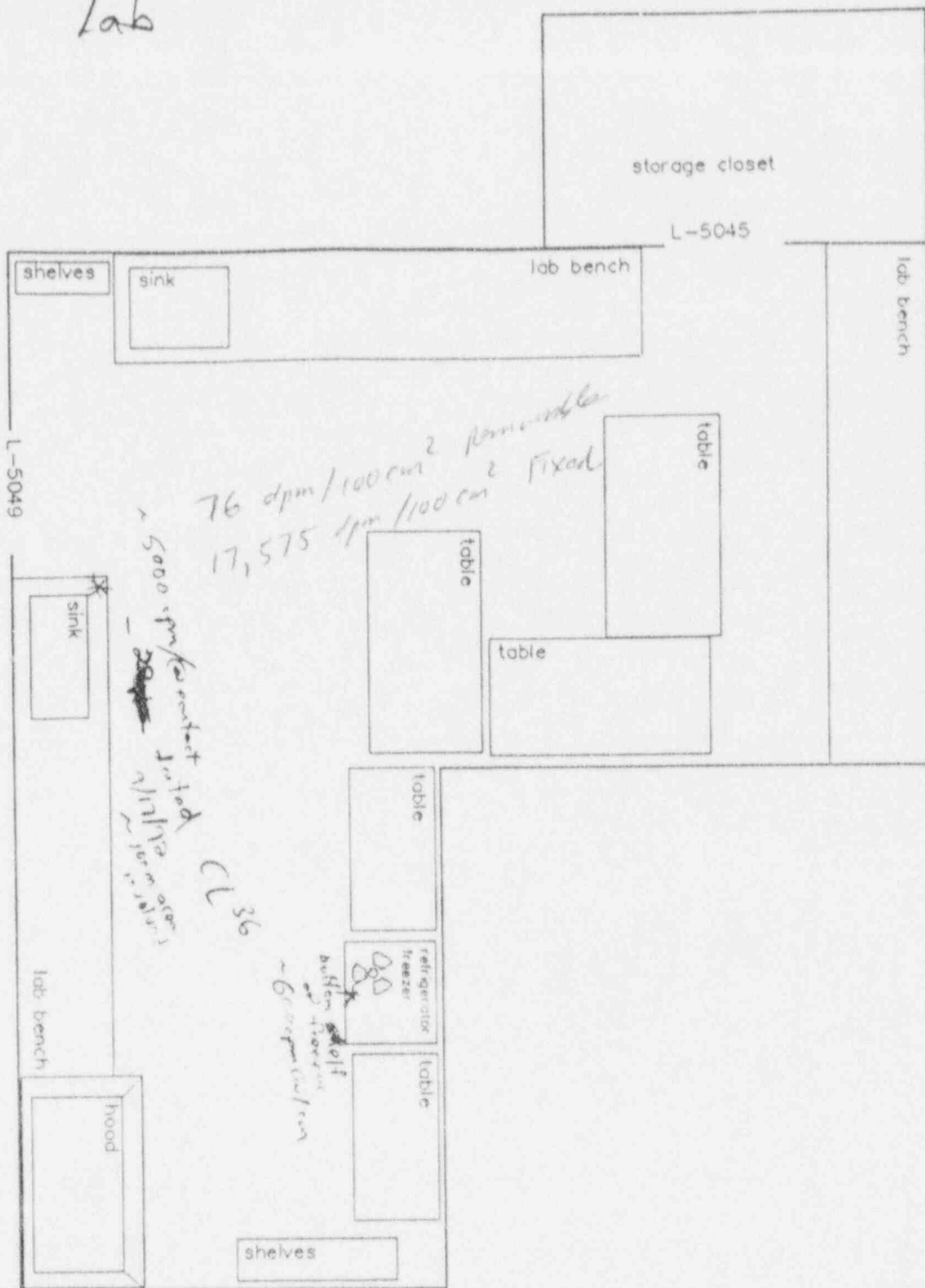
X - indicates the location of survey meter measurements. Readings are shown in mR/hr on this diagram. Radiation Safety (X2250) is to be notified of any reading in excess of 2.0 mR/hr. Instruments used:

- Ludlum 3 w/ 44-7 SN \_\_\_\_\_  
 Other Ludlum 12-2/44-9 SN 90480  
 Instrument background: 60 mR/hr  
 \_\_\_\_\_ Entire area surveyed with meter  
 / Meter reading(s) above background

Patterson Lab

Date: 9/7/93

By: [Signature]



○ - indicates the location of contamination wipe surveys. Positive results are recorded in dpm/100 cm<sup>2</sup> on the attached record form. Radiation Safety (X2250) is to be notified of any result in excess of 2000 dpm/100 cm<sup>2</sup>. Net results greater than 100 dpm indicate the need for decontamination. Disposition of contaminated areas is recorded on the attached results sheet.

