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WASTE MANAGEMENT STANDARD OPERATING PROCEDURE
FOR
THE CMR BUILDING
TA-3, SM-29

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1. INTRODUCTION

The principal objectives of this waste management plan for the CMR Building are the separation of waste material by specific types and levels of radioactive contamination where possible, the separation of combustible and noncombustible materials where necessary, proper handling and packaging of the separated wastes, and the reduction in the amount of waste generated. Waste material is classified into three types based upon the known or suspected contamination and for transuranic contamination, the activity level of the transuranic isotopes in the waste. Transuranic isotopes include ^{233}U (with its daughter isotopes), plutonium, and the transplutonium isotopes except ^{241}Pu .

Highly gamma-active waste generated in the hot cell in Wing #9 is not intended to be covered by this SOP, but will be handled and disposed of in accordance with separate Group CMB-14 SOP's.

2. WASTE TYPES

All solid waste materials separated in the CMR Building are categorized for handling, packaging, and disposal as being one of three waste types. The attached Table 1 summarizes the different requirements for the waste types identified.

2.1 Noncontaminated Materials (Type 1)

Type 1 waste material is known to be uncontaminated because it has not been in a "hot" laboratory area. This waste consists of trash from those offices that open directly on the building spinal corridor, waste from the cold change rooms and the packing material and cartons in which supplies and equipment are received. This latter material should never enter a laboratory wing (with the exception of Wing #1). Supplies and equipment will be unpacked in the wing entrance corridor and only the essential containers taken into the laboratory wings. Rooms and other areas in the CMR Building that are specifically designated as "cold" areas are identified on the attached list.

All of these wastes will be collected by ZIA janitorial personnel, placed in plastic bags, and the bags placed into the "clean" waste Dumpster Dumpsters located by the loading dock at the CMR Building Receiving Room. Some of the Type 1 waste material is suitable for recycling. This material will be collected for recycling and will be deposited in cardboard boxes located in appropriate fireproof containers.

2. WASTE TYPES CONT.

2.2 Radioactive Contaminated Materials Disposed by Burial (Type 2)

Type 2 waste material is material that may be radioactively contaminated simply because it has been in a laboratory area, i. e. beyond the change room, but whose radioactive level is generally very low and is less than 10 nanocuries of transuranic radioactivity per gram of waste ($<100 \text{ nCi } ^{238}\text{Pu/g}$). (10 n Ci/g of waste is equal to $0.16 \text{ } \mu\text{g } ^{239}\text{Pu}$, or $1.0 \text{ } \mu\text{g } ^{233}\text{U/g}$; 100 nCi/g is equal to $0.006 \text{ } \mu\text{g } ^{238}\text{Pu/g}$). All uranium (except ^{233}U waste, as above) and fission and activation product contaminated waste is in this category.

Type 2 waste, from laboratory offices and essentially cold laboratories, will be segregated according to whether it is compactible or noncompactible and collected in separate color coded containers. Broken glass must be packaged to prevent accidents, acid bottles must be rinsed out, and wet material must be excluded. Compactible waste will be collected in plastic bag lined color coded metal containers located in appropriate laboratories. Janitors will seal and remove the bag when full and place it aside for monitoring. Manual compaction of this waste material is not permitted. When full the box or plastic bag is to be sealed and labeled with room number, wing, date, and that it is compactible. A piece of "CAUTION RADIOACTIVE WASTE" tape will be affixed to each box or plastic bag.

Noncompactible waste will be deposited directly into the 0.06 m^3 (2 ft^3) plastic lined cardboard box contained in color coded fireproof containers located in the service corridors. When full these boxes will be sealed, marked noncompactible and otherwise labeled as above. A Dempster Dumpster for noncompactible waste is located outside of Wing #4 on the north side of the wing.

Type 2 waste must be collected and kept separate from Type 1 waste at all times. Health Physics Group H-1 surveyors will routinely monitor the handling, packaging, and labeling of this material.

2.3 Retrievable Transuranic Waste (Type 3)

Type 3 waste is refuse from transuranic contaminated dryboxes hoods, consisting primarily of Kleenex, rubber gloves, sample vials, storage cartons, and plastic packaging materials. These materials are considered to be contaminated with more than 10 nCi/g of transuranic activity (greater than $100 \text{ nCi } ^{238}\text{Pu/g}$). Combustible items are removed from the dryboxes into uncontaminated packages, sealed, and accumulated in color coded plastic bag lined metal containers located in the appropriate laboratory areas. When the container is full, janitors will seal and remove the bagged waste from the laboratory container. These sealed bags will be accumulated in white DOT 215-liter (approximately 57 gallon) DOT 17C drums (LASL Stock #LG 1115) located in the wing service corridor. Drums will be lined with 5-mil plastic bag liners.

2. WASTE TYPES CONT.

2.3 Retrievable Transuranic Waste (Type 3) Cont.

Noncombustible items, sample vials, and the like, will be kept separate from the combustible materials. When removed from the hood or drybox, the noncombustible items will be adequately packaged and placed directly into color coded, plastic-bag-lined 215 liter (57 gallon) drums in the appropriate service corridors.

