



*Handwritten: NUDocs*

**RESPONSE TO FREEDOM OF INFORMATION ACT (FOIA) / PRIVACY ACT (PA) REQUEST**

2000-0052

1

RESPONSE TYPE  FINAL  PARTIAL

REQUESTER

Daniel Fresquez

DATE

DEC 22 1999

**PART I. -- INFORMATION RELEASED**

- No additional agency records subject to the request have been located.
- Requested records are available through another public distribution program. See Comments section.
- APPENDICES  Agency records subject to the request that are identified in the listed appendices are already available for public inspection and copying at the NRC Public Document Room.
- APPENDICES  A Agency records subject to the request that are identified in the listed appendices are being made available for public inspection and copying at the NRC Public Document Room.
- Enclosed is information on how you may obtain access to and the charges for copying records located at the NRC Public Document Room, 2120 L Street, NW, Washington, DC.
- APPENDICES  A Agency records subject to the request are enclosed.
- Records subject to the request that contain information originated by or of interest to another Federal agency have been referred to that agency (see comments section) for a disclosure determination and direct response to you.
- We are continuing to process your request.
- See Comments.

**PART I.A -- FEES**

AMOUNT \*

\$ 128.45

\* See comments for details

- You will be billed by NRC for the amount listed.  None. Minimum fee threshold not met.
- You will receive a refund for the amount listed.  Fees waived.

**PART I.B -- INFORMATION NOT LOCATED OR WITHHELD FROM DISCLOSURE**

- No agency records subject to the request have been located.
- Certain information in the requested records is being withheld from disclosure pursuant to the exemptions described in and for the reasons stated in Part II.
- This determination may be appealed within 30 days by writing to the FOIA/PA Officer, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. Clearly state on the envelope and in the letter that it is a "FOIA/PA Appeal."

**PART I.C COMMENTS (Use attached Comments continuation page if required)**

The actual fees for processing your request are:

Search: \$ 99.93  
 Review: 20.92  
 Duplication: 7.60  
 TOTAL: \$128.45

SIGNATURE - FREEDOM OF INFORMATION ACT AND PRIVACY ACT OFFICER

Carol Ann Reed

*Handwritten signature: Carol Ann Reed*

**APPENDIX A  
RECORDS BEING RELEASED IN THEIR ENTIRETY  
(If copyrighted identify with \*)**

| <b><u>NO.</u></b> | <b><u>DATE</u></b> | <b><u>DESCRIPTION/(PAGE COUNT)</u></b>  |
|-------------------|--------------------|---|
|                   |                    | <b><u>LICENSE NO. 04-00580-03</u></b>   |
| 1.                | Undated            | Expert System License Evaluation Report for License No. 04-00580-03, 4 pages.   |
|                   |                    | <b><u>LICENSE NO. 04-00580-05</u></b>   |
| 2.                | Undated            | Expert System License Evaluation Report for License No. 04-00580-05, Subject: Isotopes Specialties Company, Inc., 1 page.   |
| 3.                | 07/10/57           | U.S. Atomic Energy Commission, Byproduct Material License No. 4-580-7, 2 pages.   |
| 4.                | 10/2/57            | U.S. Atomic Energy Commission, Byproduct Material License Supplementary Sheet, Subject: Amendment No. 1, 1 page.  |
| 5.                | 10/18/57           | U.S. Atomic Energy Commission, Byproduct Material License Supplementary Sheet, Subject: Amendment No. 2, 1 page.  |
| 6.                | 12/03/57           | U.S. Atomic Energy Commission, Byproduct Material License Supplementary Sheet, Subject: Amendment No. 3, 2 pages.   |
| 7.                | 12/31/57           | Letter to Atomic Energy Commission, Isotopes Extension, Division of Civilian Application, Oak Ridge National Laboratory from Helen Blaueat, Subject: License No. 4-580-5, 1 page. |

**RE: FOIA-2000-0052**

**APPENDIX A (con't)**

8. 09/21/58 Letter to Mr. Ginz, Atomic Energy Commission from Allen M. Goldstein, President, Subject: LSSS Cameras, 2 pages.
9. 10/21/58 Letter to Dr. Allen M. Goldstein, President, Isotopes Specialties Company from William L. Miller, Senior Licensing Reviewer, Division of Licensing and Regulation, Subject: Series LSS3 Radiography Cameras, 3 pages.

**LICENSE NO. 04-00580-07**

10. Undated Expert System License Evaluation Report for License No. 04-00580-07, 4 pages.

**LICENSE NO. C-03544**

11. Undated Expert System Evaluation Report for License No. C-03544, 1 page.
12. 04/22/57 Letter to Atomic Energy Commission, Attn: Lyall Johnson from Philip Gill, Subject: License Request for Isotopes Specialties Company with attachment, 5 pages.
13. 04/30/57 Letter to Isotopes Specialties Co., Inc., Attn: Philip Gill, Subject: License Amendment No. 1, 1 page.
14. 01/22/58 Letter to Atomic Energy Commission, Attn: Lyall Johnson from Phil Gill, Subject: Source Material License No. C-3544, Amend. 1, Exp. Date 8/1/57, 1 page.
15. 01/28/58 Letter to Isotopes Specialties Co., Inc. Attn: Philip Gill from J. C. Delaney, Subject: Licensed to receive source material, 1 page.
16. 09/58 Memo to W. B. McCool thru Paul F. Foster from Eber Price, Subject: Information Paper Transmitting Letter from Director, Department of Fish and Game, State of California, 1 page.

APPENDIX A (con't)

| <u>NO.</u> | <u>DATE</u> | <u>DESCRIPTION/(PAGE COUNT)</u>   |
|------------|-------------|---|
| 17.        | 09/08/58    | Memo to Files from Robert F. Barker, Subject: Visit to Isotope Specialties, Burbank, California, June 18, 1958, 2 pages.        |
| 18.        | 03/11/60    | Letter to Nuclear Corporation of America Attn: A. A. Michaud from James R. Mason, Subject: Byproduct Material Licenses, 1 page. |
| 19.        | 03/11/60    | Letter to Mr. J. R. Mason, Chief from A. A. Michaud, Subject: Byproduct Materials License, 2 pages.                             |
| 20.        | 04/08/60    | Letter to Nuclear Corporation of America from James R. Mason, Subject: Licensed Material Program, 1 page.                       |
| 21.        | 11/04/60    | Letter to Mr. J. C. Delaney from Kenneth W. Newman, PhD, Subject: Source Material License Renewal, 1 page.                      |
| 22.        | 11/10/60    | Letter to Nuclear Corporation of America from J. J. Lane, Subject: Source Material License, 1 page.                             |
| 23.        | 01/19/61    | Routing Slip to J. C. Delaney from W. S. Cool, Subject: Isotopes Specialties Company, 3 pages.                                  |
| 24.        | 01/30/61    | Letter to Nuclear Corporation of America, Inc., from James R. Mason, Subject: Sale of Isotopes Specialties Company, 2 pages.    |

6. FIRST SITE: There was no evidence of releases at this site. Score not changed.
7. FIRST SITE: Some likelihood that building onsite could have been left with contamination. Score=score\*1.0

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Reviewer's comments concerning potential CONTAMINATION IN HANDLING/TRANSFERRING/STORING LOOSE MATERIAL THE POTENTIAL FOR CONTAMINATION EXISTS.

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8. FIRST SITE: Description of activity was inadequate to determine whether outdoor contamination at the site was a likelihood. No change in score
9. FIRST SITE: There was NO verifiable decontamination of the site at closeout. Score=score\*1.2
10. FIRST SITE: Nature/magnitude of operation should cause small turnover of materials Score=score\*0.8

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Reviewer's comments concerning potential TURNOVER OF MATERIALS

---

THE LICENSEE WAS AUTHORIZED TO STORE WASTE FOR DISPOSAL IN THE OCEAN AT LEAST 75 MILES FROM SHORE. IN AN APPLICATION DATED AUGUST 3, 1956, THE LICENSEE STATED THAT MATERIAL WOULD BE IN STORAGE LONG ENOUGH TO WARRENT A 75 MILE BOAT TRIP.

---

11. FIRST SITE: Based on previous answers, the license as used at site is a candidate to use protective clothing, glove boxes, hoods, or a hot cell. The reviewer found no evidence that any of the above were used at this site.
12. FIRST SITE: There was either no documentation of materials disposition or the documentation was inadequate. Score=score\*1.2
13. FIRST SITE: There was NO closeout survey for this site. Score multiplied by 1.8
14. FIRST SITE: There was NOT an NRC FINAL INSPECTION of the facility.
15. SECOND SITE: There was no evidence of releases at this site. Score not changed.
16. SECOND SITE: Some likelihood that building onsite could have been left with contamination. Score=score\*1.0
17. SECOND SITE: Description of activity was inadequate to determine whether outdoor contamination at the site was a likelihood. No change in score
18. SECOND SITE: There was NO verifiable decontamination of the site at closeout. Score=score\*1.2
19. SECOND SITE: Nature/magnitude of operation should cause small turnover of materials Score=score\*0.8

--- continued on next page ---

6. FIRST SITE: There was no evidence of releases at this site.  
Score not changed.
7. FIRST SITE: Some likelihood that building onsite could have been left with contamination. Score=score\*1.0

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Reviewer's comments concerning potential CONTAMINATION IN HANDLING/TRANSFERRING/STORING LOOSE MATERIAL THE POTENTIAL FOR CONTAMINATION EXISTS.