\* - indicates the location of survey meter measurements. Readings are shown in mR/hr on this diagram. Radiation Safety (X2250) is to be notified of any reading in excess of 2.0 mR/hr. Instruments used:

- Searle Delta 300 SN033527
- Packard Tri-Carb 2000CA SN85562
- Other -----

- Ludlum 3 w/ 44-9 SN 80741
- Other -----
- Instrument background: 0-60 ~~cpm~~
- Unobstructed
- ~~Fixed~~ areas surveyed with meter
- Meter reading(s) above background as indicated on diagram

Radionuclides in use

8901-1

Date: 11/24/53

By: DGS

Radionuclides in use: <sup>147</sup>Sm, <sup>137</sup>Cs, <sup>252</sup>Cf



L-1098

3 months control for 0.019uc

CC 36 source from

12, 180 dpm (from 1/1/53)

1960 sign (from 1/1/53)

○ - indicates the location of contamination wipe surveys. Positive results are recorded in dpm/100 cm<sup>2</sup> on the attached record form. Radiation Safety (X2250) is to be notified of any result in excess of 2000 dpm/100 cm<sup>2</sup>. Net results greater than 100 dpm indicate the need for decontamination. Disposition of contaminated areas is recorded on the attached results sheet.

\* - indicates the location of survey meter measurements. Readings are shown in mR/hr on this diagram. Radiation Safety (X2250) is to be notified of any reading in excess of 2.0 mR/hr. Instruments used:

- Searle Delta 300 SN033527
- Packard Tri-Carb 2000CA SN85662
- Other -----

- Ludlum 3 w/ 44-7 SN 200-36
- Other -----
- instrument background: 5.4 mR/hr
- Entire area surveyed with meter
- Meter reading(s) above background



## TELEPHONE CONVERSATION LOG

DATE:

October 20, 1993

PERSON CALLED:

Ken Price  
Radiation Safety Officer

ORGANIZATION:

University of Conn.  
Health Center

TELEPHONE NUMBER:

(203) 679-2250

LICENSE NUMBER:

06-13022-02

DOCKET NUMBER:

030-01295

MAIL CONTROL NUMBER:

112845

PERSON CALLING:

David B. Everhart	(215) 337-6936
USNRC Region I	FAX Numbers
475 Allendale Road	(215) 337-5269 or
King of Prussia, PA 19406	(215) 337-5234

SUBJECT: Financial Assurance

SUMMARY:

Spoke with Ken Price regarding submitting a DFP. He was unaware that he was required to submit one and asked for some information. Sent Regulatory Guide 3.66 and NUREG 1754 with addendum. He stated that he would review his possession limits to see what they could do to reduce the limits and DFP requirements.

December 13, 1993

Spoke with K. Price, will be sending DFP 12/17/93. Will revise Statement of Intent to match DFP amount.

ACTION REQUIRED/TAKEN:

SIGNATURE:

DATE:

12/13



THE UNIVERSITY OF CONNECTICUT HEALTH CENTER

030-01295

OFFICE OF RADIATION SAFETY MC-3930  
Tel: (203) 679-2250

September 23, 1993

Mr. Thomas Thompson  
United States Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 19406

Dear Mr. Thompson:

I have attached University of Connecticut Health Center Statements of Intent for decommissioning funding for the Broad Scope Human Use License (06-13022-02) and the Teletherapy License (06-13022-05). The Teletherapy License has recently been submitted for renewal. I have also attached a "Description of Authority of Government Entity To Make Statement of Intent" issued from the State of Connecticut Attorney General's office.

If you have any question concerning these letters, please call me at (203) 679-2250.

