U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection No.	15000032/2009001
EA No.	EA-09-034
Docket No.	15000032
NC License No.	NC-051-1335-1
NRC License No.	32-31355-01
Licensee:	KAM Engineering Services, P.C.
Location:	Camp Lejuene, North Carolina Stone Bay Firing Range
Inspection Dates:	January 21 and 28, 2009, and March 16, 2009

Inspector: /***Original signed by Craig Gordon for/*** ***4/10/09***

Orysia Masnyk Bailey — date
Health Physicist

Approved By: ***/Original signed by Craig Gordon for/*** ***4/10/09***

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

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EXECUTIVE SUMMARY

KAM Engineering Services, P.C.
NRC Inspection Report No. 15000032/2009001

KAM Engineering Services, P.C. (KAM) maintains a North Carolina Agreement State Materials License No. 051-1335-1, which authorizes use of byproduct material in portable moisture/density gauges in the State of North Carolina. At the time of the NRC inspection, the North Carolina licensee was storing and using two portable gauges at Camp Lejuene, North Carolina, a Marine Corps Base under exclusive Federal jurisdiction (NRC jurisdiction).

This inspection involved a review of the licensee's radiation safety program and work activities at the temporary job site at Camp Lejuene, and also a review of records related to these activities at their corporate office in Benson, North Carolina.

Based upon the inspection, two apparent violations of NRC regulatory requirements were identified, as follows:

> (1) 10 CFR 150.20(a) authorizes an Agreement State licensee to use byproduct material in NRC jurisdiction, and 10 CFR 150.20(b) requires, in part, that the Agreement State licensee file NRC Form 241 at least three days prior to engaging in licensed activities within NRC jurisdiction. KAM Engineering Services failed to file NRC Form 241 prior to engaging in licensed activities at Camp Lejuene.
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> (2) 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 direct surveillance of the licensee. The licensee failed to use two independent barriers to secure the portable gauges stored in the KAM field office at Camp Lejuene, when the gauges were not under the control and direct surveillance of the licensee.

The licensee implemented immediate corrective actions to correct the violation of 10 CFR 150.20(b) by removing the gauges from Camp Lejuene until they obtained an NRC license (NRC License No. 32-31355-01, Docket No. 03037927) on February 6, 2009.

The licensee implemented immediate corrective actions to correct the violation of 10 CFR 30.34(i) by removing the gauge from Camp Lejuene and storing it at the North Carolina corporate office until additional barriers could be provided at the Camp Lejuene office.

The licensee met with the Camp Lejuene Radiation Safety Officer to ensure compliance with all federal regulations. All KAM authorized users were briefed on security and reciprocity requirements within 24 hours of the initial inspection.

REPORT DETAILS

I. Organization, Scope and Management of the Program

a. Inspection Scope

The inspection involved the 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

KAM Engineering Services, P.C. (KAM) is a small engineering company that provides consulting services related to construction and environmental management. Its corporate office is located in Benson, North Carolina (an Agreement State). KAM's Agreement State license authorizes storage of licensed material at the licensee's corporate office in Benson, North Carolina, and at temporary jobsites within North Carolina. There are five authorized users, including the Radiation Safety Officer (RSO) and the company President. The licensee possesses three portable gauges.

On January 21, 2009, two portable nuclear gauges were stored at Camp Lejuene, North Carolina, which is a marine base under exclusive Federal jurisdiction. The gauges were stored in the KAM field office at the Stones Bay Rifle Range. A Troxler Model 3420 gauge was stored and used at Camp Lejuene since March 1, 2008, and a Troxler Model 3411 gauge was stored and used at the base since September 28, 2008. The gauges were being used daily as weather permits.

KAM is a subcontractor to Whiting and Turner Contracting Company, the prime contractor at Camp Lejuene. All work and contractors are approved by the Naval Facilities Engineering Command, a Navy oversight organization. Whenever radioactive material is used at Camp Lejuene, the base RSO is to be notified. The base RSO was not aware that portable gauges were in use at Camp Lejuene.

10 CFR 150.20(a) authorizes an Agreement State licensee to use byproduct material in NRC jurisdiction, and 10 CFR 150.20(b) requires, in part, that the Agreement State licensee file NRC Form 241 at least three days prior to engaging in licensed activities within NRC jurisdiction.

The licensee's Agreement State license includes a statement that prior authorization is required to work at areas under exclusive Federal jurisdiction.

The licensee failed to file NRC Form 241 prior to engaging in licensed activities at Camp Lejuene. Licensee management advised that they were not aware that Camp Lejuene was under exclusive Federal jurisdiction. The RSO thought that the North Carolina Agreement State license authorized them to perform work with the gauges at the base since it was located in North Carolina.

The gauges were immediately removed from the base and returned to the home office when the licensee was advised of the violation. The licensee obtained NRC License No.

32-31355-01, Docket No. 03037927, on February 6, 2009. On the day of the follow up inspection at the KAM Engineering Services home office, on January 28, 2009, the inspector found that the RSO and company President were now conversant with 10 CFR 150.20 and had completed an application for an NRC license. All company employees had been briefed on the need to determine a temporary job site's regulatory jurisdiction at least three days before beginning work.

c. Conclusions

An apparent violation of 10 CFR 150.20 was identified. The licensee removed the gauge from NRC jurisdiction until it obtained an NRC materials license.

