

20 APR 1988

Docket Nos. 030-05980
030-05982

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

USR Industries, Inc.
ATTN: Mr. Ralph T. McElvenny
Chairman and Chief Executive Officer
2203 Timerloch Place
The Woodlands, Texas 77380

Gentlemen:

Subject: Ownership and organizational changes at United States Radium Corporation, its Successors, and Safety Light Corporation (SLC), Inspection No. 86-001, and how they relate to decontamination responsibilities at the Bloomsburg, PA site.

On January 21, 1981, the Nuclear Regulatory Commission (NRC) received notification that the NRC licensee known as United States Radium Corporation had changed its name to Safety Light Corporation (SLC). There was no indication that the change involved any ownership or organizational changes. The NRC more recently was informed that the entity previously known as United States Radium Corporation is now doing business as USR Industries, Inc..

During an inspection on March 8, 1983, at the SLC facilities in Bloomsburg, Pennsylvania the NRC learned that SLC had been sold to three employees of the successor corporation that continued to conduct business as SLC. In a letter from the new company dated November 11, 1983, NRC Region I was informed that USR Industries, Inc. had completed the sale of SLC on May 24, 1982. The NRC did not receive prior notice of the transfer of rights under the referenced licenses and did not grant prior written approval of the resulting transfer of the licenses as required by 10 CFR 30.34(b). Prior to approving such a transfer, among the issues NRC would review would be the issue of whether, as a result of the transfer, SLC had reduced financial resources available to decontaminate the site.

Based upon the above, it appears that the licenses were transferred in violation of Section 184 of the Atomic Energy Act of 1954, as amended, 42 U.S. 2231 ("The Act") without the appropriate notification and approval required by 10 CFR 30.34(b). As a result of the above, you are hereby directed, pursuant to Section 182a. of the Act to provide answers, in writing, signed under oath or affirmation by a responsible officer of USR Industries Inc., to the questions set forth in Appendix B to this letter, to enable the Commission to determine whether the licenses should be modified, suspended or revoked. In addition, each of the companies listed in Appendix A may also respond to the questions in Appendix B either jointly or separately to the extent that they maintain an interest in the site at Bloomsburg, Pennsylvania.

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USR Industries, Inc.

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Further, a safety inspection was conducted at the Bloomsburg facilities on June 19-20 and November 12, 1986. The results of this inspection and subsequent related correspondence relative to the Bloomsburg site are documented in Combined Inspection Report Nos. 030-5980/86-001 and 030-05982/86-001, a copy of which is enclosed with this letter. During the course of the inspection, two other apparent violations of NRC requirements were identified. Enforcement action relative to these findings, in addition to the apparent violation of 10 CFR 30.34(b) described above, is still under consideration and will be decided, in part, on the basis of your response to Appendix B to this letter.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosures will be placed in the Public Document Room. A response to this letter is required within thirty calendar days from the date of this letter.

Sincerely,

Original Signed By
~~WILLIAM T. RUSSELL~~

William T. Russell
Regional Administrator

Enclosures:

1. Appendix A
2. Appendix B
3. NRC Region I Combined Inspection Report Nos. 030-05980/86-001 and 030-05982/86-001

cc w/encls:

Public Document Room (PDR)
Nuclear Safety Information Center (NSIC)
Commonwealth of Pennsylvania
~~Mr. John MacHutchin, RSO~~
USR Lighting, Inc.
USR Chemicals, Inc.
USR Metals, Inc.
U.S. Natural Resources, Inc.
Metreal, Inc.

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USR Industries, Inc.

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bcc w/encls:

Region I Docket Room (w/concurrences)
Management Assistant, DRMA (w/o encls)
R. Cunningham, NMSS
J. Allan, RI
J. Gutierrez, RI
J. Piccone, RI
T. Thompson, RI
J. Joyner, RI
J. Lieberman, OE
J. Goldberg, OGC
D. Holody, RI

RI:DRSS
Piccone/ca

04/14/88

RI:DRSS
Congel

04/14/88

RI:DRSS
Glenn

04/14/88

By phone
4/13/88
for P. Vacca
NMSS
Cunningham

04/ /88

RI:JC
Gutierrez

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RI:RA
Allan

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RI:DRSS
Joyner

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RI:RA
Russell

04/17/88

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OGC
Goldberg

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By phone
4/14/88
for J. Goldberg

APPENDIX A

1. USR Industries, Inc.
2. USR Metals, Inc.
3. USR Lighting, Inc.
4. USR Chemicals, Inc.
5. U.S. Natural Resources, Inc.
6. Safety Light Corporation
7. Metreal, Inc.

