

September 19, 2012

EA-12-181

Mr. Jerry Slocum, General Manager  
Detector Electronics Corporation  
6901 West 110th Street  
Minneapolis, Minnesota 55438

SUBJECT: NRC REACTIVE INSPECTION REPORT NO. 03017824/2012001(DNMS) –  
DETECTOR ELECTRONICS CORPORATION.

Dear Mr. Slocum:

On July 2 and 3, 2012, the U.S. Nuclear Regulatory Commission (NRC) conducted a reactive inspection of your facility located in Minneapolis, Minnesota, with continued in-office review through September 6, 2012. The in-office review was to evaluate your receipt and transfer of smoke detectors that originated from the United Kingdom. The purpose of the onsite inspection was to assess the safety and security significance associated with the items in your letter to the NRC dated March 30, 2012, which identified potential violations of NRC requirements. The enclosed report presents the results of this inspection.

During this inspection, the NRC staff examined activities conducted under your license as they relate to public health and safety, compliance with the Commission's rules and regulations, and compliance with the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, an apparent violation was identified and is being considered for escalated enforcement action in accordance with the NRC Enforcement Policy. The current Enforcement Policy is included on the NRC's website at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>. The apparent violation involved the failure to comply with the requirements for exporting byproduct material in Title 10 of the Code of Federal Regulations (CFR) 110.20(a). Specifically, you exported flame detectors with electron tubes containing krypton-85 to Iraq without specific authorization.

Since the NRC has not made a final determination in this matter, no Notice of Violation is being issued for this inspection finding at this time. The circumstances surrounding this apparent violation, the significance of the issue, and the need for lasting and effective corrective action were discussed with you at the final telephonic exit meeting on September 6, 2012.

Before the NRC makes its enforcement decision, we are providing you an opportunity to: (1) respond to the apparent violation addressed in this inspection report within 30 days of the date of this letter; (2) request a Predecisional Enforcement Conference (PEC); or (3) choose to not provide a response to the apparent violation addressed in this inspection report. If a PEC is held, it will be open for public observation and the NRC will issue a press release to announce

the time and date of the conference. Please contact Tamara Bloomer at 630-829-9627 within ten days of the date of this letter to notify the NRC of your intended response.

If you choose to provide a written response, it should be clearly marked as "Response to the Apparent Violation in Inspection Report No. 03017824/2012001(DNMS); EA-12-181," and should include, for the apparent violation: (1) the reason for the apparent violation, or, if contested, the basis for disputing the apparent violation; (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken to avoid further violations; and (4) the date when full compliance will be achieved. In presenting your corrective actions, you should be aware that the promptness and comprehensiveness of your actions will be considered in assessing any civil penalty for the apparent violation. The guidance in NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," may be helpful. You can find the information notice on the NRC website at: <http://www.nrc.gov/reading-rm/doc-collections/gen-comm/info-notices/1996/in96028.html>. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate response is not received within the time specified or an extension of time has not been granted by the NRC, the NRC will proceed with its enforcement decision or schedule a PEC.

If you choose to request a PEC, the conference will afford you the opportunity to provide your perspective on the apparent violation and any other information that you believe the NRC should take into consideration before making an enforcement decision. The topics discussed during the conference may include the following: information to determine whether a violation occurred, information to determine the significance of a violation, information related to the identification of a violation, and information related to any corrective actions taken or planned to be taken.

If you choose to provide no further response, the NRC will use information gathered during the inspection and information included in previously docketed correspondence to assess the significance of the apparent violation and proceed with its enforcement decision. This option is being provided to you because the NRC has concluded that information regarding the reason for the apparent violation, the corrective actions taken and planned to correct the apparent violation and prevent recurrence, and the dates when full compliance was or will be achieved is already adequately addressed in the enclosed inspection report.

As your facility has not been the subject of escalated enforcement actions within the last two years or two inspections, a civil penalty may not be warranted in accordance with Section 2.3.4 of the Enforcement Policy. In addition, based upon NRC's understanding of the facts and your corrective actions, it may not be necessary to conduct a PEC in order to enable the NRC to make a final enforcement decision.

In presenting your corrective actions, you should be aware that the promptness and comprehensiveness of your actions will be considered in assessing any civil penalty for the apparent violation. In addition, please be advised that the number and characterization of the apparent violation described in the enclosed inspection report may change as a result of further NRC review. You will be advised by separate correspondence of the results of our deliberations on this matter.