Sincerely,

Kenneth W. Price, M.P.H., C.H.P.  
Director, Radiation Safety Office

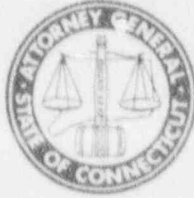
KWP:lf

Attachments

OFFICIAL RECORD COPY ML 10

112845  
SEP 28 1993

RICHARD BLUMENTHAL  
ATTORNEY GENERAL



University of Connecticut  
Health Center  
Room LM 068  
Farmington, CT 06032  
(203) 679-1114

Office of The Attorney General  
State of Connecticut

September 22, 1993

U. S. Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 19406

RE: Description of Authority of Government Entity  
To Make Statement of Intent

License Numbers: 06 -13022 - 02, 06-13022-05

TO Whom It May Concern:

This correspondence affirms that Leslie S. cutler, D.D.S., Ph.D., Vice President and Provost for Health Affairs and Executive Director, is authorized to represent the University of Connecticut Health Center's licensed activities which include the Red Cross Blood Center, the Veteran's Administration medical Center Research Building No. 5, the Office of the Chief Medical Examiner, and the Uncas on Thames Hospital. Dr. Cutler is authorized to sign a letter of intent for financial assurance for decommissioning as required by 10 CFR 30.35.

Sincerely,

A handwritten signature in black ink, appearing to read "William N. Kleinman".

William N. Kleinman  
Assistant Attorney General

WNK:kob



# THE UNIVERSITY OF CONNECTICUT HEALTH CENTER

OFFICE OF THE VICE PRESIDENT AND PROVOST FOR HEALTH AFFAIRS  
AND EXECUTIVE DIRECTOR MC-3800

Tel. (203) 679-1111  
Fax. (203) 679-1255

## THE UNIVERSITY OF CONNECTICUT HEALTH CENTER

### STATEMENT OF INTENT

Licensee: The University of Connecticut Health Center  
263 Farmington Ave.  
Farmington, Connecticut 06030

NRC Byproduct Material License No: 06-13022-02

Facilities where licensed material is used:

The University of Connecticut Health Center  
Farmington, Connecticut

Red Cross Blood Center  
209 Farmington Avenue  
Farmington, Connecticut

Uncas on Thames Hospital  
West Thames Street  
Norwich, Connecticut

Veterans Administration Medical Center  
Research Building No.5  
555 Willard Avenue  
Newington, Connecticut

Office of The Chief Medical Examiner  
11 Shuttle Road  
Farmington, Connecticut

This is to certify that financial assurance in the amount of \$750,000 as prescribed in 10 CFR Part 30.35 will be obtained when necessary for the purpose of decommissioning of facilities upon termination of licensed activities.

I am duly authorized to represent The University of Connecticut Health Center in this Statement of Intent.

\_\_\_\_\_  
Leslie S. Cutler, D.D.S., Ph.D.  
Vice President and Provost for Health Affairs  
and Executive Director

9/21/93

\_\_\_\_\_  
Date

MAR 19 1992

Docket No. 030-01295  
License No. 06-13022-02  
Control No. 112845

MEMORANDUM FOR: Louis M. Bykoski, NRC Project Officer  
Low Level Waste Management, Low Level Regulatory Branch

FROM: John D. Kinneman, Chief  
Research, Development & Decommissioning Section  
Division of Radiation Safety and Safeguards

SUBJECT: FINANCIAL ASSURANCE SUBMITTAL UNIVERSITY OF CONNECTICUT  
HEALTH CENTER

John Austin's August 6, 1990 memorandum set forth a procedure for submitting nonstandard financial assurance submittals, parent company guarantees and decommissioning fund plans.

Based on guidance received from you in response to other requests, we were prepared to ask the University of Connecticut Health Center to provide a Statement of Intent signed by an appropriate state official. However, they provided an argument documented in their July 9, 1990 letter that an official of this University may execute the Statement of Intent. Is this an adequate basis for the Statement of Intent?

Please refer to the above docket number and control number in your reply.

Original Signed By  
John D. Kinneman

John D. Kinneman, Chief  
Research, Development &  
Decommissioning Section  
Division of Radiation Safety  
and Safeguards

Memorandum  
Louis M. Bykoski


2

Enclosure:

1. Letter from University of Connecticut Health Center to Region I dated July 9, 1990 with enclosed Statement of Intent and legal opinion.

cc: J. Glenn, NMSS

bcc: J. Kinneman, RI

:DRSS

03/19/92

OFFICIAL RECORD COPY

FA UNIV OF CT - 0002.0.0  
03/18/92



030-01295



THE UNIVERSITY OF CONNECTICUT HEALTH CENTER

Radiation Safety Office  
Farmington, Connecticut 06032  
(203) 679-2250

July 9, 1990

U.S. Nuclear Regulatory Commission, Region I  
Nuclear Materials Safety Section B  
475 Allendale Road  
King of Prussia, PA 19406

Reference: University of Connecticut Health Center  
License No. 06-13022-02      Docket No. 030-01295  
License No. 06-13022-04      Docket No. 030-08882  
License No. 06-13022-05      Docket No. 030-30561

Subject:      Financial Assurance Documentation

Applications for amendments to Byproduct Material License Nos. 06-13022-02 and 06-13022-05 are attached. The amendments are requested to comply with 10 CFR 30.35, "Financial assurance and record keeping for decommissioning."

