**UNITED STATES**
**NUCLEAR REGULATORY COMMISSION**
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

May 9, 2000

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

License Nos. 37-00030-08
37-00030-09G
37-00030-10G

Larry Harmon
Plant Manager
Safety Light Corporation
4150-A Old Berwick Road
Bloomsburg, PA 17815

SUBJECT: INSPECTION NOS. 030-05982/00-001, 030-08335/00-001, AND 030-08444/00-001

Dear Mr. Harmon:

On April 18-19, 2000, Sheri Minnick of this office conducted a safety inspection at Bloomsburg, Pennsylvania, of activities authorized by the above listed NRC licenses. 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 selected examination of representative records. The findings of the inspection were discussed with you at the conclusion of the inspection.

Within the scope of this inspection, no violations were identified. However, in response to this letter, please provide us with your plan for achieving compliance by December 31, 2004 as specified in License Condition No. 19 of License No. 37-00030-08, regarding the disposal of waste (generated from activities performed prior to January 1, 2000).

In accordance with Section 2.790 of the NRC's "Rules and Practices," Part 2, Title 10, Code of Federal Regulations, a copy of this letter will be placed in the Public Document Room.

Your cooperation with us is appreciated.

Sincerely,

***Original signed by Judith A. Joustra***

Judith Joustra, Chief
Nuclear Materials Safety Branch 2
Division of Nuclear Materials Safety

cc:
Commonwealth of Pennsylvania

DOCUMENT NAME: C:\l37-00030-08.00-001.05092000.wpd
**To receive a copy of this document, indicate in the box:** "**C**" = Copy w/o attach/encl "**E**" = Copy w/ attach/encl "**N**" = No copy

| OFFICE | DNMS/RI | N | DNMS/RI | | DNMS/RI | | | |
|---|---|---|---|---|---|---|---|---|
| NAME | Sminnick JAJ | | Jjoustra JAJ | | | | | |
| DATE | 5/9/00 | | 5/9/00 | | | | | |

OFFICIAL RECORD COPY

| APPENDIX A<br>INDUSTRIAL/ACADEMIC/RESEARCH INSPECTION RECORD (IP 87110) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| REGION | | | | | | | | | | | | | |
| Insp. Report # | 030-05982/00-01<br>030-08335/00-01<br>030-08444/00-01 | License # | 37-00030-08<br>37-00030-09G<br>37-00030-10G | Docket # | 030-05982<br>030-08335<br>030-08444 | | | | | | | | |
| Licensee Name | Safety Light Corporation | | | | | | | | | | | | |
| Street Address | 4150-A Old Berwick Road | | | | | | | | | | | | |
| City, State, Zip | Bloomsburg, PA 17815 | | | | | | | | | | | | |
| Location (Authorized Site) Being Inspected | 4150-A Old Berwick Road<br>Bloomsburg, PA 17815 | | | | | | | | | | | | |
| Licensee Contact Name | | | Norman Fritz, RSO | | Phone # | | | | | | | | |
| Priority | 3<br>5<br>5 | Program Code | 03214,<br>03240,<br>03241 | Description | | | | | | | | | |
| Date of Last Inspection: | | 4/99 | | Date of This Inspection | April 18, 2000-<br>April 19, 2000 | | | | | | | | |
| Type of Insp. | Announced | | Routine | x | Initial | | | | | | | | |
| | Unannounced | x | Special | | | | | | | | | | |
| Next Insp. Date | 4/2003 | Normal | x | Reduced | | Extended | | | | | | | |
| Justification for change in normal inspection frequency: | | Special license conditions need to be revisited prior to 2004, therefore cannot be extended. | | | | | | | | | | | |
| **Summary of Findings and Actions** | | | | | | | | | | | | | |
| No violations, Clear 591 or letter issued | | x | Non-cited violations | | | | | | | | | | |
| Violation(s), 591 issued | | Violation(s), letter issued | | | | | | | | | | | |
| Follow up on previous violations: | | none | | | | | | | | | | | |
| Inspector - Printed Name | | Sheri Minnick | | | | | | | | | | | |
| - Signature | | ***/RA/*** | | Date | 4/24/00 | | | | | | | | |
| Approved - Printed Name | | Judith A. Joustra | | | | | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Insp. Report # | 030-05982/00-01<br>030-08335/00-01<br>030-08444/00-01 | License # | 37-00030-08<br>37-00030-09G<br>37-00030-10G | Docket # | 030-05982<br>030-08335<br>030-08444 |
| - Signature | | ***/RA/*** | | Date | 4/25/00 |

