

U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

INSPECTION REPORT

Inspection No. 15000009/2010001  
Docket No. 15000009  
FL License No. FL-3025-1  
EA No. EA-10-110  
Licensee: Southern Earth Sciences, Inc.  
Location: 1438 Balboa Ave., Panama City, Florida 32401  
Prior Job Sites: Tyndall Air Force Base and Naval Surface Warfare Center  
Panama City, Florida  
Inspection Dates: April 26 - May 19, 2010

Inspector: ***/RA M. T. Miller for/*** 06/14/2010  
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Scott Wilson  
Health Physicist  
Materials Security and Industrial Branch  
Division of Nuclear Materials Safety  
date

Approved By: ***/RA/*** 06/14/10  
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Marie T. Miller, Chief  
Materials Security and Industrial Branch  
Division of Nuclear Materials Safety  
date

## EXECUTIVE SUMMARY

Southern Earth Sciences, Inc.  
NRC Inspection Report No. 15000009/2010001

Southern Earth Sciences, Inc. (SES) is an engineering company that maintains a Florida Agreement State Materials License, which authorizes the use of byproduct material in portable moisture/density gauges in the State of Florida. SES's Agreement State license does not authorize licensed activities at jobsites that are under exclusive Federal jurisdiction.

SES works as a subcontractor to construction companies that frequently perform construction work within NRC jurisdiction at military installations in the Panama City area, including Tyndall Air Force Base (Tyndall) and the Naval Surface Warfare Center (NSWC).

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 a "Report of Proposed Activities in Non-Agreement States, Areas of Exclusive Federal Jurisdiction, or Offshore Waters" (NRC Form 241), at least three days prior to engaging in licensed activities within NRC jurisdiction.

For an indeterminate number of dates between January 2008 and April 2009, SES conducted density testing with nuclear portable gauges, a licensed activity, at both Tyndall and the NSWC, within areas of exclusive federal jurisdiction. SES failed to file NRC Form 241 prior to engaging in licensed activities at Tyndall and NSWC.

Based upon the inspection, one apparent violation of NRC regulatory requirements was identified, as follows:

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. SES failed to file NRC Form 241 prior to engaging in licensed activities at Tyndall and the NSWC.

The licensee took prompt corrective action by filing Form 241 and paying the required fee, when it next worked in areas under NRC jurisdiction in May 2009.

## REPORT DETAILS

### I. Organization and Scope of the Program

#### a. Inspection Scope

The inspection involved a review of licensed activities within NRC jurisdiction through interviews with licensee personnel and responsible U.S. Air Force and U.S. Navy personnel at specific military facilities in Panama City, Florida. The inspection also included the review of documentation related to nuclear testing conducted within areas of exclusive Federal jurisdiction.

#### b. Observations and Findings

Southern Earth Sciences, Inc. (SES) is an engineering company with offices in Florida, Alabama, and Louisiana, that provides geotechnical, environmental and construction materials testing services. SES maintains Florida Agreement State Materials License No. 3025-1, which authorizes use of byproduct material (cesium-137 and americium-241 sealed sources) in portable moisture/density gauges in the State of Florida. SES's Agreement State license authorizes storage of licensed material at the licensee's office in Panama City, Florida, and at temporary jobsites within Florida. At the time of the NRC inspection, SES was not storing or utilizing licensed portable gauges within NRC jurisdiction.

The inspection included interviews with SES's Radiation Safety Officer and Laboratory Manager, the Radiation Safety Officer at Tyndall Air Force Base (Tyndall), and the Public Works Officer and the Head of Project Management at the Naval Surface Warfare Center (NSWC). The interviews resulted in the determination that SES had conducted work activities at temporary job sites within exclusive Federal jurisdiction in Panama City, Florida at both Tyndall and the NSWC, without an NRC license or filing for reciprocity.

SES works as a subcontractor to construction companies that frequently perform construction work at Tyndall and the NSWC. All work and contractors are approved by either the Radiation Safety Officer at Tyndall or the Public Works Officer at NSWC. The Radiation Safety Officer at Tyndall was knowledgeable of NRC's requirements. The Public Works Officer was not familiar with NRC's reciprocity requirements.

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.

In April of 2009, the SES RSO became aware of the requirement to file Form 241 with the NRC prior to conducting licensed activities at Tyndall when the Army Corps of Engineers requested proof of their license to work at a jobsite in exclusive Federal jurisdiction. The RSO then filed for reciprocity on May 15, 2009, when nuclear density testing was to be conducted in areas under NRC jurisdiction. The licensee is not required to record daily activities involving gauges, such a utilization log, which made it

difficult to reconstruct the number of times the gauges were used. The RSO provided that the gauges were used on several occasions at both military bases, and the military representatives confirmed that SES had worked in areas of exclusive Federal jurisdiction. The NRC inspector concluded that for an indeterminate number of dates between January 2008 and April 2009, SES had conducted nuclear density testing in areas of exclusive federal jurisdiction at Tyndall and the NSWC, without filing Form 241.

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 Tyndall and NSWC. Licensee management advised that they were not aware that the areas were designated as exclusive Federal jurisdiction and that they relied on the base authorities to advise them of any additional requirements. The RSO believed that the Florida Agreement State license authorized them to conduct testing using the gauges at Tyndall and NSWC since the installations are located in Florida. The inspector found the RSO and company President conversant with 10 CFR 150.20 and the requirements for working in NRC jurisdiction at the time of the inspection.

The licensee filed for reciprocity with NRC when advised of the requirement. The licensee worked under reciprocity from May 15, 2009 to December 31, 2009, but then decided to cease use of licensed material on areas of exclusive Federal jurisdiction for economic reasons. The licensee has continued to work at the military bases after December 31, 2009, however, it has used alternate methods of testing that do not require an NRC license.

c. Conclusions

An apparent violation of 10 CFR 150.20 was identified. The licensee filed Form 241 and paid the required reciprocity fee.

## II. Exit Meeting

On May 19, 2010, an exit meeting was held by telephone and the preliminary inspection findings and apparent violation were discussed with SES's Vice President and RSO. The inspector discussed the apparent violation and acknowledged the licensee's corrective actions. SES's management advised that the apparent violation was due to an oversight on their part and they had no intent to violate regulations. The Vice President expressed interest in acquiring an NRC-specific license in the future when economically feasible.

## PARTIAL LIST OF PERSONS CONTACTED

### Licensee

Richard Conroy, RSO  
Michael Varner, P.E., Vice President  
Tomila Benefield, Laboratory Manager

### Tyndall Air Force Base

Major Steven Lange, RSO

### Naval Surface Warfare Center

Christopher Landess, P.E., Lieutenant Commander, Public Works Officer  
Van Smith, Deputy Public Works Officer  
Aaron Burch, LTJG  
Robert Arnold, Head of Project Management

### State of Florida - Bureau of Radiation Control

Joy Stephenson, Environmental\_Specialist