APPENDIX B

Information needed relative to License Nos. 37-00030-02 and 37-00030-08:

1. Describe all relationships and transactions between USR Industries, Inc., United States Radium Corporation, and their successors and subsidiaries affecting the Bloomsburg, Pennsylvania site.
2. Describe the relationship of USR Industries, Inc. and its subsidiaries to United States Radium Corporation prior to November 24, 1980.
3. Identify all successors to United States Radium Corporation.
4. Provide a decommissioning plan for the site which will permit the release of the site for unrestricted use. This decommissioning plan should provide for a final radiological survey that will include all areas where licensed material has been used, stored or buried. The decontamination of the site may be gradual, extending over a period of ten years, but should be scheduled to begin within twelve months. Please include a proposed schedule for completion of the decontamination along with the decommissioning plan.
5. Provide an estimate of the cost of the decommissioning, including the cost of the disposition of the radioactive waste generated during the decommissioning effort.
6. Propose a method to ensure that sufficient funds will be available to implement the decommissioning plan. Include a discussion of any change in financial resources available as a result of the change in ownership. Specifically, you should submit a decommissioning funding plan or a certification of financial assurance for decommissioning in an amount to cover the estimated costs.

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 030-05982/86-01
030-05980/86-01

Docket Nos. 030-05982
030-05980

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

Priority 1
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Category B
E

Licensee: Safety Light Corporation
4150-A Old Berwick Road
Bloomsburg, Pennsylvania 17815

Facility Name: Safety Light Corporation

Inspection At: Bloomsburg, Pennsylvania

Inspection Conducted: June 19-20, 1986 and November 12, 1986

Inspectors: Thomas K. Thompson
Thomas K. Thompson, Health Physicist

3/22/88
date

for John E. Glenn
Josephine M. Piccone
Senior Health Physicist

3/22/88
date

for John E. Glenn
Frank Costello, Senior Health Physicist

3/22/88
date

Approved by: John E. Glenn
John E. Glenn, Chief
Nuclear Materials Safety Section B

3/22/88
date

Inspection Summary: Inspection conducted June 19-20, 1986 and November 12, 1986 (Combined Report Nos. 030-05980/86-01, 030-05982/86-01)

Areas Inspected: Routine unannounced inspection (June 19-20, 1986), including review of scope of current operations, contamination control, training, bio-assay, stack releases, restricted area air concentrations, liquid waste disposal, environmental sampling, package surveys, solid waste disposal, material inventory, and quality assurance; and announced inspection (November 12, 1986) including review of the organization, environmental sampling, site contamination and decontamination activities.

Results: Three apparent violations were identified: (1) Failure to obtain NRC review and approval prior to the sale of Safety Light Corporation on May 24, 1982 by USR Industries, Inc. (Paragraph 3); (2) Failure to meet the intent of Condition 13. of License No. 37-00030-02 to provide a report of the decontamination status and schedule of work for each 12 month period commencing July 1, 1979 (Paragraph 4); (3) Failure to complete the decontamination of specified sites (Paragraph 4).

DETAILS

1. Persons Contacted

- *Mr. J. Miller, President
- *Mr. J. MacHutchin, Radiation Safety Officer
- *Mr. C. Berlin, Lead Radiation Safety Technician

*Denotes those present at the exit interviews.

2. Scope of Licensed Activities

Safety Light Corporation is authorized to possess and use any form of hydrogen-3 for the purposes of research and development, manufacturing, distribution and any byproduct material as sealed sources for use as reference standards (License No. 37-00030-08)

The Corporation is also authorized to possess any byproduct material as contaminated equipment and facilities for the decontamination, cleanup, and disposal of such material (License No. 37-00030-02).

3. Organization

The licensee changed the name of the Corporation from U.S. Radium Corporation to Safety Light Corporation effective November 24, 1980. The licensee notified NRC licensing staff by letter dated January 21, 1981 that this name change should be incorporated into all the existing licenses.

On May 24, 1982, Safety Light Corporation, a wholly-owned subsidiary of USR Industries, Inc., was sold to a group of executive officers of Safety Light Corporation. A copy of the current Safety Light Corporation organization chart was provided to the NRC in a letter dated December 3, 1986. (Attachment 1). 10 CFR Section 30.34(b) requires that no license issued pursuant to the regulations in Parts 30 through 35 be transferred, assigned or in any manner disposed of through transfer of control of any license to any person, unless the Commission has reviewed the transaction and given its consent in writing.