| **PART I-LICENSE, INSPECTION, INCIDENT/EVENT, AND ENFORCEMENT HISTORY** | | |
|---|---|---|
| **1.** | **AMENDMENTS AND PROGRAM CHANGES** | |
| License amendments issued since last inspection, or program changes noted in the license. | | |
| Amendment No. | Date | Subject |
| 13 | 1/26/00 | License renewal |
| **2.** | **INSPECTION AND ENFORCEMENT HISTORY** | |
| Unresolved issues; previous and repeat violations; Confirmatory Action Letters; and orders. | | |
| None | | |
| **3.** | **INCIDENT/EVENT HISTORY** | |
| List any incidents or events reported to NRC since the last inspection. Citing "None" indicates that regional event logs, event files, and the licensing file have no evidence of any incidents or events since the last inspection. | | |
| None | | |
| **PART II - INSPECTION DOCUMENTATION** | | |
| NOTE: References that correspond to each inspection documentation topic are in Inspection Procedure 87110, Appendix B, "Industrial/Academic/Research Inspection References." | | |

The inspection documentation part is to be used by the inspector to assist with the performance of the inspection. Note that not all areas indicated in this part are required to be addressed during each inspection. However, for those areas not covered during the inspection, a notation ("Not Reviewed" or “Not Applicable”) should be made in each section, where applicable.

All areas covered during the inspection should be documented in sufficient detail to describe what activities and procedures were observed and/or demonstrated. In addition, the types of records that were reviewed and the time periods covered by those records should be noted. If the licensee demonstrated any practices at your request, describe those demonstrations. The observations and demonstrations you describe in this report, along with measurements and some records review, should substantiate your inspection findings. Attach copies of all licensee documents and records needed to support violations.

| 1. | ORGANIZATION AND SCOPE OF PROGRAM |
|---|---|

Management organizational structure; authorized locations of use, including field offices and temporary job sites; type, quantity, and frequency of material use; staff size; delegation of authority.

Safety Light (SL) is a company of approximately 26 people located in Bloomsburg, PA. Larry Harmon is the Plant Manager. Jerry Slowick (Production Manager) and Norm Fritz (RSO) both report to Larry. Most everyone in the company is considered a radiation worker and has some involvement in the assembly of tritium exit signs and luminous products for distribution to general licensees, which is the bulk of the business. Glass tubes filled with tritium are made at Shield Source in Canada and sent to SL who assembles the products in Bloomsburg, PA. Also, infrequently, SL receives in tritium to make targets/foils for gas chromatographs for distribution to specific licensees. Currently SL performs this operation about once per month and receives about 2500 Ci per year for this use.

This inspection included review of manufacturing license (use of tritium) {37-00030-08} and two distribution licenses {37-00030-09G and 37-00030-10G}.

The inspection did not review the decommissioning currently ongoing at the site.

| 2. | MANAGEMENT OVERSIGHT |
|---|---|

Management support to radiation safety; Radiation Safety Committee (RSC); Radiation Safety Officer (RSO); program audits, including annual reviews of program and as low as is reasonably achievable (ALARA) reviews; control by authorized users.

There have been no changes in the management structure or RSO since the last inspection. Assembly of devices is well supervised, and the RSO performs audits of the program at least yearly.

| 3. | FACILITIES |
|---|---|

Facilities as described; uses; control of access; engineering controls; calibration facilities; shielding; air flow:

Adequate facilities and engineering controls as described in the license were found. No changes to the facilities have been made since the last inspection.

| 4. | EQUIPMENT AND INSTRUMENTATION |
|---|---|

Operable and calibrated survey equipment; procedures; 10 CFR Part 21.