All of these waste materials must be securely packaged to prevent any possible spread of contamination. The H-1 surveyor assigned to the wing will seal them, properly identify them for disposal and initiate the necessary "Record Form." Manual compaction of this waste material is not permitted.

Also in Type 3 waste will be contaminated equipment requiring disposal. Here the disposition will depend on the degree of contamination and in each case will be handled on its own merits. Questions should be directed to group supervisors, H-1 and H-7 Waste Management.

3. WASTE CONTAINER IDENTIFICATION

The containers and/or container lids will be color coded as follows:

Type 2 Compactible	- Yellow	Noncompactible	- Red
Type 3 Combustible	- White	Noncombustible	- White
	(215 liter)		(215 liter)

In addition, all containers for Type 2 and Type 3 waste will be clearly marked as containing radioactive materials.

4. WASTE DISPOSAL AND WASTE RECORDS

Appropriate records shall be maintained and made available to the Waste Management Section for all solid radioactive waste materials (Type 2 and 3) disposed of from the CMR Building. The Solid Waste Disposal Section (telephone 6095) will be notified when waste is required to be picked up for disposal.

Property numbered items requiring disposal must be accompanied by the appropriate documentation, as per the LASL Supply and Property Manual.

4.1 Type 2 Waste

Janitors in each wing will maintain a record of the number of waste packages deposited in radioactive waste Dumpsters. When a Dumpster is full the janitor will report to the wing Health Physics Surveyor, notifying him of the full Dumpster and the number of packages contained. The Health Physics Surveyor will notify the Waste Management Section of the full Dumpster, and complete a "LASL Radioactive Solid Waste Disposal Record Form" for the Dumpster. (In order to assure Dumpster pickup on the required, day, the full Dumpster should be reported no later than 10:00 am that day.

4. WASTE DISPOSAL AND WASTE RECORDS CONT.

4.1 Type 2 Waste Cont.

The Wing or Area Health Physics Surveyor will maintain monitoring records for the waste in the Dumpster, and also will be complete these sections on the "Waste Form." The "Waste Form" should, if possible, accompany the dumpster to the disposal site. If sent through interoffice mail, the form must arrive no later than when the Dumpster is emptied.

4.2 Type 3 Waste

Drums or other packages of retrievable transuranic solid waste require a serial number ID tag on each package (obtainable from H-7 Waste Management) and a completed "Record Form" for each package. This shall be accompanied by the assigned area Health Physics Surveyor.

The Waste Management Section should be notified when packages are ready for pickup. Thursday of each week has been designated as the time routine pickup will occur. Completed "Record Forms" will be collected by Waste Management personnel when retrievable waste packages are picked up.

The assigned area Health Physics Surveyor shall monitor each package for external removable contamination and for neutron and gamma emissions, and attach a completed "RADIOACTIVE MATERIAL" tag (Form 743) to each package, thus indicating the package to be safe to handle and store.

5. RECOVERABLE MATERIALS

Recoverable materials are debris that contains enough uranium or Pu to make recovery economically practical. This debris will frequently contain more than 4 mg of transuranics per gram of waste material. The sweeping from gloveboxes, some cleaning rags, and scraps of fine metal and oxide from cleaning sample vials are examples. This material is packaged to individual requirements and sent to the appropriate recovery section of CMB-11 or CMB-8.

TABLE 1

WASTE MANAGEMENT FOR CMR BUILDING

<u>Origin</u>	<u>Compactible/Combustible Material</u>			<u>Noncompactible/Noncombustible Material</u>		
	<u>Type 1</u>	<u>Type 2</u>	<u>Type 3</u>	<u>Type 1</u>	<u>Type 2</u>	<u>Type 3</u>
Offices behind change rooms		A			A	
All laboratories		A	A		A	A
Offices, Change Rooms and other work areas opening directly on spinal corridor.	B			B		
Equipment and other special items	C	C	C	C	C	C

Type 1 - Material known to be uncontaminated.

Type 2 - Any waste materials known or suspected of being contaminated with uranium (excluding ^{233}U), fission or activation product activities, or with transuranic isotopes at an activity level less than 10 nCi/g (100 nCi $^{238}\text{Pu/g}$).

Type 3 - Waste contaminated with transuranic isotopes at an activity level greater than 10 nCi/g (100 nCi $^{238}\text{Pu/g}$).

A. Deposited in designated, color coded waste cans or drums located in the laboratory areas or in the wing central corridor. Must be packaged to prevent the possible spread of contamination.

B. Separation of combustibles/noncombustibles or compactibles/noncompactibles is not required. However, paper suitable for recycling will be deposited in cardboard boxes for recycling.

C. Will be handled as special cases.

Areas designated nonradioactive (noncontaminated) in the CMR Building
from which solid waste is clean (Type 1) waste:

Wing 1 -- all areas

Administrative Wing -- all areas

Attic Areas -- all wings

Other First Floor Rooms

Room 1126

Room 3140

Room 3141

Room 3143

Room 4141

Room 4143

Room 4145

Room 5140

Room 5141

Room 5143

Room 7141

Room 9101

Room 9103

Room 9107

Other Basement Rooms

Room 7000

Room 7004

Room 7044

Room 7050

Room 7058

Room 7062

Room 7070

Computer Room