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Score not changed.
16. SECOND SITE: Some likelihood that building onsite could have been left with contamination. Score=score\*1.0
17. SECOND SITE: Description of activity was inadequate to determine whether outdoor contamination at the site was a likelihood.  
No change in score
18. SECOND SITE: There was NO verifiable decontamination of the site at closeout. Score=score\*1.2
19. SECOND SITE: Nature/magnitude of operation should cause small turnover of materials Score=score\*0.8

--- continued on next page ---

20. SECOND SITE: Based on previous answers, the license as used at site is a candidate to use protective clothing, glove boxes, hoods, or a hot cell. The reviewer found no evidence that any of the above were used at this site.
21. SECOND SITE: There was either no documentation of materials disposition or the documentation was inadequate.  
Score=score\*1.2
22. SECOND SITE: There was NO closeout survey for this site. Score multiplied by 1.8
23. SECOND SITE: There was NOT an NRC FINAL INSPECTION of the facility. Score not changed.

---

CATEGORY FOR POTENTIAL SITE CONTAMINATION:  
HIGHEST PRIORITY-Category 1A

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|  |     |
|--|-----|
| The final ranking for SITE CONTAMINATION is: | 416 |
|--|-----|

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Description of THE LICENSEE ACTIVITY AUTHORIZED by this license

---

COLLECTION OF BYPRODUCT & SOURCE MATERIAL FROM LICENSED USERS;  
PREPARATION FOR DISPOSAL (INCLUDING STORAGE); DISPOSAL OF BYPRODUCT &  
SOURCE MATERIAL.

---

Description of THE USE OF BYPRODUCT MATERIAL under this license

---

COLLECTION OF BYPRODUCT & SOURCE MATERIAL FROM LICENSED USERS.  
PREPARATION FOR DISPOSAL (INCLUDING STORAGE). DISPOSAL OF BYPRODUCT  
AND SOURCE MATERIAL.

--- continued on next page ---

The licensee was authorized to collect radioactive waste (any byproduct material atomic number 3-83 inclusive, and source material) from licensed users prepare it for storage in concrete filled drums until disposal at sea became available or the storage facility became overburdened. The waste was transferred from customer's containers to disposal drums. In a letter dated October 13, 1955, solid waste was compacted and liquid waste, in all probability, would be concentrated using an appropriate method before being added to concrete-lined drums.

An inspection or closeout survey seems appropriate since the potential for contamination exists during the transferring and preparation of the waste for storage and final disposal. There is no information in the file to verify that all waste was disposed.

---

EXPERT SYSTEM EVALUATION WAS BASED ON THE  
INVENTORY RECORD IN JOB 1449, BOX 04

Docket

Licensee: ISOTOPES SPECIALTIES COMPANY

Address: BURBANK, CALIFORNIA

Zip: NoZip

State of operation: CA

Disposition information present: NO DISPOSITION INFORMATION GIVEN

This license was listed as expired on 01/31/58

Remarks:

JOB NUMBER: 1449      BOX NUMBER: 04

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-----  
Date of last evaluation/revision: 03/16/93

Reviewer: BWK

EXPERT SYSTEM LICENSE EVALUATION  
EVALUATION REPORT FOR LICENSE 04-00580-05

Licensee: ISOTOPES SPECIALTIES COMPANY INC  
Site of operation: LICENSE'S ADDRESS

INFORMATION ON EXACT AMOUNTS OF MATL WAS NOT NEEDED TO EVALUATE

---

THIS LICENSE WAS ELIMINATED FROM CONSIDERATION  
The reason for elimination was: SUPERCEDED BY NEW LICENSE

---

EXPERT SYSTEM EVALUATION WAS BASED ON THE  
INVENTORY RECORD IN JOB 0277, BOX 01

Licensee: ISOTOPES SPECIALTIES COMPANY INC  
Address: BURBANK, CALIFORNIA

Docket

Zip:

This license was listed as SUPERCEDED BY ANOTHER LICENSE  
Contents of the new license field 04-00580-07

State of operation: CA

Site used: LICENSE'S ADDRESS

Disposition information present: NO DISPOSITION INFORMATION GIVEN

Remarks:NOTE ON COVER: MATERIAL COVERED BY LIC #04-00580-07

JOB NUMBER: 0277      BOX NUMBER: 01

---

A/S

U. S. ATOMIC ENERGY COMMISSION

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.

**SUPERSEDED**

|  |   |   |                           |
|--|---|---|---------------------------|
| Licensee   |   | By License Number   |                           |
| 1. Name  | Isotopes Specialties Company, Inc.<br>Industrial Department | 3. License number   | <u>4-580-7</u><br>4-580-5 |
| 2. Address   | 703 South Main Street<br>Burbank, California                | 4. Expiration date  | July 31, 1959             |
|  |   | 5. Reference No.  | 4-580-2<br>4-580-4        |
| 6. Byproduct material<br>(element and mass number) | 7. Chemical and/or physical form                            | 8. Maximum amount of radioactivity<br>which licensee may possess at<br>any one time |                           |
| A. Hydrogen 3 *<br>B. Polonium 210                 | A. Any<br>B. Any  | <p><b>SUPERSEDED</b></p> <p>By License Number <u>4-580-7</u></p>                    |                           |
|  |   | B. 100 curies<br>B. 80 curies   |                           |

9. Authorized use  
PROCESSING FOR REDISTRIBUTION to Atomic Energy Commission licensees. Hydrogen 3 and Sulfur 35 may also be used in RESEARCH AND DEVELOPMENT as defined in Section 11(q) of the Atomic Energy Act of 1954.

CONDITIONS

- 10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.
- 11. Byproduct materials to be used by, or under the supervision of, individuals designated by the radioisotope committee, Allen M. Goldstein, Chairman.
- 12. THIS LICENSE SUPERSEDES LICENSE NOS. 4-580-2 AND 4-580-4.
- 13. Written administrative instructions covering appropriate radiological protection phases of operational procedures and establishing responsibility for radiological protection, control, and security of the byproduct material shall be supplied individuals using or having responsibility for use of such material.
- 14. A curie of Iridium 192 is defined as that quantity of activity which presents a radiation intensity of 0.55 roentgens per hour at a distance of one meter.
- 15. \* Total amount of Hydrogen 3 (Tritium) procured under this license shall not exceed 100 curies.

**SUPERSEDED**

(See Page 2).

By License Number

4-580-7

Date July 10, 1957

For the U. S. Atomic Energy Commission



*Taulc Abernold*

by

Director, Isotopes Extension  
Division of Civilian Application  
Oak Ridge, Tennessee

A/B

PRODUCT MATERIAL LICENSE

Supplementary Sheet

This copy is for your files

License Number 4-580-5

CONTINUED:

|  |   |   |
|--|---|---|
| <p>6. Byproduct material (element and mass number)</p> <p>C. Any byproduct material between Atomic Nos. 3-83 inclusive</p> | <p>7. Chemical and/or physical form</p> <p>C. Any</p> <p><b>SUPERSEDED</b><br/>By License Number<br/><u>4-580-7</u></p> | <p>8. Maximum amount of radioactivity which licensee may possess at any one time</p> <p>C. 500 millicuries of any byproduct material between Atomic Nos. 3-83 inclusive, except:<br/>Cobalt 60 - 160 curies<br/>Thulium 170 - 100 curies<br/>Iridium 192 - 80 curies<br/>Cesium 137 - 120 curies<br/>Sulfur 35 - 175 curies</p> |
|--|---|---|

CONDITIONS

16. All sealed sources, containing beta and/or gamma emitting byproduct material, manufactured under this license, shall be tested for contamination. Any sources found to have contamination shall be decontaminated and retested prior to being used or transferred to another person. The test shall be sufficiently sensitive to detect the presence of removable contamination in excess of 0.05 microcurie. All sources, other than those excepted below, shall be stored for a period of 30 days after having passed the contamination test, and leak tested. Any source found to be leaking shall be repaired and retested as a new source prior to being used or transferred to another person. The test shall be as sensitive as that required above for the contamination test. Exceptions to the manufacturers leak test are those sources: (1) containing only Iridium 192, Tantalum 182, or gold or nickel plated Cobalt 60, in solid metallic form; (2) transferred to a person who is licensed to perform an equivalent test on the sources, in lieu of this requirement.
17. All sealed sources, containing alpha emitting byproduct material, manufactured under this license, shall be tested for contamination. Any source found to have contamination shall be decontaminated and retested prior to being used or transferred to another person. The test shall be sufficiently sensitive to detect the presence of removable contamination in excess of 0.005 microcurie. All sources shall be stored for at least 7 days after having passed the contamination test, and leak tested. Any source found to be leaking shall be repaired and retested as a new source prior to being used or transferred to another person. All sources shall be tested within 30 days prior to being transferred to other persons, and found to be free from leakage. The test shall be as sensitive as that required above for the contamination test.
18. Byproduct material shall not be used in:  
(a) or on human beings.  
(b) field applications.

For the U. S. Atomic Energy Commission

Date July 10, 1957

  
Director, Isotopes Extension  
Division of Civilian Application  
Oak Ridge, Tennessee

PRODUCT MATERIAL LICENSE

Supplementary Sheet

This Copy is For Your Files

License Number 4-580-5

AMENDMENT NO. 1

OCT 7 1957

Isotopes Specialties Company, Inc.  
Industrial Department  
703 South Main Street  
Burbank, California

Attn: Allen M. Goldstein

In accordance with application dated September 25, 1957, License No. 4-580-5 is amended to add:

CONDITIONS

- 19. Carbon 14 may also be used at Isotopes Specialties Company, 703 S. Main Street, Burbank, California and 170 W. Providencia, Burbank, California.

