

RI - DNMS Licensee Event Report

Disposition

Licensee:	<i>Dept of Army - Garrison</i>				
Event Description:	<i>Loss of Material</i>				
License No:	<i>General</i>	Docket No:	<i>9490001</i>	MLER-RI:	<i>2017-009</i>
Event Date:	<i>10/16/17</i>	Report Date:	<i>10/17/17</i>	HQ Ops Event #:	<i>53021</i>

1. REPORTING REQUIREMENT

<input type="checkbox"/> 10 CFR 20.1906 Package Contamination <input checked="" type="checkbox"/> 10 CFR 20.2201 Theft or Loss <input type="checkbox"/> 10 CFR 20.2203 30 Day Report <input type="checkbox"/> Other	<input type="checkbox"/> 10 CFR 30.50 Report <input type="checkbox"/> 10 CFR 35.3045 Medical Event <input type="checkbox"/> License Condition
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2. REGION I RESPONSE

<input type="checkbox"/> Immediate Site Inspection <input type="checkbox"/> Special Inspection <input checked="" type="checkbox"/> Telephone Inquiry <input type="checkbox"/> Preliminary Notification/Report <input checked="" type="checkbox"/> Information Entered in RI Log <input type="checkbox"/> Report Referred To:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 50%;">Inspector/Date</td><td></td></tr> <tr><td>Inspector/Date</td><td></td></tr> <tr><td>Inspector/Date</td><td><i>Steven R. Courtemanche</i></td></tr> <tr><td>Daily Report</td><td></td></tr> <tr><td>Review at Next Inspection</td><td></td></tr> </table>	Inspector/Date		Inspector/Date		Inspector/Date	<i>Steven R. Courtemanche</i>	Daily Report		Review at Next Inspection	
Inspector/Date											
Inspector/Date											
Inspector/Date	<i>Steven R. Courtemanche</i>										
Daily Report											
Review at Next Inspection											

3. REPORT EVALUATION

<input checked="" type="checkbox"/> Description of Event <input type="checkbox"/> Levels of RAM Involved <input checked="" type="checkbox"/> Cause of Event	<input checked="" type="checkbox"/> Corrective Actions <input type="checkbox"/> Calculations Adequate <input type="checkbox"/> Additional Information Requested from Licensee
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4. MANAGEMENT DIRECTIVE 8.3 EVALUATION

N/A

☐ Release w/Exposure > Limits
☐ Repeated Inadequate Control
☐ Exposure 5x Limits
☐ Potential Fatality

☐ Deliberate Misuse w/Exposure > Limits
☐ Pkging Failure > 10 rads/hr or Contamination > 1000x Limits
☐ Large# Indivs w/Exp > Limits or Medical Deterministic Effects
☐ Unique Circumstances or Safeguards Concerns

If any of the above are involved:

☐ Considered Need for IIT
 ☐ Considered Need for AIT

Decision/Made By/Date: _____

5. MANAGEMENT DIRECTIVE 8.10 EVALUATION (additional evaluation for medical events only)

N/A

☐ Timeliness - Inspection Meets Requirements (5 days for overdose / 10 days for underdose)
☐ Medical Consultant Used-Name of Consultant/Date of Report: _____
☐ Medical Consultant Determined Event Directly Contributed to Fatality
☐ Device Failure with Possible Adverse Generic Implications
☐ HQ or Contractor Support Required to Evaluate Consequences

6. SPECIAL INSTRUCTIONS OR COMMENTS

Issue closure letter to licensee. Close item in NMED.

<input type="checkbox"/> Non-Public, MD 3.4 non-public	Inspector Signature: <i>Steven R. Courtemanche</i>	Date: <i>12/26/2017</i>
<input checked="" type="checkbox"/> Public-SUNSI REVIEW COMPLETE	Branch Chief Initials: <i>ACB</i>	Date: <i>1/23/18</i>



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, US ARMY GARRISON, CARLISLE BARRACKS
22 ASHBURN DRIVE
CARLISLE, PENNSYLVANIA 17013-5000

NOV 09 2017

Office of the Garrison Commander

U.S. Nuclear Regulatory Commission, Region I
2100 Renaissance Boulevard, Suite 100
King of Prussia, PA 19406-2713

