

U. S. ATOMIC ENERGY COMMISSION
DUCT MATERIAL LICENSE

Page 1 of 2 Pages

Supplementary Sheet

License Number S-336
(A.I.)

AGENCY NO. 8

Department of the Navy
of Defense
Washington, D.C.

Reference with letter dated April 22, 1960, License No. S-336 is amended as follows:

5, 6, 7, 8, and 9 are amended to read:

4. Reactor material
(name and license number)

Section 50

6, 7, 8, and 9 are amended to read:

Section 95

Amended now

Licensing authority is ER-151/30 Philadelphia.

7. Chemical and/or physical
form

8. United States Radiation
Corporation Drawing LAB-
777 Sealed Sources.

1. American Sealed Sources
(Drawing No. R-11732)

9. Maximum amount of radioactivity which licensee may possess at any one time

F. 750 microcuries - single
sources not to exceed
15 microcuries.

I. 331 microcuries - single
sources not to exceed
25 microcuries.

For the U. S. Atomic Energy Commission

By _____
Chas. Ladd Jr.
Division of Licensing and Regulation
Washington 25, D. C.

Received 12/23

ATOMIC ENERGY COMMISSION
PRODUCT MATERIAL LICENSE
Supplementary Sheet

Page 1 of 1 Page

File No. 8-33-6
(A61)

AMENDMENT NO. 7

Date of application : July 16, 1959, License No. - is hereby amended as

follows: Amend as follows:

	<ul style="list-style-type: none">a. Chemical and/or physicalb. Victoreen Model 772-1c. sealed Sources.	<ul style="list-style-type: none">d. Maximum amount of radioactivity which licensee may possess at any one timee. 5.5 millieuries - 75 sources of 0.7 milliecurie each.
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For the U. S. Atomic Energy Commission

by Isotope Branch

Division of Licensing and Requirements
U. S. A. E. C.

U. S. ATOMIC ENERGY COMMISSION
PRODUCT MATERIAL LICENSE

Page 1 of 3 Pages

-38-6, AMENDMENT NO. 6

(A61)

Regulations, Chapter 1, Part 30
of Byproduct Material, and in reliance on statements and representations heretofore made by the
see a license is hereby issued authorizing the licensee to receive, acquire own, possess, transfer and im-
byproduct material listed below and to use such byproduct material for the purpose(s) and at the place(s)
gnated 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 Com-
mission now or hereafter in effect and to any conditions specified below.

Licensee			
Name	Department of the Navy Bureau of Ships	3. License number	In accordance with letter dated December 18, 1958, S-13-6 is amended in its entirety to read as follows:
Address	Washington 25, D.C.	4. Expiration date	January 31, 1961
		5. Reference No.	
6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may posses at any one time	
A. Strontium 90	A. United States Radium Corporation Drawing LAB-277 Sealed Sources (See Page 2)	A. 300 microcuries - 8 sources of 100 microcuries each (See Page 2)	
9. Authorized use	A. Calibration sources in AN/BDQ-1 and AN/BDQ-1A radiation monitoring equipment. (See Page 2)		
CONDITIONS			
10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.			
11. Byproduct material may be used throughout the Naval System at locations specified and approved by the Bureau of Ships.			
12. The licensee shall comply with the provisions of Title 10, Part 20, Code of Federal Regulations, Chapter 1, "Standards for Protection Against Radiation".			
13. Byproduct material shall be used by, or under the supervision of, individuals designated by the Commanding Officer of each unit utilizing the equipment containing the byproduct material.			
14. Byproduct material as sealed sources shall not be opened or removed from the devices.			
15. Sealed sources containing byproduct material (except solid metal Iridium 192, Tantalum 182, Cobalt 60 plated with gold or nickel; and gases) shall be tested for leakage and contamination at intervals of not more than six (6) months and records of test results shall be maintained by the licensee. (See Page 3)			

For the U. S. Atomic Energy Commission

Date

January 6, 1961

by

Chief, Isotopes Branch
Division of Licensing and Regulation
Washington 25, D.C.

U.S. ATOMIC ENERGY COMMISSION
PRODUCT MATERIAL LICENSE

Supplementary Sheet

License

CONTINUED:

A. Byproduct material element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may possess at any one time
B. Strontium 90	B. Fairchild Camera and Instrument Corporation Model 3002-152 Sealed Sources	B. 5.1 microcuries - 17 sources of 0.3 microcurie each
C. Strontium 90	C. Fairchild Camera and Instrument Corporation Model 3002-132 Sealed Sources	C. 12 microcuries - 12 sources of 1 microcurie each
D. Strontium 90	D. Nuclear-Chicago Model No. RG-31 Sealed Sources	D. 3.02 millicuries - 20 sources of 150 microcuries each; 20 sources of 1 microcurie each
E. Strontium 90	E. Electronic Products Company Model 504-118B Sealed Sources	E. 1.36 millicuries - 34 sources of 40 microcuries each
F. Strontium 90	F. United States Radium Corporation Drawing LAE-277 Sealed Sources	F. 430 microcuries - single sources not to exceed 15 microcuries
G. Cesium 137	G. Victoreen Model 772-1 Sealed Sources	G. 14 millicuries - 20 sources of 0.7 millicurie each
H. Strontium 90	H. Fairchild Camera and Instrument Corporation Model 3020-200 Sealed Sources	H. 250 microcuries - 40 sources of 6 microcuries each
I.	J.	K.
9. Authorized use		
B. Calibration sources in Fairchild Camera and Instrument Corporation Model AN/RDQ-3 (Air Particle Channel) monitors.		
C. Calibration sources in Fairchild Camera and Instrument Corporation Model IM-134/WDQ (Gamma Channel) monitors.		
D. Calibration sources in Shipboard Radiac System AN/SDR-1.		
E. For use in Electronic Products Company Model MX-2231/PDI-45 source holders for calibration of radiation detection instruments.		
F. Calibration sources in IM-146/WDQ Radiacimeters.		
G. Calibration sources in TS-1189 dosimeter test chambers.		
H. Calibration sources in IM-148/WDQ Radiacimeters.		

For the U. S. Atomic Energy Commission

Date January 6, 1959

by

Chief, Isotopes Branch

Division of Isotopes, The Neutronium
Washington 25, D. C.

U.S. ATOMIC ENERGY COMMISSION
PRODUCT MATERIAL LICENSE

Supplementary Sheet

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AMENDMENT NO. 6

License Number 8-38-6
(A61)

CONTINUED:

CONDITIONS

16. The licensee shall possess and use byproduct material in accordance with BUSHIPS
INSTRUCTIONS 5100.2, 5100.5, and 9673.14.

For the U. S. Atomic Energy Commission

by _____
Chief, Isotopes Branch
Division of Licensing and Regulation
Washington 25, D. C.

Date January 6, 1959

U. S. ATOMIC ENERGY COMMISSION
PRODUCT MATERIAL LICENSELicense No. 8-38-8
Amendment No. 4 (E63)

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Part 30, 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		3. License number	8-38-8 (E63)
2. Address Bureau of Ships Washington 25, D. C.		4. Expiration date	May 31, 1963
		5. Reference No.	
1. Name Department of the Navy			
6. Byproduct material (element and mass number) A. Iridium 192	7. Chemical and/or physical form A. Technical Operations Model A-424-1 Sealed Sources.	8. Maximum amount of radioactivity which licensee may possess at any one time A. 20 curies contained in two sources of 10 curies each.	
9. Authorized use A. For use in Technical Operations Model 489 projector for industrial radiography and for replacement of sources. (See page 2)			
CONDITIONS			
10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.			
11. Byproduct material shall be used on the U.S.S. Fulton and nuclear powered ships.			
12. The licensee shall comply with the provisions of Title 10, Part 20, Code of Federal Regulations, Chapter 1, "Standards for Protection Against Radiation", and Part 31, "Radiation Safety Requirements for Radiographic Operations".			
13. A curie of Iridium 192 is defined as that quantity of activity which presents a radiation intensity of 0.55 roentgen per hour at a distance of one meter.			
14. The licensee shall not use the Curtiss-Wright Model 10-5A or 10-5C Cameras listed in Item 9B and 9C of this license, unless said device is equipped with a properly operating pressure relief valve or regulator which limits operating air pressure to a maximum 25 psi.			

(Continued)

Enclosure (1) - 362-383

U. S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICENSE

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Supplementary Sheet

Continued from first page

License Number 8-38-8
Amendment No. 4 (E63)

6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radio- activity which licensee may possess at any one time
B. Iridium 192	B. Curtiss-Wright Model 30-5 Sealed Sources.	B. 40 curies contained in two sources of 20 curies each.
C. Cobalt 60	C. Curtiss-Wright Model 30-5 Sealed Sources.	C. One source of 3 curies.
D. Cesium 137	D. Oak Ridge National Labora- tory Sealed Source.	D. One source of 30 curies.
E. Cesium 137	E. Victoreen Model 772-1 Sealed Sources.	E. 1.4 millicuries contained in two sources of 0.7 mil- licuries each.