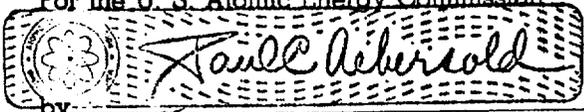
SUPERSEDED

By License Number

4-580-7

AIY

For the U. S. Atomic Energy Commission



by

Date October 2, 1957

Director, Isotopes Extension  
Division of Civilian Application  
Oak Ridge, Tennessee

U. S. ATOMIC ENERGY COMMISSION  
PRODUCT MATERIAL LICENSE

Supplementary Sheet

THIS COPY IS FOR YOUR FILES

License Number 4-580-5

AMENDMENT NO. 2

OCT 22 1957

Isotopes Specialties Company, Inc.  
Industrial Department  
703 South Main Street  
Burbank, California

Attn: Allen M. Goldstein

In accordance with application dated September 19, 1957 and telephone call of October 15, 1957, License No. 4-580-5 is hereby amended to add the following:

|   |   |  |
|---|---|--|
| 6. Byproduct material<br>(element and mass number)<br><br>D. Cesium 137 | 7. Chemical and/or<br>physical form<br><br>D. Encapsulated<br>sources | 8. Maximum amount of radioactivity<br>which licensee may possess at<br>any one time<br><br>D. 850 curies |
|---|---|--|

CONDITIONS

20. Packaged byproduct material wastes may be stored at 170 West Providencia Street, Burbank, California

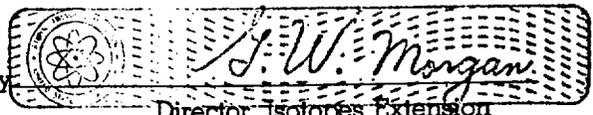
**SUPERSEDED**  
By License Number  
4-580-7

*file*  
*AG*

*A/S*

For the U. S. Atomic Energy Commission

Date October 13, 1957

by  S.W. Morgan

Director, Isotopes Extension  
Division of Civilian Application  
Oak Ridge, Tennessee

|         |  |  |  |                    |  |
|---------|--|--|--|--------------------|--|
| DATE    |  |  |  |                    |  |
| SURNAME |  |  |  | <i>W. F. Hitch</i> |  |
| OFFICE  |  |  |  |                    |  |

Fertell/18  
Isotopes  
12-3-57

*H/16*

- Enclosures: MH*
1. Am. #3, I.A. #4-580-5
  2. The ARC-313, w/instructions (1 set)
  3. CRH Parts 20 & 30

James W. Hitch, Assistant Chief  
 Hypoduct Licensing  
 Isotopes Extension  
 Division of Civilian Application

Very truly yours,

If we can be of further service, please feel free to contact us.

In reference to paragraph 5 of your letter of September 20, 1957 on the manufacturer's leak test of sealed sources, the information contained in Mr. Gene Blum's letter of October 1, 1956 is essentially correct. Sealed sources containing Tantalum 182, Gold or nichel plated Cobalt 60, Iridium 192, Gold 198, and Antimony 124 in a solid metallic form can be exempted from the manufacturer's leak test, in view of the physical characteristics of the isotopes and the relatively short half-lives.

Enclosed you will find Amendment No. 3 to License No. 4-580-5 to include the above radiisotopes in the list that are exempt from the manufacturer's leak test.

Dear Mr. Goldstein:

Subject: AMENDMENT NO. 3 TO LICENSE NO. 4-580-5

Mr. Allan M. Goldstein  
 General Manager  
 Isotopes Specialties Co., Inc.  
 703 South Main Street  
 Burbank, California

IRB:CMF (LIC 4-580-5)

Oak Ridge, Tennessee  
 December 3, 1957

PRODUCT MATERIAL LICENSE

Supplementary Sheet

This copy is for your files

License Number 4-580-5

AMENDMENT NO. 3

Isotopes Specialties Company, Inc.  
Industrial Department  
703 South Main Street  
Burbank, California

Attn: Allen M. Goldstein

In accordance with letter of September 20, 1957, Condition No. 16 of License No. 4-580-5 is hereby amended to add the following:

"Isotopes as exceptions to the manufacturer's leak test of sources in a solid metallic form, Gold 198 and Antimony 124."

**SUPERSEDED**  
By License Number  
4-580-7

Date December 3, 1957

For the U. S. Atomic Energy Commission

by James R. Mason

Director, Isotopes Extension  
Division of Civilian Application  
Oak Ridge, Tennessee

TAGGED COMPOUNDS

ISOTOPES

HEALTH PHYSICS SERVICE

812 b  
ASSOCIATED EQUIPMENT

AFFILIATED COMPANIES PRODUCTS  
SOLD, SERVICED AND GUARANTEED BY  
ISOTOPES SPECIALTIES CO., INC. IN  
WESTERN UNITED STATES:

NUCLEAR CONSULTANTS, INC.  
LONG ISLAND CITY, N. Y.

NUCLEAR CONSULTANTS, INC.  
ST. LOUIS, MISSOURI

RESEARCH CHEMICALS  
BURBANK, CALIFORNIA

NRD INSTRUMENTS  
ST. LOUIS, MISSOURI

NUCOR RESEARCH  
FERNDALE, MICHIGAN

ISOTOPES SPECIALTIES COMPANY, INC.

170 West Providencia  
Burbank, California  
VI. 9-2273

P.O. Box 688

SALES OFFICES:  
NUCLEAR CONSULTANTS  
CRESCENT STREET, L.I.C., N. Y.  
NUCLEAR CORP. MIDCONTINENT SALES DIV.  
MANCHESTER ROAD, ST. LOUIS, MISSOURI  
ISOTOPES SPECIALTIES CO., INC.  
BURBANK, CALIF.

December 31, 1957

Atomic Energy Commission  
Isotopes Extension  
Division of Civilian Application  
Oak Ridge National Laboratory  
P.O. Box E  
Oak Ridge, Tennessee

Gentlemen:

In compliance with your request contained in your  
letter of December 23rd, we are returning herewith AEC  
License No. 4-580-5 which has been superseded by No. 4-580-7.

Very truly yours,

*Helen Stewart*

hb  
Encl.

*OK m r*



## isotopes specialties company

p. o. box 688 • 170 west providencia • burbank, california

twx brb 9831  
victoria 9-2273 burbank  
state 2-3000 chicago  
locust 8-0124 philadelphia  
plaza 8-0700 n. y.

September 21 1958

sales offices:  
p.o. box 90  
glen ellyn, ill.  
p.o. box 1797  
philadelphia 5; pa.

Atomic Energy Commission  
By-Product Licensing Div.  
Washington 25, D. C.

ATTENTION: MR. GINZ

Dear Mr. Ginz:

Answering questions brought up during my recent visit to your office:

## 1. Regarding LSS3 cameras:

- (a) Visibility of indicator lights is 17 feet in bright sun with difficulty or approximately 12 feet in bright sun easily.
- (b) Regarding removal of source in the field, bolts (No. 14, our Dwg. A1024) will in all cameras of this type delivered in the future be tack welded in place. Two cameras of this type delivered prior to this time are so constructed that bolts can be removed by a field man with ordinary tools and source can then be withdrawn to the edge of the shield but not beyond the rim-edge due to a restriction in the tube. Withdrawal of the source to this point, however, will create a beam out of the rear end of the camera. Source cannot, however, be detached from the camera with ordinary tools.
- (c) Regarding cable length, standard cable length of this camera is 25 feet for the source extension tube and 25 feet for the gear box.

2. Basis for radiation profile about LSS shield (our ISC Dwg. A-1026, our ltr. 1-24-58) is 20 curies of Ir-192 in LSS3A as noted. Profile for LSS3B loaded with 5 curies Co-60 was not included as stated in the letter since radiation has been computed only and such a shield has not yet been built.

3. Regarding your request for a wiring diagram of the light system of ISC LSS3 shields, this will be forthcoming shortly.

I believe that this covers all the questions raised.

A/S

a division of nuclear corporation of america



If I have missed any, please let me know.

Yours very truly,

Allen M. Goldstein  
President

hb  
Encl. (Dwg. A1024)

Dupl.

1717 H Street, NW

DLR/IB:LPG

October 21, 1958

Dr. Allen M. Goldstein, President  
Isotopes Specialties Company  
P. O. Box 688  
Burbank, California

Subject: SERIES LSS3 RADIOGRAPHY CAMERAS

Dear Dr. Goldstein:

Thank you for your letter dated September 21, 1958, providing additional information on your Series LSS3 Radiography Cameras.

As discussed with you during a recent visit, we have begun compiling information on sealed sources and devices on "Summary Sheets". We have thoroughly checked our files and attempted to compile all of the pertinent information regarding your Series LSS3 cameras on the summary sheets. We are enclosing copies of these sheets, and request that you look them over and determine if the information which we have so far compiled is correct.

