

MATERIALS LICENSE

Amendment No. 42
CORRECTED COPY

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee

1. Children's Hospital
2. 700 Children's Drive
Columbus, OH 43205

In accordance with letter dated
March 10, 1997
3. License Number 34-03111-02 is amended
in its entirety to read as follows:

4. Expiration Date May 31, 2001

5. Docket or
Reference No. 030-027136. Byproduct, Source, and/or
Special Nuclear Material7. Chemical and/or Physical
Form8. Maximum Amount that Licensee
May Possess at Any One Time
Under This LicenseA. Any byproduct material
identified in 10 CFR
35.100A. Any radiopharmaceutical
identified in 10 CFR
35.100

A. As needed

B. Any byproduct material
identified in 10 CFR
35.200B. Any radiopharmaceutical
identified in 10 CFR
35.200

B. As needed

C. Any byproduct material
identified in 10 CFR
35.300C. Any radiopharmaceutical
identified in 10 CFR
35.300

C. As needed

D. Any byproduct material
identified in 10 CFR
31.11

D. Prepackaged Kits

D. As needed

E. Hydrogen-3

E. Any

E. 499 millicuries

F. Carbon-14

F. Any

F. 49 millicuries

G. Phosphorus-32

G. Any

G. 1 curie

H. Sulfur-35

H. Any

H. 1 curie

I. Scandium-46

I. Any

I. 10 millicuries

J. Ruthenium-103

J. Any

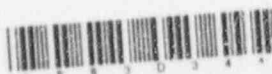
J. 10 millicuries

K. Tin-113

K. Any

K. 10 millicuries

230051

COPY 230
50

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

34-03111-02

Docket or Reference Number

030-02713

Amendment No. 42

CORRECTED COPY

6. Byproduct, source,
and/or special nuclear
material

7. Chemical and/or
physical form

8. Maximum amount that
licensee may possess
at any one time
under this license

L. Iodine-125

L. Any

L. 50 millicuries

M. Cesium-137

M. Sealed source (which
have been evaluated by
and registered with the
NRC or an Agreement State)

M. 100 millicuries

N. Chromium-51

N. Any

N. 500 millicuries

O. Technetium-99m

O. Any

O. 1 curie

P. Niobium-95

P. Any

P. 20 millicuries

Q. Rubidium-86

Q. Any

Q. 50 millicuries

R. Phosphorus-33

R. Any

R. 50 millicuries

S. Cesium-137

S. Sealed source
(Nordion International,
Inc. C-1000 or C-1001)
Isomedix Model ISO-
1000)

S. 900 curies

9. Authorized Use:

A. Medical use described in 10 CFR 35.100.

B. Medical use described in 10 CFR 35.200.

C. Medical use described in 10 CFR 35.300.

D. In vitro studies.

E. through L. To be used for small case laboratory research including animal studies.

M. To be used for instrument calibration.

COPY

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number

34-03111-02

Docket or Reference Number

030-02713

Amendment No. 42

CORRECTED COPY

- N. through R. To be used for laboratory research including animal studies.
- S. To be used in a Nordion International, Inc. Gammacell 1000 Elite irradiator for irradiation of transfusion specimens (excluding the irradiation of explosives and flammable materials).

CONDITIONS

10. Licensed material shall be used only at the licensee's facilities located at 700 Children's Drive, Columbus, Ohio.
11. Licensed material shall be used by, or under the supervision of, individuals designated by Children's Hospital Radiation Safety Committee, Larry A. Binkovitz, M.D., Chairperson.
12. The Radiation Protection Officer for the activities authorized by this license is Nancy L. Joy.
13. A. (1) The source(s) specified in Item(s) 7.M. and 7.S. shall be tested for leakage and/or contamination at intervals not to exceed 6 months. Any source received from another person which is not accompanied by a certificate indicating that a test was performed within 6 months before the transfer shall not be put into use until tested.
(2) Notwithstanding the periodic leak test required by this condition, any licensed sealed source is exempt from such leak tests when the source contains 100 microcuries or less of beta and/or gamma emitting material or 10 microcuries or less of alpha emitting material.
- B. Any source in storage and not being used need not be tested. When the source is removed from storage for use or transfer to another person, it shall be tested before use or transfer.
- C. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie or more of removable contamination, the source shall be removed from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. A report shall be filed within 5 days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region III, 801 Warrenville Road, Lisle, Illinois 60532-4351, ATTN: Chief, Nuclear Materials Safety Branch. The report shall specify the source involved, the test results, and corrective action taken. Records of leak test results shall be kept in units of microcuries and shall be maintained for inspection by the Commission. Records may be disposed of following Commission inspection.