The inspector observed the use of operable and calibrated survey equipment. The staff were knowledgeable in the use of proper equipment.

| 5. | MATERIAL USE, CONTROL, AND TRANSFER |
|---|---|

Materials and uses authorized; security and control of licenses materials; and procedures for receipt and transfer of licensed material.

The entrance to the facility is locked at all times.

The inspector reviewed records of receipt and transfer, with special emphasis on the transfer of 10 CFR 31.5 and 31.7 luminous devices that are transferred to general licensees.

| 6. | AREA RADIATION SURVEYS AND CONTAMINATION CONTROL |
|---|---|

Radiological surveys; air sampling; leak tests; inventories; handling of radioactive materials; contamination controls; records; and public doses.

The HP technician frequently performs wipe tests of all occupied areas and cleans up any area found to be in excess of background. The only exception to this clean-up routine is the foil/target room which is a further restricted area with booties, gloves and lab coats required. This area is allowed up to 5000 dpm/100cm2 removable contamination. Appropriate records are maintained.

Also workers perform daily wipes of incoming tritium tubes and outgoing exit signs.

For compliance with dose limits to the public, the licensee calculates the doses to the nearest member of the public. This dose was calculated at 0.01 mrem for 1999.

| 7. | TRAINING AND INSTRUCTIONS TO WORKERS |
|---|---|

Training and retraining requirements and documentation; interviews and observations of routine work; staff knowledge of all routine activities; 10 CFR Parts 19 and 20 requirements; emergency situations; and supervision by authorized users.

Training and retraining of staff found to be adequate. Inspector interviewed workers and found them to be knowledgeable of radiation safety. Inspector reviewed training video used to retrain workers and tests given, and documentation.

| 8. | RADIATION PROTECTION |
|---|---|

Radiation protection program with ALARA provisions; external and internal dosimetry; exposure evaluations; dose and survey records and reports; annual notifications to workers; bulletins and other generic communications.

The licensee performs urine analysis approximately every two weeks on all workers. The highest dose calculated for 1999 was 4 mrem. The results of the cpm of 1milliliter of urine are input into a computer spread sheet which calculates the dose in rem. This is a system that was instituted in the past year.

To verify the calculation of the spread sheet, the inspector reviewed the calculations on the worker with the largest potential for dose. The spread sheet input 704 cpm (for a sample taken after 15 days) and ends with a dose of .002 rem.

Rough calculation:
704 cpm/42% eff =1676 dpm/mL x 1uCi/2.22E6 dpm x 1000 mL/L = .76 uCi/L

Reference man 24-hour urine excretion: 1.4L
IRF for 10 days: 2.16 E-2
IRF for 20 days: 1.08 E-2
Calculated IRF for 15 days: .0162

.76 uCi/L x 1.4 L = 1.06 uCi excreted in 24 hours

1.06uCi/.0162 = 66 uCi intake

66uCi x .064 mrem/uCi = 4mrem

Since this calculated dose is close to the licensee's calculated dose (which could be more accurate due to additional factors considered), and doses to workers are very low, no further evaluation is needed.

| 9. | RADIOACTIVE WASTE MANAGEMENT |
|---|---|

Disposal; effluent pathways and control; storage areas; transfer; packaging, control, and tracking procedures; equipment; incinerators, hoods, vents and compactors; license conditions for special disposal method.

As of February 25, 2000, the solid waste building had an inventory of 10,782 Ci. (This is below the maximum permitted amount of 35,000 Ci of waste)

All waste generated after January 2000 is being segregated due to the LC 19 which requires that waste generated prior to Jan 2000 shall be disposed of by Dec 2004.

Mr. Harmon indicated that they obtained a cost estimate of about $750,000 for their waste currently on hand. He said that they do not have the funds to dispose of the waste at this time. He also indicated that this would be about $17,000 per month in order to have the amount by Dec 2004, which he indicated that they also do not have. He said that this license condition would have to be negotiated when the time comes.

| **10.** | **DECOMMISSIONING** |
|---|---|

Records relevant to decommissioning; decommissioning plan/schedule; notification requirements; cost estimates; funding methods; financial assurance; and Timeliness Rule requirements; changes in radiological conditions since decommissioning plan was submitted.

