

ATOMIC ENERGY COMMISSION BYPRODUCT MATERIAL LICENSE

Page 1 of 1

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Part Licensing of Byproduct Material, and in reliance on statements and representations heretofore made by the licensee a license is hereby issued authorizing the licensee to receive, acquire, own, possess, transfer and import byproduct material listed below; and to use such byproduct material for the purpose(s) and at the place(s) designated below. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954 and is subject to all applicable rules, regulations, and orders of the Atomic Energy Commission now or hereafter in effect and to any conditions specified below.

Licensee

1. Name **The Dick X-Ray Company**
2. Address **Engineering and Service Department**
4000 Olive Street
St. Louis 8, Missouri

3. License number **24-556-1**
(P62)

4. Expiration date **June 30, 1962**

5. Reference No.

6. Byproduct material
(element and mass number)
A. Cobalt-60

7. Chemical and/or physical form
**A. Sealed Sources (Dick X-Ray
Company Model Y-1002, ERD
Instrument Company Model
Y-1002-4B)**

8. Maximum amount of radioactivity
which licensee may possess at any
one time
**A. 3 sources not to exceed
225 curies each.
Total not to exceed
675 curies**

9. Authorized use

**A. Sources to be loaded into, stored in, or unloaded from Dick X-Ray Company teletherapy
units and shipping containers.**

CONDITIONS

10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.

11. Byproduct material may also be used at (A) Dick X-Ray Company facilities in
St. Louis, Missouri and (B) at teletherapy installations of customers of Dick X-Ray
Company in all states of the United States.

12. Except as hereinafter provided the licensee shall comply with the provisions of
Title 10, Part 20, Code of Federal Regulations, Chapter 1, "Standards for Protection
Against Radiation".

REMARKS

A. Notwithstanding the requirements of 10-CFR-20.203(f), labeling is not required on
the head of a teletherapy machine.

B. In lieu of the requirements of 10-CFR-20.203(a)(1) and 20.203(a)(1), the
way to the teletherapy treatment room may be posted with a sign bearing
ventilation radiation caution symbol and appropriate precautionary language
caution unauthorized persons against entering.

(Continued)

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BYPRODUCT MATERIAL LICENSEPage 2 of 2 Pages

Supplementary Sheet

Continued from first page

License Number 24-6566-1
(762)

CONDITIONS

13. Byproduct material shall be stored or used by, or under the direct supervision of, W. B. Henry, F. E. Nieldner, or C. R. Anderson.
14. Sealed sources shall be tested for leakage and/or contamination in accordance with the following:
- A. Leak test shall be performed by procedure described by applicant.
 - B. Each sealed source containing Cobalt 60 shall be tested for leakage and/or contamination as follows:
 - (1) An appropriate test for leakage and/or contamination shall be performed on the sealed source surface, or on the accessible surfaces of the device in which such a sealed source is permanently or semi-permanently mounted. The test shall be performed upon receipt of a source from another person, unless the licensee receives certification from the person making the transfer that the sealed source had been tested within thirty (30) days prior to transfer and found free of any removable radioactive material.
 - (2) Following completion of the test prescribed in B(1), each sealed source shall be tested for leakage and/or contamination at intervals not to exceed six (6) months.
 - C. The test performed pursuant to B shall be sufficiently sensitive to detect 0.05 microcuries of removable beta and/or gamma emitting radioactive material. Records of leak test results shall be maintained by the licensee.
 - D. If the test performed pursuant to B(1) or B(2) reveals removable radioactive material, the licensee shall take immediate action to prevent spread of contamination and, within thirty (30) days after completion of the test, shall notify the Isotopes Branch, Division of Licensing and Regulation, U. S. Atomic Energy Commission, Washington 25, D. C.
 - E. Repair of sources shall be performed by the manufacturers of the sources or by persons specifically licensed by the Commission to perform such repairs.
15. Except as specifically provided otherwise by this license, the licensee shall possess and use byproduct material described in items 4, 7 and 8 of this license in accordance with statements, representations, and procedures contained in his application dated June 21, 1948.
4. Administrative instructions entitled "Loading Instructions For Gamma Radiotherapy Unit F-1002."

Date June 23, 1948

For the U. S. Atomic Energy Commission

Original Signed By
James R. Mason
by gus Chief, Isotopes BranchDivision of Licensing and Regulation
Washington 25, D. C.CWK
Knight / Harris ASB 6/29/48

L&R:IB:DAS (24-6566-1)

September 22, 1960

Mr. F. B. Niedner
The Dick X-Ray Company
4000 Olive Street
St. Louis 8, Missouri

Dear Mr. Niedner:

The possibility of encountering leaking or contaminated teletherapy sources during source transfers has prompted our further review of licenses which authorize the installation of teletherapy sources. And, from those licensees who have not previously submitted specific information on their procedures for handling contamination during transfers, we are requesting that such information be submitted. Thus we would appreciate your cooperation in supplying information on your procedures or precautions during source transfers to determine the presence and magnitude of any contamination, the control of such contamination during source transfers, and the clean-up of the teletherapy unit and vicinity after the source transfer.