In making this compilation we find that there are a number of necessary questions for which we do not have sufficiently definitive answers to make a complete evaluation of these devices. They are as follows:

1. Are the model numbers intended to be LSS3A etc., rather than LSS-3A or LSS-3-A as indicated in previous correspondence?
2. Are the only models presently involved in this series LSS3A, LSS3B, and LSS3BML?
3. What is the minimum shielding for each model? Item 6 of your letter of January 24, 1958 indicates that minimum shielding for the Model LSS3A is 5.8" of lead; however, from Drawing No. A-1026, it appears that the minimum shielding could not be more than 5-3/8" of lead. Since the drawing is not to scale and is not adequately dimensioned it is not possible to determine that even this is the minimum shielding.

4. Are Models LSS3A and LSS3B always mounted on a hand cart? If they are not, it will be necessary to assign separate model numbers to each

OFFICE ▶

SURNAME ▶

DATE ▶

A/9

type of mounting. In either case, a complete description of the mounting should be provided.

5. Do you wish to register the Model LSS3B41 as an unmounted unit? If so, it will be necessary for each of your customers to completely describe the mounting which they will provide for the unit.
6. In general, all drawings are not sufficiently detailed to provide the necessary information for evaluating these devices. As previously explained, we require details on materials of construction, dimensions, tolerances, and techniques of assembly. As an example, Drawing A-1026 does not provide information on the method of joining the sections of the shell, the supporting mechanism, or the method of connecting the flexible tubing to the S tube. Also, Drawing No. A-1024 provides essentially no details as to materials, dimensions, or method of joining.
7. We are also interested in the details of the cable drive mechanism and its connection to the rest of the camera. The description of the mechanism can probably best be accomplished by referring to a teleflex catalog number and description. Any custom modification, such as the mounting of the micro-switch, should be described in detail.
8. Please describe the method of connecting the source disconnect and cable stop to the drive cable. We presume these are joined by silver soldering, the same as the source and other half of the disconnect to the source cable. In such cases, we do not consider this method adequate for a steel cable. Some recent information has come to our attention indicating that a carbon steel cable, after having been heated, will not adequately withstand repeated flexing.
9. Complete details are requested on the flexible tubing including; material, method of construction, and results of prototype tests indicating the extent of normal use and abuse which the cable will withstand. Also, details of the method of attaching the cable to the various components of the unit is requested. Again, if this is a standard teleflex product it maybe described by reference to their catalog.
10. Please clarify whether Drawing No. A-1023, and the related explanation sheet entitled "Sources to be Used in All LSS-3 Series of Cameras", has been superseded by the drawings and specification sheets on your Models 150, 151, and 152 sources. If so, please submit a detailed description of the source cable disconnect.
11. Please describe how and where the labels are attached on each of the cameras.
12. A wiring diagram and a complete description of the electrical components making up the source "On-Off" indicator system, as well as their method of attachment, is requested.

|           |  |  |  |  |
|-----------|--|--|--|--|
| OFFICE ▶  | making up the source "On-Off" indicator system, as well as their method of attachment, is requested. |  |  |  |
| SURNAME ▶ |  |  |  |  |
| DATE ▶    |  |  |  |  |

- 13. Is any method provided for securing the source in the camera during transportation. If so, please describe. If not, please clarify ICC's approval of this unit as a shipping container without a method of securing the source.
- 14. Please describe the emergency crank and its attachment to the camera.
- 15. Please submit a revised copy of your instruction manual which accurately describes the final construction of these cameras. It is strongly suggested that annotated drawings or photographs be included in the manual, and that the description of the various parts be adequately related to such drawings or photographs.
- 16. Please describe your prototype testing and the results of such tests which demonstrate that each component is designed to withstand the type of use and abuse which it will be likely to receive.
- 17. Please describe the quality control procedures which will be followed to assure that each unit meets the minimum standards set for the prototype.

Upon receipt of the above requested information, we shall continue our review of these devices.

Very truly yours,

William O. Miller  
Senior Licensing Reviewer  
Isotopes Branch  
Division of Licensing and Regulation

|           |                           |            |  |  |  |  |
|-----------|---------------------------|------------|--|--|--|--|
| OFFICE ▶  | ISOTOPEs                  | ISOTOPEs   |  |  |  |  |
| SURNAME ▶ | <i>LPG</i><br>LPGintz:cam | Miller     |  |  |  |  |
| DATE ▶    | 10/22/58                  | <i>WOM</i> |  |  |  |  |

EXPERT SYSTEM LICENSE EVALUATION  
 REPORT FOR LICENSE 04-00580-07

NAME OF LICENSEE: ISOTOPES SPECIALTIES COMPANY, INCORPORATED  
 LISTED SITE: 170 WEST PROVIDENCIA, BURBANK, CALIFORNIA

--- TYPE OF ACTIVITY OR FACILITY: COMMERCIAL LABORATORY - RESEARCH

DESCRIPTION OF FIRST SITE AT WHICH 04-00580-07 WAS USED  
 ISOTOPES SPECIALTIES COMPANY, INCORPORATED  
 INDUSTRIAL DEPARTMENT  
 170 WEST PROVIDENCIA  
 BURBANK, CALIFORNIA

LIC Expired  
 1959

Description of LICENSEE ACTIVITY UNDER THIS LICENSE

THE LICENSEE WAS ALLOWED TO PROCESS AND DISTRIBUTE BYPRODUCT MATERIALS TO OTHER LICENSEES. THE LICENSEE WAS ALSO AUTHORIZED TO CONDUCT RESEARCH AND DEVELOPMENT WITH TRITIUM AND SULFUR 35.

----- MATERIALS INFORMATION FOR THIS LICENSE -----

--Information on type and form of materials--

--Authorized Material--

--Form Authorized--

|                      |              |
|----------------------|--------------|
| H-3                  | Loose or Any |
| PO-210               | Loose or Any |
| ANY BYPRODUCT MATERI | Loose or Any |
| CO-60                | Loose or Any |
| CS-137               | Loose or Any |
| TM-170               | Loose or Any |
| IR-192               | Loose or Any |
| S-35                 | Loose or Any |
| SB-124               | Loose or Any |

AMOUNT OR ACTIVITY OF MATERIALS

| ---Material--      | --SEALED OR LOOSE-- | POSS. LIMIT | Unit | Initial score |
|--------------------|---------------------|-------------|------|---------------|
| H-3                | LOOSE               | 100.00      | CI   | 7568          |
| ANY BYPRODUCT MATL | LOOSE               | 500.00      | CI   |               |
| CO-60              | LOOSE               | 2000.00     | CI   |               |
| CS-137             | LOOSE               | 1000.00     | CI   |               |
| TM-170             | LOOSE               | 100.00      | CI   |               |
| IR-192             | LOOSE               | 80.00       | CI   |               |
| S-35               | LOOSE               | 175.00      | CI   |               |
| SB-124             | LOOSE               | 50.00       | CI   |               |
|                    |                     |             |      |               |

INITIAL SITE SCORE, based on LOOSE material possession limits: : 513

(2)

A/10

FINAL DECISION FOR LOOSE MATERIALS:

POTENTIAL SITE CONTAMINATION:  
HIGHEST PRIORITY FOR REVIEW

The final SCORE for SITE CONTAMINATION is: 7568

---

SEQUENCE OF RECORDED REASONING

1. Activities under this license involving use of 'any byproduct matl' were not specified clearly. Cannot determine likelihood of hazard.
2. There was at least one loose material on this license for which the amount remaining was reduced according to the length of the half-life
3. There was one identifiable site with this license.
4. FIRST SITE: EVIDENCE IN FILE and knowledge of materials and usage were sufficient to lead the reviewer to suspect building contamination. Score raised by a factor of 1.5
5. FIRST SITE: There was NO verifiable decontamination of the site at closeout. Score=score\*1.2
6. FIRST SITE: Description of activity was inadequate to determine whether outdoor contamination at the site was a likelihood.  
No change in score
7. FIRST SITE: There was insufficient information in file to determine the likelihood of release to atmosphere or to environment from activities at this site.
8. FIRST SITE: There was PROBABLE use of glove boxes, hoods, or protective clothing
9. FIRST SITE: Possible inappropriate disposal or abandonment of contaminated material from glove boxes, hoods, or equipment.  
Score=score\*1.1
10. FIRST SITE: There was possible or limited generation of contaminated material from machinery used in the operation.  
Score=score\*1.2.
11. FIRST SITE: Possible inappropriate disposal or abandonment of contaminated material from machinery (cloths, parts, etc).

Score=score\*1.1

12. FIRST SITE: There was limited generation of solid waste in the operation. Score=score\*1.2
13. FIRST SITE: Some possibility that contaminated solid waste was inappropriately disposed of. Score=score\*1.1
14. FIRST SITE: There was limited generation of liquid waste in the operation. Score=score\*1.2
15. FIRST SITE: Some possibility that contaminated liquid waste was inappropriately disposed of. Score=score\*1.1
16. FIRST SITE: There was SOME indication of possible burial or dumping Score=score\*1.5
17. The information available concerning the operations carried out under this license is insufficient to make any judgment of the frequency of turnover for operation. Accordingly the score will not be changed at this point.
18. FIRST SITE: There was either no documentation of materials disposition or the documentation was inadequate. Score=score\*1.2
19. FIRST SITE: There was NO closeout survey for this site. Score multiplied by 1.8
20. FIRST SITE: There was NOT an NRC FINAL INSPECTION of the facility. Score not changed.