9. Authorized use

- B. For use in Curtiss-Wright Model 10-5A Camera for industrial radiography and for replacement of sources.
- C. For use in Curtiss-Wright Model 10-5C Camera for industrial radiography.
- D. For use in Model TS-1216/UD Radiac Calibrator for calibration of instruments.
- E. For use as calibration sources in Model TS-1189 dosimeter test chambers.

CONDITIONS

15. Except as otherwise specifically provided for in the license, the licensee shall possess and use byproduct material described in Items 5, 7 and 8 of this license in accordance with statements, representations, and procedures contained in his applications dated November 3, 1960 and April 4, 1961, and in related documents and amendments as follows:

- A. "FULTON INSTRUCTION 5100.4C", undated.
- B. "FULTON INSTRUCTION 5100.7A", dated 20 February 1961.

16. The licensee is authorized to receive, possess and use sealed sources of Iridium 192 and Cobalt 60 where the radioactivity exceeds the maximum amount of radioactivity specified in Item 8 of this license provided:

- A. Such possession does not exceed the quantity specified in Item 8 by more than 20% per source for Iridium 192 or 10% per source for Cobalt 60; and
- B. Records of the licensee show that no more than the maximum amount of radioactivity per source specified in Item 8 of this license was ordered from the supplier or transferor of the byproduct material.

For the U. S. Atomic Energy Commission

Date May 15, 1961

by

Chief, Isotopes Branch
Division of Licensing and Regulation
Washington 25, D. C.

U. S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICENSING

Supplementary Sheet

License Number C-3-S
(LSC)

AMENDMENT NO. 3

Department of the Navy
Bureau of Ships
Washington 25, D.C.

Authorities: Mrs. Elizabeth P. Bethel, USN
CIO Robert F. Wallace, USN

In accordance with letter dated December 4, 1953, Licensee
is directed:

Items 6, 7, 8, and 9 are amended to add:

b. Byproduct material
(cobalt and other metals)

i. Cobalt only or cobalt
form

c. Cobalt 25%

c. Oak Ridge National
Laboratory, Oak Ridge, Tennessee.

d. Authorized uses

c. For use in Naval Research Laboratory designed equipment for calibration of instruments.

The following condition is added:

13. Special source containing byproduct material (copper, Cobaltum 1/2, Cobalt 6% plated with gold or nickel, and brass) shall be furnished for calibration and requalification at intervals of one year; these are (1) regular one year or test results shall be maintained by the licensee.

One set of Irradiated 1953
brass and brass (1/2)
shall be furnished

For the U. S. Atomic Energy Commission,

by

Division of Licensing and Regulation
Washington 25, D. C.

Date December 5, 1953

U. S. ATOMIC ENERGY COMMISSION
PRODUCT MATERIAL LICENSE
Supplementary Sheet

Page 1 of 2 Pages

License Number 8-38-9
(E61)

Amendment No. 2

Department of the Navy
Bureau of Ships
Washington 25, D.C.

Attention: LCDR Leonard W. Cushing, USN
CWO Kenley N. Burchfield, USN
WO John E. Ewing, Jr., USN

In accordance with letter dated June 9, 1961, License No. 8-38-9 is amended as follows:

Items 6, 7, 8, and 9 are amended to add:

6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radio- activity which licensee may possess at any one time
C. Cesium 137	C. Oak Ridge National Labo- ratory Sealed Source.	C. One source of 30 curies.
D. Cesium 137	D. U.S. Radium Corporation Model IAB-454-1 Sealed Source.	D. One source of 1 millicurie.

9. Authorized use

C. & D. Storage only.

Add the following condition:

21. A. Each sealed source containing Cobalt 60, Iridium 192, or Cesium 137 shall be tested for leakage and/or contamination at intervals not to exceed six (6) months. In the absence of a certificate from a transferor indicating that a test has been made within six (6) months prior to the transfer, the sealed source shall not be put into use until tested.
- B. The test shall be capable of detecting the presence of 0.005 microcurie of removable contamination on the test sample. The test sample shall be taken from the sealed source or from appropriate accessible surfaces of the device in which the sealed source is permanently or semipermanently mounted or stored. Records of leak test results shall be kept in units of microcuries and maintained for inspection by the Commission.
(See page 2)

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BYPRODUCT MATERIAL LICENSE

Supplementary Sheet

License Number 8-38-9
(H61)

Amendment No. 2

CONTINUED:

CONDITIONS

- C. If the test reveals the presence of 0.005 microcuries or more of removable contamination, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired or to be disposed of in accordance with Commission regulations. A report shall be filed within five (5) days of the test with the Director, Division of Licensing and Regulation, U.S. Atomic Energy Commission, Washington 25, D.C., describing the equipment involved, the test results and the corrective action taken. A copy of such report shall be sent to the manager of the nearest AEC operations office listed in Appendix D of Title 10, Code of Federal Regulations, Part 20.
- D. Tests for leakage and/or contamination shall be performed by persons specifically authorized by the Commission to perform such services.
- E. Sealed sources in the possession of the licensee prior to the effective date of this condition which have not been subject to scheduled leak tests satisfying the requirements of this condition, shall be tested within 60 days of the effective date and at the required intervals thereafter.

For the U.S. Atomic Energy Commission

by _____ Chief, Isotopes Branch

Date June 26, 1961

Division of Licensing and Regulation
Washington 25, D.C.

**U. S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICENSE NO.**

Page 1 of 2 Pages

**S-38-9 AMENDMENT NO. 1
(E61)**

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter I, Part 30, "Licensing of Byproduct Material", and license is hereby issued for the byproduct material listed below, and to use such byproduct material for the purpose(s) and at the place(s) 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.

Licenses

Name	Department of the Navy	3. License number	In accordance with letter dated July 24, 1959
Address	Bureau of Ships Washington 25, D. C.	4. Expiration date	S-38-9 is amended in its entirety to read as follows: August 31, 1961
		5. Reference No.	

Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may possess at any one time
1. Cobalt 60	A. Curtiss-Wright Model 30-5 Sealed Source.	A. 3 curies
2. Iridium 192	B. Curtiss-Wright Model 30-5 Sealed Source.	B. 10 curies

9. Authorized use

- 10. For use in Curtiss-Wright Model 10-5C Camera for radiographic inspection of welded joints in primary systems of reactor plants on board nuclear powered ships.
- 11. For use in Curtiss-Wright Model 10-5A Camera for radiographic inspection of welded joints in primary systems of reactor plants on board nuclear powered ships.

CONDITIONS

- 12. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.
- 13. Byproduct material may be used on the USS Sperry and on board nuclear powered ships.
- 14. The licensee shall comply with the provisions of Title 10, Part 20, Code of Federal Regulations, Chapter 1, "Standards for Protection Against Radiation".
- 15. Byproduct materials shall be used by, or under the direct supervision of, LCDR Leonard W. Cushing, USN, CWO Kemley M. Burchfield, USN, WO John E. Irving, Jr., USN.
- 16. A curie of Iridium 192 is defined as that quantity of activity which presents a radiation intensity of 0.55 roentgen per hour at a distance of one meter.
- 17. Byproduct material as sealed sources shall not be opened.

(See page 2)

BYPRODUCT MATERIAL LICENSE

Supplementary Specification

License Number 8-38-9
(H61)

AMENDMENT NO. 1

LICENSEE:

CONDITIONS

Licensee shall possess and use byproduct material described in Items 6, 7 and 8 of license in accordance with statements, representations, and procedures contained in application dated August 12, 1958, and in related documents and amendments as follows:

A. Sperry Instruction 5100.2 dated April 23, 1959.

Written administrative instructions referenced in Condition 16.A. covering radiological protection, control, and security of byproduct material shall be followed and a copy of instructions shall be supplied to each individual using or having responsibility for use of such material. Any changes in the administrative instructions shall have the prior approval of the Isotopes Branch, Division of Licensing and Regulation.

Calibrated and operable survey instrumentation is to be maintained at each site where radiographic exposures are being made. A physical radiation survey is to be made (1) to determine compliance with Sections 20.102 and 20.203 of Title 10, Code of Federal Regulations, Part 20, "Standards for Protection Against Radiation" and (2) immediately after each radiographic exposure is completed to determine that the source has been returned to its storage condition. The survey instrumentation shall have a range of a few millirentgens per hour to at least one (1) roentgen per hour.

Radiographic areas are to be kept under continuous surveillance during each exposure operation.

Licensee shall exercise appropriate administrative control to assure that no person use or personally supervise the use of byproduct material until such person has:

A. Received instructions in, and demonstrated a thorough understanding of, the regulations of 10-CFR, Part 20, the licensee's operating and emergency procedures; and the provisions of this license.

