

U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 999-00872

License No.: None

Report No.: 999-00872/00-01

Person: Alton A. Adams, Jr. Inc.

Location: P.O. Box 1522
1b Kongens Gade
St. Thomas, U.S. Virgin Islands 00804

Inspection Date: March 20, 2000

Inspector: John M. Pelchat, Senior Health Physicist

Approved by: Mark S. Lesser, Chief
Materials Licensing/Inspection Branch 2
Division of Nuclear Materials Safety

Enclosure 1

EXECUTIVE SUMMARY

Alton A. Adams, Jr., Inc.
NRC Inspection Report No. 999-00872/00-01

An unannounced safety inspection was conducted on March 20, 2000, at the Alton A. Adams, Jr., Inc. facility in St. Thomas, United States Virgin Islands. The inspection was limited to an examination of the firm's possession and use of licensed materials without an NRC or an Agreement State license. The inspection consisted of the examination of equipment containing licensed materials and interviews with employees and representatives of Alton A. Adams, Jr., Inc., as well as representatives of Caribbean Quality Control Services, Inc., an NRC licensee. Areas inspected included the receipt, storage and use of licensed materials. Except as otherwise noted, this report covers the possession and use of licensed materials from on or about January 21, 2000 through March 20, 2000.

The inspection determined that on or about January 21, 2000, Alton A. Adams, Jr., Inc. took possession of a Troxler Model 3440 portable moisture-density gauge containing 8 millicuries of cesium 137 and 40 millicuries of americium 241. An individual employed by Alton A. Adams, Jr. Inc. operated the gauge on 21 occasions between February 9 and March 17, 2000. The inspector determined that Alton A. Adams, Jr., Inc. possessed and used licensed materials in areas of NRC jurisdiction without a specific NRC or Agreement State license.

REPORT DETAILS

Receipt, Storage and Use of Licensed Materials (87114)

a. Scope:

10 CFR 30.3 states that except for persons exempt as provided in this part and part 150 of this chapter, no person shall manufacture, produce, transfer, receive, acquire, own, possess, or use byproduct material except as authorized in a specific or general license issued pursuant to the regulations in this chapter.

The inspector examined the possession and use of licensed materials in areas of NRC jurisdiction. This included discussions with employees using or supervising the use of licensed materials and the examination of a portable gauge containing licensed materials.

The inspector obtained further additional information during an inspection of Caribbean Quality Control Services, Inc. on March 21, 2000 (Inspection Report No. 030-14963/00-01)

b. Observations and Findings:

Alton A. Adams, Jr. Inc. (AAA) is a civil engineering firm located in St. Thomas, U.S. Virgin Islands. On March 20, 2000, during a routine inspection of a licensee on St. Thomas, U.S. Virgin Islands, the inspector became aware that AAA may have been in the possession of a portable gauge containing licensed materials.

After confirming with Region II staff that AAA did not have an NRC license, the inspector contacted AAA personnel on March 20, 2000, to determine if the firm possessed licensed material. Upon his arrival at the AAA facility, the inspector observed an AAA employee (technician) in the process of departing the office with a portable moisture-density gauge to go to a job site. The technician stated that he had no knowledge of any requirements for a radioactive materials license and referred the inspector to the company president. The president of AAA confirmed that his firm was not licensed by the NRC or an Agreement State to possess and use licensed materials and that AAA had borrowed the portable gauge from another firm.

Interviews of AAA staff indicated that sometime on or about January 21, 2000, Caribbean Quality Control Services, Inc. (CQCS), an NRC licensee located on St. Croix, U.S. Virgin Islands transferred a Troxler Model 3440 portable moisture-density gauge (serial number 14100) to AAA. The gauge contained 8 millicuries (mCi) of cesium 137 (Cs¹³⁷) and 40 mCi of americium 241 (Am²⁴¹). The approximate date of transfer was verified during an interview of the president of CQCS.

CQCS is a civil engineering firm located on St. Croix, U.S. Virgin Islands and is licensed to possess and use portable gauges containing up to 10 mCi of Cs¹³⁷ and up to 100 mCi of Am²⁴¹ for measuring the properties of various materials. Following conversations with NRC Region II management, the presidents of AAA and CQCS made arrangements for the immediate return of the device to CQCS. The inspector witnessed a CQCS employee take possession of, and ship the gauge back to CQCS on March 20, 2000.