---

COMMENTS FOR LICENSE EVALUATION

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Reviewer's comments concerning potential BURIAL OF WASTE OR MATERIAL THE COMPANY WAS ALSO A WASTE DISPOSAL COMPANY. THE DISPOSAL OF ALL MATERIALS AND WASTE WERE PROBABLY MADE THRU THIS DIVISION. THE METHOD THE COMPANY USED WAS OCEAN DUMPING.

---

Description of LICENSEE ACTIVITY UNDER THIS LICENSE

---

THE LICENSEE WAS ALLOWED TO PROCESS AND DISTRIBUTE BYPRODUCT MATERIALS TO OTHER LICENSEES. THE LICENSEE WAS ALSO AUTHORIZED TO CONDUCT RESEARCH AND DEVELOPMENT WITH TRITIUM AND SULFUR 35.

Reviewer's comments concerning potential TURNOVER OF MATERIALS  
THERE WAS NOT ENOUGH INFORMATION IN THE FILE TO DETERMINE THE AMOUNT OF  
MATERIAL THAT WAS USED AT ANY ONE TIME. TRITIUM WAS THE ONLT ISOTOPE THAT  
WAS LIMITED TO A SPECIFIC AMOUNT. 100 CURIES.

---

Reviewer's comments concerning potential CONTAMINATION  
A DRAFT LETTER WAS INCLUDED IN THE FILE. THIS LETTER INDICATED THAT THE  
LICENSEE'S SURVEY EQUIPMENT WAS INOPERABLE FOR 2 MONTHS AND THERE WAS A  
HIGH DEGREE OF CESIUM AND POLONIUM CONTAMINATION IN THE LABORATORIES. NO  
OTHER DETAILS WERE PROVIDED.

---

Reviewer's comments concerning potential GENERATION OF WASTE  
CLOTHING MAY HAVE BEEN WORN BY THE WORKERS, BUT NO INFORMATION WAS  
PROVIDED. NO DISPOSAL METHODS WERE GIVEN BY THE LICENSEE. HEAVY MACHINERY  
COULD HAVE BEEN USED IN THE PROCESSING OF THE MATERIALS, BUT NO SPECIFIC  
DETAILS WERE PROVIDED. AGAIN, NO DISPOSAL METHODS WERE DESCRIBED. SOLID  
AND LIQUID WASTE COULD HAVE BEEN PRODUCED, DEPENDING ON THE KINDS OF  
ISOTOPE THE COMPANY POSSESSED AND WHAT TYPE OF PRODUCT THEY WERE  
DISTRIBUTING. NO METHODS OF DISPOSAL WERE GIVEN FOR THE MATERIALS OR THE  
WASTE.

---

- GENERAL COMMENTS ENTERED BY THE REVIEWER CONCERNING THE EVALUATION -  
-- THE LICENSEE WAS AUTHORIZED BY PRODUCT MATERIALS FOR USE IN PROCESSING,  
-- DISTRIBUTION, RESEARCH, AND DEVELOPMENT. NO INFORMATION WAS PROVIDED AS TO  
-- HOW THESE MATERIALS WERE DISPOSED OR WHAT TYPE OF RESEARCH AND DEVELOPMENT  
-- WAS CONDUCTED. THE INFORMATION WAS VAGUE.

---

END OF COMMENTS FOR LICENSE EVALUATION

---

--- EXPERT SYSTEM EVALUATION WAS BASED ON THE ---  
---- FOLLOWING INVENTORY RECORD -----

REGION RESPONSIBLE: V

LICENSEE NAME: ISOTOPES SPECIALTIES COMPANY, INCORPORATED  
STREET ADDRESS: 170 WEST PROVIDENCIA City: BURBANK  
FIPS state code (principal operation): CA  
Site used: 170 WEST PROVIDENCIA, BURBANK, CALIFORNIA  
Disposition information present: NO DISPOSITION INFORMATION GIVEN  
This license was listed as expired on 12/31/59

GENERAL INVENTORY RECORD COMMENTS:

BYPRODUCT MATERIAL WAS RESOLD AND USED IN RESEARCH.

JOB NUMBER: 1722 BOX NUMBER: 18

OTHER LICENSE NUMBERS IN FILE: 04-00580-03

---

Date of last evaluation or revision: 08/19/94

EXPERT SYSTEM LICENSE EVALUATION  
EVALUATION REPORT FOR LICENSE C-03544

INFORMATION ON EXACT AMOUNTS OF MATL WAS NOT NEEDED TO EVALUATE

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THIS LICENSE WAS ELIMINATED FROM CONSIDERATION

The reason for elimination was: SUPERCEDED BY NEW LICENSE

---

EXPERT SYSTEM EVALUATION WAS BASED ON THE  
INVENTORY RECORD IN JOB 0526, BOX 02

Docket 40-00858

Licensee: ISOTOPE SPECIALTIES COMPANY INC

Address: 703 SOUTH MAIN ST., BURBANK, CALIFORNIA Zip:

This license was listed as SUPERCEDED BY ANOTHER LICENSE

Contents of the new license field C-05352 ON 11-10-60

State of operation: CA

Site used: LICENSEE'S ADDRESS

Disposition information present: NO DISPOSITION INFORMATION GIVEN

Remarks: LIC. WAS FOR 30 LBS. OF REFINED SOURCE MATER. FOR INCORP. INTO STDS.

JOB NUMBER: 0526 BOX NUMBER: 02

---

A/11

40-858

9

## ISOTOPES SPECIALTIES COMPANY, INC.

703 South Main Street  
Burbank, California  
VI. 9-2273

April 22, 1957

Atomic Energy Commission  
Chief License Branch  
Division of Civil Application

Attention: Lyall Johnson

Dear Sir:

Isotopes Specialties Company requests license to receive possession of and title to 20 lbs. of refined source material for incorporation into radioactive standards. Completed application form is enclosed.

We have been selling standards which incorporate 2g of  $U_3O_8$  per item to serve as standards for measurement of contamination of food and water as recommended by FCDA in Technical Bulletin TB-11-9. We interpreted section 40.62, (c) 3 & 4 of Part 40 of the Federal Register of Jan. 1, 1954, as permitting the transfer of this material to others for the stated uses. If there should be a change in this interpretation we will appreciate hearing from you.

Sincerely,

*Philip Gill*  
Philip Gill

gl

Encl. Application form.

RECEIVED

APR 25 1957

APR 25 1957

APR 25 1957

APR 25 1957

A/12



40-859

**APPLICATION FOR AEC LICENSE TO  
TRANSFER, DELIVER, EXPORT, OR RECEIVE  
URANIUM OR THORIUM SOURCE MATERIAL**

Pursuant to Code of Federal Regulations, Title 10—  
Atomic Energy, Part 40—Control of Source Material

**TO: U. S. Atomic Energy Commission,  
1901 Constitution Ave. NW.,  
Washington 25, D. C.**

2. PREVIOUS AEC LICENSE NUMBER, IF ANY.  
C-3544

**INSTRUCTIONS**

File two (2) copies of this application with the U. S. Atomic Energy Commission, 1901 Constitution Ave. NW., Washington 25, D. C. This application may be used for an original license or for the renewal of a license. In the case of a renewal, this application should be received by the Commission on or before 30 days before the expiration of the previous license. Complete blocks 1, 2, 3, 9, and if you combine two or more of the activities of Producer, Processor, Distributor, Exporter, or Consumer, complete each of the applicable blocks numbered 4 through 8.

1. NAME AND ADDRESS OF APPLICANT  
(Street, city, zone, state)

Isotopes Specialties Co.  
703 S. Main St.  
Burbank, California

3. INVENTORY. INVENTORY OF SOURCE MATERIAL, RAW AND REFINED, AS OF 4-18-57  
(Specify date of last inventory)

INSTRUCTION.—Include all source material in your possession or under your control, regardless of location. Include any source material you have possession of but which is owned by others, whether or not they are licensees of the Commission. Please specify that part of your inventory which is owned by other persons, listing the names, addresses, and quantities owned by each. Do not include in this inventory any raw source material not yet removed from its place of deposit in nature.

**(a) Raw Source Material**

| DESCRIPTION OF MATERIAL | ESTIMATED PERCENT URANIUM OR THORIUM | QUANTITY IN INVENTORY (Gross tons) | NAME AND ADDRESS OF OWNER, IF DIFFERENT FROM THAT IN BLOCK 1 ABOVE |
|-------------------------|--------------------------------------|------------------------------------|--|
|                         |                                      |                                    |  |
|                         |                                      |                                    |  |
|                         |                                      |                                    |  |
|                         |                                      |                                    |  |
|                         |                                      |                                    |  |

**(b) Refined Source Material**

| DESCRIPTION OF MATERIAL       | GRADE (Comm., CP, USP, etc.) | PERCENT OF URANIUM OR THORIUM | QUANTITY (Lb.) | NAME AND ADDRESS OF OWNER, IF DIFFERENT FROM THAT IN BLOCK 1 ABOVE |
|-------------------------------|------------------------------|-------------------------------|----------------|--|
| U <sub>3</sub> O <sub>8</sub> | GP                           | 85%                           | 1              |  |
|                               |                              |                               |                |  |
|                               |                              |                               |                |  |
|                               |                              |                               |                |  |



9. **CERTIFICATION AND AGREEMENT.** THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION AND AGREEMENT ON BEHALF OF THE APPLICANT (1) CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH CODE OF FEDERAL REGULATIONS, TITLE 11—ATOMIC ENERGY, PART 40—CONTROL OF SOURCE MATERIAL; (2) CERTIFY THAT ALL INFORMATION CONTAINED IN THIS APPLICATION IS TRUE AND COMPLETE TO THE BEST OF THEIR KNOWLEDGE AND BELIEF; AND (3) AGREE THAT IN THE EVENT THAT THIS APPLICATION IS APPROVED BY THE ATOMIC ENERGY COMMISSION, AND A LICENSE IS ISSUED, THAT THE DULY AUTHORIZED REPRESENTATIVES OF THE COMMISSION MAY FREELY INSPECT AT ALL REASONABLE TIMES FACILITIES AND RECORDS, TAKE SAMPLES FOR ASSAY, AND DO SUCH OTHER THINGS AS WILL, IN THE OPINION OF THE COMMISSION, ASSURE THAT ALL SOURCE MATERIAL HANDLED BY THE APPLICANT UNDER THE AUTHORITY OF HIS LICENSE, IS PROPERLY ACCOUNTED FOR AND USED.