B. Been furnished copies of the documents referenced in A above.

C. Demonstrated competency in the use of byproduct material, equipment, and survey instruments which will be used.

For the U. S. Atomic Energy Commission

Date August 5, 1959

by

Chief, Isotopes Branch

Division of Licensing and Regulation
Washington 25, D. C.

BYPRODUCT MATERIALS LICENSE

In accordance with the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Part 20, 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 export byproduct material listed below; and to use such byproduct material for the purposes and at the places designated below. This license shall be deemed to contain the conditions specified in Section 110 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		3. License number <u>8-38-9</u> (460)	4. Expiration date <u>December 31, 1960</u>	5. Reference No.
Name <u>Department of the Navy</u> Bureau of Ships	Address <u>Washington 25, D.C.</u>	6. Byproduct material (element and mass number) A. Cobalt 60 (See Page 2)	7. Chemical and/or physical form A. Curtiss-Wright Model 30-5 Sealed Sources (See Page 2)	8. Maximum amount of radioactivity which licensee may possess at any one time A. 3 curies (See Page 2)
9. Authorized uses A. for storage only in Curtiss-Wright Model 10-5C Camera. (See Page 2)				

CONDITIONS

10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.
11. Sources may be stored on the USS SPERRY.
12. The licensee shall comply with the provisions of Title 10, Part 20, Code of Federal Regulations, Chapter 1, "Standards for Protection Against Radiation."
13. A curie of Iridium 192 is defined as that quantity of activity which presents a radiation intensity of 0.55 roentgen per hour at a distance of one meter.

For the U. S. Atomic Energy Commission

Date December 19, 1958

by Chief, Isotopes Branch
Division of Licenses and Regulations
Washington 25, D. C.

U.S. ATOMIC ENERGY COMMISSION
SUPPLEMENTAL MATERIALS LICENSE

Page 2 of 2 Pages

Supplementary Sheet

License Number 8-38-9
(L60)

DEFINITION:

6. Prepared material
(atomic and radio material)

B. Iridium 192

7. Chemical and/or physical
form

B. Technical operations
Model A-470 Sealed
Source or Curtiss-Wright
Model 30-S Sealed Source

8. Maximum amount of radio-
activity which licensee may
possess at any one time

B. 10 curies

9. Authorized use

For storage only in Technical Operations Model 489 Camera or Curtiss-Wright Model
10-SA Camera.

For the U. S. Atomic Energy Commission

December 19, 1953

by

Chief, Isotope Branch
Division of Inspection and Regulation
Washington, D. C.

U. S. ATOMIC ENERGY COMMISSION
PRODUCT MATERIAL LICENSE

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Supplementary Sheet

License Number 8-38-14
(D63)**This copy is for your files**

AMENDMENT NO. 5

Department of the Navy
Bureau of Ships
Washington 25, D. C.In accordance with application dated February 5, 1963, License No. 8-38-14 is
amended as follows:

Item 4 - The expiration date is extended to April 30, 1963.

Date February 11, 1963

For the U. S. Atomic Energy Commission


by Nathan Bassin
Isotopes Branch
Division of Licensing and Regulation
Washington 25, D. C.

U. S. ATOMIC ENERGY COMMISSION
MATERIAL LICENSE
Supplementary Sheet

Page 1 of 1 Pages

License Number: (111)
Amendment No. 1Department of Energy
Bureau of Safety
Washington, D.C.In accordance with an order dated September 18, 1962, license No. 8-34-14 is
amended as follows:

Item 6E, 11, and 12 are amended to read:

6. Byproduct material (element and mass number)	7. Chemical and/or physical form F. O. S. N. P. C. T. V. M. I. Model Source	8. Maximum amount of radioactivity which licensee may possess at any one time One source of 1.2 million curies
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9. Authorized uses

For the U. S. Atomic Energy Commission

Date Sep 27, 1962 by Robert E. SmithDivision of Licensing and Regulation
Washington, D. C.

U. S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICENSE
Supplementary SheetPage 1 of 1 PagesLicense Number A-38-14
(853)Amendment No. 1Department of the Navy
Bureau of Ships
Washington 25, D.C.Attention: Paul F. Carter James P. Moore E. E. Gilmond K. M. McRoy
C. H. Mullineaux H. A. Covington J. P. King W. T. BootheIn accordance with application dated January 16, 1962, License No. A-38-14 is
amended as follows:

Items 5, 7, 8 and 9 are amended to add:

b. Byproduct material i. Chemical and/or physical
(element and mass number) form

Maximum amount of radioactivity which licensee may possess at any one time

E. Cesium 137 E. U.S. Radium Corporation
Model UAB-454-1 Sealed Source

f. One source of 0.6 millicurie

g. Authorized use

E. For use in Model AN/USM-113 Radiac Tube Tester.

62- 2050763

For the U.S. Atomic Energy Commission

by Chief, Isotopes Branch
Division of Licensing and Regulation
Washington 25, D. C.Date January 29, 1962

U. S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICENSE

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NO. 8-38-14 AMENDMENT NO.
(B63)

Pursuant to the Atomic Energy Act of 1954 and Title 10 Code of Federal Regulations, Chapter 1, Part 30, 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		In accordance with application dated May 23, 1961
1. Name	Department of the Navy	3. License number: 8-38-14 is amended in its entirety to read as follows:
2. Address	Bureau of Ships Washington 25, D. C.	4. Expiration date February 28, 1963
6. Byproduct material (element and mass number) A. Cesium 137 B. Cesium 137 (See page 2)	7. Chemical and/or physical form A. Oak Ridge National Laboratory Sealed Source. B. U.S. Radium Corporation Model LAB-454-1 Sealed Source.	8. Maximum amount of radioactivity which licensee may possess at any one time A. One source of 30 curies B. One sources of 1 millicurie
9. Authorized use A. For use in Model TS-1216A/UD Radiac Calibrator for calibration of instruments. B. For use in Model AN/USM-113 (XN-2) Radiac Tube Tester. (See page 2)		
CONDITIONS		
10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.		
11. Byproduct material shall be used on the U.S.S. Orion and nuclear powered ships.		
12. The licensee shall comply with the provisions of Title 10, Part 20, Code of Federal Regulations, Chapter 1, "Standards for Protection Against Radiation", and Part 31, "Radiation Safety Requirements for Radiographic Operations".		
13. Byproduct materials designated in Subitems 6A and 6B shall be used by, or under the supervision of, Paul F. Carter or James P. Moore.		
<p>The individuals listed below are the only persons authorized to act as radiographers for the byproduct material designated in Subitems 6C and 6D. "Radiographer" is defined in Title 10, Code of Federal Regulations, Part 30, "Licensing of Byproduct Material", Section 30.1(r).</p> <p style="text-align: right;">W. T. Booth H. A. Covington</p> <p style="text-align: right;">C. H. Millineaux J. R. Lang</p>		

(Continued)

ENCL 1
DATE 3/62

DUSKIE 469

U. S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICENSE
Supplementary Sheet

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Continued from first page

License Number 8-38-14
(B63)
Amendment No. 1

6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may possess at any one time
C. Iridium 192	C. Technical Operations Model A-424-1 Sealed Sources	C. 20 curies contained in two sources of 10 curies each
D. Cobalt 60	D. Technical Operations Model A-424-1 Sealed Source	D. One source of 2 curies
9. Authorized uses	C. For use in Technical Operations Model 489 projector for industrial radiography and Technical Operations Model 4FX Source Exchanger for replacement of sources. D. For use in Technical Operations Model 496 projector for industrial radiography.	

CONDITIONS

14. Except as otherwise specifically provided for in the license, the licensee shall possess and use byproduct material described in Items 6, 7 and 8 of this license in accordance with statements, representations, and procedures contained in his applications dated February 1, 1961 and May 23, 1961, and in related documents as follows:
- A. "ORION INSTRUCTION 9900", dated January 5, 1961.
 - B. "Technical Manual for Radiac Calibrator TS-1216A/UD", dated February 1, 1961.
 - C. "Administrative, Operating and Emergency Instructions for Radiography Personnel", submitted with application dated May 23, 1961.
15. The licensee is authorized to receive, possess and use sealed sources of Iridium 192 and Cobalt 60 where the radioactivity exceeds the maximum amount of radioactivity specified in Item 8 of this license provided:
- A. Such possession does not exceed the quantity specified in Item 8 by more than 20% per source for Iridium 192 and 10% per source for Cobalt 60; and
 - B. Records of the licensee show that no more than the maximum amount of radioactivity per source specified in Item 8 of the license was ordered from the supplier or transferer of the byproduct material.
16. A curie of Iridium 192 is defined as that quantity of activity which presents a radiation intensity of 0.55 roentgen per hour at a distance of one meter.

For the U. S. Atomic Energy Commission

Date August 3, 1961

by Chief, Isotopes Branch

Division of Licensing and Regulation
Washington 25, D. C.

