

EXECUTIVE SUMMARY

Geo-Technology Associates, Inc.
NRC Inspection Report No. 03034837/2009001

Geo-Technology Associates, Inc., maintains NRC License No. 19-30479-01 that authorizes use of byproduct material in portable moisture/density gauges. The licensee had four authorized locations within the NRC jurisdiction and stored a total of 52 gauges at these facilities. These facilities were located in the States of New Jersey, Delaware, and Commonwealth of Virginia. The licensee has a corporate Radiation Safety Officer (RSO), and each of the four facilities had a site Radiation Safety Officer, who is responsible for the implementation of the licensee's radiation safety program.

This inspection included a review of the licensee's radiation safety program and licensed activities at three of the authorized facilities, and two of its temporary job sites.

The inspection identified that, at two of its facilities, the licensee did not use a minimum of two independent physical controls that formed tangible barriers to secure the portable gauges stored at these facilities whenever the gauges were not in control and direct surveillance of the licensee. 10 CFR 30.34(i) requires that a licensee use a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal whenever the gauges are not in control and constant surveillance of the licensee. The inspection also identified an apparent violation of 49 CFR 173.448, when the licensee transported a portable gauge to a job site and did not secure the transport container to prevent shifting during normal transportation conditions.

The licensee implemented prompt corrective actions for the violation of 10 CFR 30.34(i) by securing the keys to the storage areas and keeping the back doors of the facilities locked at all times; posting of signs at the back doors to require that the doors remain locked; and including the verification of these corrective actions during the Corporate RSO's annual review of the licensed activities. In addition, the licensee planned to install "I" hooks inside the storage closets and acquire chains to secure the storage containers within the closets to add an additional barrier. The site RSOs will provide training to the authorized users at their respective facilities on the need to ensure security of portable gauges while they are in storage and re-emphasize securing of the gauges in their vehicles to prevent shifting during transport.

REPORT DETAILS

I. Organization, Scope and Management of the Program

a. Inspection Scope

The inspection involved a review of the organization, scope and management of licensed activities. The inspector reviewed licensee's records and conducted interviews with personnel.

b. Observations and Findings

Geo-Technology Associates, Inc., (GTA) was an engineering company that provided consulting services related to construction and environmental management. Its main office was located in Abingdon, Maryland. It maintained an NRC license for storing and using moisture/density portable gauges at construction sites located within the NRC jurisdiction. GTA also maintained radioactive materials licenses from the State of Maryland and the Commonwealth of Pennsylvania, both of which are NRC Agreement States. GTA possessed several portable gauges, and the NRC license authorized storage of the gauges at GTA's four facilities located in New Jersey, Delaware, and Virginia. On the day of inspection, a total of 52 gauges were assigned to these four facilities. The gauges stored at the facilities in NRC jurisdiction were also used in areas outside of NRC jurisdiction. Each facility maintained records of use of its gauges.

GTA had appointed a Corporate Radiation Safety Officer (RSO), who was located at its main office in Abingdon. He was also a Vice President of GTA. Each facility had its own site RSO, who is responsible for implementing GTA's radiation safety program at the respective facility. The Corporate RSO visited each facility at least once a year to review the implementation of radiation safety program and licensed activities at the facility. The Corporate RSO also held meetings with representatives of each facility, including the site RSOs at least quarterly to discuss items related to NRC-licensed activities. Each facility had several authorized users (AUs).

c. Conclusions

GTA possessed and used licensed material as authorized by the NRC license. Licensed material was stored at facilities authorized on the license. There were no violations or safety concerns identified during the inspection of the licensee's management controls.

II. Facilities and Equipment

a. Inspection Scope

The inspector toured the licensee's facilities to assess the security of licensed material while at the licensee's storage facilities.

b. Observations and Findings

The NRC license authorized storage of licensed material at the licensee's four facilities located in New Jersey, Delaware, and Virginia. The inspector visited three of these facilities. On January 14, 2009, the inspector visited the licensee's facility located in Somerset, New Jersey. The facility was assigned 9 portable gauges. The facility had 7 AUs, and a site RSO. On the day of inspection, 5 gauges were in storage at the facility and 4 were being used at the licensee's temporary job sites. The licensee had properly secured the stored gauges from unauthorized removal in accordance with the requirements in 10 CFR 30.34(i).

The site RSO maintained records of use of gauges. The inspector visited a temporary job site in Cherry Hill, New Jersey, and discussed the transportation, training, and radiation safety procedures with the AU at the site. The inspection findings at this site are described in Section V (Transportation) of this report.

On January 14, 2009, the inspector also visited the licensee's facility located in New Castle, Delaware. The facility was assigned 12 portable gauges, 9 of which were stored at the facility, and 3 were being used at temporary job sites in Maryland and Pennsylvania. The facility had 14 AUs and a site RSO.

