

License Nos.: 37-00030-02
37-00030-08

Docket Nos.: 03005980
03005982

Safety Light Corporation

Title: United States Radium Corp License No. 37-00030-07

This document is Exhibit No. 4 to NRC Staff's Motion for Summary Disposition As To NRC Jurisdiction Over USR Industries, Inc., USR Lighting, Inc., USR Chemical Products, Inc., USR Metals, Inc., and USR Natural Resources, Inc., dated June 30, 1992 (ML040230156) and NRC Staff's Statement of Undisputed Material Facts As to Which No Genuine Issue Remains (ML040230151)

List of all Exhibits at ML040220785.

Tab. 4
Staff Exh. 4

AM AEC-374
112677U. S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICENSE

Page 1 of 3 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	United States Radium Corporation	3. License number
2. Address	4150 Old Berwick Road Eloomsburg, Pennsylvania	(D67)
		4. Expiration date
		April 30, 1967
		5. Reference No.
		37-30-6
6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radiac- tivity which licensee may pos- sess at any one time
a. Hydrogen 3	a. U. S. Radium Corporation Type PS-362 and/or Radium Chemie PS 362 Tritiated Luminous Paint	a. 5000 curies

9. Authorized use

- a. Application of tritiated luminous paint to timepiece hands and dials for sale or distribution to persons exempt from the requirements for a license pursuant to Section 30.10(a), Title 10, Code of Federal Regulations, Part 30, "Licensing of Byproduct Material."

CONDITIONS

10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above:
11. The licensee shall comply with the provisions of Title 10, Part 20, Code of Federal Regulations, Chapter 1, "Standards for Protection against Radiation."
12. Byproduct material shall be used by, or under the supervision of, individuals designated by the Institutional Isotopes Committee, J. G. MacKitchin, Chairman.
13. Quality control procedures on finished timepieces, hands and dials shall be as follows:
- a. Each batch of paint used under this license shall be tested by applying it to prototype hands and dials or test metallic strips with a backing similar to that which will be in production hands and dials and performing the tests specified in Section 30.24(i)(2)(i)(g)(b) and (g), 10 CFR 30. Not less than three (3) samples each shall be used for the tests specified in Section 30.24(i)(2)(i)(g) and (b).

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BYPRODUCT MATERIAL LICENSE
Supplementary Sheet

License Number 37-30-7
(D57)

Condition 13. continued:

- B. In lieu of the quality control/sampling procedures specified in Section 30.23, 10 CFR 30, all production lot of hands and dials shall be sampled according to the schedule below and subjected to the tests specified in Section 30.24 (i)(2) (i)(g) and (h), 10 CFR 30. The minimum sample size for a lot of less than 66 shall be three (3).

<u>LOT SIZE</u>	<u>SAMPLE SIZE</u>	<u>ACCEPTABLE NUMBER OF REJECTS</u>
66 - 110	15	0
111 - 180	25	0
181 - 300	35	0
301 - 500	50	1
501 - 800	75	2
801 - 1300	110	3
1301 - 3200	150	4
3201 - 8000	225	5
8001 - 22000	300	7

- G. Should there be rejects in excess of the number specified in Section B, the entire lot shall be rejected.
- D. If ten (10) consecutive lots of hands and dials have been tested according to the schedule in Section B and found acceptable, the sampling plan designated below may be followed. The minimum sample size for a lot of less than 111 shall be three (3).

<u>LOT SIZE</u>	<u>SAMPLE SIZE</u>	<u>ACCEPTABLE NUMBER OF REJECTS</u>
111 - 180	5	0
181 - 300	7	1
301 - 500	10	1
501 - 800	15	1
801 - 1300	22	2
1301 - 3200	30	2
3201 - 8000	45	3
8001 - 22000	60	4

- E. Should there be rejects greater than the acceptable number in Section D and less than the acceptable number in Section B, additional samples shall be taken so that the total number of samples is that specified in Section B.
- F. Should the total number of rejects exceed the number specified in Section B, the entire lot shall be rejected.