PRODUCT MATERIAL LICENSE

This copy is for your files

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Part 30, 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	Department of the Navy
2. Address	Bureau of Ships Washington 25, D.C.
3. License number	8-38-14 (B63)
4. Expiration date	February 28, 1963
5. Reference No.	
6. Byproduct material (element and mass number)	7. Chemical and/or physical form
A. Cesium 137	A. Oak Ridge National Laboratory Sealed Source.
B. Cesium 137	B. U.S. Radium Corporation Model IAB-454-1 Sealed Source.
8. Maximum amount of radioactivity which licensee may posses at any one time	A. One source of 30 curies. B. One source of 1 millicurie.
9. Authorized use	A. For use in Model TS-1216A/UD Radiac Calibrator for calibration of instruments. B. For use in Model AN/USM-113.(XN-2) Radiac Tube Tester.
CONDITIONS	
10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.	
11. Byproduct material shall be used only on the U.S.S. Orion.	
12. The licensee shall comply with the provisions of Title 10, Part 20, Code of Federal Regulations, Chapter 1, "Standards for Protection Against Radiation".	
13. Byproduct materials shall be used by, or under the direct personal supervision of, Paul F. Carter or James P. Moore.	
14. Byproduct material as sealed sources shall not be opened.	
15. A. Each sealed source containing Cesium 137 shall be tested for leakage and/or contamination at intervals not to exceed six (6) months. In the absence of a certificate from a transferor indicating that a test has been made within six (6) months prior to the transfer, the sealed source shall not be put into use until tested. (See page 2)	

PRODUCT MATERIAL LICENSE

Supplementary Sheet

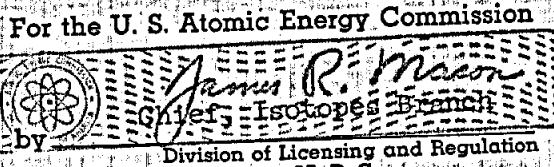
This copy is for your files

License Number 8-38-14
(B63)

CONTINUED:

CONDITIONS

- B. The test shall be capable of detecting the presence of 0.005 microcurie of removable contamination on the test sample. The test sample shall be taken from the sealed source or from appropriate accessible surfaces of the device in which the sealed source is permanently or semipermanently mounted or stored. Records of leak test results shall be kept in units of microcuries and maintained for inspection by the Commission.
- C. If the test reveals the presence of 0.005 microcuries or more of removable contamination, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired or to be disposed of in accordance with Commission regulations. A report shall be filed within five (5) days of the test with the Director, Division of Licensing and Regulation, U.S. Atomic Energy Commission, Washington 25, D.C., describing the equipment involved, the test results and the corrective action taken. A copy of such report shall be sent to the manager of the nearest AEC operations office listed in Appendix D of Title 10, Code of Federal Regulations, Part 20.
- D. Tests for leakage and/or contamination shall be performed by Ensign Earle B. Scrom in accordance with procedure specified in Enclosure (3) of application or by persons specifically authorized by the Commission to perform such services.
16. Except as otherwise specifically provided for in the license, the licensee shall possess and use byproduct material described in Items 6, 7 and 8 of this license in accordance with statements, representations, and procedures contained in his application dated February 1, 1961, and in related documents and amendments as follows:
- A. "ORION INSTRUCTION 9900", dated January 5, 1961.
- B. "Technical Manual for Radiac Calibrator TS-1216A/UD", dated February 1, 1961.

Date February 2, 1961Division of Licensing and Regulation
Washington 25, D. C.

U. S. ATOMIC ENERGY COMMISSION
PRODUCT MATERIAL LICENSE
Supplementary Sheet

Page 1 of 1 Pages

License Number 8-38-16
(I62)

AMENDMENT NO. 3

This copy is for your files

Department of the Navy
Bureau of Ships
Washington 25, D.C.In accordance with letter dated August 3, 1962, License No. 8-38-16 is amended
as follows:

Items 6, 7, 8 and 9 are amended to add:

- | | | |
|---|--|--|
| 6. Byproduct material
(element and mass
number) | 7. Chemical and/or physical
form | 8. Maximum amount of
radioactivity which
licensee may possess
at any one time |
| C. Cobalt 60 | C. Atomic Energy of
Canada Limited Model
C-142 Sealed Source | C. One source of 2 curies |
| D. Iridium 192 | D. Atomic Energy of
Canada Limited Model
C-141 Sealed Source | D. One source of 10 curies |

Authorized use

- 9.C. For storage in AECL Model PCC-2 Camera at Newport News Shipbuilding and Dry Dock Company, Inc. under the custody of the Supervisor of Shipbuilding.
- D. For storage in AECL Model PIC-10 Camera at Newport News Shipbuilding and Dry Dock Company, Inc. under the custody of the Supervisor of Shipbuilding.

For the U. S. Atomic Energy Commission

by *Nathan Basin*
Isotopes Branch

Date

AUG 13 1962

Division of Licensing and Regulation
Washington 25, D. C.

U.S. ATOMIC ENERGY COMMISSION
PRODUCT MATERIAL LICENSE
Supplementary Sheet

Page 1 of 1 Pages

License Number 8-38-16
(L62)

Amendment No. 2

Department of the Navy
Bureau of Ships
Washington 25, D. C.

In accordance with letter dated May 9, 1962, License No. 8-38-16 is amended as follows:

Items 6B, 7B, 8B and 9B are amended to read:

6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may possess at any one time
B. Cesium 137	B. U. S. Radium Corporation LAB-454-1 Sealed Sources	B. 1.2 millicuries contained in two sources of 0.6 millicurie each

Authorized use

B. For storage in Model AN/USM-113 Radiac Tube Testers and installation on board Submarine Tender Hunley.

MAY 29 1962

Date _____

12

For the U. S. Atomic Energy Commission

Original signed by

Nathan Bassia

by

Isotopes Branch

Division of Licensing and Regulation
Washington 25, D. C.

U. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICENSE

Page 1 of 1

License No. 8-38-16

Amendment No. 1 (L52)

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter I, Part I, 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	Department of the Navy Bureau of Ships	3. License number	8-38-16 is amended in its entirety to read as follows:
2. Address	Washington 25, D. C.	4. Expiration date	December 31, 1962
		5. Reference No.	
6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may possess at any one time	
A. Cesium 137	A. Oak Ridge National Laboratory Sealed Source	D. One source of 30 curies	
B. Cesium 137	B. U.S. Radium Corporation LAB-454-1 Sealed Source	E. One source of 1 milli-curiel	
9. Authorized use	A. For storage in Model TS-1216A/UD Radiac Calibrator and installation on board Submarine Tender <u>Hunley</u> . B. For storage in Model AN/USM-113(XN-2) Radiac Tube Tester and installation on board Submarine Tender <u>Hunley</u> .		
CONDITIONS			
10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.			
11. Byproduct material shall be stored at Newport News Shipbuilding and Dry Docks Company, Inc. under the custody of the Supervisor of Shipbuilding.			
12. The licensee shall comply with the provisions of Title 10, Part 20, Code of Federal Regulations, Chapter I, "Standards for Protection Against Radiation".			

Date December 7, 1961

For the U. S. Atomic Energy Commission

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to BUSHIPS

362-711

Chief, Isotopes Branch

Division of Licensing and Regulation
Washington 25, D. C.

YI. BYPRODUCT MATERIAL LICENSE

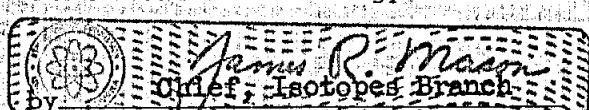
THIS COPY IS FOR YOUR FILES

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Part 30, 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	Department of the Navy	3. License number	8-38-16 (K62)
2. Address	Bureau of Ships Washington 25, D.C.	4. Expiration date	November 30, 1962
5. Reference No.			
6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may posses at any one time	
A. Cesium 137	A. Oak Ridge National Laboratory Sealed Source	A. One source of 30 curies	
B. Cesium 137	B. U.S. Radium Corporation Model LAB-454-1 Sealed Source	B. One source of 1 millicurie	
9. Authorized use			
A. For storage in Model TS-1216A/UD Radiac Calibrator. B. For storage in Model AN/USM-113 (XN-2) Radiac Tube Tester.			
CONDITIONS			
10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.			
11. Byproduct material shall be stored at Newport News Shipbuilding and Dry Docks Company, Inc. under the custody of the Supervisor of Shipbuilding.			
12. The licensee shall comply with the provisions of Title 10, Part 20, Code of Federal Regulations, Chapter 1, "Standards for Protection Against Radiation".			

Superseded

Date November 28, 1961

Division of Licensing and Regulation
Washington 25, D.C.