10 CFR 30.35 does not require a decommissioning funding plan or financial assurance for decommissioning for License No. 06-13022-04.

The attached memorandum from the Office of the Attorney General indicates that the individual within the Health Center who signs the license applications could sign the Statement of Intent. The application for License No. 06-13022-02 under which we are presently conducting our activities was signed by James E. Mulvihill, D.M.D., Vice President and Provost for Health Affairs and Executive Director. The renewal application for License No. 06-13022-02, which is being processed by the NRC, and the application for License No. 06-13022-05, were signed by Mr. Leonard P. Paplauskas, Assistant Vice President for Research. The Statements of Intent were signed by Leslie S. Cutler, D.M.D., Associate Vice President for Administration and Research. Mr. Paplauskas reports to Dr. Cutler and Dr. Cutler is acting for Dr. Mulvihill who presently is on sabbatical.

The University of Connecticut Health Center is a State of Connecticut institution and is exempt from license fees in accordance with 10 CFR 170, Section 170.11 (a)(9).

Thank you for your consideration.

Sincerely,

*Vincent T. Penikas, Ph.D.*

Vincent T. Penikas, Ph.D.  
Radiation Safety Officer

110815

### APPLICATION FOR MATERIAL LICENSE

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

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U.S. NUCLEAR REGULATORY COMMISSION  
DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY, NMSS  
WASHINGTON, DC 20555

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS. IF YOU ARE LOCATED IN:

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U.S. NUCLEAR REGULATORY COMMISSION, REGION I  
NUCLEAR MATERIALS SAFETY SECTION B  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PA 19406

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

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NUCLEAR MATERIALS SAFETY SECTION  
101 MARIETTA STREET, SUITE 2900  
ATLANTA, GA 30323

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MATERIALS LICENSING SECTION  
799 ROOSEVELT ROAD  
GLEN ELLYN, IL 60137

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U.S. NUCLEAR REGULATORY COMMISSION, REGION IV  
MATERIAL RADIATION PROTECTION SECTION  
611 RYAN PLAZA DRIVE, SUITE 1000  
ARLINGTON, TX 76011

ALASKA, ARIZONA, CALIFORNIA, HAWAII, NEVADA, OREGON, WASHINGTON, AND U.S. TERRITORIES AND POSSESSIONS IN THE PACIFIC, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION V  
NUCLEAR MATERIALS SAFETY SECTION  
1450 MARIA LANE, SUITE 210  
WALNUT CREEK, CA 94696

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTION.

1. THIS IS AN APPLICATION FOR (Check appropriate item):

- A. NEW LICENSE
- B. AMENDMENT TO LICENSE NUMBER 06-13022-02
- C. RENEWAL OF LICENSE NUMBER \_\_\_\_\_

2. NAME AND MAILING ADDRESS OF APPLICANT (Include Zip Code)

University of Connecticut Health Center  
Attn: Radiation Safety Officer  
263 Farmington Avenue  
Farmington, CT 06030

3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED:

See attached sheet

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

TELEPHONE NUMBER

Vincent T. Penikas, Ph.D., Radiation Safety Officer

(203) 679-2250

SUBMIT ITEMS 5 THROUGH 11 ON 8 1/2 x 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL  
a. Element and mass number, b. chemical and/or physical form, and c. maximum amount which will be possessed at any one time.

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE.

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS

9. FACILITIES AND EQUIPMENT.

10. RADIATION SAFETY PROGRAM  
Financial Assurance - see attached

11. WASTE MANAGEMENT.

12. LICENSEE FEES (See 10 CFR 170 and Section 170.31)  
FEE CATEGORY Exempt AMOUNT ENCLOSED \$ 00

13. CERTIFICATION. (Must be completed by applicant). THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, AND 40 AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948, 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

SIGNATURE—CERTIFYING OFFICER

TYPED/PRINTED NAME

TITLE

DATE

*Vincent T. Penikas*

Vincent T. Penikas, Ph.D.