Upon favorable review of the above requested procedures, they will be incorporated into your License No. 24-6566-1.

Sincerely yours,

Douglas A. Smith
Radiation Analyst
Isotopes Branch
Division of Licensing and Regulation

b.c.c. Inspection - ORNL

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OFFICE	L&R:IB					
SURNAME	Smith:cc					
DATE	9/22/60					



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DICK X-RAY COMPANY

4000 OLIVE STREET • SAINT LOUIS 8, MISSOURI

February 13, 1961

Mr. Donovan A. Smith
Division of Licensing & Regulation
U.S. Atomic Energy Commission
Washington 25, D. C.

Amend. #1

Dear Sir:

RE: L&R:IB:DAS (24-6566-1)

In accordance with your letter of September 22, 1960 on this subject we have enclosed a proposed supplement to our By-Product Material License No. 24-6566-1.

Newly encapsulated sources are certified free of removable radioactive material by the encapsulator. Therefore, as noted in enclosure #4 to our original application for a By-Product Material license, the presence of removable radioactive contamination in selected areas of a sealed shipping safe containing a sealed source is presumed evidence of a leaking source capsule. Presence of removable radioactive contamination in selected areas of the teletherapy head containing a sealed source is likewise presumed evidence of a leaking source capsule.

It is this Company's intention to limit its function in this regard to determining whether there is evidence of leakage in a sealed source of Cobalt 60 installed, or to be installed, in a Commando Teletherapy unit. It is not our intention or desire to become primarily engaged in necessary de-contamination procedures should evidence of a leaking source capsule be discovered. We believe that these procedures can best be performed by agencies commercially engaged in these activities and who are duly authorized to perform such work, or by the individuals responsible for the radiation security of the teletherapy installation.

Should circumstances arise which require de-contamination procedures at the site of a Commando Teletherapy unit installation, we will cooperate fully with the parties responsible for these procedures.

Yours very truly,

THE DICK X-RAY COMPANY

[Signature]
Vice-President

FOR DIV. OF LIC.

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FBNiedner

• DISTRIBUTORS OF WESTINGHOUSE X-RAY EQUIPMENT •

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PROPOSED SUPPLEMENT TO A.E.C. BY-PRODUCT LICENSE #24-6566-1

- I. Before transferring either a new or replacement source from the shipping safe, accessible critical areas of the safe will be inspected for removable contamination.

Critical areas for this inspection will include the upper end of the shield rod which is used to manipulate the source into and out of the shipping safe, and the lower protective cover which covers the lower end of the shield rod while the safe is in transit.

If significant removable contamination is found, the source will not be removed from the safe on the premises. The safe will be resealed, and arrangements made for return to the encapsulator for inspection and resealing of the source, and de-contamination of the shipping safe.

- II. Before a source in an existing Commando installation is removed or replaced, accessible critical areas of the teletherapy head will be inspected for removable contamination.

Critical areas for this inspection will include inner faces of collimators, the collimator socket and port in the teletherapy head.

If significant removable contamination is found, the teletherapy head will be immediately sealed to prevent the spread of such contamination, and the licensed user will be notified. Upon receipt of an empty shipping safe, the existing source will be transferred to the safe. The safe will be resealed and arrangements made for its return to the encapsulator for disposal of the source and de-contamination of the safe. In the interim, full cooperation will be extended to the licensed user in de-contamination of the equipment prior to loading with a replacement source.

FBNiedner/je

2/13/61

The

DICK X-RAY COMPANY

April 4, 1961

U.S. Atomic Energy Commission
Division of Licensing & Regulation
Washington 25, D. C.

Attention: Mr. Donovan F. Smith

Gentlemen:

We have been notified that we will, in the near future, be invited to quote on a Commando Teletherapy unit to be supplied to the Veteran's General Hospital, Taipei, Taiwan.

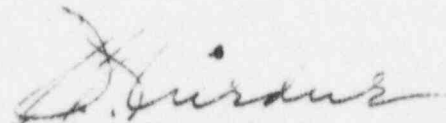
The Commando Teletherapy head is approved as a shipping container in domestic interstate commerce by the Interstate Commerce Commission. The question has arisen whether it will be permissible for us to ship a loaded Commando Teletherapy head to this customer. A review of pertinent regulations published in issues of the Federal Register now in our files has failed to clarify this situation for us.