369B

BYPRODUCT MATERIAL LICENSE

O. 8-38-17 AMENDMENT NO. 3

(A64)

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Part 30, 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.

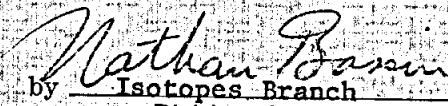
Licensee		In accordance with application dated January 7, 1963,
1. Name	Department of the Navy Chief, Bureau of Ships	3. License number 8-38-17 is amended in its entirety to read as follows:
2. Address	Washington 25, D. C.	4. Expiration date January 31, 1964
		5. Reference No.
6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may possess at any one time
A. Cesium 137	A. Oak Ridge National Laboratory Sealed Source	A. One source of 30 curies
B. Cesium 137	B. U.S. Radium Corporation Model LAB-454-1 Sealed Sources	B. 3.2 millicuries contained in two sources of 1.6 millicuries each
9. Authorized use		
A. For storage in Model TS-1216A/UD Radiac Calibrator and installation on board the USS Gilmore.		
B. For storage in Model AN/USM-113 Radiac Tube Testers and installation on board the USS Gilmore.		

CONDITIONS

10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.
11. Byproduct material shall be stored at Charleston Naval Shipyard under the supervision of persons designated by the Commanding Officer.
12. The licensee shall comply with the provisions of Title 10, Code of Federal Regulations, Chapter 1, Part 20, "Standards for Protection Against Radiation".

Date JAN 22 1963

For the U. S. Atomic Energy Commission



by Isotopes Branch

Division of Licensing and Regulation
Washington 25, D. C.

U. S. ATOMIC ENERGY COMMISSION

MATERIAL LICENSE
Supplementary Sheet*5 copies*License Number 8-18-1
(54)

Document No.

Department of the Navy
Chief, Bureau of Ships
Washington 25, D. C.

In accordance with application dated September 18, 1962, I am issued a license to

Printed Name of Person Issuing License

A. Byproduct material (element and mass number)	B. Licensee U. S. Naval Ship Repair Facility Naval Station Seattle Seattle, Washington 98101	C. Maximum amount of plutonium-239 per month or year 100 milligrams per month
B. Cadmium 117		
D. Cadmium 117		

Date

Sep 25/1962

U. S. ATOMIC ENERGY COMMISSION

Treasurer

U. S. ATOMIC ENERGY COMMISSION
PRODUCT MATERIAL LICENSE
Supplementary Sheet

Page 1 of 1 Pages

License Number 8-38-17
(B63)

Amendment No. 1

362 B

Department of the Navy
Chief, Bureau of Ships
Washington 25, D. C.

In accordance with application dated February 7, 1962, License No. 8-38-17 is
amended as follows:

Items 6, 7, 8 and 9 are amended to add:

6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may possess at any one time
C. Cesium 137	C. Oak Ridge National Laboratory Sealed Source	C. One source of 30 curies
D. Cesium 137	D. U.S. Radium Corporation Model LAB-454-1 Sealed Sources	D. 1.2 millicuries contained in two sources of 0.6 millicuries each
9. Authorized use		
C. For storage in Model TS-1216 A/UD Radiac Calibrator and installation on board the USS Bushnell.		
D. For storage in Model AN/USM-113 Radiac Tube Testers and installation on board the USS Bushnell.		

For the U. S. Atomic Energy Commission

February 23, 1962

by _____ Chief, Isotopes Branch

Division of Licensing and Regulation
Washington 25, D. C.

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U S ATOMIC ENERGY COMMISSION
PRODUCT MATERIAL LICENSE

Page 1 of _____ Pages

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Part 30, 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	Department of the Navy Chief, Bureau of Ships	3. License number	8-38-17 (B63)
2. Address	Washington 25, D.C.	4. Expiration date	February 28, 1963
		5. Reference No.	
6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may possess at any one time	
A. Cesium 137	A. Oak Ridge National Laboratory Sealed Source.	A. One source of 30 curies	
B. Cesium 137	B. U.S. Radium Corporation Model LAB-454-1 Sealed Sources.	B. 1.2 millicuries contained in two sources of 0.6 milli- curie each.	
9. Authorized use	10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.		
A. For storage in Model TS-1216A/UD Radiac Calibrator and installation on board the USS Gilmore.	11. Byproduct material shall be stored at Charleston Naval Shipyard under the supervision of persons designated by the Commanding Officer.		
B. For storage in Model AN/USM-113 Radiac Tube Testers and installation on board the USS Gilmore.	12. The licensee shall comply with the provisions of Title 10, Code of Federal Regulations, Chapter 1, Part 20, "Standards for Protection Against Radiation".		

CONDITIONS

10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.
11. Byproduct material shall be stored at Charleston Naval Shipyard under the supervision of persons designated by the Commanding Officer.
12. The licensee shall comply with the provisions of Title 10, Code of Federal Regulations, Chapter 1, Part 20, "Standards for Protection Against Radiation".

For the U. S. Atomic Energy Commission

Date February 9, 1962

by Chief, Isotopes Branch
Division of Licensing and Regulation
Washington 25, D. C.

This copy is for your

BYPRODUCT MATERIAL LICENSE

8-38-18 AMENDMENT NO. 3

(HE5)

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Part 30, 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		In accordance with application dated July 17, 1963
1. Name	Department of the Navy	
2. Address	Bureau of Ships Washington 25, D. C.	
		3. License number 8-38-18 is amended in its entirety to read as follows:
		4. Expiration date August 31, 1965
		5. Reference No.

6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may possess at any one time
A. Cesium 137 (See page 2)	A. Oak Ridge National Laboratory Sealed Source	A. One source of 30 curies

9. Authorized use

A. For use in Model TS-1216-B/UD Radiac Calibrator for calibration of instruments.

B. For use in Model AN/USM-113 Radiac Tube Testers.

CONDITIONS

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

11. Byproduct material shall only be used on the USS Holland (AS32).

12. The licensee shall comply with the provisions of Title 10, Part 20, Code of Federal Regulations, Chapter 1, "Standards For Protection Against Radiation".

13. Byproduct material shall be used by, or under the supervision of, Lt. Francis L. Cummings, ET2 Earl E. Hagerty, ETNSN James W. Popa, ETRSN Thomas E. Bell, ETRSN Edwin E. Crosswhite or ETRSN Edward G. Landis.

14. Byproduct material as sealed sources shall not be opened.

15.A. Each sealed source containing byproduct material, other than Hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for leakage and/or contamination at intervals not to exceed six months. In the absence of a certificate from a transferor indicating that a test has been made six months prior to the transfer, the sealed source shall not be put into use until tested.

(See page 2)

MATERIAL LICENSE

Supplementary Sheet

Continued From Page 1

License Number 8-38-18
(H65)

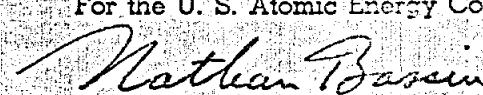
AMENDMENT NO. 3

- | | | |
|--|---|--|
| 6. Byproduct material
(element and mass number) | 7. Chemical and/or physical form | 8. Maximum amount of radioactivity which
licensee may possess at any one time |
| B. Cesium 137 | B. U.S. Radium Corporation
Model LAB-454-1 Sealed
Sources | B. 3.2 millicuries contained
in two sources of 1.6
millicuries each |

Condition 15 continued

- 15.B. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. The test sample shall be taken from the sealed source or from the surfaces of the device in which the sealed source is permanently mounted or stored on which one might expect contamination to accumulate. Records of leak test results shall be kept in units of microcuries and maintained for inspection by the Commission.
- C. If the test reveals the presence of 0.005 microcurie or more of removable contamination, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired or to be disposed of in accordance with Commission regulations. A report shall be filed within five days of the test with the Director, Division of Licensing and Regulation, U. S. Atomic Energy Commission, Washington 25, D. C., describing the equipment involved, the test results and the corrective action taken. A copy of such report shall also be sent to the Director, Region I, Division of Compliance, USAEC, 376 Hudson Street, New York 14, New York.
- D. Tests for leakage and/or contamination shall be performed by individuals specified in Condition 13 in accordance with procedures in application dated July 17, 1963.
16. Except as specifically provided otherwise by this license, the licensee shall possess and use byproduct material described in Items 6, 7 and 8 of this license in accordance with statements, representations and procedures contained in application dated July 17, 1963.

For the U. S. Atomic Energy Commission



by Isotopes Branch

Division of Licensing and Regulation
Washington 25, D. C.

Date AUG 15 1963

This copy is for your files

AMENDMENT NO. 2

Department of the Navy
Bureau of Ships
Washington 25, D. C.

In accordance with application dated January 3, 1963, License No. 8-38-18 is amended as follows:

Item 4 - The expiration date is extended to January 31, 1964.

Date January 22, 1963

For the U. S. Atomic Energy Commission

Nathan Bassin
by Isotopes Branch

Division of Licensing and Regulation
Washington 25, D. C.