Interviews of the AAA technician and review of records indicated that AAA had used the portable gauge on 21 occasions between February 9 and March 17, 2000, for measuring soil density. The technician has been employed by AAA for 13 years and stated that he was not aware of any previous occasions when AAA had possessed a portable gauge. The President of AAA also stated that his firm had not previously possessed or used equipment containing licensed materials. Under applicable NRC regulations, specifically 10 CFR 30.3, only individuals with NRC or Agreement State licenses may possess and use licensed materials.

The technician operating the gauge stated that he had not received any formal training or other information regarding radiation safety or the appropriate normal and emergency operating procedures. The technician also stated that he had no written procedures for the gauge and that he had no specific knowledge of normal or emergency operating procedures, such as the steps to take in the event the device was involved in a construction site accident. The technician's knowledge was limited to how to turn the gauge on and how to make density measurements with the device. Interviews of AAA and CQCS management confirmed that the technician had not been provided with any radiation safety or gauge operations training.

The technician stated that he had learned how to operate the device by watching other individuals operate similar equipment on a few occasions. Based on discussions with the technician, the inspector concluded that his use of the gauge was carried out in a generally safe manner, although the operator stated that he would look at the source rod as it was inserted into the test hole to ensure proper alignment.

The president of AAA stated that he had attended a gauge operator training course conducted at the U.S. Virgin Islands Department of Public Works several years ago although he was unable to recall the year he took the course. He stated that it was likely that the certificate documenting his successful completion of the training course had been destroyed during a hurricane. The president of AAA stated that he thought that on the basis of his successful completion of the gauge operator course that he and his firm were authorized to possess and operate the portable gauge. The president indicated that he did not recognize that possession of the portable gauge was in fact, unauthorized possession of licensed materials.

The inspector observed that the gauge was securely locked in its transport case. The technician stated that he did not have any shipping papers available for the portable gauge. The technician indicated that the device was transported in its locked transport

case in the open cargo area of a company pick-up truck and that the case was secured with a ratcheting canvas tie-down strap.

On the date of the inspection, the technician was observed wearing a Luxel® optically stimulated luminescence (OSL) dosimeter. Examination of the dosimeter indicated that the dosimeter was assigned to the individual who is the president and Radiation Safety Officer (RSO) of CQCS. The technician stated that he had worn the dosimeter each day that the gauge was used. The president and RSO of CQCS stated that he lent his dosimeter to AAA and that he told the president of AAA that the gauge should not be used unless the operator was wearing a dosimeter.

The president of CQCS stated that he had not worked with licensed materials and had not worn his dosimeter during the current monitoring period. On Tuesday, March 21, 2000, CQCS submitted the dosimeter worn by the AAA technician to the licensee's NVLAP-accredited dosimetry vendor for immediate processing. On April 5, 2000, CQCS was advised that the dosimeter worn by the AAA technician measured 29 millirem.

c. Conclusions:

AAA possessed and used a portable moisture-density gauge containing licensed materials between on or about January 18, 2000 and March 20, 2000, without a specific or general license. Under applicable NRC regulations, specifically 10 CFR 30.3, only individuals with NRC or Agreement State licenses may possess and use licensed materials. When questioned by the inspector, AAA responded appropriately to return the portable gauge to the licensed owner. The Total Effective Dose Equivalent (TEDE) received by the AAA technician was less than the 100 millirem annual limit specified for members of the general public in 10 CFR 20.1301(a)(1).

EXIT MEETING SUMMARY

An exit meeting was held with representatives of AAA at the end of the inspection on March 20, 2000. The overall findings from the inspection were discussed. The president of AAA indicated that he clearly understood that possession of a portable gauge containing licensed materials required an NRC license and that AAA would not take possession of or use licensed materials without first obtaining the required license. The licensee did not specify any information reviewed during the inspection as proprietary in nature.

ATTACHMENT

1. PERSONS CONTACTED

Licensee

AAA

Alton A. Adams, Jr., President
Russell Smith, Laboratory Technician

CQCS

Kenneth D. Eastman, President and RSO
Shawn M^cConnell, Technician

2. INSPECTION PROCEDURE USED

IP 87114 Fixed and Portable Gauges

3. ABBREVIATIONS USED

AAA	Alton A. Adams, Jr., Inc.
Am ²⁴¹	americium 241
CFR	Code of Federal Regulation
CQCS	Caribbean Quality Control Services, Inc.
Cs ¹³⁷	cesium 137
mCi	millicuries
NRC	Nuclear Regulatory Commission
NVLAP	National Voluntary Laboratory Accreditation Program
OSL	optically stimulated luminescence dosimeter
RSO	Radiation Safety Officer
TEDE	Total Effective Dose Equivalent