

EXECUTIVE SUMMARY

City of New Haven Health Department
NRC Inspection Report No. 99990001/2014001

The City of New Haven Health Department's Bureau of Environmental Health (Bureau) possessed five portable lead paint analyzers (analyzers) used for lead contaminant testing services. Mr. Paul Kowalski is the Program Director and four lead poisoning inspectors report to him.

On February 25, 2014, the NRC conducted an announced reactive inspection at the Bureau's office in New Haven, Connecticut, to review the circumstances surrounding the theft of one analyzer from a city vehicle on December 16, 2013, and to review the Bureau's radiation protection program regarding possession and use of the analyzers. The inspector determined that the Bureau reported the event and took appropriate corrective actions following the theft of the analyzer. The inspector also determined that the Bureau had possessed four lead paint analyzers between the dates of August 7, 2009, and January 16, 2014, that were not appropriately licensed by the NRC. The Bureau's failure to appropriately license the analyzers did not contribute to the event involving the stolen analyzer.

Based on the results of the inspection, a violation of NRC requirements was identified for the possession of up to four cobalt-57 sealed sources (up to 15 millicuries each) in portable lead paint analyzers without a valid specific or general NRC license as required in 10 CFR 30.3.

This violation would normally be categorized at Severity Level III; however, in accordance with NRC Enforcement Guidance Memorandum (EGM) 09-004, "Interim Guidance for Dispositioning Violations of Naturally Occurring and Accelerator-Produced Radioactive Materials (NARM) Requirements," dated May 13, 2009, the NRC will exercise discretion and not issue a violation. Specifically, the NRC considered that the Bureau had the analyzers redistributed under the NRC's general license regulations and: 1) the failure did not result in an actual safety, health, or security consequence; 2) the failure was not willful; 3) the Bureau was unaware of the change in requirements; and 4) the Bureau obtained NRC licensing for the analyzers through the redistribution of them under the NRC general license provisions in 10 CFR 31.5. The NRC also considered that the Bureau was registered with the State of Connecticut for possession of the analyzers, and that the Bureau had implemented a program to maintain the safe and secure use of the analyzers.

As of January 16, 2014, all of the analyzers possessed by the Bureau were appropriately licensed under the general license provisions in 10 CFR 31.5.

REPORT DETAILS

1. **Program Organization and Stolen Analyzer Event Review**

a. Inspection Scope

The inspector reviewed the circumstances around the stolen analyzer event and the licensee's lead paint analyzer program. Information was gathered through direct inspection, review of records, and interviews with cognizant individuals.

b. Observations and Findings

The City of New Haven Health Department's Bureau of Environmental Health (Bureau) provides lead contaminant testing services to residents, non-profit organizations and businesses of the City. At the time of the inspection, the Bureau possessed five portable gauging devices (analyzers) for testing the content of lead in paint. Three of the analyzers were owned by the Bureau, and two were on loan from the State of Connecticut.

The inspector reviewed the circumstances surrounding the event involving an analyzer stolen from a city-owned vehicle on December 16, 2013. The event was reported to the State of Connecticut's Radiation Division on December 17, 2013, as soon as the licensee discovered the analyzer was missing. The State then reported the event to the NRC's Headquarters Operations Officer via telephone on December 17, 2013 (Event Notice 49640), and a Nuclear Materials Event Report (No. 140001) was generated to track the event.

The Bureau took several actions following the theft of the analyzer. A report was filed with the New Haven City Police as soon as the theft was discovered. Police were provided a description of the device and the hazards associated with handling the radioactive source inside. Local television and print media were notified and the police issued a press release. On December 20, 2013, police found the analyzer abandoned and submerged in a shallow river in New Haven. When the analyzer was found, the shutter was locked in the shielded position and the analyzer did not appear to be physically damaged, although it was saturated with water and it would not function when tested.

Through interviews with the program director and the authorized users the inspector determined that the Bureau's lead paint analyzer program was implemented adequately. The inspector determined that the analyzers were secured to prevent unauthorized access; sealed source leak tests were completed in accordance with the manufacturer's recommendations; individuals authorized to use the analyzers were trained and knowledgeable regarding the use and emergency procedures; and transport of the analyzers on public highways appeared to be in accordance with regulatory requirements. Independent dose rate surveys were performed by the inspector using a Ludlum Model 19 dose rate instrument (No. 82698; Cal Due 08/06/2014). All dose rate measurements in unrestricted areas were well within the public dose limits in 10 CFR 20.1301, and dose rates on the analyzers and shipping containers were comparable to

those provided by the manufacturer in the Sealed Source and Device Safety Evaluation (MA-0573-D-103-B). Authorized users wore dosimeters from Mirion Technologies, a NVLAP accredited processor. The dosimeters are processed quarterly and all reports reviewed showed negligible results.

On January 9, 2014, following the return of the analyzer, the Bureau submitted a written report to NRC in accordance with 10 CFR 20.2201 (b). Based on a review of the written report and interviews with the program director, the inspector determined that the analyzer was secured in the vehicle in accordance with NRC requirements when it was stolen. The report indicated that the manufacturer had performed a dose evaluation and determined that the dose to any member of the public while the analyzer was in the public domain would be well below regulatory limits.

c. Conclusions

No violations of NRC regulations were identified.

2. Material Receipt and Transfer

a. Inspection Scope

The inspector reviewed the licensee's receipt and transfer of the analyzers. Information was gathered through direct inspection, review of records, and interviews with cognizant individuals.

b. Observations and Findings

The analyzers possessed by the Bureau were authorized to be distributed by the manufacturer under either a specific or general license. Licensee records indicate that the Bureau acquired four RMD Model LPA-1 analyzers from the manufacturer and two were on loan from the State of Connecticut. The Bureau had purchased one analyzer in February of 1998, two in December of 1998, and one in September of 2011. All of the analyzers purchased were initially sent to the Bureau as specifically licensed devices. The manufacturer had accepted the Bureau's State of Connecticut registration as validation of a specific license for the purpose of distribution of the devices. Prior to August 7, 2009, cobalt-57 was not regulated by the NRC.