Based on the results of this inspection, the NRC has also determined that six Severity Level IV violations of NRC requirements occurred. These violations are being treated as Non-Cited Violations (NCVs), consistent with Section 2.3.2 of the Enforcement Policy. These NCVs are described in the subject inspection report. If you contest the violations or significance of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001, with copies to: (1) the Regional Administrator, Region III; and (2) the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

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 available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response (if you choose to provide one) should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction.

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

*/RA/*

Anne T. Boland, Director  
Division of Nuclear Materials Safety

Docket No. 030-17824  
License No. 22-18199-02E

Enclosure:  
Inspection Report No. 03017824/2012001(DNMS)

cc w/encl: Linda Rivall, Compliance and Logistics Manager  
Tim Ellis, Production Manager  
State of Minnesota

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cc w/encl: Linda Rivall, Compliance and Logistics Manager  
Tim Ellis, Production Manager  
State of Minnesota

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Letter to Mr. Slocum from Anne T. Boland, dated September 19th 2012.

SUBJECT: NRC REACTIVE INSPECTION REPORT NO. 03017824/2012001(DNMS) –  
DETECTOR ELECTRONICS CORPORATION.

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**U.S. Nuclear Regulatory Commission  
Region III**

Docket No. 030-17824

License No. 22-18199-02E

Report No. 03017824/2012001(DNMS)

EA No. EA-12-181

Licensee: Detector Electronics Corporation

Facility: 6901 West 110th Street  
Minneapolis, Minnesota 55438

Date: July 2-3, 2012, with continued in-office  
review through September 6, 2012

Inspectors: Andrew M. Bramnik,  
Health Physicist (Inspector); and  
Stephen Baker, Licensing Officer

Approved By: Tamara E. Bloomer, Chief  
Materials Inspection Branch  
Division of Nuclear Materials Safety

Enclosure

## **EXECUTIVE SUMMARY**

### **Detector Electronics Corporation NRC Inspection Report 03017824/2012001(DNMS)**

Detector Electronics Corporation is authorized under U.S. Nuclear Regulatory Commission (NRC) Materials License No. 22-18199-02E to distribute electron tubes containing not more than 30 microcuries of krypton-85 to persons exempt from licensing. On March 30, 2012, the licensee sent a letter to the NRC describing that it inadvertently: (1) exported byproduct material to Iraq without specific authorization; (2) imported byproduct material without meeting the specific requirements; and (3) distributed byproduct material in exempt products from an address that was not listed on its NRC license. The licensee also voluntarily reported that it had not filed timely annual reports of transfers of byproduct material in smoke detectors as required by Title 10 of the Code of Federal Regulations (CFR) 110.54(b).

On July 2 and 3, 2012, with continued in-office review through September 6, 2012, two NRC inspectors conducted a reactive inspection at the licensee's facility located in Minneapolis, Minnesota. The inspectors also completed inspection activities in order to constitute a routine inspection of the licensee's program.

The inspectors identified an apparent violation involving the licensee's failure to comply with the requirements for exporting byproduct material in 10 CFR 110.20(a). Between April 20, 2007, and June 24, 2011, the licensee exported 49 flame detectors containing krypton-85 to destinations in Iraq. Title 10 CFR 110.20(a) states, in part, that if an export is not covered by the NRC general licenses described in 10 CFR Part 110, a person must file an application with the Commission for a specific license. Title 10 CFR 110.28 lists Iraq as an embargoed destination for the general license for export in 10 CFR 110.23. Therefore, the licensee could not export byproduct material to Iraq under a general license, and the licensee did not file an application for a specific license.

As corrective actions, the licensee: (1) instituted a compliance hold for all inquiries and orders with the ultimate destination of Iraq until all regulatory jurisdictions and/or classifications were corrected; (2) undertook a five year review of transactions involving product lines that contained byproduct materials; (3) determined that no other shipments to embargoed destinations occurred; (4) revised its procedures to require all quotations and orders with the ultimate destination of any embargoed destination in 10 CFR 110.28 to undergo an additional independent compliance screening; (5) developed a comprehensive "where-used" list to capture all part and model numbers involving byproduct material; (6) conducted training on changes for applicable organizations; and (7) has turned down all business involving the export of ultraviolet flame detectors to Iraq. These actions were completed by June 19, 2012.