MATERIAL LICENSE

Supplementary Sheet

License Number 8-38-18
(B63)

Amendment No. 1

6 copies
This copy is for your files

Department of the Navy
Bureau of Ships
Washington 25, D. C.

In accordance with application dated September 13, 1962, License No. 8-38-18 is amended as follows:

Items 6B, 7B and 8B are amended to read:

6. Byproduct material (element and mass number) B. Cesium 137	7. Chemical and/or physical form B. U.S. Radium Corporation Model LAB-454-1 Sealed Sources	8. Maximum amount of radioactivity which licensee may possess at any one time B. 3.2 millicuries contained in two sources of 1.6 millicuries each
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2. Authorized user

Date SEP 27 1962

For the U. S. Atomic Energy Commission

Nathan Bassin

by Isotopes Branch

Division of Licensing and Regulation
Washington 25, D. C.

U. S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LIC.

Page 1 of 1 Pages

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter I, Part 30, 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.

Licensed				
1. Name	Department of the Navy	3. License number	8-38-18 (163)	
2. Address	Bureau of Ships Washington 25, D.C.	4. Expiration date	February 28, 1963	
5. Reference No.				
6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may possess at any one time		
4. Cesium 137	A. Oak Ridge National Laboratory Sealed Source	A. One source of .30 curies		
5. Cesium 137	B. U.S. Radium Corporation Model LAB-A54-1 Sealed Sources	B. 1.2 millicuries contained in two sources of 0.6 milli- curies each		
10. Authorized use	For storage in Model T-1216(U)/UD RadLoc Calibrator and installation on board Submarine Tender AS-32 (PEM). For storage in Model AN/USN-111 Radiac Tube Testers and installation on board Submarine Tender HS-32 (PEO).			
CONDITIONS				
10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.				
11. Byproduct material shall be stored at Ingalls Shipbuilding Corporation, Pascagoula, Mississippi under the custody of the Supervisor of Shipbuilding.				
12. The licensee shall comply with the provisions of Title 10, Part 30, Code of Federal Regulations, Chapter I, "Standards for Protection Against Radiation".				

For the U. S. Atomic Energy Commission

Date February 23, 1962 by Chief, Isotopes Branch

Division of Licensing and Regulation
Washington 25, D.C.

U. S. ATOMIC ENERGY COMMISSION

BYPRODUCT MATERIAL LICENSE

Part 1, 10 CFR, Page 1

Pursuant to the Atomic Energy Act of 1954, and Title 10, Code of Federal Regulations, Chapter 1, Part 10, Licensing of Byproduct Material, and in reliance on representations and representations hereinbefore made by the licensee, a license is hereby issued authorizing the licensee to receive, store, transport and transfer and to export byproduct material listed below, and to use such material in the manner and at the place(s) and in the quantities specified below. This license shall be deemed to supersede any previous license issued under the Atomic Energy Act of 1954, and is subject to all applicable provisions of the Atomic Energy Act of 1954, and the Commission now or hereafter in effect and to all applicable regulations of the Commission.

Licensee

1. Name Department of the Navy

2. Address Bureau of Ships

Washington 25, D. C.

5. Byproduct material
(element and mass number)A. Cesium 137
(See page 2)

7. Chemical and physical form

A. Oak Ridge National
Laboratory Sealed Source

8. Description of source(s) and quantity

A. One Source of 30 Curies

9. Authorized use

A. For use in Model TS-1116 E/UD Radiac calibrator for calibration of radiation

B. For use in Model AN/URM-113 Radiac tube test set for testing the calibration

CONDITIONS

10. Unless otherwise specified, the authorized places of use are the Laboratory and the Bureau of Ships.
11. Byproduct material shall only be used in the Cesium 137 sealed sources.
12. The licensee shall comply with the provisions of Title 10, Code of Federal Regulations, Chapter 1, "Standards for Protection Against Radiation."
13. Byproduct material shall be used by, or under the supervision of, John W. McIlraith, Donald W. Platt, Robert J. Trivett or Jack R. Sawyer.
14. Byproduct material as sealed sources shall not be opened.
- 15.A. Each sealed source containing byproduct material, other than byproduct material with a half-life greater than thirty days and in any form other than gas, shall be tested for leakage and/or contamination at intervals not to exceed six months. In the absence of a certificate from a laboratory indicating that the seal has been made six months prior to the transfer, the sealed source shall not be put into use until tested.
(See page 2)

U. S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICENSE
Supplementary Sheet

Page 2 of 2 Pages

License Number 8-38-19
(K64)

Continued

6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may possess at any one time
B. Cesium 137	B. U.S. Radium Corporation Model LAB-454-1 Sealed Sources	B. 9.2 millicuries contained in two sources of 1.6 millicuries each

Condition 15 continued

- 15.B. The test shall be capable of detecting the presence of 0.005 microcurie of removable contamination on the source. The test sample shall be taken from the sealed source or from the surfaces of the device in which the sealed source is permanently mounted or stored on which one might expect contamination to accumulate. Records of leak test results shall be kept in units of microcuries and maintained for inspection by the Commission.
- C. If the test reveals the presence of 0.005 microcurie or more of removable contamination, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired or to be disposed of in accordance with Commission regulations. A report shall be filed within five days of the test with the Director, Division of Licensing and Regulation, U.S. Atomic Energy Commission, Washington 25, D. C., describing the equipment involved, the test results and the corrective action taken. A copy of such report shall also be sent to Region I, Division of Compliance, U.S. Atomic Energy Commission, 376 Hudson Street, New York 14, New York.
- D. Tests for leakage and/or contamination shall be performed by LCDR James D. McIlraith in accordance with procedures in application received October 22, 1962.
16. Except as specifically provided otherwise by this license, the licensee shall possess and use byproduct material described in Items 6, 7 and 8 of this license in accordance with statements, representations and procedures contained in application received October 22, 1962.

For the U. S. Atomic Energy Commission

Date 7/15/1962

U. S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICENSE

Page 1 of 1 Pages

Supplementary Sheet

License Number 8-38-21

This copy is for your files

AMENDMENT NO. 2

Department of the Navy
Bureau of Ships
Washington, D. C. 20360

License No. 8-38-21 is hereby terminated effective August 13, 1964.

Date AUG 13 1964

Enc1 (2) to BUSHIPS Ser 682C-700

For the U. S. Atomic Energy Commission
Nathan Bassin
Isotopes Branch
by Division of Materials Licensing
~~U. S. Atomic Energy Commission~~
Washington, D. C. 20545

U. S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICEN.U. 3/8-64
Page 1 of 1 Pages

Supplementary Sheet

License Number 8-38-21
(G65)

THIS COPY IS FOR YOUR FILES

AMENDMENT NO. 1

682BTSDepartment of the Navy
Bureau of Ships
Washington, D. C. 20360

In accordance with application submitted February 20, 1964, License No. 8-38-21 is amended as follows:

Condition 14 is amended to read:

14. Except as specifically provided otherwise by this license, the licensee shall possess and use byproduct material described in Items 6, 7 and 8 of this license in accordance with statements, representations and procedures contained in application dated January 15, 1963, and amendments thereto dated May 24, 1963, and July 2, 1963, and application submitted February 20, 1964, and amendment thereto dated April 21, 1964.

Date MAY 12 1964For the U. S. Atomic Energy Commission
Nathan Bassin
Isotopes Branch
by Division of Materials LicensingDivision of Materials Licensing
Washington 25, D.C.

U. S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICENSE**This copy is for your files**

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Part 30, 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 Department of the Navy
2. Address Bureau of Ships
 Washington 25, D. C.

3. License number 8-38-21
(G65)

4. Expiration date
July 31, 1965

5. Reference No.

6. Byproduct material
(element and mass number)
A. Iridium 192
(See page 2)

7. Chemical and/or physical form
A. Technical Operations Model
A424-1 Sealed Sources

8. Maximum amount of radioactivity
which licensee may possess at any
one time

A. 20 curies contained in two
sources of 10 curies each

9. Authorized use
A. For use in Technical Operations Model 489 projector for industrial radiography and in
Technical Operations Model 414 source changer for storage and replacement of sources.
B. For use in Technical Operations Model 496 projector for industrial radiography.