The inspector noted that the licensee stored its gauges in a locked closet. The closet was located in the back room that was separated from the office areas by a door. The back room had a roll down door (bay door) and a side door both of which opened to the outside of the facility. There was a sign on the side door that instructed that the door must be kept closed. On the day of inspection, the back room was unoccupied. The roll down door was locked and the licensee stated that this door was rarely used. However, the side door was not locked, and the key to the storage closet where nine portable gauges were stored was hanging on the wall next to the side door. The inspector determined that with the back room unlocked and no one present in the back room, and the key to the storage closet hanging on the wall, there were no physical controls that formed a tangible barrier to secure the nine stored gauges from unauthorized removal. These gauges were not under the control and constant surveillance of the licensee when there was no one present in the back room.

10 CFR 30.34(i) requires that each portable gauge licensee use a minimum of two independent physical controls that form tangible barriers to secure portable gauges, whenever the gauges are not under the control and constant surveillance of the licensee.

Failure to secure portable gauges by using a minimum of two independent physical controls that form tangible barriers to secure portable gauges whenever the gauges are

not under the control and constant surveillance of the licensee, is an apparent violation of 10 CFR 30.34(i).

The licensee acknowledged the apparent violation and immediately secured the key to the storage closet, and locked the back door. The site RSO also stated that a chain will be acquired and used to secure the storage containers to the floor of the closet so that even if the back door was inadvertently left unlocked, there will still be two independent physical controls to secure the gauges from unauthorized removal. The site RSO also stated that personnel will be instructed to ensure that the back door was kept locked at all times.

On January 15, 2009, the inspector visited the licensee's third facility located in Georgetown, DE. The facility was assigned 7 gauges. On the day of inspection, 4 of these gauges were in storage and 3 were on job sites. The gauges were stored in a locked closet located inside a room at the back of the facility, and the key to the storage closet was kept secured in the site RSO's office. The back room was separated from the office area. The facility also had a back door. The inspector noted that the back room was unoccupied, and the back door was unlocked. The inspector determined that with no one present in the back room, and the back door unlocked, the lock on the closet was the only physical control that formed a tangible barrier to secure the 4 portable gauges from unauthorized removal whenever the gauges were not under the control and constant surveillance of the licensee.

Failure to use a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal was another example of an apparent violation of 10 CFR 30.34(i).

The site RSO acknowledged the apparent violation and immediately locked the back door, and stated that a sign will be posted to remind the personnel to keep the door locked at all times. The licensee also planned to install "I" hooks inside the closet and acquire chains so that the containers of the gauges could be secured to the inside of the closet. The site RSO stated that even if the side door was inadvertently left unlocked, securing the transport containers to the inside structure of the closet and the lock on the closet door would still constitute two independent physical control and they will remain in compliance with the requirement in 10 CFR 30.34(i).

The inspector also toured one of the licensee's temporary job sites in Millsboro, DE, where a Troxler Model 3440 portable gauge was assigned to an AU. The inspector's discussions with the AU indicated that he was familiar with the licensee's radiation safety procedures. The findings at this site are described in Section V of this report.

c. Conclusions

The inspector identified two examples of an apparent violation of 10 CFR 30.34(i). The licensee implemented prompt corrective actions by providing the required independent physical controls to secure the portable gauges from unauthorized removal and also planned to take additional preventive actions, including instructing personnel to keep the back doors at their facilities locked at all times and adding a third barrier.

III. Training of Workers

a. Inspection Scope

The inspection included a review of the licensee's training program regarding the training of its authorized users.

b. Observations and Findings

The licensee had an in-house training program for its AUs. The site RSOs were responsible for providing the required training to the AUs at their respective facilities. The inspector visited three of the licensee's four facilities and discussed the training program with site RSOs. Each AU was provided initial training by the site RSO, and refresher training was provided during routine staff meetings. The refresher training included HAZMAT training. The inspector determined that the site RSOs met the criteria for trainer specified in NUREG 1556, Volume 1, Revision 1. A few of the AUs had also received manufacturer's training. The Corporate RSO also communicated with the site RSOs regarding any changes in regulations/or radiation safety procedures. The inspector discussed their training with the two AUs that were using portable gauges at the temporary job sites. They acknowledged that the site RSO had provided initial training and the refereshar training included discussions of changes in policy and procedures and any events related to use of portable gauges.

c. Conclusions

There were no violations or safety concerns identified during the inspection of the licensee's training program.

IV. Radiation Protection

a. Inspection Scope

The inspection involved a review of the licensee's radiation protection program.

b. Observations and Findings

The inspector reviewed the storage facilities at the three locations. The storage location of licensed material at each of these facilities was separated from the office space to minimize exposure of office personnel to radiation. The licensee also provided personal monitoring devices to AUs. The monitoring devices were exchanged every quarter and were processed by a NVLAP-accredited vendor. The inspector reviewed exposure records at the three facilities and the records did not indicate any unusual doses to AUs. The inspector also noted that the two AUs at the temporary job sites in Cherry Hill, NJ, and Millsboro, DE had their personal monitoring devices and both confirmed that the devices are exchanged each quarter and their respective dose records were available to them.