In addition to the apparent violation, six Severity Level IV violations were identified by the licensee. They involved the failure to: (1) limit the distribution of byproduct material to the address that was authorized on the NRC license; (2) label or mark each electron tube and its container so that the manufacturer or initial transferor of the product and the byproduct material in the product could be identified; (3) submit timely reports of products transferred to persons exempt from licensing; (4) limit the import of byproduct material only to isotopes that the licensee was authorized to possess under NRC or Agreement State regulations; (5) receive NRC-required approval before initially transferring smoke detectors to persons exempt from the requirements for a license; and (6) submit annual reports of americium exports to the NRC.

All of the Severity Level IV violations are being designated as non-cited violations (NCVs) in accordance with Section 2.3.2 of the NRC Enforcement Policy because all were identified by the licensee, were corrected or committed to be corrected within a reasonable period of time by specific actions, were not repetitive as a result of inadequate corrective actions to a previously cited violation, and were not willful. In addition, the licensee voluntarily disclosed the issues in a letter to the NRC when they were not required by regulation to do so.

## Report Details

### **1 Program Overview**

Detector Electronics Corporation is authorized under NRC Materials License No. 22-18199-02E to distribute electron tubes containing not more than 30 microcuries of krypton-85 to persons exempt from licensing. The licensee manufactures electron tubes under a State of Minnesota License (No. 1150-201-27) that authorizes the possession and use of krypton-85. The licensee installs the electron tubes in ultraviolet flame detectors that are used in integrated fire and life safety systems for industrial applications by domestic and international clients. Each electron tube contains less than one microcurie of krypton-85. Between 2008 and 2012, the licensee distributed approximately 6,000 electron tubes per year in flame detectors to persons exempt from licensing requirements. On March 30, 2012, the licensee sent a letter to the NRC describing that it inadvertently: (1) exported byproduct material to Iraq without specific authorization; (2) imported byproduct material without meeting the specific requirements; and (3) distributed byproduct material in exempt products from an address that was not listed on its NRC license. The licensee also voluntarily reported that it had not filed timely annual reports of transfers of byproduct material in smoke detectors as required by 10 CFR 110.54(b).

### **2 Distribution of Flame Detectors**

#### **2.1 Inspection Scope**

On July 2 and 3, 2012, with continued in-office review through September 6, 2012, the inspectors reviewed the licensee's program for exporting flame detectors containing krypton-85 electron tubes. The inspectors toured the licensee's facility, interviewed selected staff, and reviewed selected records. The inspectors also evaluated the safety and security significance associated with the items identified in the licensee's letter to the NRC dated March 30, 2012.

#### **2.2 Observations and Findings**

The licensee identified issues regarding its distribution of flame detectors around July 2011, during a new product development meeting. A product engineer had inquired about using deuterium or tritium in a new product during a meeting that included representatives from the licensee's engineering, marketing, and trade compliance groups. A representative from the compliance group spoke to the engineer to learn more about deuterium and tritium in order to understand what type of regulatory controls they required. The engineer stated that his proposed product would contain radioactive material and operate similar to their existing flame detectors. The compliance group was not aware that the company used or exported radioactive material in flame detectors before that discussion. The licensee hired outside assistance to conduct a review of products containing radioactive material resulting from that discovery.

The licensee's review determined that they had exported a total of 49 flame detectors containing krypton-85 to destinations in Iraq on: April 20, 2007; September 25, 2009 (in three separate shipments); December 21, 2010; and June 24, 2011.

Title 10 CFR 110.5 states, in part, that no person may export any nuclear equipment or material listed in 10 CFR 110.8 and 10 CFR 110.9, unless authorized by a general or specific license issued under this part. Title 10 CFR 110.9 lists byproduct material, including krypton-85, under NRC export licensing authority. Title 10 CFR 110.20(a) states that a person may use an NRC general license as authority to export or import nuclear equipment or material, if the nuclear equipment or material to be exported or imported is covered by the NRC general licenses described in 10 CFR 110.21 through 110.27. If an export or import is not covered by the NRC general licenses described in 10 CFR 110.21 through 110.27, a person must file an application with the Commission for a specific license in accordance with 10 CFR 110.31 through 110.32.

Title 10 CFR 110.23(a) states, in part, that a general license is issued to any person to export byproduct material to any country not listed in 10 CFR 110.28. Title 10 CFR 110.28 titled "Embargoed Destinations" lists the following countries: Cuba, Iran, Iraq, North Korea, Sudan, and Syria.

The licensee's exports of byproduct material to Iraq is an apparent violation of 10 CFR 110.20(a), in that the exports were not covered by an NRC general license and the licensee did not file an application for a specific license. The exports were not covered by a general license because Iraq is listed as an embargoed destination for the general license for export in 10 CFR 110.23.