630801-0425

CONDITIONS

10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.
11. Byproduct material shall only be used at U. S. Naval Submarine Base, Pearl Harbor, Hawaii.
12. The licensee shall comply with the provisions of Title 10, Part 20, Code of Federal Regulations, Chapter 1, "Standards For Protection Against Radiation" and Part 31, "Radiation Safety Requirements For Radiographic Operations".
13. Pursuant to Section 31.105 of Part 31, the licensee is authorized to perform tests for leakage or contamination of the sealed sources authorized by this license in accordance with procedures contained in SUBMARINE BASE INSTRUCTION 9900.1B dated November 26, 1962.
14. Except as specifically provided otherwise by this license, the licensee shall possess and use byproduct material described in Items 6, 7 and 8 of this license in accordance with statements, representations and procedures contained in application dated January 15, 1963, and amendments thereto dated May 24, 1963, and July 2, 1963.
(See page 2)

U. S. ATOMIC ENERGY COMMISSION
MATERIAL LICENSE
Supplementary Sheet

Continued From Page 1

License Number 8-38-21
(G65)

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

7. Chemical and/or physical form

**B. Technical Operations
Model A-424-5 Sealed
Source**

8. Maximum amount of radioactivity which
licensee may possess at any one time

B. One source of 3 curies

Conditions continued

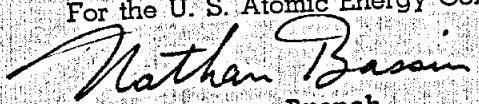
15. The licensee is authorized to receive, possess, and use sealed sources of Iridium 192 or Cobalt 60 where the radioactivity exceeds the maximum amount of radioactivity specified in Item 8 of this license provided:
- A. Such possession does not exceed the quantity per source specified in Item 8 by more than 20% for Iridium 192 or 10% for Cobalt 60;
 - B. Records of the licensee show that no more than the maximum amount of radioactivity per source specified in Item 8 of the license was ordered from the supplier or transferor of the byproduct material.
 - C. The levels of radiation for radiographic exposure devices and storage containers do not exceed those specified in Section 31.101 of Title 10, Part 31, Code of Federal Regulations, Chapter 1, "Radiation Safety Requirements for Radiographic Operations".

Date

JUL 26 1963

630801-0425

For the U. S. Atomic Energy Commission



by Isotopes Branch

Division of Licensing and Regulation
Washington 25, D. C.

U. S. ATOMIC ENERGY COMMISSION
NUCLEAR PRODUCT MATERIAL LICENSE
Supplementary Sheet

Page 1 of 1 Pages

License Number 08-00038-38

Amendment No. 01

Department of the Navy
Bureau of Ships
Washington, D. C.
20360

License Number 08-00038-38 is hereby terminated.

JAN 24 1968

Date _____

For the U. S. Atomic Energy Commission
Nathan Bassin
Isotopes Branch
by _____

Division of Materials Licensing
Washington, D. C. 20545

U. S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICENSE

Page 1 of 1 Pages

Supplementary Sheet

License Number 08-00038-38

Amendment No. 01

Department of the Navy
Bureau of Ships
Washington, D. C.
20360

License Number 08-00038-38 is hereby terminated.

For the U. S. Atomic Energy Commission
Original Signed by
Nathan Bassin

by Isotopes Branch

Division of Materials Licensing
Washington, D. C. 20545

Date JAN 24 1968

5

9900
Ser 3-0516
5 JAN 1968

From: Commander, Naval Electronic Systems Command
To: Chief, Isotopes Branch
Division of Materials Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545

Subj: AEC Byproduct Material License No. 08-00038-38

Ref: (a) Application for AEC Byproduct Material License No.
08-00038-38 dated 29 December 1965

1. It is requested that AEC License No. 08-00038-38 be terminated on
31 January 1968. The Byproduct Material authorized by this license has
been disposed of in accordance with Item 15 of reference (a).

Copy to:
BUMED (Code 74)

ELEX- 04331 (Mr. Pendleton)

SAC W. G. WILLIAMS
By direction

LINGENFELTER/mitchell
61457 - 1/5/68

U-20-66

Page 1 of 2 Pages

THIS COPY IS FOR YOUR FILES

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Part 30, Licensing of Byproduct Material, and in reliance on statements and representations herefore 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	Department of the Navy Bureau of Ships	3. License number	8-38-38 (A68)
2. Address	Washington, D. C. 20360	4. Expiration date	January 31, 1968
5. Reference No.			
6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may possess at any one time	
A. Strontium 90	A. Admiral Corporation Part No. GA 1142 Sealed Source	A. 1 source of 160 microcuries	
9. Authorized use			
A. Check source in Model AN/PDR-44 Radiac Set.			
CONDITIONS			
10. Unless otherwise specified, the authorized place of use in the licensee's address stated in Item 2 above:			
11. Byproduct material shall be used and stored only at Main Navy Building, 18th Street and Constitution Avenue, Washington, D. C.			
12. The licensee shall comply with the provisions of Title 10, Part 20, Code of Federal Regulations, Chapter 1, "Standards for Protection Against Radiation."			
13. Byproduct material shall be used by A. S. Levenson.			
14. Sealed sources containing byproduct material shall not be opened.			
15. A. Each sealed source containing byproduct material, other than Hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for leakage and/or contamination at intervals not to exceed six months. In the absence of a certificate from a transferor indicating that a test has been made			

U. S. ATOMIC ENERGY COMMISSION
PRODUCT MATERIAL LICENSES.

Page 2 of 2 Pages

FORM AEC-374A
(2-65)

B Supplementary Sheet

License Number 8-38-38
(A68)

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Condition 15.A. continued:

within six months prior to the transfer, the sealed source shall not be put into use until tested.

- B. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. The test sample shall be taken from the sealed source or from the surfaces of the device in which the sealed source is permanently mounted or stored on which one might expect contamination to accumulate. Records of leak test results shall be kept in units of microcuries and maintained for inspection by the Commission.
- C. If the test reveals the presence of 0.005 microcurie or more of removable contamination, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired or to be disposed of in accordance with Commission regulations. A report shall be filed within 5 days of the test with the Director, Division of Materials Licensing, U. S. Atomic Energy Commission, Washington, D. C. 20545, describing the equipment involved, the test results, and the corrective action taken. A copy of such report shall also be sent to the Director, Region I, Division of Compliance, USAEC, 376 Hudson Street, New York, New York 10014.
- D. Tests for leakage and/or contamination shall be performed by the Radiac Repair Facility, Naval Shore Electronics Engineering Center, Washington, D. C., or by other persons specifically authorized by the Commission or an Agreement State to perform such services.
16. Except as specifically provided otherwise by this license, the licensee shall possess and use byproduct material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in application dated December 29, 1965.

Date JAN 12 1966

For the U. S. Atomic Energy Commission


Nathan Bass

Isotopes Branch
Division of Materials Licensing
Washington, D. C. 20545

10330/1
Ser 682C-949

29 DEC 1965

From: Chief, Bureau of Ships
To: Chief, Isotopes Branch
Division of Materials Licensing
Washington, D. C. 20545

Subj: Application for AEC Byproduct Material License

Encl: (1) Form AEC 313 dated 28 DEC 1965
(2) Items 14 and 15 of Enclosure (1)

1. Enclosures (1) and (2) are hereby submitted.

Copy to:
682B2 (Mr. Levenson)

M. G. WILLIAMS
By Direction

J.J. McCracken, X61457; J. Sturdivant, 12/29/65

APPLICATION FOR BYPRODUCT MATERIAL LICENSE

INSTRUCTIONS. Complete Items 1 through 16 if this is an initial application. If application is for renewal of a license, complete only Items 1 through 7 and indicate new information or changes in the program as requested in Items 8 through 15. Use supplemental sheets where necessary. Item 16 must be completed on all applications. Mail three copies to: U.S. Atomic Energy Commission, Washington, D.C., 20545. Attention: Isotopes Branch, Division of Licensing and Regulation. Upon approval of this application, the applicant will receive an AEC Byproduct Material License. An AEC Byproduct Material License is issued in accordance with the general requirements contained in Title 10, Code of Federal Regulations; Part 30 and the Licensee is subject to Title 10, Code of Federal Regulations, Part 20.

1. (a) NAME AND STREET ADDRESS OF APPLICANT. (Institution, firm, hospital, person, etc.) Department of the Navy Chief, Bureau of Ships Washington, D. C.	(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED. (If different from 1 (a).) Main Navy Building 18th & Constitution Avenue Washington, D. C.
2. DEPARTMENT TO USE BYPRODUCT MATERIAL Nucleonics Branch	3. PREVIOUS LICENSE NUMBER(S). (If this is an application for renewal of a license, please indicate and give number.) N/A
4. INDIVIDUAL USER(S). (Name and title of individual(s) who will use or directly supervise use of byproduct material. Give training and experience in Items 8 and 9.) A. S. Levenson	5. RADIATION PROTECTION OFFICER (Name of person designated as radiation protection officer if other than individual user. Attach resume of his training and experience as in Items 8 and 9.) A. S. Levenson
6. (a) BYPRODUCT MATERIAL. (Elements and mass number of each.) Sr-90	(b) CHEMICAL AND/OR PHYSICAL FORM AND MAXIMUM NUMBER OF MILLCURIES OF EACH CHEMICAL AND/OR PHYSICAL FORM THAT YOU WILL POSSESS AT ANY ONE TIME. (If sealed source(s), also state name of manufacturer, model number, number of sources and maximum activity per source.) Admiral Corporation Part No. GA 1142 Sealed Source One Source of 160 Microcuries
7. DESCRIBE PURPOSE FOR WHICH BYPRODUCT MATERIAL WILL BE USED. (If byproduct material is for "human use," supplement A (Form AEC-313a) must be completed in lieu of this item. If byproduct material is in the form of a sealed source, include the make and model number of the storage container and/or device in which the source will be stored and/or used.) Operational Check Source in AN/PDR-44 Radiac Set. Encl (1) to BUSHIPS Ser 6820-949	

(Continued on reverse side)

Item 14 - The sealed source shall be leak tested at intervals not to exceed six months by the Radiac Repair Facility, Naval Shore Electronics Engineering Center, Washington, D. C. Records of the leak test shall be kept by the Radiation Protection Officer.