BY Philip Gill  
(Signature of applicant)  
Asst. to Pres.  
(Title)

4-22-57  
(Date)

**Section 35 (A) of the United States Criminal Code, 18 U. S. C. Sec. 80, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.**

(FOR GOVERNMENT USE ONLY)

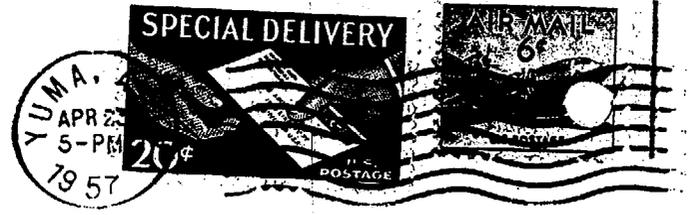
UNITED STATES OF AMERICA  
ATOMIC ENERGY COMMISSION  
SOURCE MATERIAL LICENSE

LICENSE NO. \_\_\_\_\_

AFTER FIVE DAYS RETURN TO

Carl N. Spears  
P.O. Box 1287  
Yuma, Arizona

858



United States  
Atomic Energy Commission  
Washington - 25  
D. C.  
/ 052

UNITED STATES  
ATOMIC ENERGY COMMISSION  
WASHINGTON 25, D. C.

IN REPLY REFER TO:

40-858

SOURCE MATERIAL LICENSE

Isotopes Specialties Co., Inc.  
703 South Main Street  
Burbank, California

License No. C-3544  
Amendment # 1  
Dated: APR 30 1957

Attention: Mr. Philip Gill

Gentlemen:

Pursuant to the Atomic Energy Act of 1954 and Section 40.21 of the Code of Federal Regulations, Title 10 - Atomic Energy, Chapter 1, Part 40 - Control of Source Material, you are hereby licensed to receive possession of and title to thirty (30) pounds of refined source material during the term of this license for incorporation into radioactive standards.

You are further licensed to transfer and deliver possession of and title to refined source material to any person licensed by the Atomic Energy Commission, within the limits of his license.

As a condition of this license, you are required to maintain records of your inventories, receipts and transfers of refined source material.

This license is subject to all the provisions of the Atomic Energy Act of 1954 now or hereafter in effect and to all valid rules and regulations of the U. S. Atomic Energy Commission, including 10 CFR 20, "Standards For Protection Against Radiation."

Neither this license nor any right under this license shall be assigned or otherwise transferred in violation of the provisions of the Atomic Energy Act of 1954.

This license shall expire August 1, 1957.

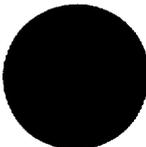
CC: Docket Officer  
Document Room  
M.M. Mann, Insp. Div.

FOR THE ATOMIC ENERGY COMMISSION

  
Lyall Johnson  
Chief, Licensing Branch  
Division of Civilian Application

Approved   
Approved 

A/13



AFFILIATED COMPANIES PRODUCTS  
SOLD, SERVICED AND GUARANTEED BY  
ISOTOPES SPECIALTIES CO., INC. IN  
WESTERN UNITED STATES:

NUCLEAR CONSULTANTS, INC.  
LONG ISLAND CITY, N. Y.  
NUCLEAR CONSULTANTS, INC.  
ST. LOUIS, MISSOURI  
RESEARCH CHEMICALS  
BURBANK, CALIFORNIA  
NRD INSTRUMENTS  
ST. LOUIS, MISSOURI  
NUCOR RESEARCH  
FERNDALE, MICHIGAN

# ISOTOPES SPECIALTIES COMPANY, INC.

170 West Providencia  
Burbank, California  
VI. 9-2273  
P.O. Box 688

SALES OFFICES:  
NUCLEAR CONSULTANTS  
CRESCENT STREET, L.I.C., N. Y.  
NUCLEAR CORP. MIDCONTINENT SALES DIV.  
MANCHESTER ROAD, ST. LOUIS, MISSOURI  
ISOTOPES SPECIALTIES CO., INC.  
BURBANK, CALIF.

January 22, 1958

Atomic Energy Commission  
Washington 25, D. C.

ATT: MR. LYALL JOHNSON, Chief  
Licensing Branch  
Div. Civilian Application

Re: Source Material License  
No. C-3544, Amend. 1,  
Exp. Date 8/1/57

Dear Sir:

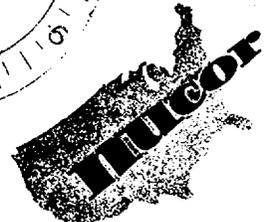
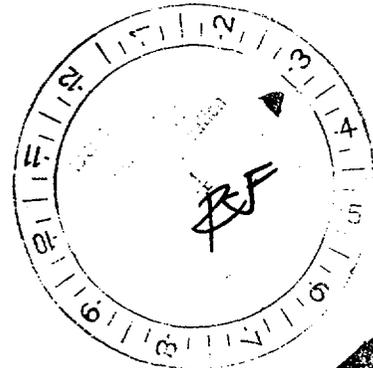
Request is hereby made for extension of  
expiration date of above license permitting Iso-  
topes Specialties Company to receive possession  
of 30 pounds of refined source material. To  
expiration date only 8 pounds of said material  
was received under said license.

Your action on this request at your earliest  
convenience would be appreciated.

Sincerely yours,

*Philip Gill*  
Philip Gill

hb



*A/14*



UNITED STATES  
ATOMIC ENERGY COMMISSION  
WASHINGTON 25, D. C.

IN REPLY REFER TO:

40-658  
LRL:ND

Isotopes Specialties Company, Inc.  
170 West Proviencia  
Burbank, California

Attention: Mr. Philip Gill

Gentlemen:

Pursuant to the Atomic Energy Act of 1954 and Section 40.21 of the Code of Federal Regulations, Title 10 - Atomic Energy, Chapter 1, Part 40 - Control of Source Material, you are hereby licensed to receive possession of and title to **thirty (30) pounds of source material during the term of this license for incorporation into radioactive standards.**

You are further licensed to transfer and deliver possession of and title to refined source material to any person licensed by the Atomic Energy Commission, within the limits of his license.

As a condition of this license, you are required to maintain records of your inventories, receipts and transfers of refined source material.

This license is subject to all the provisions of the Atomic Energy Act of 1954 now or hereafter in effect and to all valid rules and regulations of the U. S. Atomic Energy Commission, including 10 CFR 20, "Standards For Protection Against Radiation."

Neither this license nor any right under this license shall be assigned or otherwise transferred in violation of the provisions of the Atomic Energy Act of 1954.

This license shall expire **January 31, 1959.**

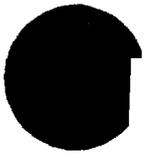
CC: Docket Officer  
Document Room  
S/ Health  
M.M. Mann, insp.

FOR THE ATOMIC ENERGY COMMISSION

J. C. Delaney  
Chief, Materials Section  
Licensing Branch  
Division of Licensing and Regulation

*ms*  
*JCD*

*A/15*



W. B. McCool, Secretary  
(THRU Paul F. Foster, General Manager)

Eber Price, Acting Director  
Division of Licensing and Regulation

INFORMATION PAPER TRANSMITTING LETTER FROM DIRECTOR, DEPARTMENT OF  
FISH AND GAME, STATE OF CALIFORNIA.

SYMBOL: DLR: DAN

It is requested that the attached letter of August 25, from Mr. Seth Gordon, Director, Department of Fish and Game, State of California, be circulated to the Commission with a note substantially as follows:

"Attached for the information of the Commission is a copy of a letter from Mr. Seth Gordon, Director, Department of Fish and Game, State of California, expressing views on the disposal of radioactive wastes in ocean areas adjacent to California.

This letter is in reference to the letter of May 9 from the Director, Division of Licensing and Regulation, to Mr. Gordon, which was circulated to the Commission in Information Paper AEC R 35/2.

Other correspondence between Mr. Gordon and the Director, Division of Licensing and Regulation, pertaining to the disposal of radioactive wastes in the Pacific Ocean and the issuance of a waste disposal license to Isotopes Specialties Co., Inc., has been circulated to the Commission in Information Papers AEC R 35, 35/1, and 35/3."