To USNRC Region I Administrator:

The U.S. Army Garrison, Carlisle Barracks provides base operations support functions on an Army installation located in Carlisle, Pennsylvania. This written report is being submitted pursuant to 10CFR20.2201(b) which addresses the loss of generally licensed material. On 16 October 2017, the Garrison determined four tritium exit signs were improperly disposed of during facility maintenance operations. The event was telephonically reported on 17 October 2017 to the NRC Operations Center (Event Number: 53021). This written report contains the following required information:

1. *A description of the licensed material involved, including kind, quantity, and chemical and physical form.* Safety Light Corporation Inc. is the specific licensee for the manufacture and distribution of the four tritium (H-3) self-luminous exit signs. The Garrison installed the generally licensed devices within their facilities and is considered as the general licensee. The tritium gas is contained in sealed glass tubes lined with a light-emitting compound. The tritium gives off low-energy beta radiation that causes the lining to glow. Exit signs noted as having a 10-year effective life and a placarded replacement date of November 2017. The model number and activity level of the signs are unknown.

2. *A description of the circumstances under which the loss or theft occurred.* On 12 July 2017, the Building 313 building manager e-mailed a service order to the Directorate Public Works (DPW) requesting the removal of the tritium exit signs and the replacement with non-radioactive, photoluminescent equivalents. The service order requests replacement occur prior to November 2017. DPW initiated service order number: 100006294148 which read "Bldg#313 is requesting that the Tritium Exit signs in the ballroom be replaced with non-radioactive equivalents." Task issuance forwarded to the base operations prime contractor (Chimes District of Columbia, Inc.).

On 16 August 2017, a two-person subcontractor (EMCOR Government Services) electrician team worked on service order number: 100006294148 from 0800-1200 in Building 313. The team removed four tritium exit signs and replaced each mounting

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location with a photoluminescent model. The team also repaired an internally-illuminated exit sign in the same facility. The personnel removed the intact exit signs and transported them to Building 327. At the conclusion of the work day on 16 August 2017, the four tritium exit signs were improperly disposed of in the municipal waste dumpster adjacent to Building 327. The contents were emptied by a local refuse collection vehicle and presumably transported off the installation. On 12 October 2017, the safety officer conducted a periodic inspection of Building 313 and noted that four tritium exit signs were missing from mounting locations above partition wall doorways. A local search for the devices returned with negative results, and the exit signs were determined lost on 16 October 2017.

3. *A statement of disposition, or probable disposition, of the licensed material involved.* The general licensee verified the four tritium exit signs were improperly disposed of in a municipal waste dumpster adjacent to Building 327 between 16 and 20 August 2017. The U.S. Army Garrison, Carlisle Barracks maintains a refuse collection contract with Waste Management, Inc. The probable disposition pathway for discarded municipal waste is initial pickup by refuse vehicle, centralized collection at a nearby waste transfer station, and final transfer to a local landfill.

4. *Exposures of individuals to radiation, circumstances under which the exposures occurred, and the possible total effective dose equivalent to persons in unrestricted areas.* No individuals are believed to have been exposed to this material. The exit signs were intact upon removal and disposal prior to entering the waste stream. Therefore, it is not likely that any exposure will result to persons in unrestricted areas unless an exit sign ruptured during waste transport or collection.

5. *Actions that have been taken, or will be taken, to recover the material.* A search for the exit signs was initiated at Building 327 workplaces and adjacent trash collection point. The signs were not located in area and presumed to have entered waste stream. Garrison staff contacted the Waste Management account executive, transfer station operator, and district manager to attempt exit sign recovery. Follow up message provided to Waste Management district manager containing estimated dates of disposal and packaging material of exit signs to assist in possible recovery. Due to length of time from initial disposal, recovery of exit signs is considered unlikely.