The failure of USR Industries, Inc./Safety Light Corporation to apprise the NRC of the sale of Safety Light Corporation, and to obtain prior approval of this transaction, with the resulting transfer of the license, constitutes an apparent violation of 10 CFR 30.34(b).

4. Review of Decontamination Operations

The inspectors toured the grounds of the facilities with licensee representatives and requested a site plan which would indicate property ownership, onsite companies and location of each, and locations and levels of

all contamination and radiation found by the licensee's surveys. This information was provided in a letter dated February 6, 1987. (Attachment 2).

Condition 14 of License No. 37-00030-02 requires that licensed material be possessed and used in accordance with statements, representations and procedures contained in application dated April 25, 1969, letter dated July 23, 1969, application dated June 7, 1977, letter dated October 23, 1978 and application dated November 6, 1978.

In a letter dated October 23, 1978, the licensee submitted a plant survey to identify the contamination status of the entire plant site and provided a decontamination plan of scheduled decontamination activities through June, 1979 as part of their June 7, 1977 renewal application. In the October 23, 1978 letter, the licensee provided a 9 month decontamination program that included: excavating contaminated soil between the lagoons; decontaminating the cement trough and storm sewer, the former shipping room and the old garage; removing contaminated soil by the tritium building and the contaminated wall in the carpenter shop. The site contamination survey provided in letter dated February 6, 1987 indicates that these areas have not been decontaminated.

The failure to complete the decontamination of specified sites is an apparent violation of Condition 14. of License No. 37-00030-02.

The October 23, 1978 letter stated that "in June of 1979, a schedule for the next twelve months will be developed...". This requirement was formalized in Amendment 40 of License No. 37-00030-02 with Condition 13, which requires that a report of the status and schedule of work for each 12 month period commencing July 1 be submitted no later than July 1 of each year.

The failure to provide a report of the status of decontamination efforts and a schedule of work for 12 month periods beginning July 1, 1979 to the present is an apparent violation of Condition 13. of License No. 37-00030-02.

5. Contamination Control

The inspectors toured the foil manufacturing, tube manufacturing, liquid waste storage, and solid waste storage facilities. Contamination surveys are performed on a daily basis as required. Records indicated that magenta controlled zones were maintained below the licensee's 50,000 dpm/100cm² limit. When contamination in excess of the level is detected, the licensee decontaminates the area.

The inspectors took 50 wipes from the active processing areas. NRC independent analysis of these wipes indicates that the licensee's results were consistent with the Regional analyses, considering differences in counting geometry and equipment (Attachment 3). Two wipes on the hood in the pumping station room exceeded the licensee's 50,000 dpm/100 cm² action limit. The licensee was notified of these results.

6. Training

No new employees who work with byproduct material have been hired since the last inspection.

The inspector also reviewed the records of annual retraining.

No violation of regulatory requirements was identified.

7. Bioassay

A licensee representative stated that weekly urinalyses are performed on all individuals working with tritium. The inspector reviewed the licensee's records for 1985 and 1986, up to June 20, 1986, and determined that no urine specimen had shown more than 7.25 microcuries per liter.

No violations of regulatory requirements were identified.

8. Stack Releases

All building exhausts are combined for discharge through a single stack, 0.6m in diameter and 18m high. Continuous monitoring of this stack for particulate, aqueous and gaseous forms of tritium is performed using filters and ethylene glycol bubblers in conjunction with an oxidizer furnace. Filters and ethylene glycol solutions are changed and analyzed daily. The licensee has determined diffusion factors for the exhaust stream under predominant meteorological conditions (wind toward the southeast) and utilizes these factors to calculate the concentration released to unrestricted areas.

Operations involving possible airborne releases are performed under exhaust ventilation. Silica gel (indicating-type) columns and molecular sieve back-up columns are used for treatment of gas streams with potentially high concentrations of tritium. These are replaced when needed as determined by observation of the silica gel. The old columns are disposed of as solid waste.

The licensee's exhaust ventilation system radiation monitor alarm is received at a local police department during off hours. The police maintain a phone contact list should high radiation levels be detected.

Licensee records indicate that, during 1985, 0.8 curie of tritium was released as particulates, 120 curies as tritiated water vapor, and 1796.5 curies as gaseous tritium. During the first three quarters of 1986, 0.1 curie of tritium as particulates, 69 curies as tritiated water vapor, and 2768 curies as gaseous tritium have been released to the environment. (Attachment 1)

The concentrations of tritium from the stack monitor in particulate and gaseous forms were less than 50 percent of the maximum permissible concentrations (MPC) found in Appendix B, Table II of 10 CFR Part 20 in 1985.