Item 15 - The sealed source shall be disposed of by transfer to the Radiac Repair Facility, Naval Shore Electronics Engineering Center, Washington, D. C. Ultimate disposal will be made by an organization licensed to dispose of licensed byproduct material by the U.S. Atomic Energy Commission or Agreement State.

U.S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICENSEPage 1 of 2 Pages
V-20-66

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Part 30, Licensing of Byproduct Material, and in reliance on statements and representations herefore 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	Department of the Navy Bureau of Ships Washington, D. C. 20360		
2. Address			
3. License number	E-38-38 (AEC)		
4. Expiration date	January 31, 1968		
5. Reference No.			
6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may possess at any one time	
A. Strontium 90	A. Admiral Corporation Part No. GA 1142 Sealed Source	A. 1 source of 160 microcuries	

9. Authorized use	
A. Check source in Model AN/FRT-44 Radiac Set.	

CONDITIONS

10. Unless otherwise specified, the authorized place of use in the licensee's address stated in Item 2 above:
11. Byproduct material shall be used and stored only at Main Navy Building, 18th Street and Constitution Avenue, Washington, D. C.
12. The licensee shall comply with the provisions of Title 10, Part 20, Code of Federal Regulations, Chapter 1, "Standards for Protection Against Radiation."
13. Byproduct material shall be used by A. S. Levenson.
14. Sealed sources containing byproduct material shall not be opened.
15. A. Each sealed source containing byproduct material, other than Hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for leakage and/or contamination at intervals not to exceed six months. In the absence of a certificate from a transferor indicating that a test has been made

U.S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICENSE
Supplementary SheetLicense Number 2-38-38
(A68)

Condition 13.A. continued:

within six months prior to the transfer, the sealed source shall not be put into use until tested.

- B. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. The test sample shall be taken from the sealed source or from the surfaces of the device in which the sealed source is permanently mounted or stored on which one might expect contamination to accumulate. Records of leak test results shall be kept in units of microcuries and maintained for inspection by the Commission.
- C. If the test reveals the presence of 0.005 microcurie of more of removable contamination, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired or to be disposed of in accordance with Commission regulations. A report shall be filed within 5 days of the test with the Director, Division of Materials Licensing, U. S. Atomic Energy Commission, Washington, D. C. 20545, describing the equipment involved, the test results, and the corrective action taken. A copy of such report shall also be sent to the Director, Region I, Division of Compliance, USAEC, 376 Hudson Street, New York, New York 10014.
- D. Tests for leakage and/or contamination shall be performed by the Radiac Repair Facility, Naval Shore Electronics Engineering Center, Washington, D. C., or by other persons specifically authorized by the Commission or an Agreement State to perform such services.
16. Except as specifically provided otherwise by this license, the licensee shall possess and use byproduct material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in application dated December 29, 1965.

For the U. S. Atomic Energy Commission

Original Signed By
Nathan Bassif
by _____
Nathan Bassif
Division of Materials Licensing
Washington, D. C. 20545

Date JAN 12 1966

5

THIS COPY IS FOR YOUR FILES

U. S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICENSEEX-1122-66
Page 1 of 2 Pages

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Part 30, Licensing of Byproduct Material, and in reliance on statements and representations here-tofore 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 Department of the Navy
Bureau of Ships
2. Address Washington, D. C. 20360

3. License number

8-38-42
(D68)

4. Expiration date

April 30, 1968

5. Reference No.

6. Byproduct material
(element and mass number)

A. Iridium 192

7. Chemical and/or physical
formA. Budd Company Model 41701
Sealed Sources8. Maximum amount of radioac-
tivity which licensee may pos-
sess at any one time
A. No single source to exceed
30 curies

9. Authorized use

A. For use in Budd Company Model 40BA projector for industrial radiography and in Budd Company Model 41026 source changer for storage and replacement of sources.

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

11. Byproduct material shall be used on the USS Arcadia or on ships and in areas where the USS Arcadia may be operating.

12. The licensee shall comply with the provisions of Title 10, Part 20, Code of Federal Regulations, Chapter 1, "Standards for Protection Against Radiation", and Part 34, "Licenses for Radiography and Radiation Safety Requirements for Radiographic Operations."

13. Pursuant to Section 34.25, 10 CFR 34, the licensee is authorized to perform tests for leakage or contamination of the sealed sources contained in Budd Company Model LT-100 Leak Test Kit. in accordance with procedures provided:

14. The licensee is authorized to receive, possess, and use sealed sources of Iridium 192 where the radioactivity exceeds the maximum amount of radioactivity specified of this license provided:

U. S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICENSE
Supplementary Sheet

Page 2 of 2 Pages

License Number 8-38-42
(D68)**THIS COPY IS FOR YOUR FILES**

Condition 13. continued:

- A. Such possession does not exceed the quantity per source specified in Item 8 by more than 20% for Iridium 192;
 - B. Records of the licensee show that no more than the maximum amount of radioactivity per source specified in Item 8 of the license was ordered from the supplier or transferor of the byproduct material; and
 - C. The levels of radiation for radiographic exposure devices and storage containers do not exceed those specified in Section 34.21, 10 CFR 34.
14. Except as specifically provided otherwise by this license, the licensee shall possess and use byproduct material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in application dated March 25, 1966.

Date

APR 15 1966

For the U. S. Atomic Energy Commission
Nathan Bassin
Isotopes Branch
by _____
Division of Materials Licensing
Washington, D. C. 20545

UNITED STATES
ATOMIC ENERGY COMMISSION

SPECIAL NUCLEAR MATERIAL LICENSE

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter I, Part 70, "Special Nuclear Material Regulations," a license is hereby issued authorizing the licensee to receive and possess the special nuclear material designated below; to use such special nuclear material for the purpose(s) and at the place(s) designated below; and to transfer such material to persons authorized to receive it in accordance with the regulations in said Part. This license shall be deemed to contain the conditions specified in Section 70.32(a) of said regulations, 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	Department of the Navy	3. License No.	
2. Address	Bureau of Ships Navy Island Naval Shipyards Vallejo, California	SUM-232, as amended	
4. Expiration Date		August 31, 1963	
5. Docket No.		70-259	
6. Special Nuclear Material	Plutonium	7. Maximum quantity of special nuclear material which licensee may possess at any one time under this license. Three hundred and twenty (320) grams encapsulated as Pu-Be neutron sources and 0.272 micrograms as alpha standards.	
8. Authorized use	For use in accordance with the procedures described in the licensee's application dated July 11, 1958, and supplements dated August 28, September 16, 1959, and November 22, 1961.		
9. Quantity of special nuclear material allocated to licensee pursuant to Section 70.31(b) of said part	 - - - - -		

CONDITIONS

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

For the U. S. ATOMIC ENERGY COMMISSION

DEC 1 1962

Date of issuance

U. S. GOVERNMENT PRINTING OFFICE 1958-6-2777 Donald A. Nussbaumer
Division of Licensing and Regulation

UNITED STATES
ATOMIC ENERGY COMMISSION

SPECIAL NUCLEAR MATERIAL LICENSE

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter I, Part 710, Special Nuclear Material Regulations, no license is hereby issued authorizing the licensee to receive and possess the special nuclear material designated below to use such special nuclear material for the purpose(s) and at the place(s) designated below, and to transfer such material to persons authorized to receive it in accordance with the regulations in said Part. This license shall be deemed to contain the conditions specified in Section 70.31(a) of said regulations 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

3. License No.

1. Name

4. Expiration Date

2. Address

5. Docket No.

6. Special Nuclear Material

7. Maximum quantity of special nuclear material which licensee may possess at any one time under this license

8. Authorized use

Plutonium

9. Quantity of special nuclear material allocated to licensee pursuant to Section 70.31(b) of said part

CONDITIONS

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

For the U. S. ATOMIC ENERGY COMMISSION

Date of issuance

1. GOVERNMENT PRINTING OFFICE: 1954 1000

1. Date

2. Date