U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection No.	03014353/2008001
Docket No.	03014353
License No.	29-18018-01
Licensee:	Craig Testing Laboratories, Inc.
Location:	5439 Harding Highway, Mays Landing, New Jersey; and temporary job sites at the Atlantic City International Airport and Snug Harbor, Cape May, New Jersey
Inspection Dates:	November 19 and 21, 2007, November 10, 2008, and February 2, 2009

Inspector: ***/RA/*** ***03/03/09***

Sattar Lodhi, Ph.D. date
Senior Health Physicist

Approved By: ***/RA C. Z. Gordon for/*** ***03/03/09***

Marie Miller, Chief date
Materials Security and Industrial Branch
Division of Nuclear Materials Safety

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EXECUTIVE SUMMARY

Craig Testing Laboratories, Inc.
NRC Inspection Report No. 03014353/2008001

Region I conducted an inspection at the licensee's facilities and at two temporary job sites to review the circumstances surrounding the event that occurred on November 16, 2007, which the licensee reported to NRC Operations Center on November 17, 2007, and to review the licensee's security program for gauges at temporary job sites. The licensee's notification stated that a portable gauge (a Troxler Electronic Model 3430) containing an 8-millicurie cesium-137 and a 40-millicurie americium 241 sealed sources was missing from an employee's (authorized user's) vehicle that was parked in the parking area of a convenience store. The licensee's report also stated that the gauge was not properly secured under lock and key, and the licensee believed that the gauge and other items may have fallen off of the vehicle.

On November 19, 2007, the Region I inspector contacted by telephone the licensee's Radiation Safety Officer (RSO) and was informed that the gauge must have been stolen from the parked vehicle along with a few other items. The gauge had not been recovered.

On November 21, 2007, the inspector conducted an inspection at the licensee's facility and at the licensee's temporary job site, where the gauge was last used by an authorized user (AU). The RSO and the AU stated that their investigation indicated that the gauge had been properly secured in the vehicle and had not fallen off of the vehicle, but was stolen from the vehicle when it was parked in the parking area of a convenience store.

On November 10, 2008, the inspector contacted the licensee's Radiation Safety Officer to determine if there was any additional information regarding the missing gauge. The licensee stated that the gauge had not been recovered. On February 2, 2009, the inspector reviewed the licensee's radiation safety program, storage of gauges, and also inspected a temporary job site at Snug Harbor, in Cape May, New Jersey.

There were no violations or safety concerns identified during the inspection.

REPORT DETAILS

I. Organization and Scope of the Program

a. Inspection Scope

The inspection reviewed the licensee's organization and the licensed activities.

b. Observations and Findings

Craig Testing Laboratories, Inc. (CTL) is an independent, testing, inspection and quality assurance organization that provides services for all phases of physical and chemical testing of soil and concrete. Licensed material is used in moisture/density portable gauges that are used at the licensee's temporary job sites. Ian Craig is the Radiation Safety Officer (RSO), who is responsible for the implementation of the radiation safety program. Jeremy Napoli is the field supervisor, who coordinated the activities of gauge users. There are approximately 30 authorized users (AUs). The gauges are transported to temporary job sites either in the licensee-owned vehicles or AUs' personal vehicles. The licensee does not require AUs to return the gauges to the storage location at the end of the day, and permits them to keep the gauges with them if they are working at the same job site for an extended period. At least once a month the RSO verifies that each gauge user still has the gauge that had been assigned to him/her. Computerized records of use are maintained by the RSO, and the records include for each gauge its model and serial number, name of the AU who is assigned the gauge and the location of its use.

c. Conclusions

No violations or safety concerns were identified.