Radiation Safety Officer

7/9/90

**FOR NRC USE ONLY**

TYPE OF FEE	FEE LOG	FEE CATEGORY	COMMENTS
AMOUNT RECEIVED	CHECK NUMBER		

APPROVED BY

DATE



# THE UNIVERSITY OF CONNECTICUT HEALTH CENTER

Office of the Associate Vice President for  
Administration and Research  
Farmington, Connecticut 06032  
(203) 679-1113

## THE UNIVERSITY OF CONNECTICUT HEALTH CENTER

### STATEMENT OF INTENT

Licensee: The University of Connecticut Health Center  
263 Farmington Avenue  
Farmington, Connecticut 06030

NRC Byproduct Material License No.: 06-13022-02

Facilities where licensed material is authorized to be used:

The University of Connecticut Health Center  
Farmington, Connecticut

Red Cross Blood Center  
209 Farmington Avenue  
Farmington, Connecticut

Research Buildings No. 5 and No.17  
Veterans Administration Medical Center  
555 Willard Avenue  
Newington, Connecticut

This is to certify that financial assurance in the amount of \$750,000 as prescribed by 10 CFR Part 30.35 will be obtained when necessary for the purpose of decommissioning of facilities upon termination of licensed activities.

I am duly authorized to represent The University of Connecticut Health Center in this Statement of Intent.

Leslie S. Cutler, D.D.S., Ph.D.  
Associate Vice President for  
Administration and Research

7/9/90

Date

# State of Connecticut



CLARIFE NARDI RIDDLE  
ATTORNEY GENERAL

## Office of The Attorney General

UNIVERSITY OF CONNECTICUT  
HEALTH CENTER  
ROOM LM 068  
FARMINGTON, CT 06032  
TELEPHONE (203) 879-1114

### MEMORANDUM

TO: Dr. Vincent T. Penikas  
Radiation Safety Officer

FROM: William N. Kleinman *William N. Kleinman*  
Assistant Attorney General

DATE: June 25, 1990

SUBJECT: Requirements for Decommissioning Nuclear Facilities

This is in response to your memorandum relative to the above referenced matter.

More specifically, you asked that I advise you concerning the Statement of Intent to assure funding for the decommissioning of nuclear facilities as required by 10 CFR Parts 30, 40, 70 and 72.

These regulations describe alternative methods for providing the mandated assurance. They include use of surety bonds and/or prepayments into segregated accounts. Specific provision has been made for federal or state licensees. The regulations provide that,

(4) In the case of federal, state or local government licensees, a statement of intent containing a cost estimate for decommissioning or an amount based on the table in paragraph (d) of this section, and indicating that funds will be obtained when necessary.

10 CFR Part 30, § 30.35

In your memo you ask,

"Who would or could issue a Statement of Intent? Would it be necessary to have the General Assembly enact a law assuring that funds for decommissioning would be available when needed? If so, how would this be initiated? Since a

Dr. Vincent T. Penikas  
June 25, 1990  
Page 2

bill could not be introduced until the next legislative session at the earliest, who could issue a Statement of Intent covering the interim period? Since the Storrs campus and possibly Uncas on Thames Hospital are also affected by NRC's financial assurance requirement, it may be appropriate for this to be a joint effort.

In my opinion, legislation of the type you describe is not required by the regulation. Rather, I recommend that the individual within the Health Center who signs the license applications, prepare a letter which acknowledges the Health Center's obligations under the regulations and indicates the Health Center's intention to request funding in a timely manner.

Finally, since the Health Center is licensed independently from Storrs and Uncas, I recommend that the Health Center issue its own letter of intent.

If you have any further questions, please do not hesitate to contact me.

/kas

cc: Dr. Leslie S. Cutler  
Associate Vice President for Administration  
and Research

Mr. Leonard P. Paplauskas  
Assistant Vice President for Research

030-01295



THE UNIVERSITY OF CONNECTICUT HEALTH CENTER

RECEIVED BY LHM5	
Date	-----
Log	-----
By	-----
Date Completed	-----

Radiation Safety Office  
Farmington, Connecticut 06032  
(203) 679-2250

July 9, 1990

U.S. Nuclear Regulatory Commission, Region I  
Nuclear Materials Safety Section B  
475 Allendale Road  
King of Prussia, PA 19406

Reference: University of Connecticut Health Center  
License No. 06-13022-02      Docket No. 030-01295  
License No. 06-13022-04      Docket No. 030-08882  
License No. 06-13022-05      Docket No. 030-30561

Subject:      Financial Assurance Documentation

Applications for amendments to Byproduct Material License Nos. 06-13022-02 and 06-13022-05 are attached. The amendments are requested to comply with 10 CFR 30.35, "Financial assurance and record keeping for decommissioning."

10 CFR 30.35 does not require a decommissioning funding plan or financial assurance for decommissioning for License No. 06-13022-04.