II. Facilities and Equipment

a. Inspection Scope

The inspector toured the licensee's storage facilities and reviewed the security measures for control of licensed material.

b. Observations and Findings

On January 21, 2009, the inspector inspected the licensee's temporary jobsite at Camp Lejuene, North Carolina. Two of the licensee's three nuclear portable gauges were stored and used at the KAM field office at the Stone Bay Rifle Range. These gauges were a Troxler Model 3411 (serial no. 8309), and a Troxler Model 3430 (serial no. 21296) both containing 44mCi of americium 241 and 9 mCi of cesium 137. The gauges were not in use at the time of the inspection so the inspector interviewed the authorized user at the base. The authorized user articulated a good understanding of gauge security requirements while in transport and in use at the construction site. The authorized user's vehicle was equipped with chains and eye-bolts to secure the gauges.

KAM' s office was a refurbished metal CONEX container, modified to add a door and windows. The windows were equipped with metal bars over them. The gauges were stored within their locked transportation containers inside of the office. The door was locked when the building was unattended. However, the containers were not secured from removal within the office. The containers could be readily removed from the office if the door lock (a single barrier) was defeated and when the construction office was unattended.

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 removed the gauges from Camp Lejuene until an additional barrier could be provided within the office.

On January 28, the inspector visited the licensee's home office and observed that the gauges at that facility were secured within a large metal container that was itself secured to the building floor and wall.

The licensee plans to install a metal construction box within the KAM Engineering Services office at Camp Lejuene. The gauges will be secured within that box.

c. Conclusions

An apparent violation of 10 CFR 30.34(i) was identified during the inspection. The licensee implemented immediate corrective actions by removing the gauges from the temporary jobsite and returning them to the corporate office where they could be properly secured. All authorized users were immediately retrained on security requirements. The licensee confirmed by telephone on March 16, 2009, that the Camp Lejuene field office had the required second barrier for controlling the gauges.

III. Training of Workers

a. Inspection Scope

The inspector reviewed the licensee's training program and training of its five authorized users.

b. Observations and Findings

The licensee ensured that its authorized users received training for gauge use and HAZMAT training from Troxler Laboratories. Refresher HAZMAT training was provided at the proper interval. The company employees interviewed were conversant with safe gauge operations.

c. Conclusions

No violations or safety concerns were identified during the inspection.

IV. Radiation Protection

a. Inspection Scope

The inspector reviewed the licensee's radiation protection program with respect to control of licensed material in the field and during transport. The portable gauges were not being used, so this aspect of the licensee's radiation protection program was not evaluated.

b. Observations and Findings

The storage location of licensed material at the temporary jobsite was located away from the inhabited portion of the office. The company employees interviewed understood that the gauges were to be transported in the back of trucks and not in the passenger area in accordance with the licensee's procedures.

The licensee provided personal monitoring devices to its authorized users. The monitoring devices were exchanged every quarter and were processed by a NVLAP-accredited vendor. The inspector reviewed licensee exposure records. All doses were well below regulatory limits.

The licensee tested the gauges for leakage every six months. The licensee was not authorized to analyze the leak test samples, and the samples were analyzed by a commercial vendor. The latest leak tests were performed on September 25, 2008. The licensee had not identified any leakage from the gauges.

c. Conclusions

No violations or safety concerns were identified during the inspection.

V. Transportation

a. Inspection Scope

The inspector reviewed the licensee's procedures for transporting licensed material to temporary job sites.

b. Observations and Findings

The licensee transported the gauges at temporary job sites in either the authorized users personal vehicles or company vehicles. The authorized users were required to secure portable gauges in the vehicle used and were provided appropriate equipment (chains, locks, etc.) to secure the gauges while in transport or at the job sites. During a visit to a temporary job site, the inspector reviewed the licensee's procedures for transportation and use of the portable gauges. Discussions with the authorized user at a temporary job site indicated that he had been provided HAZMAT training and was generally familiar with the applicable regulatory requirements.

c. Conclusions

No violations or safety concerns were identified during the inspection.

VI. Exit Meeting

On January 28, 2009, the inspector discussed the preliminary inspection findings with KAM's President and RSO. The inspector discussed the two apparent violations and acknowledged the licensee's corrective actions. The inspector noted that the licensee had assembled all the documents required for an NRC licensee and had completed an

application for the same. KAM's management advised that the two apparent violations were due to an oversight on their part and they had no intent to violate regulations. On March 16, 2009, a final exit was held by telephone with the Company President. He stated that all corrective and preventative actions had been completed.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

Mike Boswell, Authorized User
Brad Carlson, Radiation Safety Officer
Larry Damon, Camp Lejuene Project Manager
Kurt A. Miller, P.E., President

Camp Lejuene

Jeff Myers, Base Radiation Safety Officer
Tony Ray Lewis, The Whiting-Turner Contracting Company