Inadequate management oversight of the flame detector program was the root cause of the apparent violation. The licensee's compliance group was not aware that the company manufactured items with radioactive material such as ultraviolet flame detectors containing krypton-85 electron tubes. A contributing cause of the violation was the licensee's lack of awareness of NRC regulations prohibiting exports to embargoed destinations. Specifically, the licensee's Production Manager was not aware of the prohibition on exporting byproduct material to Iraq without specific authorization, and had not communicated his responsibilities as Radiation Safety Officer for the Minnesota Agreement State license to the compliance group. The compliance group was therefore unaware of NRC requirements and presumed that compliance with Department of Commerce Export Administration Requirements (EAR99) was correct.

After their discovery, the licensee undertook a review of transactions involving product lines that contained byproduct materials for the previous five years. That review included any byproduct materials in use, purchased, or considered for use or sale. The licensee's review determined that only some ultraviolet flame detector models contained krypton-85 electron tubes while the majority did not; however, all of the licensee's ultraviolet flame detector models were incorrectly identified as falling under the EAR99 classification in their enterprise resource planning (ERP) system. To correct this issue, the company identified which product lines contained byproduct material and changed their ERP system to indicate that they must comply with NRC requirements for those models. These actions were completed by March 30, 2012.

As corrective actions, the licensee instituted a compliance hold for all inquiries and orders with the ultimate destination of Iraq until all regulatory jurisdictions and/or classifications were corrected in their ERP system. The licensee also reviewed their internal records and controls for any transactions that may have occurred to other destinations listed in 10 CFR 110.28. No other shipments to embargoed destinations occurred. These actions were completed by December 31, 2011.

As long-term corrective actions, the licensee revised its "Transaction Screening" procedure to require all quotations and orders with the ultimate destination of any embargoed destination in 10 CFR 110.28 to undergo an additional independent compliance screening. The licensee also reviewed their records and determined that all other flame detector exports over the previous five years were conducted in accordance with the general license requirements in 10 CFR 110.23. The licensee's Compliance Manager informed the inspector that staff members routinely monitor Federal Register Notices and other means to stay up-to-date on regulatory changes. The licensee will implement its process to update their procedures if a modified regulation affects their business, including potential future changes of the embargoed destinations in 10 CFR 110.28. The Compliance Manager e-mailed a copy of the updated procedure to the regional inspector on August 20, 2012. The procedure adequately described the licensee's process to prevent exporting radioactive material to embargoed destinations. The licensee completed the corrective actions above by June 19, 2012.

As additional long-term corrective actions, the licensee developed a comprehensive "where-used" list to capture all part and model numbers involving byproduct material, and verified that data in their ERP system. The licensee also modified their procedures for export classification, embargo and sanction controls, documentation requirements, and screening forms to reflect NRC requirements. The licensee conducted training on the changes for applicable organizations (including Engineering, Marketing, Compliance, and Purchasing). These actions were completed by March 30, 2012. As an ongoing corrective action, the licensee has turned down all business involving the export of ultraviolet flame detectors to Iraq.

In addition to the apparent violation described above, the licensee identified three violations involving the distribution of flame detectors. The first violation involved the distribution of 434 flame detectors containing krypton-85 electron tubes from a product QA/QC testing facility that was not authorized on the NRC license. Between October 30, 2009, and May 31, 2011, the licensee made eight shipments of flame detectors to persons exempt from licensing requirements from the unauthorized location. The QA/QC testing facility was located less than one mile away from the approved address in the NRC license. The licensee's Production Manager was not aware that these shipments had been made, and the licensee's compliance group was not aware of the restriction in the NRC license. As corrective actions, the licensee halted flame detector shipments from the location. As long-term corrective actions, the licensee requested to add the location to their NRC license in their license renewal application, which was submitted to the NRC on August 6, 2012.

The second violation involved the failure to label or mark each electron tube and its container so that the manufacturer or initial transferor of the product and the byproduct material in the product can be identified, in accordance with 10 CFR 32.15. The licensee labeled each electron tube in accordance with their license application dated September 3, 2002; however, that label listed their former NRC possession license number that was retired in 2006. Additionally, the licensee failed to mark either the flame detector that contained each electron tube or the packaging for that flame detector so that the byproduct material in the product could be identified. The licensee's Production Manager acknowledged that the manufacturer identification on electron tube units should have been updated when the NRC license was terminated, and was not aware of the requirement to label or mark each container. As corrective actions, the licensee began using new labels on its electron tubes, tube modules, test lamps, flame

detectors, and packaging before the end of July 2012. The licensee's Compliance Manager e-mailed the regional inspector photos of the new labels on August 20, 2012.