The attached memorandum from the Office of the Attorney General indicates that the individual within the Health Center who signs the license applications could sign the Statement of Intent. The application for License No. 06-13022-02 under which we are presently conducting our activities was signed by James E. Mulvihill, D.M.D., Vice President and Provost for Health Affairs and Executive Director. The renewal application for License No. 06-13022-02, which is being processed by the NRC, and the application for License No. 06-13022-05, were signed by Mr. Leonard P. Paplauskas, Assistant Vice President for Research. The Statements of Intent were signed by Leslie S. Cutler, D.M.D., Associate Vice President for Administration and Research. Mr. Paplauskas reports to Dr. Cutler and Dr. Cutler is acting for Dr. Mulvihill who presently is on sabbatical.

The University of Connecticut Health Center is a State of Connecticut institution and is exempt from license fees in accordance with 10 CFR 170, Section 170.11 (a)(9).

Thank you for your consideration.

112845

Sincerely,

*Vincent T. Penikas, Ph.D.*  
Vincent T. Penikas, Ph.D.  
Radiation Safety Officer

License Fee Information  
on application

An Equal Opportunity Employer

Attachment  
VTP:ej

OFFICIAL RECORD COPY ML 10

REC'D IN LHM5  
JUL 13 1990



### APPLICATION FOR MATERIAL LICENSE

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

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U.S. NUCLEAR REGULATORY COMMISSION  
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 WASHINGTON, DC 20555

**ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS, IF YOU ARE LOCATED IN:**

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U.S. NUCLEAR REGULATORY COMMISSION, REGION I  
 NUCLEAR MATERIALS SAFETY SECTION B  
 475 ALLENDALE ROAD  
 KING OF PRUSSIA, PA 19406

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

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 101 MARIETTA STREET, SUITE 2900  
 ATLANTA, GA 30333

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ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

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 MATERIALS LICENSING SECTION  
 799 ROOSEVELT ROAD  
 GLEN ELLYN, IL 60137

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 MATERIAL RADIATION PROTECTION SECTION  
 611 RYAN PLAZA DRIVE, SUITE 1000  
 ARLINGTON, TX 76011

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 NUCLEAR MATERIALS SAFETY SECTION  
 1460 MARIA LANE, SUITE 210  
 WALNUT CREEK, CA 94696

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTION.

1. THIS IS AN APPLICATION FOR (Check appropriate item) <input type="checkbox"/> A. NEW LICENSE <input checked="" type="checkbox"/> B. AMENDMENT TO LICENSE NUMBER <u>06-13022-02</u> <input type="checkbox"/> C. RENEWAL OF LICENSE NUMBER _____	2. NAME AND MAILING ADDRESS OF APPLICANT (Include Zip Code) University of Connecticut Health Center Attn: Radiation Safety Officer 263 Farmington Avenue Farmington, CT 06030
---	---

3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

See attached sheet

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION Vincent T. Penikas, Ph.D., Radiation Safety Officer	TELEPHONE NUMBER (203) 679-2250
---	------------------------------------

SUBMIT ITEMS 5 THROUGH 11 ON 8 1/2 x 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

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11. WASTE MANAGEMENT	12. LICENSEE FEE (See 10 CFR 170 and Section 170.31) FEE CATEGORY: <u>Exempt</u> AMOUNT ENCLOSED \$ <u>00</u>
13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT. THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, AND 40 AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF. WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948, 52 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.	

SIGNATURE - CERTIFYING OFFICER <i>Vincent T. Penikas</i>	TYPED/PRINTED NAME Vincent T. Penikas, Ph.D.	TITLE Radiation Safety Officer	DATE 7/9/90
---	---	-----------------------------------	----------------

FOR NRC USE ONLY			
TYPE OF FEE <i>Amend</i>	FEE LOG <i>Jul 19</i>	FEE CATEGORY <i>EX 7B</i>	COMMENTS <i>Postmarked 7/16/90</i>
APPROVED BY <b>FEE EXEMPT</b>		CHECK NUMBER <i>170-11(a)(9)</i>	DATE <i>8/7/90</i>

**OFFICIAL RECORD COPY ML 10** 112845



THE UNIVERSITY OF CONNECTICUT HEALTH CENTER

Office of the Associate Vice President for  
Administration and Research  
Farmington, Connecticut 06032  
(203) 679-1113

THE UNIVERSITY OF CONNECTICUT HEALTH CENTER

STATEMENT OF INTENT

Licensee: The University of Connecticut Health Center  
263 Farmington Avenue  
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NRC Byproduct Material License No.: 06-13022-02

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Research Buildings No. 5 and No.17  
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555 Willard Avenue  
Newington, Connecticut

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I am duly authorized to represent The University of Connecticut Health Center in this Statement of Intent.