The concentration of tritium from the stack monitor in the form of tritiated water averaged 6.8 times MPC in 1985. Licensee calculations of the dilution factors for stack releases indicate ground level concentrations at the site boundary are well below the MPC for release.

Two significant stack releases, resulting from accidental releases from the gas fill system, were reviewed by the inspectors. On June 18, 1986, 6.02 MPC's for 24 hours of tritium oxide and 5.82 MPC's for 24 hours of tritium gas were released.

Licensee calculations indicated that the average ground level concentration of tritium at approximately 125 meters downwind from the stack was well below the MPC for unrestricted areas. Licensee calculations indicate that approximately 16 curies of tritium oxide or 3500 curies of tritium gas would have to be released to exceed the MPC for unrestricted areas.

The second incident occurred on August 29, 1986 and resulted in the release of 815 curies of tritium gas, the largest gaseous release which had occurred to that date. The licensee's investigation of the incident and calculations are contained in the licensee's memos dated August 30, 1986, and September 4, 1986 (2 memos) and are included in Attachment 1 of this report.

Calculations made by the inspectors confirm the licensee's analysis for tritiated water vapor and tritium gas released in effluents.

The licensee samples airborne soluble tritium at three locations along the property boundary. The three samples are located along the east property line based on the prevailing westerly winds.

Licensee records show that airborne concentrations at these points are less than one percent of the applicable MPC (Attachment 5).

No violations of NRC requirements were identified.

9. Restricted Area Air Concentrations

The inspectors noted that air monitors were in operation which would alarm when the restricted area MPC is exceeded. Employees told the inspectors that they would immediately leave the area should an alarm sound.

On June 19, 1986, the scrubber system alarm setting was 1000 uCi/m³, the fill hood system alarm setting was 100 uCi/m³, and the general air alarm in the room was reading 4-5 uCi/m³ with the alarm set at 10 uCi/m³.

No violations of NRC requirements were identified.

10. Liquid Waste Disposal

The inspectors sampled one of the liquid waste tanks (2310 gallons) awaiting discharge to the Susquehanna River. NRC's independent analysis was in agreement with the licensee's (Attachment 6).

No violations of NRC requirements were identified.

11. Package Surveys

The inspectors reviewed the records of surveys of incoming and outgoing packages. All packages are surveyed prior to leaving the gas-fill room and results are recorded prior to shipment. Incoming packages of tritium are taken to the liquid waste building for wipe surveying. On February 10, 1986 and March 11, 1986 the licensee received 9000 curies of tritium from a supplier with removable package contamination of 20,000 DPM/100cm². The licensee informed the supplier and NRC.

No violations of NRC requirements were identified.

12. Solid Waste Disposal

The licensee has not made a shipment of radioactive waste to an authorized burial site since December of 1982. Presently, the licensee is storing approximately 20,000 curies of tritium waste (Attachment 7). The licensee stated that it found the cost of waste burial at a commercial site prohibitive, but are reinvestigating the burial site requirements and charges.

No violations of NRC requirements were identified.

13. Environmental Sampling

The inspectors reviewed bore hole and well water sampling results. Some variability was noted in the data with higher than normal concentrations obtained on February 19, 1986. Monitoring results indicated 113,000 picocuries/liter of tritium in bore hole #14 sample and 30,000 picocuries/liter of tritium in an offsite drinking water well. The inspectors requested historical tritium monitoring data for the Walton/Vance well (Attachment 8) and onsite bores #14 and #16 (Attachment 1). In an analysis made by the inspectors, there does not appear to be a trend between the offsite well results and either airborne tritium or bore #14, which is closest to the offsite well (Attachment 9). The inspectors obtained an offsite well water sample and a bore #1 sample for analysis. Results (Attachment 10) were consistent with the licensee's analyses.

A licensee representative stated that the monitoring procedure now required a repeat analysis be made on any well water samples equal to or exceeding 20,000 picocuries/liter of tritium (EPA standard).

No violations of NRC requirements were identified.

14. Quality Assurance

The inspector reviewed the procedures used to test gas-filled products to assure adequacy of the tritium seals. The procedure includes visual inspection and wipe tests of all individual tubes of gas. The completed units are placed in a chamber whose air is monitored for tritium to detect any leakage.

No violations of NRC requirements were identified.

15. Exit Interview

The inspectors met with the licensee representatives denoted in paragraph 1 at the conclusion of the inspection. The scope and findings of the inspection were summarized.