The third violation involved the failure to submit timely reports of products transferred to persons exempt from licensing. Title 10 CFR 32.16(c) states, in part, that the licensee shall file the report, covering the preceding calendar year, on or before January 31 of each year. Between February 2008 and April 2012, the licensee submitted annual reports of krypton-85 distribution late to the NRC. Specifically, the licensee submitted annual reports that covered the preceding years on: May 1, 2008, April 19, 2009, April 4, 2011, and April 24, 2012. The licensee may not have submitted a report to the NRC in 2010 (covering the period of calendar year 2009); however, the information from that year was accurately reflected on the report dated April 4, 2011. The licensee's Production Manager admitted to a personal oversight regarding the reports, and stated that he had become accustomed to submitting the reports every spring. As corrective actions, the Compliance and Production Managers committed to submit reports in a timely manner, and created recurring reminders in Microsoft Outlook.

The NRC determined that these three issues are Severity Level IV violations; however, they are being designated as non-cited violations (NCVs) in accordance with Section 2.3.2 of the NRC Enforcement Policy because all were identified by the licensee, were corrected or committed to be corrected within a reasonable period of time by specific actions, were not repetitive as a result of inadequate corrective actions to a previously cited violation, and were not willful.

### 2.3 Conclusions

The inspectors identified one apparent violation involving the licensee's export of byproduct material to Iraq without specific authorization. The inspectors also identified three Severity Level IV NCVs involving the licensee's distribution of flame detectors to persons exempt from licensing under 10 CFR 32.14.

## **3 Receipt and Transfer of Smoke Detectors**

### 3.1 Inspection Scope

The inspectors interviewed selected staff and examined selected records to review the licensee's program for receiving and transferring smoke detectors containing americium-241. The inspectors also evaluated the safety and security significance associated with the items identified in the licensee's letter to the NRC dated March 30, 2012.

### 3.2 Observations and Findings

The licensee identified that they had imported 206 smoke detectors containing americium-241 from the United Kingdom between 2007 and 2012. The licensee's normal process for obtaining smoke detectors to be installed at client facilities was to procure them from domestic suppliers. The licensee's domestic suppliers had transferred 3,991 smoke detectors containing americium-241 to the licensee between 2007 and 2012. The inspectors determined that the licensee was exempt from the requirements for a license for those 3,991 detectors because they were traced back to NRC exempt distribution licenses. The licensee could not provide an explanation as to

why 206 smoke detectors were imported directly from the manufacturer in the United Kingdom during that five year period.

After recognizing those actions, the licensee identified three violations involving their receipt and transfer of smoke detectors. The first violation involved importing byproduct material without authorization to possess that material under NRC or Agreement State regulations, as required by 10 CFR 110.27. Specifically, Detector Electronics Corporation's Agreement State license is limited to possession of krypton-85. Title 10 CFR 110.27 states, in part, that a general license is issued to any person to import byproduct, source, or special nuclear material if the U.S. consignee is authorized to receive and possess the material under the relevant NRC or Agreement State regulations. The company imported a total of 206 smoke detectors (each containing less than one microcurie of americium-241) over multiple shipments between February 12, 2007, and January 11, 2012. The company was not approved to possess americium on its Agreement State license, and was not exempt from the requirements for a license under 10 CFR 30.15. Therefore, the licensee imported byproduct material in violation of the general license requirements in 10 CFR 110.27.

The licensee's compliance group was not aware that the smoke detectors contained byproduct material and were therefore subject to NRC regulations, nor were they familiar with the requirements for importing byproduct material at the time. All of the smoke detectors were manufactured and shipped from Apollo Fire Detectors, Ltd, in the United Kingdom, and all of the smoke detectors are listed in the Sealed Source and Device Registry (Certificate No. NR-0160-D-101-E).