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Supplementary Sheet

License Number 37-30-7
(D67)

Conditions continued:

- G. Should it be necessary to change from the testing schedule specified in Section D to the testing schedule specified in Section B, subsequent lots must be tested according to the testing schedule specified in Section B and ten (10) consecutive lots found acceptable prior to testing according to the schedule in Section B.
- H. There shall be one-hundred percent visual inspection of all finished hands and dials to determine that there is no flaking or chipping of the paint.
- 14. A report shall be furnished to the Director, Division of Materials Licensing every ~~six (6) months~~ which shall state the quantity of Hydrogen 3 (tritium) which has been transferred to persons exempt from the requirements for a license. The reports shall be filed not later than July 31 and January 31 and shall include transfers for the six month periods ending June 30 and December 31.
- 15. A report shall be furnished to the Director, Division of Materials Licensing every six (6) months which shall state the name of each person to whom a quantity of Hydrogen 3 (tritium) in excess of five curies has been transferred during the six month period. The reports shall be filed not later than July 31, and January 31 and shall include transfers for the six months periods ending June 30 and December 31.
- 16. Records of tests carried out pursuant to the requirements of Condition 13 of this license shall be maintained for a period of five (5) years.
- 17. 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 applications and related documents specified in Condition 17. to License No. 37-30-2.

Date APR 16 1965

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For the U. S. Atomic Energy Commission

Original Signed by
by Isotopes Branch Nathan Bassin

Division of Materials Licensing
Washington, D. C. 20545



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

BYPRODUCT MATERIAL LICENSE
UNITED STATES RADIUM CORPORATION

License No. 37-00030-07E

Amendment No. 04

In accordance with application dated April 2, 1974, License Number 37-00030-07E is amended in its entirety to read as follows:

Pursuant to the Atomic Energy Act of 1954, as amended, and Section 32.14, 10 CFR 32, "Specific Licenses to Manufacture, Distribute, or Import Exempted and Generally Licensed Items Containing Byproduct Material," a license is hereby issued to United States Radium Corporation, 4150 Old Berwick Road, Bloomsburg, Pennsylvania 17815, to sell and/or distribute to persons exempt from the requirements for a license, pursuant to Section 30.15(a), 10 CFR 30, "Rules of General Applicability to Licensing of Byproduct Material," timepieces, hands, and dials to which U. S. Radium Corporation Type PS-362 and/or Radium Chemie PS 362 luminous paint containing tritium (hydrogen 3) has been applied by U. S. Radium Corporation.

This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and all other applicable rules, regulations, and orders of the Atomic Energy Commission now or hereafter in effect, and to the following conditions:

1. Each batch of luminous paint (tritium) shall be subjected to prototype testing on five timepieces or the appropriate components in the following sequences:

- A. Adhesion - The dials shall be attached to a vibrating fixture and undergo vibration at a rate of between 20 and 30 cycles per second, and a vibrator acceleration of not less than 2 g for a period of not less than one hour (g is the acceleration due to the earth's gravity).
- B. The hands shall be bent over a cylinder of 2.5 cm (1 inch) diameter. If the length of the hands exceeds 1.5 cm, a larger bending radius up to the length of the hand tested shall be permitted. If for reasons of special design, bending tests are not practicable, they should be replaced by a vibration test similar to that for dials. After this, tests should be made to check the firm adhesion of the paint on the dials and hands, that is, by means of ultraviolet lamp and/or measurements of the activity of the painted components in order to ensure that no significant loss of activity has occurred.
- C. Hands and dials containing tritium activated paint which have been subjected to vibration or bending tests shall be totally immersed in distilled water at $20 \pm 2^{\circ}$ C for 24 hours. The water must stand at least 3 mm above the painted area. The tritium content of the water shall not exceed 5% of the original activity of the tested components.
2. All hands and dials in production lots shall be subjected to quality control testing which shall consist of 100% visual inspection to detect cracking or flaking, imperfections, etc.

3. United States Radium Corporation shall file an annual report with the Chief, Materials Branch, Directorate of Licensing, U. S. Atomic Energy Commission, Washington, D. C. 20545, which shall state the number of units of each type of product transferred and the total quantity of hydrogen 3 (tritium) which has been transferred into the United States. Each report shall cover the year ending June 30 and shall be filed within 30 days thereafter. If no transfers have been made, the report shall so indicate.

4. The licensee shall maintain records of all tests carried out pursuant to Conditions 1. and 2. of this license. The records shall be maintained for a period of five (5) years.

This license shall expire August 31, 1979.

FOR THE ATOMIC ENERGY COMMISSION

Original Signed by
Nathan Easick
Materials Branch
Directorate of Licensing

May 7, 1974
Date _____