Enclosure:

Ltr. from Mr. Seth Gordon - P  
dtd 8/25/58.

|           |             |         |                 |          |  |  |
|-----------|-------------|---------|-----------------|----------|--|--|
| OFFICE ▶  | DLR:RSB     | DLR     | AGMA            | GM       |  |  |
| SURNAME ▶ | DAN:lwj:RFB | ERPrice | REHollingsworth | PFFoster |  |  |
| DATE ▶    | 9/5/58      | 9/5/58  |                 |          |  |  |

A/16  
I-4-2

## Office Memorandum • UNITED STATES GOVERNMENT

TO : Files

DATE:

FROM : Robert F. Barker, Radiation Safety Branch  
Division of Licensing and Regulation

SUBJECT: VISIT TO ISOTOPE SPECIALTIES, BURBANK, CALIFORNIA, JUNE 18, 1958

The main report will be prepared by J. R. Mason, R. Brinkman and Nathan Bassin whom the writer accompanied on the visit.

Initial discussion centered around the proposed use of isotopes by Aerojet in studies of burning rate and strain of rocket propellants. There is to be (1) labeling of the surface, (2) placement of discreet sources in a charge to measure burning rate and (3) sources imbedded to measure strain as a quality control to reduce misfire. More environmental studies may be supplied by Aerojet with a meeting in Washington to resolve final details for approval.

Isotopes Specialties wishes to increase possession limit to 1000 curies because they have such an order. Their hot cell, (concrete on 4 sides with plywood top, vented, exhaust filtered with oiled glasswool) is supposed to handle 400 curies but they do not plan to handle more than 100 at one time. A separate (water or concrete) shield would be used for unloading the 1000 curie shipment prior to reloading in discreet sources. Mixed fission plaques are in plans for research.

Polonium beryllium procedures were reviewed. The polonium in platinum gauze is placed in stainless capsule, the capsule filled with beryllium, press fit cap, heliarced and then decontaminated. It then passes from the 1st dry box into the second (10 to 20% maximum mixing at this stage) where it is heated (in electric furnace inside a gallon can full of paraffin), then nickel coated. They use two leak tests; 1st, place in water and draw vacuum and see if it bubbles; 2nd, an alcohol swipe. The swipe is counted on an electro-scope - usually find well below 0.005 uc. However, it may swipe something.

Goldstein again urged that the AEC set some value and express this as acceptable. The present wording on their license he does not consider satisfactory. Customers may have more sensitive equipment, wipe the source and accuse Isotopes Specialties of making a mistake.

For waste disposal they use 55 gallon drums, most of them with 30 gallon liners, the annulus filled with concrete. Clamp on lids, looks like the I.C.C. specification container. The waste is brought

A/17

SEP 8 1958

in by I.S. on their truck - a pick up with signs (lettering 3 inches high) on the side and a small hoist on the rear. A load, just in, included several loose pieces of (type HM21) magnesium-thorium alloy. Several barrels in storage were marked Mg-Th. Their storage is an open, earthen fill, concrete lined pit about 10 feet deep, 6 feet of the wall is above the ground. It is inside a fenced area and also has 3 strand barbed wire on top of the walls. The door is kept locked and is equipped with an interlock with a buzzer, a light and a second light inside the plant all 3 of which come on when door is opened. A switch beside the door de-energizes the interlock during the time the operator is unloading. In storage the barrels have not been labelled, usually. Also, since the storage is out of doors, wooden and cardboard containers are subject to considerable weathering. A fire in the pit would spread some contamination around although the storage pit itself is fire proof. For final packaging, they mix the solids and loose material with concrete right in the drum.

They do radon breath samples for radium dial workers, regularly. Consultation, analysis and interpretation, all for \$25 per sample. In some cases they have found evidence of mesothorium being present, not pure Radon 226 in the bone. The discussion of the basis for the present radium value indicates the daughters were included in setting the limit. Some scholars disagree.

I.S. is using both locations listed on their licenses at present. The previous building on Main St. is used for storage, some waste is down there, and they will have to do some cleaning to vacate. Information on the move was requested.

CC: Robert Brinkman, I&R

MAR 11 1960

40-838

**Union Corporation of America  
Isotope Specialists Company  
170 West Providence  
Burbank, California**

**Attention: Mr. A. A. Michael**

**Continuum:**

This refers to the inspection conducted on October 14, 1959 of your activities authorized under AEC Byproduct Material License Nos. 4-588-6, -7, and -8; and Source Material License No. C-3544.

It appears that certain of your activities were not conducted in full compliance with the requirements of the AEC's "Standards for Protection Against Radiation," Part 20, Title 10, Code of Federal Regulations, in that:

1. The radiation level in the storage yard, where radioactive waste was stored, was such that individuals could receive a radiation dose in excess of 2 mrem in any one hour or 100 mrem in any one week. This is in violation of Section 20.102(b), "Radiation levels in unrestricted areas."
2. Several containers of radioactive waste were not labeled as required by Section 20.203(f)(1), (2)(2) and (4)(4), "Caution signs, labels and signals."
3. Records of the results of surveys conducted at the 703 S. Main location were not maintained as required by Section 20.401, "Records of surveys, radiation monitoring, and disposal."

Pursuant to the provisions of Section 2.201(a), "Notice of violation," of the AEC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, you are requested to notify this office, within thirty days of your receipt of this notice, of the steps taken or to be instituted to achieve correction of the alleged violations, and the date when such correction has been or will be achieved.

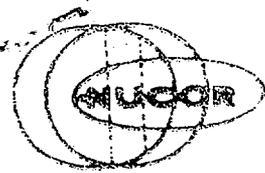
Very truly yours,

CC: Inspection Division, Wash.  
Inspection Division, SAN  
Public Document Room

James E. Mason, Chief  
Isotope Branch  
Division of Licensing and Regulation

**Enclosures**

|           |            |          |         |         |  |
|-----------|------------|----------|---------|---------|--|
| OFFICE ▶  | DLR:RSB    | DLR:RSB  | DLR:LB  | DLR:IB  |  |
| SURNAME ▶ | JJLane:hkm | LRRogers | LJehson | JRMason |  |
| DATE ▶    | 2-25-60    |          |         |         |  |



nuclear corporation of america 14

isotopes specialties company--division

victoria 9-2273

P.O. box 688  
170 west providencia  
burbank, california

March 17, 1960

Ref: 40-858

Dated 3-11-60

REGISTERED - AIRMAIL

Mr. J. R. Mason, Chief  
Isotopes Branch  
Division of Licensing and Regulation  
U. S. Atomic Energy Commission  
Washington 25, D. C.

Dear Mr. Mason:

In your letter dated March 11 you referred to an inspection conducted on October 14, 1959 of our facilities. In answer to the three specific situations calling for corrective action we submit the following information:

1. Your first condition indicates that the radiation level in our storage yard was such that individuals could receive a radiation dose in excess of 2 mrem in any one hour or 100 mrem in any one week. The week immediately following the date of the inspection we required film badges to be worn by all personnel operating in this area. This film badge check has been maintained to date, and at no time have the exposures been up to the limits indicated as a possibility in your first paragraph.

However, our main effort in regards to the storage yard is to reduce the activity by removing it in accordance with our waste disposal license. At the particular time of your inspector's visit we had definite plans to utilize the services of Coastwise Marine Transport Company. As you know, there have been a number of complications which have rather hampered the operation of this organization. It now appears as though this is in the process of being straightened out. Accordingly, a conference was held with Mr. Robert-Boswell, of Coastwise Marine Transport, on this date. He stated that he is in a position to continue his ocean dumping operations, and therefore we have set the date of April 25 as the date to have ready for his pickup a minimum of 300 drums for transport for ultimate ocean disposal. We feel that this minimum

A/19

Mr. J. R. Mason  
U.S.A.E.C.

-2-

March 17, 1960

lot of 300 drums will reduce the level accordingly in our backyard.

Also, in connection with this is the status of our waste disposal license. The original application for a transfer of license was made to your office on September 10, 1959. This was subsequently amended to include several packages in addition to those originally requested. To this date we have not had approval of these packages. It would be our hope that we can request expeditious handling of this in order to utilize these packages in our waste disposal timetable. We specifically refer to the large drums covered by written and graphic descriptions.

2. The containers of radioactive waste described in this paragraph of your letter were properly labeled within one week of the visit by your inspector.
3. Results of the surveys conducted at 703 South Main Street have been gathered in centralized form as evidenced by the data provided your office dated October 30, 1959, November 20, 1959, and March 9, 1960.

In summary, situations covered by your paragraphs 2 and 3 have been taken care of. The situation described in your paragraph 1 has a timetable calling for removal of a substantial amount of activity by April 25. The reduction of the level, of course, will be determined by the activity packages for disposal. We are not able at this time to specifically pinpoint the level reduction except to say that it will be significant to the extent of reducing the level found during the visit of your inspector.

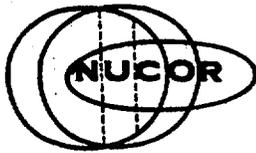
Very truly yours,

A. A. Michaud, Vice President  
Nuclear Corporation of America

Isotopes Radiochemicals Company, Inc.

AAM:bj





# nuclear corporation of america

isotopes specialties company--division

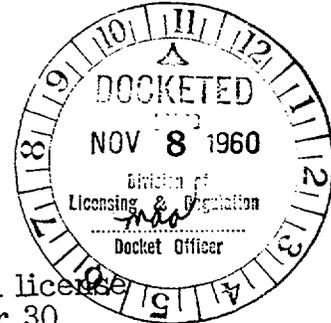
victoria 9-2273

DOCKET NO. 40-858

p.o. box 688  
170 west providencia  
burbank, california

November 4, 1960

Mr. J C. Delaney  
Chief, Nuclear Materials Branch  
Division of Licensing and Regulation  
U. S. Atomic Energy Commission  
Washington 25, D. C.



