



## Materials Inspection Report

<b>1. Licensee/Location Inspected:</b>  Detector Electronics Corporation 6901 West 110th Street Minneapolis, Minnesota 55438  <b>Report Number(s)</b> 2023001	<b>2. NRC/Regional Office</b>  Region III U. S. Nuclear Regulatory Commission 2443 Warrenville Road, Suite 210 Lisle, IL 60532-4352
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<b>3. Docket Number(s)</b> 030-17824	<b>4. License Number(s)</b> 22-18199-02E	<b>5. Date(s) of Inspection</b> 3/22/23 - 5/8/23
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**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. During this inspection, certain of your activities, as described below and/or attached, were in violation of NRC requirements, and were assessed at Severity Level IV, in accordance with the NRC Enforcement Policy.

A. 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, corrective action was or is being taken, and the remaining criteria in the NRC Enforcement Policy were satisfied.  
 (Non-cited violation(s) was/were discussed involving the following requirement(s))

B. The following violation(s) is/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)

### 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 AND DATE
LICENSEE'S REPRESENTATIVE		
NRC INSPECTOR	Jason Draper, Health Physicist	Jason D. Draper <small>Digitally signed by Jason D. Draper Date: 2023.05.12 13:08:48 -05'00'</small>
BRANCH CHIEF	Rhex Edwards	 <small>Digitally signed by Rhex A. Edwards Date: 2023.05.19 13:37:38 -05'00'</small>



### Materials Inspection Record

<b>1. Licensee Name:</b> Detector Electronics Corporation		<b>2. Docket Number(s):</b> 030-17824		<b>3. License Number(s)</b> 22-18199-02E	
<b>4. Report Number(s):</b> 2023001			<b>5. Date(s) of Inspection:</b> March 22, 2023 with in-office review through May 8, 2023		
<b>6. Inspector(s):</b> Jason Draper		<b>7. Program Code(s):</b> 03251	<b>8. Priority:</b> 5	<b>9. Inspection Guidance Used:</b> IP 87128	
<b>10. Licensee Contact Name(s):</b> Eric Johnson, EHS Manager		<b>11. Licensee E-mail Address:</b> Eric.Johnson3@carrier.com		<b>12. Licensee Telephone Number(s):</b> (952) 221-5827	

<b>13. Inspection Type:</b> <input checked="" type="checkbox"/> Routine <input type="checkbox"/> Announced <input type="checkbox"/> Non-Routine <input checked="" type="checkbox"/> Unannounced		<b>14. Locations Inspected:</b> <input type="checkbox"/> Hybrid <input checked="" type="checkbox"/> Main Office <input type="checkbox"/> Temporary Job Site <input type="checkbox"/> Field Office <input type="checkbox"/> Remote		<b>15. Next Inspection Date (MM/DD/YYYY):</b> 03/22/2028 <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Extended <input type="checkbox"/> Reduced <input type="checkbox"/> No change	
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**16. Location(s) Inspected List:**  
Main Office - 6901 West 110th Street

**17. Scope and Observations:**  
 This was an inspection of a fire, combustible, and toxic gas detector manufacturer that was authorized to transfer detectors containing krypton-85 gas inside electron tubes to persons exempt from the requirements for a license (exempt distribution). The licensee held a license from the state of Minnesota to possess the byproduct material and manufacture the detectors. The licensee had three locations listed on the license: the Minneapolis location was where the licensee manufactured the devices, the Savage location was where the licensee tested the detectors, and the Bloomington location was where the licensee prepared the products for shipping. In 2022, the licensee sold approximately 1258 detectors that contained approximately 1 microcurie of Kr-85 each, though many of these devices were exported and therefore not distributed as exempt devices.

During the inspection, the inspector toured the licensee's manufacturing facility to observe how the licensee verifies that each electron tube does not contain greater than 30 microcuries of Kr-85. The inspector also verified the licensee labeled the units as described in the license application. The licensee interviewed the RSO and others involved in the manufacturing and distribution processes with respect to handling of the devices and transfer and shipping procedures. During a Teams call following the on-site inspection, the inspector interviewed representatives from the licensee's international trade compliance group and a licensee data analyst to understand how the licensee ensures it does not export any products to embargoed destinations listed in 10 CFR 110.28 and to verify the information reported in the licensee's annual exempt distribution reports required by 10 CFR 32.16.

No violations of NRC requirements were identified as a result of this inspection.

**Signature and Date - Branch Chief**

Digitally signed by Rhex A. Edwards  
Date: 2023.05.19 13:36:54 -05'00'

**From:** [Jason Draper](#)  
**To:** [eric.johnson3@carrier.com](mailto:eric.johnson3@carrier.com)  
**Subject:** NRC 591M - Detector Electronics Corporation  
**Date:** Thursday, June 1, 2023 7:38:00 AM  
**Attachments:** [NRC 591M - Detector Electronics Corporation jd\\_RAE.pdf](#)

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Eric,

As was discussed via telephone on May 8, 2023, attached is the inspection report for the routine NRC inspection that I performed at your facility in Minneapolis, Minnesota, on March 22, 2023, with in-office review through May 8, 2023. Please review and keep this document for your records. There is no response required, though I would appreciate an email confirming that you have received the document. Let me know if you have any questions.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response, if you choose to provide one, will be made available electronically for public inspection in the NRC's Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC's website at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made publicly available without redaction.

Jason Draper

Health Physicist (Inspector)

NRC / Region III / DRSS / MIB

(630) 829-9839

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