Leslie S. Cutler, D.D.S., Ph.D.  
Associate Vice President for  
Administration and Research

7/9/90

Date

# State of Connecticut



CLARINE NARDI RIDDLE  
ATTORNEY GENERAL

## Office of The Attorney General

UNIVERSITY OF CONNECTICUT  
HEALTH CENTER  
ROOM LM 068  
FARMINGTON, CT 06032  
TELEPHONE (203) 679-1114

### MEMORANDUM

TO: Dr. Vincent T. Penikas  
Radiation Safety Officer

FROM: William N. Kleinman *William N. Kleinman*  
Assistant Attorney General

DATE: June 25, 1990

SUBJECT: Requirements for Decommissioning Nuclear Facilities

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Dr. Vincent T. Penikas  
June 25, 1990  
Page 2

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If you have any further questions, please do not hesitate to contact me.

/kas

cc: Dr. Leslie S. Cutler  
Associate Vice President for Administration  
and Research

Mr. Leonard P. Paplauskas  
Assistant Vice President for Research

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U.S. NUCLEAR REGULATORY COMMISSION, REGION II  
NUCLEAR MATERIALS SAFETY SECTION  
101 MARIETTA STREET, SUITE 2800  
ATLANTA, GA 30323

**IF YOU ARE LOCATED IN:**

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION III  
MATERIALS LICENSING SECTION  
799 ROOSEVELT ROAD  
GLEN ELLYN, IL 60137

ARKANSAS, COLORADO, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, SOUTH DAKOTA, TEXAS, UTAH, OR WYOMING, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION IV  
MATERIAL RADIATION PROTECTION SECTION  
811 RYAN PLAZA DRIVE, SUITE 1000  
ARLINGTON, TX 76011

ALASKA, ARIZONA, CALIFORNIA, HAWAII, NEVADA, OREGON, WASHINGTON, AND U.S. TERRITORIES AND POSSESSIONS IN THE PACIFIC, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION V  
NUCLEAR MATERIALS SAFETY SECTION  
1400 MARIA LANE, SUITE 210  
WALNUT CREEK, CA 94696

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTION.

**1. THIS IS AN APPLICATION FOR (Check appropriate item):**

- A. NEW LICENSE
- B. AMENDMENT TO LICENSE NUMBER 06-13022-05
- C. RENEWAL OF LICENSE NUMBER \_\_\_\_\_

**2. NAME AND MAILING ADDRESS OF APPLICANT (Include Zip Code)**

University of Connecticut Health Center  
Attn: Radiation Safety Office  
263 Farmington Avenue  
Farmington, CT 06030

**3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED**

University of Connecticut Health Center  
263 Farmington Avenue  
Farmington, Connecticut 06030

**4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION**

Vincent T. Penikas, Ph.D., Radiation Safety Officer

**TELEPHONE NUMBER**

(203) 679-2250

SUBMIT ITEMS 5 THROUGH 11 ON 8 1/2 x 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

**5. RADIOACTIVE MATERIAL**

a. Element and mass number, b. chemical and/or physical form, and c. maximum amount which will be possessed at any one time.

**6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.**

**7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE**

**8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS**

**9. FACILITIES AND EQUIPMENT.**

**10. RADIATION SAFETY PROGRAM**

Financial Assurance - see attached

**11. WASTE MANAGEMENT.**

**12. LICENSEE FEES (See 10 CFR 170 and Section 170.31)**

FEE CATEGORY Exempt AMOUNT ENCLOSED \$ 00

**13. CERTIFICATION (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.**

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, AND 40 AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1949, 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

**SIGNATURE—CERTIFYING OFFICER**

*Vincent T. Penikas*

**TYPED/PRINTED NAME**

Vincent T. Penikas, Ph.D.

