

**SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION**

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| 1. LICENSEE/LOCATION INSPECTED:<br>General Electric Company<br>GE Lighting<br>1975 Noble Road, Building 114<br>East Cleveland, OH 44112-1719<br>REPORT NUMBER(S) 2017001 |                                      | 2. NRC/REGIONAL OFFICE<br>Region III<br>U. S. Nuclear Regulatory Commission<br>2443 Warrenville Road, Suite 210<br>Lisle, IL 60532-4352 |
| 3. DOCKET NUMBER(S)<br>030-37042                                                                                                                                         | 4. LICENSE NUMBER(S)<br>16-17316-01E | 5. DATE(S) OF INSPECTION<br>October 17 - November 16, 2017                                                                              |

**LICENSEE:**

The inspection was an examination of the activities conducted under your license as they relate to radiation safety and to compliance with the Nuclear Regulatory Commission (NRC) rules and regulations and the conditions of your license. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector. The inspection findings are as follows:

1. Based on the inspection findings, no violations were identified.
2. Previous violation(s) closed.
3. The violation(s), specifically described to you by the inspector as non-cited violations, are not being cited because they were self-identified, non-repetitive, and corrective action was or is being taken, and the remaining criteria in the NRC Enforcement Policy, to exercise discretion, were satisfied.

Non-cited violation(s) were discussed involving the following requirement(s):

4. During this inspection, certain of your activities, as described below and/or attached, were in violation of NRC requirements and are being cited in accordance with NRC Enforcement Policy. This form is a NOTICE OF VIOLATION, which may be subject to posting in accordance with 10 CFR 19.11.

(Violations and Corrective Actions)

Contrary to License Condition 14.D. of Amendment Number 07 of the license, as of October 17, 2017, the licensee failed to label individual containers of krypton-85 arc tubes from product codes 71484 and 71490 that were manufactured in Hungary in accordance with statements made in letter dated April 27, 2016.

The failure to properly label the containers resulted from an oversight during the manufacturing process in Hungary. The licensee committed to reviewing and adjusting the manufacturing process in Hungary as necessary, and training staff on the labeling requirements to prevent future occurrence. The licensee also committed to reviewing its QA/QC process for improvements in identifying manufacturing process issues before product is shipped from Hungary to the licensee's distribution centers.

**Statement of Corrective Actions**

I hereby state that, within 30 days, the actions described by me to the inspector will be taken to correct the violations identified. This statement of corrective actions is made in accordance with the requirements of 10 CFR 2.201 (corrective steps already taken, corrective steps which will be taken, date when full compliance will be achieved). I understand that no further written response to NRC will be required, unless specifically requested.

| TITLE                     | PRINTED NAME     | SIGNATURE               | DATE       |
|---------------------------|------------------|-------------------------|------------|
| LICENSEE'S REPRESENTATIVE | Barry J. Hallock | <i>Barry J. Hallock</i> | 11/30/17   |
| NRC INSPECTOR             | Kevin G. Null    | <i>Kevin G. Null</i>    | 11/17/2017 |
| BRANCH CHIEF              | Aaron T. McCraw  | <i>Aaron T. McCraw</i>  | 11/17/2017 |

**Docket File Information**  
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| 3. DOCKET NUMBER(S)<br><br>030-37042 | 4. LICENSE NUMBER(S)<br><br>16-17316-01E | 5. DATE(S) OF INSPECTION<br><br>10/17/2017 with in-office<br>review through 11/16/17 |
|--------------------------------------|------------------------------------------|--------------------------------------------------------------------------------------|

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|--------------------------------------------|--------------------------------------|
| 6. INSPECTION PROCEDURES USED<br><br>87128 | 7. INSPECTION FOCUS AREAS<br><br>All |
|--------------------------------------------|--------------------------------------|

