



Department of Energy

Washington, DC 20585

October 26, 2015

Ms. Jill M. Hruby
President and Laboratories Director
Sandia Corporation
Sandia National Laboratories
1515 Eubank SE
Building 802/Room 3180
Albuquerque, New Mexico 87123

NEL-2015-03

Dear Ms. Hruby:

The Office of Enterprise Assessments' Office of Enforcement evaluated the facts and circumstances surrounding the loss of an inline alpha ionizer containing 10 millicuries (mCi) of polonium 210 (Po-210) leased from NRD, LLC (NRD). The ionizer is a Nuclear Regulatory Commission (NRC) licensed item and those who use the ionizers are considered to be a general licensee subject to a defined set of requirements. One of these requirements is that the ionizers be returned to NRD after 13 months to undergo leak testing. Sandia Corporation (Sandia), the operating contractor at Sandia National Laboratories (SNL), reported this issue into the Department of Energy (the Department) Noncompliance Tracking System (NTS--SS-SNL-NMSITE-2015-0002, *Loss of Ionizer Containing Po-210*) on May 28, 2015. This Office of Enforcement evaluation identified matters that warrant Sandia management's attention.

The specific matters relate to control of the ionizers. On March 17, 2014, Sandia leased two 10 mCi Po-210 ionizers from NRD. On October 1, 2014, SNL shipped one of the ionizers to a remote Department of Defense (DOD) location to support the need for a static eliminator during a Sandia explosive handling activity. The Po-210 ionizer was left at the DOD location after the activity in anticipation of a future activity that did not materialize. On April 9, 2015, personnel at the DOD location shipped the ionizer back to SNL. The ionizer package was received by SNL on April 14, 2015. When the package was opened, the ionizer was not detected inside the box and the package and packing material were placed on the floor and subsequently assumed to have been picked up by building custodial services or another individual within the building. Upon returning to work on April 23, 2015, the individual who opened the package noticed the packaging material was missing and contacted building custodial services to determine if the package was picked up. After an extensive search to



locate the ionizer, Sandia declared the ionizer to be lost. As efforts were under way to locate the missing ionizer, Sandia made appropriate notification to external stakeholders. Sandia also conducted a causal analysis and identified corrective actions to prevent recurrence.

Sandia implements 10 C.F.R. Part 835, Subpart M, *Sealed Radioactive Source Control*, through its accountable sealed radioactive source program. Subpart M requires that sealed radioactive sources be used, handled, and stored in a manner commensurate with the hazards associated with the operations involving the sources. The curie content of the Po-210 ionizers exceeded the values for accountability established in 10 C.F.R. Part 835, appendix E (1.2 mCi), and Sandia did not control the ionizers accordingly.

The actual nuclear safety consequences of the lost Po-210 ionizer were low due to the nature of the isotope and the robust container housing the source. However, it is the Department's expectation that all accountable sealed sources will be properly controlled. Sandia lost control of the Po-210 ionizer when it left the device at a remote location outside Sandia's possession without the controls required by Subpart M. In addition, current Sandia practices allow for "exceptions" to the requirements of 10 C.F.R. 835, Subpart M, and Sandia could not locate documentation to support an exception for the Po-210 ionizer. Relief from the requirements of Subpart M can be obtained only through the exclusions listed in 10 C.F.R. § 835.1(b) or as discussed in 10 C.F.R. Part 820, Subpart E, *Exemption Relief*.

Based on a review of this issue, the Office of Enforcement identified potential noncompliances with 10 C.F.R. Part 830, *Nuclear Safety Management*, and 10 C.F.R. Part 835, *Occupational Radiation Protection*. These include: (1) failure to handle and store the Po-210 ionizers in a manner commensurate with the hazards associated with operations involving the ionizers; (2) failure to inventory the Po-210 ionizers at intervals not to exceed 6 months; and (3) failure to perform work consistent with the requirements agreed to in the general licensing agreement with the NRC.

The Office of Enforcement considers the loss of the Po-210 ionizer to be a preventable nuclear safety matter and is issuing this Enforcement Letter to convey its concerns. It is the Department's expectation that Sandia will fully implement identified corrective actions to: (1) update the *Radiation Protection Procedures Manual*, Attachment 6.3, *Conditionally Controlled Materials List*, to ensure that all entries conform to 10 C.F.R. Part 835 requirements; (2) revise RPO-01-14, *Procedure for the Review and Categorization of Radioactive Materials by the Radioactive Materials Control Committee*, to improve the process for placing items on the Attachment 6.3 list; and (3) conduct a validation and verification of corrective actions taken. In consideration of the low actual safety significance of the lost Po-210 ionizer, Sandia's extensive effort to recover the Po-210 ionizer, and Sandia's prompt notification of external stakeholders upon realization that the

Po-210 was lost, the Office of Enforcement has elected to exercise its discretionary authority and not pursue further enforcement consideration of the issue at this time. The Office of Enforcement, in conjunction with the National Nuclear Security Administration, will continue to closely monitor Sandia's actions to prevent recurrence.

This letter imposes no requirements on Sandia, and no response is required. If you have any questions, please contact me at (301) 903-7707, or your staff may contact Mr. Jon Thompson, Director, Office of Nuclear Safety Enforcement, at (301) 903-1134.

Sincerely,

A handwritten signature in black ink that reads "Steven C. Simonson". The signature is written in a cursive style with a large, prominent 'S' at the beginning.

Steven C. Simonson
Director
Office of Enforcement
Office of Enterprise Assessments

cc: Jeffrey Harrell, NA-SN
Donald Brady, NA-SN
Gabriel King, SNL