The analyzers contain cobalt-57 sealed sources which decay to half-strength in about 271 days, so the sealed sources must be replaced often to maintain the effectiveness of the analyzers. Bureau records showed that the devices were returned to the manufacturer annually for source replacement. In January of 2013, the Bureau sent two analyzers to the manufacturer to be resourced and was informed by the manufacturer that the analyzers must be redistributed under the general license provisions, and that the sources were to be licensed under the NRC regulations. The Bureau scheduled to have the remaining analyzers redistributed as general license devices when they were returned to the manufacturer next for resourcing or repair. Therefore, two of the analyzers were returned from the manufacturer under the general license provisions; however, the remaining two analyzers were not redistributed and the labeling on the

devices reflected the requirements of a specific license device. The analyzer that was stolen had not been redistributed before it was stolen. After the stolen analyzer was recovered by the police, it was returned to the manufacturer where it was determined to be irreparable. The analyzer was decommissioned and the source disposed of by the manufacturer. In January of 2014, the remaining analyzer was redistributed under the general license provisions. The analyzers on loan to the Bureau from the State of Connecticut were appropriately licensed under the general license provisions and were not investigated during this inspection.

Effective August 7, 2009, a change occurred regarding the NRC regulations for the type of material contained in the RMD LPA-1 analyzers possessed by the Bureau. The change to NRC regulations occurred with the enactment of the Energy Policy Act of 2005 (Act), and the NRC regulations resulting from the Act. Specifically, prior to the enactment of the Act, cobalt-57 was not regulated by the NRC. With the change to NRC regulations, effective on August 7, 2009, individuals were required to have either a specific or general NRC license prior to using and/or possessing byproduct material in NRC jurisdiction, including the State of Connecticut.

The program director and the authorized users interviewed stated that they were unaware of the requirement for licensing with the NRC and that the NRC had jurisdiction regarding the analyzer sources until informed by the manufacturer in early 2013. At that time, the Bureau implemented a plan to have the analyzers redistributed through the manufacturer under the general license provisions of 10 CFR 31.5. All analyzers were redistributed as generally-licensed devices prior to this inspection.

Based on the above information, the NRC has determined that a violation of NRC requirements occurred regarding the possession of byproduct material without a license issued in accordance with NRC regulations. Specifically, between August 7, 2009, the effective date of the NRC regulations in the State of Connecticut for the material possessed by the Bureau, and January 16, 2014, the Bureau used and/or possessed up to four RMD Model LPA-1 lead paint analyzers containing byproduct material (cobalt-57 sealed sources; 15 millicuries each) in NRC jurisdiction without a specific or general license issued in accordance with NRC regulations. The NRC also determined that the violation was unrelated to the event involving the stolen analyzer.

As a corrective action, the Bureau Director agreed to review the applicable regulations and train staff regarding the NRC licensing requirements for the possession of byproduct material.

c. Conclusions

One violation of NRC requirements was identified as follows:

10 CFR 30.3(a) requires, in part, that no person shall receive, acquire, own, possess, or use byproduct material except as authorized in a specific or general license issued in accordance with the regulations in this chapter.

Contrary to the above, between August 7, 2009, and January 16, 2014, the New Haven Health Department's Bureau of Environmental Health possessed and used byproduct material in up to four RMD Model LPA-1 lead paint analyzers (cobalt-57; 15 millicuries each) without a specific or general license issued in accordance with the regulations in 10 CFR 30.3.

This violation would normally be categorized at Severity Level III; however, in accordance with NRC Enforcement Guidance Memorandum (EGM) 09-004, "Interim Guidance for Dispositioning Violations of Naturally Occurring and Accelerator-Produced Radioactive Materials (NARM) Requirements," dated May 13, 2009, the NRC will exercise discretion and not issue a violation. Specifically, the NRC considered that the Bureau had the analyzers redistributed under the NRC's general license regulations and: 1) the failure did not result in an actual safety, health, or security consequence; 2) the failure was not willful; 3) the Bureau was unaware of the change in requirements; and 4) the Bureau obtained NRC licensing for the analyzers through the redistribution of them under the NRC general license provisions in 10 CFR 31.5. The NRC also considered that the Bureau was registered with the State of Connecticut for possession of the analyzers, and that the Bureau had implemented a program to maintain the safe and secure use of the analyzers.

3. Exit Meeting

A telephonic exit meeting was held on April 8, 2014. The inspector discussed the results of the inspection with the licensee. The inspector verified the licensee's corrective actions and that no proprietary or sensitive information had been obtained during the inspection.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

Paul Kowalski, Program Director
Glenda Wolfe, Lead Poisoning Inspector
Brian Wnek, Lead Poisoning Inspector

RMD (Dynasil) Contact

Paul Delmonico, Sales Manager, RMD Instruments

SUPPLEMENTAL INFORMATION

Event Notice No. 49640

Nuclear Materials Event Report No. 140001

City of New Haven Health Department Letter to NRC dated January 9, 2014

Letters from RMD Instruments to City of New Haven Health Department dated January 31, 2013, January 16, 2014, and February 3, 2014.

Certificate of Use Issued by the State of Connecticut to the City of New Haven for XRF Device Registration dated May 8, 2013.

INSPECTION PROCEDURES USED

IP87124; Focus Elements 1 – 7.