II. Notification of the Event

a. Inspection Scope

The inspection reviewed the circumstances surrounding the event and the licensee's subsequent actions.

b. Observations and Findings

On November 17, 2007, the licensee provided the following notification to the NRC Operations Center (Event No. 43789):

> "On 11/16/07 at 1830, an employee of Craig Testing Laboratory was traveling from a McDonald's restaurant to a Wawa convenience store. When the employee (an authorized user) reached the convenience store, he noticed the tailgate of his truck was down, and the Troxler moisture density gauge Model No. 3430; Serial No. 33784 was missing. The employee notified the company RSO and the Hamilton Township Police Department (Case No. 07-63766). A search of the traveled route

> near the intersection of Route 40 and Route 50 was conducted without success. The employee stated that when he was at the restaurant the gauge was present in the back of the pickup truck but not properly secured under lock and key. However, when the employee reached the convenience store (which was about a mile away) the gauge and other items were missing. Those other items included a box of concrete cylinder molds and a concrete pressure meter. The licensee does not believe the items were stolen. The licensee believes the gauge and items fell out of the truck. The activities of the sources are: americium -241 (Am-241) 40 millicuries, and cesium-137 (Cs-137) 8 millicuries. The licensee has searched e-Bay and Craig's List and is placing reward ads in the local area and ads in the local newspaper."

On November 19, 2007, the inspector called the licensee to obtain an update regarding the event. The RSO stated that his investigation indicated that the gauge did not fall off of the vehicle, but was stolen from the vehicle when it was parked in the parking area of a convenience store, while the AU was inside the store making a purchase. He further stated that the gauge had not yet been recovered.

On November 21, 2007, the inspector visited the licensee's facility to discuss the event with the licensee and the AU who had last possessed the missing gauge. The RSO stated that the gauge had been assigned to the AU since August 14, 2007, and had since been in use by him at a construction project (Revel Project) at the Atlantic City International Airport. The construction site was approximately five miles from the licensee's storage facility. The RSO described the activities of the AU and his own actions on November 16, and 17, as follows:

> On November 16, 2007, at approximately 3:30 p.m., the AU went to Revel Project to pick up soil samples and returned to the licensee's facility at approximately 5:30 p.m. to deliver the samples. Another employee of the licensee unloaded the soil samples from the AU's vehicle and noted that the transport container of the gauge was stored in the vehicle (behind the cab of pick up truck). The AU then picked up three boxes of concrete molds and loaded them on his vehicle, and left the facility at approximately 6 p.m.
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> As soon as he was notified of the missing gauge by another employee he went to the facility to investigate the event. He had initially assumed that the gauge had fallen off of the vehicle, therefore he, together with the AU walked along the path that the AU had taken earlier. He had hoped that he might find the missing items on the road, but he did not find any of the missing items on or near the road. Until then it was still his belief that the items had fallen off of the vehicle.
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> Early in the morning on Saturday, November 17, 2007, he again travelled along the path that the AU had travelled the evening before, hoping to find any of the missing items on the road in the day light. However, he did not find any of the missing items on the road. He then notified the NRC Operations Center of the event. He also discussed the event with the owner and the president of the company, and described his efforts to locate the missing items. The three concluded that the gauge and other equipment were stolen from the vehicle because there was no evidence that indicated that the gauge and the equipment had fallen off of the

vehicle as was previously assumed. This conclusion was based on the evidence that none of the missing items were found on the road, there was no report of any traffic accident, and no one reported the equipment falling off of the vehicle because the road normally was heavily travelled during evenings. The licensee placed reward posters in the area businesses.

The RSO stated that he did not remember if he discussed the event with the owner and the president before or after he notified the NRC Operations Center of the event.

During his visit to the licensee's facility, the inspector also discussed the event with the president, who acknowledged that he was notified of the event by the RSO and after discussing with the RSO and the owner, he had directed the RSO to notify the NRC of the event. The president stated that his discussions with the RSO and the owner were held in the morning of November 17, 2007, but he did not remember the exact time when he discussed the event with the RSO and the president.

On November 21, 2007, the inspector also visited the Revel Project to discuss the event with the AU. The AU provided the following written details of his activities in the evening of November 16, 2007:

> The transport container of the gauge was still on his pick up when he went to the licensee's facility in the evening to pick up three boxes of molds. He had to rearrange the equipment in his truck to make room for the boxes of molds including moving the gauge container and rearranging its position in the truck. He remembered that he had secured the container in the new configuration with two chains and a wheel barrow was stored on top the equipment with its wheels pointing upwards, which made it very noticeable. He stated that he closed the tail gate of the pick up, but the tail gate did not have a lock. He further stated that after leaving the licensee's facility, he went to a fast food restaurant, and parked his vehicle before going inside the restaurant. After making the purchase, he left for another restaurant (a deli) to get additional food items. He remembers that the equipment was still on his truck when he left the deli's parking area. He then went to another restaurant but did not park his vehicle there because it was too crowded, and preceded to a convenience store where he parked his vehicle and went inside the store to make a purchase. He was in the store for approximately ten minutes. When he returned to his vehicle he noticed that the tail gate of his truck was opened and the wheel barrow and several other items, including the transport container of the gauge were missing. He initially assumed that the equipment had fallen off of his vehicle and therefore he retraced his route but did not find any of the missing items on the road and then he called the office and notified the field supervisor that the gauge was missing.

In response to the inspector's observation that the tail gate may have opened during his travel to the convenience store, the AU demonstrated to the inspector that although the tail gate of the vehicle was not locked, it was difficult to open and could not have opened by itself during the travel.

The inspector noted that the licensee's initial notification to the NRC Operations Center of the event indicating that the gauge was not properly secured and had fallen off of the

AU's vehicle differed from the licensee's subsequent conclusions that the gauge was properly secured and had been stolen from the AU's vehicle.

On December 28, 2007, the licensee provided to the NRC the required written report of the event. As of November 10, 2008, the gauge had not been recovered.

c. Conclusions

The root cause of the event appeared to be the AU's use of the vehicle for running personal errands while the gauge was stored in the vehicle. The licensee's actions to recover the gauge appeared to be adequate. These actions included reporting the event to local law enforcement agency, issuing a press release and posting of a reward for the recovery of the gauge. The licensee provided timely notification of the event and submitted a written report that included the required information of the event. No violations were identified.

III. Training of Workers

a. Inspection Scope

The inspection involved a review of the training program of the licensee.

b. Observations and Findings

The licensee required all of its AUs to complete the manufacturer's or its equivalent training for gauge users before they were permitted to use a portable gauge. In addition to this training, a safety meeting was held every six months where new requirements and incidents were discussed with the AUs. The inspector discussed with the AU at the Revel Project about his training and he acknowledged that he had been provided appropriate training in the safe use of the gauge and how to secure the gauge in the vehicle. He demonstrated his method of securing the gauge in his vehicle and stated that the transport container is chained to two separate body parts of the vehicle and one of the chains is looped through the top handle to prevent the container from opening. The RSO maintained records of training of each AU.

c. Conclusions

The licensee's training program appeared to be satisfactory. No violations of NRC requirements were identified.

IV. Transportation

a. Inspection Scope

The inspector reviewed the licensee's procedures for transporting licensed material.

b. Observations and Findings

The licensee used portable gauges at its temporary job sites. The licensee had several vehicles that the AUs used to transport the gauges to the job sites. However, a few of the AUs used their own vehicles to transport the gauges to and from job sites. The inspector noted that the licensee had provided chains and locks to secure the gauges in the transport vehicles. Each gauge was accompanied with appropriate documents required by the Department of Transportation's (DOT) regulations. These documents included a Bill of Lading with appropriate information, a copy of operating and emergency procedures, including emergency telephone numbers. On the day of inspection at the Revel Project, the AU did not have a portable gauge, but during discussions with the inspector, the AU stated that he carried the documents in his cab and not inside the transport container and the documents were readily available to him in case of any accident or emergency.

c. Conclusions

The licensee transported portable gauges in accordance with DOT requirements. No violations or safety concerns were identified.

V. Exit Meeting

a. Inspection Scope

The inspector reviewed the findings with the licensee's management during a preliminary exits on November 21, 2007, and November 10, 2008, and during a final exit meeting on February 2, 2008

b. Observations and Findings

The inspector held discussions with the RSO and the president before leaving the licensee's facility on November 21, 2007. During the discussions, the inspector reminded the licensee that a written report of the event must be submitted to NRC. A status telephone call between the licensee's RSO and the inspector was also conducted on November 10, 2008. Following completion of the inspection, on February 2, 2009, the inspector discussed the inspection findings with the RSO.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

Michael Cannan, President
Ian Craig, Radiation Safety Officer
Harry McCabe, Authorized User
Joyce Leak, Authorized User
Jeremy Napoli, Field Supervisor