The second violation involved the initial transfer of smoke detectors to persons exempt from the requirements for a license, without specific authorization as required by 10 CFR 30.15. Title 10 CFR 30.15(a) states, in part, that except for persons who initially transfer products for sale or distribution, any person is exempt from the requirements for a license set forth in Section 81 of the Act and from the regulations in Parts 20 and 30 through 36 and 39 of this chapter to the extent that such person receives, possesses, uses, transfers, owns, or acquires the following product: ionization chamber smoke detectors containing not more than one microcurie of americium-241 per detector in the form of a foil and designed to protect life and property from fires. Title 10 CFR 30.15(b) states, in part, that any person who desires to initially transfer for sale or distribution such products containing byproduct material should apply for a specific license pursuant to 10 CFR 32.14. The licensee initially transferred for sale or distribution all 206 smoke detectors that were imported from the United Kingdom to clients for use in fire and life safety systems between 2007 and 2012 without an NRC specific license. Specifically, the licensee was the first "person" in the United States who distributed the products to another, different person. The licensee's clients were located in the United States and other countries. The licensee's compliance division was not aware that the smoke detectors contained byproduct material and were therefore subject to NRC regulations.

The third violation involved the failure to submit annual reports of americium exports to the NRC as required by 10 CFR 110.23 and 10 CFR 110.54(b). Title 10 CFR 110.23(a)(5) states, in part, that all exports of americium are subject to the reporting requirements listed in 10 CFR 110.54(b). Title 10 CFR 110.54(b) states, in part, that persons making exports under the general license established by 10 CFR 110.23(a) or under a specific license shall submit by February 1 of each year one copy of a report of all americium shipments during the previous calendar year. The licensee exported smoke detectors containing americium-241 to foreign countries in the following quantities, and did not submit annual

reports to the NRC: 900 in 2007; 664 in 2008; 1215 in 2009; and 271 in 2010. The licensee's compliance division was not familiar with the requirements for exporting byproduct material or NRC reporting requirements. As corrective actions, the Compliance and Production Managers committed to submit reports in a timely manner, and created recurring reminders in Microsoft Outlook.

The NRC determined that the three issues are Severity Level IV violations; however, all are being designated as NCVs in accordance with Section 2.3.2 of the NRC Enforcement Policy because all were identified by the licensee, were corrected or committed to be corrected within a reasonable period of time by specific actions, were not repetitive as a result of inadequate corrective actions to a previously cited violation, and were not willful. In addition, the licensee voluntarily disclosed the issues in a letter to the NRC when they were not required by regulation to do so.

### 3.3 Conclusions

The inspectors identified three Severity Level IV NCVs involving the licensee's receipt and transfer of smoke detectors containing americium-241.

## 4 **Other Areas Inspected**

### 4.1 Inspection Scope

The inspectors toured the licensee's facility, interviewed selected staff, and examined selected records to review other areas of the licensee's program, including: postings, training, emergency procedures, and audits.

### 4.2 Observations and Findings

Because the reactive inspection included a review of the licensee's management oversight and operations since the previous inspection, the inspectors reviewed other areas of the licensee's program to complete a routine inspection. Within these areas, the inspectors found that the licensee maintained all postings that were required by their NRC license. The licensee conducted initial and annual refresher training as required in their license application. Interviews of available staff revealed an adequate level of understanding of emergency and material handling procedures and techniques. The licensee utilized an outside consultant to conduct annual reviews of the radiation protection program that satisfied the requirement in 10 CFR 20.1101(c). Based on the results of the inspection, no violations were identified in any of these areas.

### 4.3 Conclusions

The inspectors reviewed postings, training, emergency procedures, and audits, and had no findings in these areas. The inspectors' review of these items, combined with inspection activities in Sections 2 and 3, were sufficient to constitute a routine inspection of the licensee's program. No additional findings were identified.

## 5 **Exit Meeting Summary**

The inspectors presented preliminary inspection findings following the onsite inspection on July 2 and 3, 2012. The NRC presented the final inspection findings to the licensee

during a telephonic exit meeting on September 6, 2012. The licensee acknowledged the findings as presented.

**PARTIAL LIST OF PERSONNEL CONTACTED**

- &\* Jerry Slocum, General Manager
- &\* Linda Rivall, Compliance and Logistics Manager
- &\* Tim Ellis, Production Manager
- &\* Debra Thompson, International Trade Consultant
- \* Alex Troise, Senior Counsel
- \* Anthony Small, Assistant Counsel & Export Compliance Officer
- Robert Fillmore, Flame Engineering Manager
- Production staff, as available
  
- & Attended preliminary on-site exit meeting on July 3, 2012
- \* Attended final telephonic exit meeting on September 6, 2012

**INSPECTION PROCEDURES USED**

IP 87125                      Materials Processor/Manufacturer Programs