6. *Procedures or measures that have been, or will be, adopted to ensure against a recurrence of the loss or theft of licensed material.* The following corrective actions were immediately implemented to prevent recurrence of lost licensed material:

- On 19 October 2017, the Contracting Officer sent a "cure notice" to prime contractor for failing to properly dispose of radioactive material. Contractor required to submit a corrective action plan, within 10 days of cure notice issuance, on how to prevent reoccurrence. On 25 October 2017, the contractor


submitted a corrective action plan that identified plans on how to prevent the improper disposal of low level radioactive material.

- On 25 October 2017, Chimes/EMCOR conducted training for all technicians on how to identify possible sources of tritium, notification procedures if found, and proper disposal requirements.
- Installation-wide inventory conducted for all sources of ionizing radiation used/stored on Carlisle Barracks. No additional tritium exit signs were discovered in installation facilities as a result of the inventory.

The following corrective actions are planned to prevent recurrence of lost licensed material:

- Incorporate additional hazardous material clauses into existing installation support, operations, and maintenance contracts that define low level radioactive waste in the performance work statements and appropriate storage/disposal procedures.
- Develop fact sheet for immediate release that describes tritium hazards, potential sources, environmental concerns, general licensee responsibilities, and disposal procedures. Disseminate document to all installation stakeholders, tenant activities, building managers, and personnel responsible for work order prosecution.

There have been no similar events at Carlisle Barracks, therefore, this event is considered to be non-recurring. Point of contact for this matter is the Installation Safety Officer, Mr. Charles D. Betoney II, at (717) 245-4353, (717) 962-6341, or charles.d.betoney2.civ@mail.mil.


Sally C. Hannan
Lieutenant Colonel, U.S. Army
Commanding

Non-Agreement State	Event Number: 53021
Rep Org: DEPARTMENT OF THE ARMY Licensee: DEPARTMENT OF THE ARMY Region: 1 City: CARLISLE State: PA County: License #: GENERAL LICEN Agreement: Y Docket: NRC Notified By: DHARLES BETONEY II HQ OPS Officer: DONALD NORWOOD	Notification Date: 10/17/2017 Notification Time: 16:43 [ET] Event Date: 10/17/2017 Event Time: [EDT] Last Update Date: 10/17/2017
Emergency Class: NON EMERGENCY 10 CFR Section: 20.2201(a)(1)(ii) - LOST/STOLEN LNM>10X	Person (Organization): ANNE DeFRANCISCO (R1DO) NMSS_EVENTS_NOTIFICA (EMAI)

This material event contains a "Less than Cat 3 " level of radioactive material.

Event Text

FOUR LOST TRITIUM EXIT SIGNS

"During a periodic safety inspection of an installation facility, the Safety Manager noted that up to four tritium exit signs were missing from mounting locations above partition wall doorways. Photoluminescent equivalents had been installed in their place. The exit signs were manufactured by Safety Light Corporation with an effective life cycle of ten years set to expire on November 2017. Model numbers and activity levels of the missing signs are unknown. A local search for items returned negative results and the exit signs were determined lost on 16 October 2017. Interviews conducted with base operations personnel and contract employees indicate tritium exit signs were removed on or around 16 August 2017 and replaced with a non-radioactive equivalent. It is believed that the exit signs were disposed of in a municipal waste dumpster on the installation. An internal investigation is underway to gather additional information and determine root cause.

"The U.S. Army Garrison - Carlisle Barracks reported the lost exits signs as a general license holder pursuant to 10 CFR 31.5. Telephonic reporting requirement in 10 CFR 20.2201(a)(1)(ii) applies. A formal written report will be submitted within 30 days after making the telephone report with the NRC that 10 CFR 20.2201(b) requires."

THIS MATERIAL EVENT CONTAINS A "LESS THAN CAT 3" LEVEL OF RADIOACTIVE MATERIAL

Sources that are "Less than IAEA Category 3 sources," are either sources that are very unlikely to cause permanent injury to individuals or contain a very small amount of radioactive material that would not cause any permanent injury. Some of these sources, such as moisture density gauges or thickness gauges that are Category 4, the amount of unshielded radioactive material, if not safely managed or securely protected, could possibly - although it is unlikely - temporarily injure someone who handled it or were otherwise in contact with it, or who were close to it for a period of many weeks. For additional information go to http://www-pub.iaea.org/MTCD/publications/PDF/Pub1227_web.pdf