



Brandeis University

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Basic Medical Sciences
Research Center

Waltham, Massachusetts
02254

617-647-2433

August 20, 1985

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U.S. N.R.C.
LIC. FEE MGMT. BRANCH

U.S. Nuclear Regulatory Commission
Region 1
Nuclear Material Section B
631 Park Avenue
King of Prussia, PA 19406

Gentlemen:

Please find enclosed amendments to our license number 20-1958-05 (Enclosures 1 and 2). These amend Item 5 "Radioactive Material" (Appendix One) and add to Item 11 "Waste Disposal" (Appendix Seven) of the license renewal submission of April 25, 1985. This is concerned with expanding our current use of radioactive waste disposal by decay and the long-term storage of low level waste containing long-lived radionuclides.

Please contact Mr. Robin Bell, Radiation Safety Officer (617-647-2315) if there are any queries concerning the amendment.

Sincerely yours,

Ray L. Epstein, Chairman
Radiation Safety Committee

RLE/efh

enclosures

RECEIVED BY LFMB	
Date	9/5/85
By	Sept-2-I
By	Jacques
Orig. To	
Action Compl	9/6/85

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FEE EXEMPT

"OFFICIAL RECORD COPY"

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Enclosure 1

APPENDIX ONE
 RADIOACTIVE MATERIAL
 (ITEM 5)

5a Element & Mass	5b Chemical and/or	5c Maximum amount which will be held at one time
A. Any byproduct material with atomic numbers 3 to 83 inclusive	A. Any	A. 1 Curie of each by-product material with Atomic numbers 3 to 83 inclusive
B. Hydrogen-3	B. Any	B. 50 Curies
C. Carbon-14	C. Any	C. 2 Curies
D. Phosphorus-32	D. Any	D. 2 Curies
E. Sulphur-35	E. Any	E. 2 Curies
F. Cobalt-58	F. Any	F. 3 Curies
G. Iodine-125	G. Any	G. 2 Curies
H. Americium-241	H. Any	H. 0.05 millicuries
I. Americium-241	I. Sealed sources	I. 500 millicuries
J. Cesium-137	J. Sealed sources	J. 2.0 millicuries
K. Cobalt-60	K. Sealed sources	K. 5.0 millicuries

ENCLOSURE TWO

(To be inserted in place of page 28 of the license renewal application dated April 25, 1985)

and report quantities of radionuclides disposed in this manner. Because of the small quantities involved no measurement of waste concentration is performed. Authorized Users are requested to deliberately over estimate releases.

- c) Release into air in conformance with 10CFR 20.106.
This is not considered a means of waste disposal. However, volatile radioactive materials may be released during fume hood operations. The quantities involved are small, and the volume of effluent air is sufficiently large to ensure that airborne radioactivity concentrations at the point of release to an uncontrolled area, do not exceed limits specified by 10CFR 20.106. Only hoods used for work with volatile forms of radioiodine have effluent air samplers for monitoring activity which would result in limits being exceeded have been recorded. None of the fume hood ventilation systems are filtered.
- d) Disposal by incineration of radioactive waste is not used.
- e) Disposal of short lived radioactive waste by radioactivity decay. Radioactive waste will be segregated at source by individual laboratories, into categories determined by radionuclide half-life, as follows:

Category I	All radionuclides with half lives < 15 days
Category II	All other radionuclides with half lives < 90 days
Category III	All radionuclides with half lives > 90 days

[N.B. Further categories may be introduced, according to operational requirements]

Category I and II waste will be stored for a maximum period equal to ten times the half life of the longest lives nuclide in the waste; i.e., maximum periods of 150 days and 900 days, respectively. After the appropriate decay time, waste will be monitored using appropriate instrumentation, for residual levels of radioactivity. If the levels of measured radioactivity do not differ significantly from background, the waste will be regarded as inactive, and disposed of according to its chemical and physical form.

- f) Indefinite storage of long-lived radioactive waste. Radioactive waste in Category III (i.e., containing radionuclides with half lives greater than 90 days) will be placed in secure storage for an indefinite period, to be disposed of at a land site when one becomes available.

The Radiation Safety Officer is responsible for the packaging, transfer and transport of low level waste. Current copies of the DOT and NRC regulations, and the requirements set by US Ecology, are held. Authorized Users, supervised by the Radiation Safety Officer, are responsible for sorting waste according to the appropriate chemical and/or physical forms required for packing, transport and ultimate disposal. Records of all radioactive waste shipments are maintained by the Radiation Safety Officer, including transportation documents and data on individual drums.

Copies of the Brandeis burial permit #1740, and the Brandeis agreement with Interex Corporation are provided as Enclosures Seven and Six, respectively.

BETWEEN: William O. Miller, Chief
License Fee Management Branch
Office of Administration

John E. Glenn, Chief
Nuclear Materials Section B
Division of Engineering and
Technical Programs

LICENSE FEE TRANSMITTAL

Fee Exempt

A. REGION I

1. APPLICATION ATTACHED

Applicant/Licensee: Brandeis University

Application Dated: 8/20/85

Control No.: 104300

License No.: 20-01958-05

2. FEE ATTACHED

Amount: 0

Check No.: 0

3. COMMENTS

Signed Branda P. Hatchell

Date 8/27/85

03610

5/85

B. LICENSE FEE MANAGEMENT BRANCH

1. Fee Category and Amount: EX 3L

2. Correct Fee Paid. Application may be processed for:

Amendment ✓

Renewal _____

License _____

Signed Rita Jacques /bg

Date 9/6/85