**SUPPLEMENTAL INSPECTION INFORMATION**

|                                 |                      |                                                                 |                                           |
|---------------------------------|----------------------|-----------------------------------------------------------------|-------------------------------------------|
| 1. PROGRAM CODE(S)<br><br>03251 | 2. PRIORITY<br><br>5 | 3. LICENSEE CONTACT<br><br>Barry Hallock, EHS Operations Leader | 4. TELEPHONE NUMBER<br><br>(828) 702-8382 |
|---------------------------------|----------------------|-----------------------------------------------------------------|-------------------------------------------|

Main Office Inspection      Next Inspection Date: 10/17/2022

Field Office Inspection    150 Loomis Parkway, Ravenna, Ohio

Temporary Job Site Inspection

**PROGRAM SCOPE**

This was a routine, unannounced inspection of General Electric Company GE Lighting's (GE) license that authorized distribution of krypton-85 filled arc tubes to persons exempt from the requirements of a license in accordance with 10 CFR 30.15(a)(8)(iv). The exempt distribution license did not authorize the possession of byproduct material. GE holds a State of Ohio license that authorized the possession of byproduct material.

**PERFORMANCE OBSERVATIONS**

The inspector interviewed Mr. Willie Cooper, local radiation safety officer (RSO) at the field office located in Ravenna, Ohio, and interviewed Mr. Barry Hallock, EHS Operations Leader, by telephone. The RSO provided an overview of the licensed program and inventory records for the krypton-85 arc tubes at the Ravenna location. The licensee received lamps/bulbs (units) containing krypton-85 arc tubes from manufacturing plants located in India and Hungary. The units were transferred to GE locations in the United States for distribution under GE's exempt distribution license. Based on a random review of inventory records, the inspector noted that each unit contained no greater than 1.0 microcurie of krypton-85 which was in accordance with GE's NRC license.

The inspector examined a sampling of containers/sleeves which held krypton-85 units that were being stored at the Ravenna location awaiting distribution. The inspector observed product labeling and package insert information, and performed independent radiation level surveys at the surface of a random selection of packages. Results of surveys ranged from 0.05 millirem per hour to 0.09 millirem per hour, essentially background levels. The inspector also reviewed the licensee's annual material transfer reports for calendar years 2013 - 2016.

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(Continued)

At the request of the inspector, Mr. Cooper opened three boxes of units that were in the warehouse awaiting distribution. The inspector examined individual units that were manufactured in both India and Hungary, each units' container/sleeve, and bulk shipment boxes. The inspector noted that the units, respective containers/sleeves, and bulk shipment boxes that originated from India were each individually labeled as containing krypton-85. The inspector noted, however, that individual units that were manufactured in Hungary and their respective containers/sleeves were not labeled as containing krypton-85. However, the bulk shipment boxes were properly labeled.

License Condition 14.D. of Amendment No. 07 of the license, required, in part, that the licensee conduct its program in accordance with statements made in a letter dated April 27, 2016. In the April 27 letter, the licensee stated that all product containers that contain arc tubes with krypton-85 will be labeled "krypton-85" or "arc tube fill gas contains krypton-85." The inspector identified containers/sleeves that held krypton-85 arc tubes manufactured in Hungary which were not labeled as required in the April 27 letter. The individual containers that were examined by the inspector came from product codes 71484 and 71490. The inspector did not identify any labeling issues related to arc tubes that had been manufactured in India.

The improper labeling appears to be limited to arc tubes that were manufactured in Hungary. The failure to properly label the containers resulted from an oversight during the manufacturing process in Hungary. The licensee committed to following-up on the manufacturing process in Hungary and, as necessary, train staff on the labeling requirements to correct the process going forward. The licensee also committed to reviewing its QA/QC program for improvements in identifying manufacturing process issues before product is shipped from Hungary to the GE distribution centers in the United States. The licensee also indicated that they would amend their NRC exempt distribution license to clarify their package labeling process.

The inspector identified one violation of License Condition 14.D, as document on Part 1 of this form.