

SEP 20 1989

Docket Nos. 030-05980  
030-05981  
030-05982  
030-08335  
030-08444

License Nos. 37-00030-02 ✓  
37-00030-07E  
37-00030-08  
37-00030-09G  
37-00030-10G

Safety Light Corporation  
ATTN: Mr. Jack Miller  
President  
4150-A Old Berwick Road  
Bloomsburg, Pennsylvania 17815

Gentlemen:

Subject: Special Inspection No. 89-003

On August 23, 1989, Francis M. Costello of this office conducted a special safety inspection at the above address of activities authorized by the above listed NRC license. The inspection was an examination of your licensed activities as they relate to radiation safety and to compliance with the Commission's regulations and the license conditions. The inspection consisted of observations by the inspector, interviews with personnel, and a selective examination of representative records. The findings of the inspection were discussed with you and other members of your staff at the conclusion of the inspection. A copy of the NRC inspection report is enclosed.

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 enclosure will be placed in the Public Document Room.

Your cooperation with us is appreciated.

Sincerely,

Original Signed By:  
John D. Kinneman

John D. Kinneman, Chief  
Nuclear Materials Safety Section B  
Division of Radiation Safety  
and Safeguards

Enclosure:

Combined Inspection Nos. 030-05980/89-003, 030-05981/89-003, 030-05982/89-003,  
030-08335/89-003 and 030-8444/89-003

OFFICIAL RECORD COPY

IR SAFETY LIGHT - 0001.0.0  
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REG1 LIC30  
37-00030-02 PNU

RETURN ORIGINAL TO  
REGION I

IE:07

Safety Light Corporation

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cc:

Public Document Room (PDR)  
Nuclear Safety Information Center (NSIC)  
Commonwealth of Pennsylvania  
Norman Fritz, Radiation Safety Officer

USR Industries, Inc.  
ATTN: Mr. Ralph T. McElvenny  
Chairman and Chief Executive Officer  
550 Post Oak Boulevard  
Suite 550  
Houston, Texas 777027

U.S. Department of Energy  
Office of Assistant Secretary  
for Nuclear Energy  
ATTN: Tom Heitman, Rm. 5A0115  
1000 Independence Avenue  
Washington, D.C. 20585

bcc:

Region I Docket Room (w/concurrences)  
J. Joyner, RI  
J. Burnett, NMSS  
D. McCorkle, NMSS  
Management Assistant, DRMA  
U.S. Department of Energy (3)  
Office of Nuclear Energy, NE-47  
ATTN: Dave Baily  
1000 Independence Avenue  
Washington, D.C. 20545

*PMC*  
RI:DRSS  
Costello/bj

09/14/89

*[Signature]*  
RI:DRSS  
Kinneman

09/19/89

*[Signature]*  
RI:DRSS  
Bettenhausen

09/19/89

*[Signature]*  
RI:DRSS  
Joyner

09/19/89

U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

Report Nos. 030-05980/89-003  
030-05981/89-003  
030-05982/89-003  
030-08335/89-003  
030-08444/89-003

Docket Nos. 030-05982  
030-05981  
030-05980  
030-08335  
030-08444

License Nos.	<u>37-00030-08</u>	Priority	<u>1</u>	Category	<u>B</u>
	<u>37-00030-02</u>		<u>3</u>		<u>E</u>
	<u>37-00030-07E</u>		<u>5</u>		<u>E</u>
	<u>37-00030-09G</u>		<u>4</u>		<u>E</u>
	<u>37-00030-10G</u>		<u>4</u>		<u>E</u>

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

Facility Name: Safety Light Corporation

Inspection At: Bloomsburg, Pennsylvania

Inspection Conducted: August 23, 1989

Inspectors: Francis M. Costello 9/20/89  
Senior Health Physicist date

Approved by: John D. Kinneman 9/20/89  
John D. Kinneman, Chief date  
Nuclear Materials Safety Section B

Inspection Summary: Inspection conducted June 16, 1989 (Combined Report  
Nos. 030-05980/89-003, 030-05982/89-003, 030-05981/89-003, 030-08335/89-003,  
and 030-08444/89-003)

Areas Inspected: Routine, unannounced inspection, including review of receipt and inventory procedures and the status of licensed activities.

Results: No violations were identified with respect to License Nos. 37-00030-08, 37-00030-07E, 37-00030-09G, 37-00030-10G. With respect to License No. 37-00030-02, the apparent violations identified in Inspection No. 030-05980/86-001 apparently had not been corrected.

## DETAILS

### 1. Persons Contacted

#### Safety Light Corporation

- \*Jack Miller, President
  - \*Larry Harmon, Plant Manager
  - \*Norman Fritz, Radiation Safety Officer
  - \*Karl Haff, Oak Ridge National Laboratory, Isotope Distribution
  - \*Robert Rabun, Westinghouse Savannah River, Tritium Department
  - \*John Gill, EG&G Mound Applied Technologies, Radioanalytical Group
- \*Present at exit interview

### 2. Status of Licensed Activities

Safety Light Corporation is authorized by NRC License No. 37-00030-02 to possess any byproduct material as contaminated equipment and facilities for the decontamination, cleanup, and disposal of such material. No current decontamination activities are being conducted under this license. The failure to perform decontamination activities was cited as an apparent violation in NRC Inspection Report No. 030-5980/86-001. This apparent violation has not been corrected.

On March 16, 1989, the NRC issued an Order which, in part, required Safety Light Corporation to control access to all contaminated areas at the Bloomsburg facility by a fence or other suitable means so as to create a restricted area as defined in 10 CFR 20. The inspector noted that this fence was in place on the day of this inspection.

Safety Light Corporation is also authorized by NRC License Nos. 37-00030-08, 37-00030-07E, 37-00030-09G and 37-00030-10G to possess and use any form of hydrogen-3 for research and development, manufacturing, and general and exempt distribution of various products and any byproduct material as sealed sources for use as reference standards. The licensee's current operations include the manufacturing and distribution of luminescent signs, gas chromatograph foils and accelerator targets. The licensee also distributes watch dials which have previously been labelled with tritium.

No violations were identified.

### 3. Receipt and Inventory Procedures

The inspector, together with representatives of several Department of Energy contractors, reviewed the licensee's tritium receipt and inventory procedures. The inspector concluded that the licensee had procedures adequate to ensure compliance with license possession limits and other requirements. Tritium is received from Oak Ridge National Laboratory in a uranium trap which is heated electrically with a band heater. The

tritium is driven into a bulk storage uranium trap. When needed for production, the tritium is released into a known volume whose pressure is measured. The licensee assumes a constant temperature and calculates the amount of tritium using the ideal gas law. This method is called the "PVT Method," and is used by the licensee to estimate the amount of tritium received and used for production. Since the bulk storage trap is not emptied before the new shipment is put into it, there is no way to determine with confidence the amount of tritium received in a given shipment. However, the licensee's data are consistent with the possibility that a shipment of tritium from Oak Ridge National Laboratories had approximately 8 kilocuries more tritium in it than intended. The licensee's procedures and available data do not permit a definitive conclusion in this regard.

No violations were identified.

4. Exit Interview

The inspector met with the licensee president at the conclusion of the inspection. The scope and findings of the inspection were summarized.