The inspector verified that SL has sent in four checks in the amount of $7000 each to the Trust account for financial assurance purposes.

SL is also beginning to work on the cost estimate, which is due to the NRC by Dec 31, 2000 (in accordance with LC 20B)

| **11.** | **TRANSPORTATION** |
|---|---|

Quantities and types of licensed material shipped; packaging design requirements; shipping papers; hazardous materials (HAZMAT) communication procedures; return of sources; procedures for monitoring radiation and contamination levels of packages; HAZMAT training; and records and reports.

The licensee ships out luminous devices that are exempted from shipping papers and external labeling. The signs are packaging in a cardboard box, with the appropriate information/labeling requirements of 32.51 and 32.53/32.54. Signs are leak tested prior to shipment.

| **12.** | **NOTIFICATIONS AND REPORTS** |
|---|---|

Reporting and followup of theft; loss; incidents; overexposures; change in RSO; authorized user; and radiation exposure reports to individuals.

No reportable events, theft, loss, etc.

| **13.** | **POSTING AND LABELING** |
|---|---|

Notices; license documents; regulations; bulletins and generic information; posting of radiation areas; and labeling of containers of licensed material.

Appropriates notices and posting observed by the inspector

| 14. | INDEPENDENT AND CONFIRMATORY MEASUREMENTS |
|---|---|

Areas surveyed, both restricted and unrestricted, and measurements made; comparison of data with licensee's results and regulations; and instrument type and calibration date.

Due to the lack of portable detection devices for tritium, the inspector did not take any confirmatory measurements.

| 15. | VIOLATIONS, NON-CITED VIOLATIONS (NCVs), AND OTHER SAFETY ISSUES |
|---|---|

State requirement and how and when licensee violated the requirement. For NCVs, indicate why the violation was not cited. Attach copies of all licensee documents needed to support violations.

None

| 16. | PERSONNEL CONTACTED |
|---|---|

Identify licensee personnel contacted during the inspection (including those individuals contacted by telephone).
Use # to indicate individual present at entrance meeting.
Use * to indicate individual present at exit meeting.

| Name | Title | Phone No. | In Person or By phone |
|---|---|---|---|
| Larry Harmon<br>Norm Fritz<br>Various individuals | Plant Manager<br>RSO<br>Radiation workers | | |

| 17. | PERFORMANCE EVALUATION FACTORS | | | | | | |
|---|---|---|---|---|---|---|---|
| A. | Lack of senior management involvement with the radiation safety program and/or RSO oversight. | | | Y | | N | x |
| B. | RSO too busy with other assignments. | | | Y | | N | x |
| C. | Insufficient staffing. | | | Y | | N | x |
| D. | RSC fails to meet or functions inadequately. | N/A | x | Y | | N | |
| E. | Inadequate consulting services or inadequate audits conducted. | N/A | x | Y | | N | |

**REMARKS** :(Consider the above assessment and/or other pertinent Performance Evaluation Factors (PEFs) with regard to the licensee's oversight of the radiation safety program)

| 18. | SPECIAL CONDITIONS OR ISSUES | |
|---|---|---|
| NONE | | Special license conditions; year-2000 effects of computer software and embedded systems. |

The inspector reviewed the requirements of 10 CFR 32.53 and 32.51and found the licensee to be in compliance with these manufacturing/distribution requirements.

SL properly documents the company name and address (of a company they ship an exit sign to), as well as the end user name, address and contact. If the company they ship the exit sign to is the same as the end user, they document “same”. They do not ship out the signs without the end user information. They ship out appropriate regulations with the signs that indicates that redistribution is not authorized.

Many companies come under the exemption in 10 CFR 30.13 and are allowed to hold exit signs until they are delivered to the final destination which is the end user or general licensee. These companies are not considered intermediate holders, but rather a warehouse location prior to final destination.

## PART III - POST- INSPECTION ACTIVITIES

| 1. | REGIONAL FOLLOWUP ON PEFs |
|---|---|

none

| 2. | DEBRIEF WITH REGIONAL STAFF |
|---|---|

Post-inspection communication with supervisor, regional licensing staff, Agreement State Officer; and/or State Liaison Officer.