**TITLE**

Radiation Safety Officer

**DATE**

7/9/90

**FOR NRC USE ONLY**

TYPE OF FEE	FEE LOG	FEE CATEGORY	COMMENTS

AMOUNT RECEIVED	CHECK NUMBER

**APPROVED BY**

**DATE**



THE UNIVERSITY OF CONNECTICUT HEALTH CENTER

Office of the Associate Vice President for  
Administration and Research  
Farmington, Connecticut 06032  
(203) 679-1113

THE UNIVERSITY OF CONNECTICUT HEALTH CENTER

STATEMENT OF INTENT

Licensee: The University of Connecticut Health Center  
263 Farmington Avenue  
Farmington, Connecticut 06030

NRC Byproduct Material License No.: 06-13022-05

Facilities where licensed material is used:

The University of Connecticut Health Center  
Farmington, Connecticut

This is to certify that financial assurance in the amount of \$75,000 as prescribed by 10 CFR Part 30.35 will be obtained when necessary for the purpose of decommissioning of facilities upon termination of licensed activities.

I am duly authorized to represent The University of Connecticut Health Center in this Statement of Intent.

Leslie S. Cutler, D.D.S., Ph.D.  
Associate Vice President for  
Administration and Research

7/9/90

Date



# State of Connecticut



CLARINE NARDI RIDDLE  
ATTORNEY GENERAL

## Office of The Attorney General

UNIVERSITY OF CONNECTICUT  
HEALTH CENTER  
ROOM LM 068  
FARMINGTON, CT 06032  
TELEPHONE (203) 679-1114

### MEMORANDUM

TO: Dr. Vincent T. Penikas  
Radiation Safety Officer

FROM: William N. Kleinman *William N. Kleinman*  
Assistant Attorney General

DATE: June 25, 1990

SUBJECT: Requirements for Decommissioning Nuclear Facilities

This is in response to your memorandum relative to the above referenced matter.

More specifically, you asked that I advise you concerning the Statement of Intent to assure funding for the decommissioning of nuclear facilities as required by 10 CFR Parts 30, 40, 70 and 72.

These regulations describe alternative methods for providing the mandated assurance. They include use of surety bonds and/or prepayments into segregated accounts. Specific provision has been made for federal or state licensees. The regulations provide that,

(4) In the case of federal, state or local government licensees, a statement of intent containing a cost estimate for decommissioning or an amount based on the table in paragraph (d) of this section, and indicating that funds will be obtained when necessary.

10 CFR Part 30, § 30.35

In your memo you ask,

"Who would or could issue a Statement of Intent? Would it be necessary to have the General Assembly enact a law assuring that funds for decommissioning would be available when needed? If so, how would this be initiated? Since a

Dr. Vincent T. Penikas  
June 25, 1990  
Page 2

bill could not be introduced until the next legislative session at the earliest, who could issue a Statement of Intent covering the interim period? Since the Storrs campus and possibly Uncas on Thames Hospital are also affected by NRC's financial assurance requirement, it may be appropriate for this to be a joint effort.

In my opinion, legislation of the type you describe is not required by the regulation. Rather, I recommend that the individual within the Health Center who signs the license applications, prepare a letter which acknowledges the Health Center's obligations under the regulations and indicates the Health Center's intention to request funding in a timely manner.

Finally, since the Health Center is licensed independently from Storrs and Uncas, I recommend that the Health Center issue its own letter of intent.

If you have any further questions, please do not hesitate to contact me.

/kas

cc: Dr. Leslie S. Cutler  
Associate Vice President for Administration  
and Research

Mr. Leonard P. Paplauskas  
Assistant Vice President for Research

BETWEEN:

LICENSE FEE MANAGEMENT BRANCH, ARM  
AND  
REGIONAL LICENSING SECTIONS

: (FOR LFMS USE)  
: INFORMATION FROM LTS  
: -----  
: PROGRAM CODE: 02110  
: STATUS CODE: 2  
: FEE CATEGORY: EX 78  
: EXP. DATE: 19880331  
: FEE COMMENTS: 170.11(A)(9)-STATE  
: ::

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED  
APPLICANT/LICENSEE: CONNECTICUT HEALTH CTR., UNIV. OF  
RECEIVED DATE: 900713  
DOCKET NO.: 3001295  
CONTROL NO.: 112845  
LICENSE NO.: 06-13022-02  
ACTION TYPE: AMENDMENT

2. FEE ATTACHED  
AMOUNT: \$00  
CHECK NO.: ---

3. COMMENTS

SIGNED H. J. Brown  
DATE 7-17-90

B. LICENSE FEE MANAGEMENT BRANCH (CHECK WHEN MILITARY SERVICE IS ENTERED )

1. FEE CATEGORY AND AMOUNT: EX 78 **FEE EXEMPT**

2. CORRECT FEE PAID. APPLICATION MAY BE PROCESSED 170.11(a)(9)

AMENDMENT   
RENEWAL   
LICENSE

3. OTHER -----  
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SIGNED SK.  
DATE 8/7/90