The licensee tested the gauges for leakage every six months. Each facility collected leak test samples from its gauges at the same time. The licensee was not authorized to analyze the leak test samples, and the samples were analyzed by a commercial vendor. The latest leak tests at the New Jersey facility were performed on December 29, 2008. The licensee had not identified any leakage from the gauges at any of its facilities.

c. Conclusions

There were no violations or safety concerns identified during the inspection of the licensee's radiation protection program.

V. Transportation

a. Inspection Scope

The inspection involved a review of the licensee's procedures for transporting licensed material to temporary job sites.

b. Observations and Findings

The licensee transported the gauges to temporary job sites in the AUs' personal vehicles. The AUs were required to secure portable gauges in their vehicles, and were provided appropriate equipment (chains, locks, etc.) to secure the gauges while in transport or at the job sites. During the visits to the licensee's temporary job sites, the inspector reviewed the licensee's procedures for transportation and use of the portable gauges. Discussions with the two authorized users at the temporary job sites indicated that each had been provided HAZMAT training and was familiar with the applicable regulatory requirements.

On January 14, 2009, the licensee had transported a portable gauge (a CPN model MC1 Portaprobe) to its temporary job site located in Cherry Hill, NJ. The gauge was transported by an AU in the trunk of his personal vehicle. The AU had appropriate documents with him and appeared to be familiar with the licensee's radiation safety procedures. The inspector observed that the transport container of the gauge was secured in the trunk of the vehicle by two independent chains. However, the inspector noted that AU did not use appropriate methods to secure the transport container from shifting during transport, as required by 49 CFR 173.448. The inspector discussed the requirement with the authorized user and he stated that he had several other items in the trunk and would be able to secure the container from shifting during transport. The authorized user rearranged the chains around the container to ensure that the container did not shift during transportation.

49 CFR 173.448(a) requires that each shipment of Class 7 (radioactive) materials be secured to prevent shifting during normal transportation conditions.

Failure to secure the transport container to prevent shifting during normal transportation conditions is an apparent violation of 49 CFR 173.448(a).

On January 15, 2009, the inspector visited the licensee's temporary job site located in Millsboro, DE, where an AU had transported a portable gauge (a Troxler Model 3440) to the site in his personal vehicle (an open-bed truck). The inspector noted that the transport container was adequately secured to his vehicle by two independent chains. The chains were arranged in such a way that the transport container's lid could not be raised sufficient enough to get access to the gauge. Additionally, the chains were configured to prevent shifting of the transport container during transport. The AU had appropriate documents in his possession, and was wearing his personal monitoring device. Discussions with the AU indicated that he was familiar with the licensee's radiation safety procedures.

c. Conclusions

The inspection identified an apparent violation of 49 CFR 173.448. The licensee immediately corrected the violation by ensuring that the transport container is secured in the trunk of the transport vehicle to prevent shifting during transport.

VI. Exit Meeting

On January 20, 2009, the inspector discussed the preliminary inspection findings by telephone with the Corporate RSO. The Corporate RSO acknowledged that the site RSOs had briefed him on the apparent violations. The inspector stated that the inspection did not include a review of licensed activities at the facility located in Virginia, and inquired whether a situation similar to the Delaware facilities could be existing at that facility. The Corporate RSO stated that he had communicated the inspection findings to all site RSOs and assured the inspector that the gauges at the Virginia facility were secured in accordance with the requirements in 10 CFR 30.34(i). He also described the following corrective actions that were completed after the January 14 and 15, 2009 inspections to prevent recurrence of the violations: (1) installed "I" hooks inside the storage closets and acquired chains and locks to add an additional independent barrier to secure the gauges; (2) instructed all personnel to keep the back door locked at all times; (3) communicated to all site RSOs the need to implement the above corrective actions. In addition, the Corporate RSO stated that additional pad locks will be installed at the closet doors, and he will include the importance of security of gauges during the quarterly meetings with managers and site RSOs, and a review of security of gauges in his annual audit of the facilities. Furthermore, the Corporate RSO stated that the lock on the back door of the Georgetown facility will be changed to another lock that will require a key to open it from outside. With respect to the violation related to securing the packages to prevent shifting during transport, he stated that AUs will be provided additional training on appropriate methods to secure the packages during transport. A final exit meeting was held with the Corporate RSO on February 12, 2009, which summarized the two apparent violations regarding 10 CFR 30.34(i) and 49 CFR 173.448.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

Stephen A. Cutter, Vice President/Corporate RSO
Brian Arone, Site RSO (Somerset, NJ facility)
Edwin Williams, Site RSO (New Castle, DE facility)
Christopher Beith, Vice President (New Castle, DE facility)
Dennis Wampler, Site RSO (Georgetown, DE facility)
Ian R. Kaufman, Senior Soil Scientist (Georgetown, DE facility)
Brady Payen, AU at Cherry Hill, NJ job site
Dan Luther, AU at Millsboro, DE job site