BC informed of the results of inspection

| 3. | YEAR-2000 ISSUES |
|---|---|

Convey, to the NMSS Year-2000 Coordinator, all year-2000 licensee-identified problems and corrective actions taken.

NI

TO ADVANCE TO NEXT SECTION OF FORM - PUSH **PAGE DOWN** KEY

| APPENDIX A - ATTACHMENT A<br>DECOMMISSIONING TIMELINESS INSPECTION | | | |
|---|---|---|---|
| Licensee: | Safety Light | Date of Inspection: | 4/2000 |

| 1. | COMPLIANCE WITH DECOMMISSIONING TIMELINESS RULE | | | | | |
|---|---|---|---|---|---|---|
| (NOTE: Repeat the answers given in Section 12 of the main body of the inspection record. The issues in subsequent sections are dependent on the answers to these questions.) | | | | | | |
| | A. | License to conduct a *principal activity* has expired or been revoked: | Y | | N | x |
| | B. | Licensee has made a decision to permanently cease *principal activities* at the entire site, or any separate buildings, or any outdoor areas, including inactive burial grounds: | Y | | N | x |
| | C. | A 24-month duration has passed in which no *principal activities* have been conducted under the license at the site, or at any separate buildings, or any outdoor areas, including inactive burial grounds: | Y | | N | x |
| | D. | If "Yes" to either A or B or C above: | | | | |
| | | (1) Identify Site/Bldg./Area: | | | | |
| | | (2) Date of occurrence of A, B, or C: | | | | |

| 2. | NOTIFICATION REQUIREMENTS | | | | | | |
|---|---|---|---|---|---|---|---|
| | A. | Licensee has provided written notification to U.S. NRC within 60 days of the occurrence of 1.A., 1.B., or 1.C. above. | Y | | N | x | |
| | If "Yes," date of notification: | | | | | | |
| | B. | If the licensee is requesting to delay initiation of the decommissioning process, the licensee has provided written notification to NRC within 30 days of occurrence of 1.A., 1.B., or 1.C. above: | N/A | x | Y | | N |
| | If "Yes," date of notification: | | | | | | |
| Basis for Findings: | | | | | | | |

| 3. | DECOMMISSIONING PLAN/SCHEDULE REQUIREMENTS | | | | | | |
|---|---|---|---|---|---|---|---|
| | A. | Licensee is required to submit a decommissioning plan per 10 CFR 30.36(g), 40.42(g), 70.38(g), or 10 CFR Part 72? | N/A | x | Y | | N |
| | If "No" to 3.A., answer the following items B - F: | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | B. | The decommissioning work scope is covered by current license conditions. | | | Y | | N | |
| | C. | Decommissioning has been initiated within 60 days of notification to NRC, or NRC has granted a delay. | | | Y | | N | |
| | D. | If licensee has initiated decommissioning, give date the decommissioning was initiated: | | | | | | |
| | E. | If decommissioning has been completed, it was completed within 24 months of notification to NRC. | N/A | | Y | | N | |
| | F. | If decommissioning is still scheduled to be completed, it is on schedule to be completed within 24 months of notification to NRC. | N/A | | Y | | N | |
| Basis for Findings: | | | | | | | | |
| | If "Yes" to 3.A., answer the following items G - J: | | | | | | | |
| | G. | The decommissioning plan has been submitted to NRC within 12 months of notification. | | | Y | | N | |
| | If "Yes," date of submittal: | | | | | | | |
| | If NRC approved, date of NRC approval: | | | | | | | |
| | H. | Has the licensee submitted an alternative schedule request? | | | Y | | N | |
| | If "Yes," date of submittal: | | | | | | | |
| | I. | If decommissioning has been completed, it was completed within 24 months after approval of the decommissioning plan. | N/A | | Y | | N | |
| | J. | If decommissioning is still scheduled to be completed, it is on schedule to be completed within 24 months after approval of the decommissioning plan. | N/A | | Y | | N | |
| Basis for Findings: | | | | | | | | |
| Violations identified, if any: | | | | | | | | |

**END**