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Subject: Blue Alert- Unregistered Rad Sources

Title: Blue Alert- Unregistered Rad Sources

Identifier 2000-KO-SNL-0001 Date January 5, 2000

Summary- 1. All rad sources, whether they are accountable or non-accountable, must be controlled as radioactive material in accordance with the requirements of SNL Radiation Protection Procedures Manual (MN471016), Chapter 9, "Radioactive Source Control." Failure to account for and monitor sealed sources could result in source integrity being compromised and possibly lead to the spread of contamination and personnel exposure. 2. Personnel are advised to check their areas/equipment for radioactive material. Consideration should be given to items/devices that have been placed in storage, have gone unused for a number of years, or may have been controlled by personnel who transferred or retired. Also search for sealed sources during routine surveillances and organizational self-assessments.

Discussion- On October 12, 1999, in response to an electronic memorandum that had recently reminded managers of the importance of accounting for all their radioactive material (and sources), the manager passed the electronic memo to his staff. Subsequently, a staff radiation worker reported that, during an inventory of classified materials, he had recently noticed a bag of radioactive sources in a radiologically controlled, secured vault-type room. The worker wondered if they might not have been registered. Inspection revealed that this was in fact the case. The organization had moved into its current location in 1992 when the sources were placed in the vault. The sources, along with other classified radioactive material, were stored in a lead pig and had not been used since 1989.

Analysis- The subject Accountable Radiation Sources (Rad sources) had not been used within the department since 1989 and the manager had completely forgotten about them. When discovered, he was surprised because he thought they had been disposed of years before. He was aware of SNL's Radioactive Source Control Program, which was first implemented in 1994, but did not think he had any rad sources. In 1989, the department conducted a low dose rate test requiring the use of the subject rad sources. The rad sources used for this single test were used in accordance with a departmental operating procedure. The lead experimenter (i.e., source owner) transferred out of department shortly after the test. Before his departure, the experimenter disposed of most of the equipment and radioactive material involved in the test; however he left the subject rad sources behind (in Bldg. 880) because, at that time, some future use was anticipated. In 1992, the organization moved from TA-I to TA-IV. The subject rad sources were moved, along with other radioactive material (which was classified), into a Vault Type Room (VTR) in Bldg. 962, Rm. B312. The sources were contained in a lead box with other radioactive/classified material. Arrival of the lead box was recorded in the "VTR Logbook" with the notation that the contents of the box were listed on an attachment. Such an attachment could not be located in the vault. A record of what was in the lead box was located in the manager's office; however the rad sources were listed as "_____'s Stuff." The SNL radiological protection

procedures in use at the time the subject rad sources were moved into the vault did not require the level of accountability that is required today. The vault is on a quarterly radiological survey cycle. However, the Rad Control Technicians performing the surveys only check for exterior surface contamination and radiation levels. During the last self-assessment of the vault, the individual providing access to the assessment team members stated, when asked, that there were no radioactive sources in the vault. The team members did not look for sources inside the closed lead box or any other containers because they contained classified material

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