COPY

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

34-03111-02

Docket or Reference Number

030-02713

Amendment No. 42

CORRECTED COPY

- D. Tests for leakage and/or contamination shall be performed by the licensee or by other persons specifically licensed by the Commission or an Agreement State to perform such services.
- E. The licensee is authorized to collect leak test samples for analysis by or tests for leakage and/or contamination shall be performed by persons specifically licensed by the Commission or an Agreement State to perform such services.
14. Experimental animals administered licensed materials or their products shall not be used for human consumption.
15. The licensee shall establish a bioassay program for individuals handling millicurie amounts of iodine-125 and/or iodine-131 in accordance with frequencies and procedures contained in Regulatory Guide 8.20, "Applications of Bioassay for I-125 and I-131."
16. The Radiation Safety Officer shall conduct a semiannual program audit and confirmatory radiation survey of each location where radioactive material will be utilized.
17. The Licensee shall ensure that the quorum of the radiation safety committee include as a minimum, the radiation safety officer, the management representative and persons representing the activities that will use radioactive material.
18. The licensee shall establish a bioassay program for individuals handling millicurie amounts of tritium in accordance with frequencies and procedures contained in Regulatory Guide 8.32, "Criteria For Establishing A Tritium Bioassay Program."
19. The licensee shall follow procedures contained in Appendix M.3, "Measuring and Recording Molybdenum Concentration," of Regulatory Guide 10.8, Revision 2, August 1987.
20. The licensee is authorized to hold radioactive material with a physical half-life of less than 90 days for decay-in-storage before disposal in ordinary trash provided:
- A. Radioactive waste to be disposed of in this manner shall be held for decay a minimum of 10 half-lives.
- B. Before disposal as normal waste, radioactive waste shall be surveyed to determine that its radioactivity cannot be distinguished from background. All radiation labels shall be removed or obliterated.
- C. Generator columns shall be segregated so that they may be monitored separately to ensure decay to background levels prior to disposal.

COPY

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

34-03111-02

Docket or Reference Number

030-02713

Amendment No. 42

CORRECTED COPY

21. The licensee shall maintain records of information important to safe and effective decommissioning as listed in Condition 10. per the provisions of 10 CFR 30.35(g) until this license is terminated by the Commission.
22. The licensee shall not perform repairs or alterations of the irradiator involving removal of shielding or access to the licensed material. Removal, replacement, and disposal of sealed sources in the irradiator shall be performed by a person specifically licensed by the Commission or an Agreement State to perform such services.
23. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below, except for minor changes in the medical use radiation safety procedures as provided in 10 CFR 35.31. The Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.
 - A. Application dated June 26, 1992.
 - B. Letters dated July 2, 1990 (excluding references to interim storage and isotopes with half-lives greater than 65 days); March 21, 1991 (excluding references to interim storage and isotopes with half-lives greater than 65 days), October 6, 1992, December 15, 1992, August 23, 1996, October 4, 1996, October 28, 1996, November 27, 1996, March 6, 1997 (with attachments), March 10, 1997, May 1, 1997, and May 19, 1997.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date JUN 13 1997

By *Isidoro A. Rivera*
Nuclear Materials Licensing Branch, Region III

COPY

JUN 13 1997

Nancy L. Joy
Radiation Safety Officer
Children's Hospital
700 Children's Drive
Columbus, OH 43205

Dear Ms. Joy:

It has come to our attention that Amendment Number 41 to License Number 34-03111-02 issued on June 2, 1997 contained an error. This amendment listed the incorrect amendment number.

Enclosed is a corrected copy. We apologize for any inconvenience this may have caused you.

Sincerely,

Original Signed By
Deborah A. Piskura
Nuclear Materials Licensing Branch

License No.: 34-03111-02
Docket No.: 030-02713

Enclosure: Corrected Copy of
Amendment No. 42

DOCUMENT NAME: M:\03002713.CC7

To receive a copy of this document, indicate in the box: "C" = Copy without enclosures "E" = Copy with enclosures "N" = No copy

OFFICE	DNMS/RIII								
NAME	DPISKURA:jaw								
DATE	06/11/97								

OFFICIAL RECORD COPY