We wish to learn whether there are current Federal Regulations which prohibit the sale of sealed radioactive material of domestic manufacture to a foreign country, and if not, what special licenses or permits, if any, may be required to conclude such sale. We also wish to learn of any restrictions which may be exercised by the Federal government on the shipment of loaded teletherapy apparatus to a foreign purchaser.

If you are unable to arrive at specific answers to these questions, we will appreciate it if you will advise us the identity of the Federal agency to which they should be addressed. An early reply will be appreciated. Thank you for your cooperation.

Yours very truly,

THE DICK X-RAY COMPANY


Vice-President

FBNiedner/jc

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• DISTRIBUTORS OF WESTINGHOUSE X-RAY EQUIPMENT •

DLR:IF:CRB (24-6566-1)

April 14, 1961

Dick X-Ray Company
4000 Olive Street
St. Louis 8, Missouri

Attention: Mr. F. B. Nieder

Gentlemen:

This is to acknowledge your letter of April 4, 1961, relative to the export of a Commando Teletherapy unit to Taipei, Taiwan (Formosa).

It is permissible for your company to export this unit under authority of License No. 24-6566-1. According to our information Formosa is not listed as a Subgroup A (Soviet Bloc) country in the Comprehensive Export Schedule of the U. S. Department of Commerce. Even though AEC licensing covers only the export of byproduct material contained in the source, we are not aware of any other restrictions on the export of this medical apparatus to a friendly country. Of course, it is necessary to execute a Shippers Export Declaration required by the U. S. Department of Commerce. The shipment must be packaged and labeled in accordance with Interstate Commerce Commission regulations.

It is necessary to report exports of byproduct material to this office in accordance with the provisions of Section 30.42 of Title 10, Code of Federal Regulations, Part 30, "Licensing of Byproduct Material".

Sincerely yours,

Cecil R. Buchanan
Assistant Chief, Isotopes Branch
Division of Licensing and Regulation

Enclosure:
10 CFR 30

970245471

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OFFICE	DLR					
SURNAME	Buchanan					
DATE	4/14/61					

LR:IB:JMS

DEC 6 - 1961

The Dick X-Ray Company
Engineering and Service Department
4000 Olive Street
St. Louis 8, Missouri

Attention: Mr. F. B. Niedner

Gentlemen:

We are enclosing Amendment No. 1 to License No. 24-6566-1. Condition 15.A of the license has been amended to include the enclosure to Mr. Niedner's letter of February 13, 1961. It is our understanding, from Mr. Niedner's letter, that the Dick X-Ray Company will not perform any operations involving the manipulation of contaminated or leaking teletherapy sources outside of teletherapy source housings or the teletherapy source shipping and transfer device used by the Dick X-Ray Company unless such operations are performed under the supervision of appropriately licensed persons outside of the Dick X-Ray Company.

Note that the enclosed amended license does not bear conditions exempting the licensee from the requirements of the enclosed Title 10, Code of Federal Regulations, Part 20 (10 CFR 20) with regard to the posting of signs at the entrance to a teletherapy treatment room and labeling of the head of the teletherapy unit. This modification of the license is in accordance with our present licensing procedures as applied to teletherapy license applications.

Condition 12 of License No. 24-6566-1 exempted the licensee from labeling of teletherapy machine heads as required by Section 20.203(f) of 10 CFR 20. Labeling of the head in accordance with the requirements of Part 20 is required by the enclosed license.

Prior to the issuance of the enclosed amendment, the license merely required that the wording on the sign at an entrance be appropriate to warn unauthorized personnel from entering. It is now required by the license that a sign at an entrance include certain wording to satisfy the requirements of Section 20.203(c)(1) of 10 CFR 20 (enclosed). These words are either "Caution, High Radiation Area" or "Danger, High Radiation Area". It is also required that a sign be posted which meets the requirements of Section 20.203(e)(1).

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The Dick X-Ray Company

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We have enclosed sample signs containing the coloring, wording, and symbol which meet the requirements of Section 20.203(c)(1) and 20.203(e)(1). Signs more suitable for permanent posting (i.e., more durable and of a suitable size) may be procured from a radioisotope supplier or a commercial sign company.

Very truly yours,

Jack M. Bell
Radiation Analyst
Isotopes Branch
Division of Licensing and Regulation

Enclosures:
As stated above

OFFICE ▶	LR-IB					
SURNAME ▶	J M Bell/mk	CRB				
DATE ▶	12/4/61					

Form ABC-518 (Rev. 9-60) U. S. GOVERNMENT PRINTING OFFICE 16-62751-6