Dear Mr. Delaney:

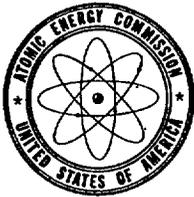
We would like to renew our source material license number C-3544 (or obtain a new license) for 30 pounds of refined non-enriched uranium. We want to use this material in the preparation of radioactive standards.

Very truly yours,

*Kenneth W. Newman*  
Kenneth W. Newman, PhD  
General Manager

KWN/cja

*A/21*



UNITED STATES  
ATOMIC ENERGY COMMISSION  
WASHINGTON 25, D. C.

IN REPLY REFER TO:

**42-433**  
**LA:ME**

SOURCE MATERIAL LICENSE

License No. **G-3352**

Dated:

NOV 10 1961

**Nuclear Corporation of America**  
**Isotopes Specialties Company -Division**  
**170 West Providence**  
**Burbank, California**

Attention: **Mr. Kenneth C. Newman**  
**General Manager**

Pursuant to the Atomic Energy Act of 1954 and Section 40.21 of the Code of Federal Regulations, Title 10 - Atomic Energy, Chapter 1, Part 40 - Control of Source Material, you are hereby licensed to receive possession of and title to, at the above stated location, **thirty (30) pounds of source material during the term of this license for incorporation into radioactive standards.**

You are further licensed to transfer and deliver possession of and title to refined source material to any person licensed by the Atomic Energy Commission, within the limits of his license.

As a condition of this license, you are required to maintain records of your inventories, receipts and transfers of refined source material.

This license is subject to all the provisions of the Atomic Energy Act of 1954 now or hereafter in effect and to all valid rules and regulations of the U. S. Atomic Energy Commission, including 10 CFR 20, "Standards For Protection Against Radiation."

Neither this license nor any right under this license shall be assigned or otherwise transferred in violation of the provisions of the Atomic Energy Act of 1954.

This license shall expire **November 10, 1961.**

Incl:

- 10 CFR 20
- 10 CFR 20 iff 1/1/61
- 10 CFR 40
- 10 CFR 40 Proposed

CC: Docket Officer  
Document Room  
S/H  
Compl. w/c appl

FOR THE ATOMIC ENERGY COMMISSION

**J. J. Lane**  
~~J. J. Lane~~  
Acting Chief, Nuclear Materials Branch  
Division of Licensing & Regulation

Dictator **W**

Approved **JKX**

**A/22**

DIVISION OF LICENSING AND REGULATION  
Routing Slip

Date 2/30/61

Price, H. L. \_\_\_\_\_  
 Kirk, R. L. \_\_\_\_\_  
 Price, Eber \_\_\_\_\_  
 Marsh, D. \_\_\_\_\_  
 Beck, C. K. \_\_\_\_\_  
 Case, E. G. \_\_\_\_\_  
 Bryan, R. \_\_\_\_\_  
 Klein, S. \_\_\_\_\_  
 Wilcox, R. \_\_\_\_\_  
 Muller, D. \_\_\_\_\_  
 Gaske, M. \_\_\_\_\_  
 Long, C. \_\_\_\_\_  
 Biles, M. \_\_\_\_\_  
 Ireland, R. \_\_\_\_\_  
 Booth, M. \_\_\_\_\_  
 Hurst, R. \_\_\_\_\_  
 Sliger, R. \_\_\_\_\_  
 Klug, N. \_\_\_\_\_  
 Newell, J. \_\_\_\_\_  
 Waterfield, R. \_\_\_\_\_  
 DiNunno, J. \_\_\_\_\_  
 Schleiter, T. \_\_\_\_\_  
 Luke, C. \_\_\_\_\_  
 Hogroian, P. \_\_\_\_\_

Johnson, L. E. \_\_\_\_\_  
 Steele, H. \_\_\_\_\_  
 Fleury, E. R. \_\_\_\_\_  
 Edwards, C. T. \_\_\_\_\_  
 Karas, F. W. \_\_\_\_\_  
 Borlik, R. F. \_\_\_\_\_  
 Frederick, R. \_\_\_\_\_  
 Mason, N. \_\_\_\_\_  
 Delaney, Joe \_\_\_\_\_  
~~Douglas, M.~~ \_\_\_\_\_  
 Gustavson, S. \_\_\_\_\_  
 McCreless, T. \_\_\_\_\_  
 Lane, John \_\_\_\_\_  
 Rogers, L. R. \_\_\_\_\_  
 Mason, J. R. \_\_\_\_\_  
 Buchanan, C. \_\_\_\_\_  
 Cool, W. \_\_\_\_\_  
 Nussbaumer, D. \_\_\_\_\_  
 Ferrell, C. \_\_\_\_\_  
 Cunningham, R. \_\_\_\_\_  
 Page, R. \_\_\_\_\_  
 Brodsky, A. \_\_\_\_\_  
 Welty, C. \_\_\_\_\_  
 Harmon, D. \_\_\_\_\_

✓ Reba Duggs

Stella A. Teets \_\_\_\_\_

Files \_\_\_\_\_

Remarks \_\_\_\_\_

From W. L. Cool

| MEMO ROUTE SLIP<br>Form A.E.C.-08 (Rev. May 14, 1947) |                 | See me about this.<br>Note and return. | For concurre.<br>For signature. | For action.<br>For information. |
|---|-----------------|--|---------------------------------|---------------------------------|
| TO (Name and unit)<br>J.C. Delaney<br>to R<br>C-161   | INITIALS        |  |                                 |                                 |
|   | DATE            |  |                                 |                                 |
| TO (Name and unit)                                    | INITIALS        |  |                                 |                                 |
|   | DATE            |  |                                 |                                 |
| TO (Name and unit)                                    | INITIALS        |  |                                 |                                 |
|   | DATE            |  |                                 |                                 |
| FROM (Name and unit)<br>W. L. Cool<br>C-207           | REMARKS         |  |                                 |                                 |
| PHONE NO.<br>5125                                     | DATE<br>1/19/61 |  |                                 |                                 |

A/23



# nuclear corporation of america

isotopes specialties company--division

victoria 9-2273

p.o. box 688  
170 west providencia  
burbank, california

January 13, 1961

POCKET NO. 70-858

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

Dear Sir:

We, the undersigned, resign as members of the Isotope Committee of Isotopes Specialties Company, A Division of Nuclear Corporation of America effective as of January 15, 1961.

Please delete our names appearing as users on AEC licenses 4-580-6, 4-580-7, 4-580-8 and C-3544 and on any other license in the name of either Isotopes Specialties Company or Nuclear Corporation of America and as Isotope Committee members on Administrative Procedures associated with such A. E. C. licenses.

Very truly yours,

J. D. Vaden, Secretary  
Isotope Committee

A. J. Moses  
Chairman

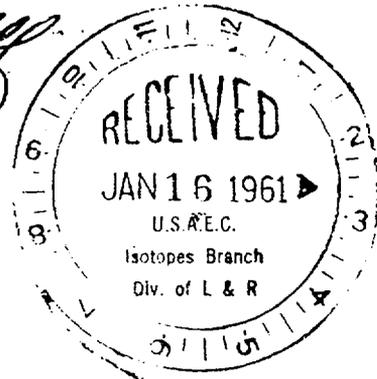
Art Selbel

Carl Minkinen

Kenneth W. Newman

Bob Self

cja/



MA:ED:WMC (4-580-6, 7, 8,  
and C-5332)

JAN 30 1961

File in this  
docket 40-8558

Nuclear Corporation of America, Inc.  
Isotopes Specialties Company Division  
170 West Prentiss  
Berbath, California.

**Comments:**

We were advised by telegram dated January 3, 1961 from Mr. John Vidan, that Isotopes Specialties Company, Division of Nuclear Corporation of America, Inc., had been sold to U. S. Nuclear Corporation. Further, by letter dated January 4, 1961, U. S. Nuclear Corporation requested as custodian of its license No. 4-538A-1 to authorize the de-contraction of the Nuclear Corporation of America, Inc., Isotopes Specialties Company Division Laboratory premises located at 170 West Prentiss, Berbath, California.

From informal communications we understand that another division of your Corporation will continue to occupy these facilities for purposes not covered by A. E. C. license. Nuclear Corporation of America, Inc., Isotopes Specialties Company Division, as the legal licensee listed in license Nos. 4-580-6, 4-580-7, 4-580-8 and C-5332, is responsible for any licensed material in the form of radioactive contaminants found to exist property at the 170 West Prentiss facilities. Reference is made to our letter of December 23, 1959, regarding the levels of contamination which would be considered acceptable at your premises 707 Main Street, Berbath, California facility (copy enclosed). These acceptable criteria will also apply to the current situation. Upon completion of any necessary decontamination procedures you are requested to notify this office of the contamination levels which result in the building.

hr/lt

1/25/61  
Cool:dg  
1/ / 61  
Mason  
LAR: IB  
LAR: IB

cc: SPO, Compliance

as stated above  
References:

James E. Mason, Chief  
Inspector Health  
Division of Licensing  
and Regulation

Sincerely yours,

Subsequent to satisfactory documentation of the facilities  
and disposal of all licensed material in compliance with the  
Commission's regulations, you may request cancellation of the  
reference license.

-1-  
Boyle Corporation of America, Inc.

JAN 30 1961