



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION I
475 ALLENDALE ROAD, SUITE 102
KING OF PRUSSIA, PA 19406-1415

February 16, 2023

EA-22-128

Lewis Copeland, Jr., President
Southern Earth Sciences, Inc.
6352 Piccadilly Square Dr.
Mobile, AL 36609

SUBJECT: SOUTHERN EARTH SCIENCES, INC. - NRC INSPECTION REPORT
150-00009/2022003

Dear Lewis Copeland, Jr.:

This letter refers to the inspection conducted remotely from October 31, 2022, through November 28, 2022, with in-office review through January 10, 2023. The inspection consisted of an examination of activities performed within the jurisdiction of the U.S. Nuclear Regulatory Commission (NRC), as they related to NRC-licensed byproduct material. Within this area, the inspection consisted of a selected examination of representative records and interviews with personnel. The preliminary inspection findings were discussed with you following the conclusion of the initial technical review on November 28, 2022. A final exit briefing was conducted telephonically with you and other Southern Earth Science, Inc.'s (SES) representatives on January 20, 2023. The enclosed report presents the results of the inspection.

Based on the results of the inspection, two apparent violations were identified and are being considered for escalated enforcement action in accordance with the NRC Enforcement Policy, which can be found at the NRC's website at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>. The apparent violations, as described in the enclosed report, involved SES's failure to initially file for reciprocity prior to performing licensed activities in NRC jurisdiction and numerous subsequent failures to file amended Form 241s or equivalent prior to performing licensed activities on dates other than those already submitted and approved by the NRC. Specifically, on January 6, 2022, SES performed licensed activities within NRC jurisdiction without having filed an initial application for reciprocity with the NRC for calendar year 2022. In addition, fourteen other instances were identified where SES performed licensed activities on days that were not submitted to or approved by the NRC via an initial or amended NRC Form 241 or equivalent. Finally, it was identified that the SES office in Louisiana had likewise performed licensed activities on March 25, 2022, without either (1) filing an initial application for reciprocity using the license with the State of Louisiana; or (2) filing an amended Form 241 or equivalent using the already-approved reciprocity license with the NRC through the State of Florida license.

The circumstances surrounding these apparent violations, the significance of the issues, and the need for lasting and effective corrective action were discussed with members of your staff during the initial identification and conclusion of the technical review of the apparent violations on November 28, 2022. Following initial identification, SES determined that it would pursue applying for a specific NRC license. SES applied for this license on November 4, 2022, which was finalized and issued by the NRC on December 22, 2022. As a result, it may not be

necessary to conduct a pre-decisional enforcement conference in order to enable the NRC to make an enforcement decision.

Since the NRC has not made a final determination in this matter, a Notice of Violation is not being issued for these apparent violations at this time. In addition, please be advised that the number and characterization of the apparent violations may change because of further NRC review.

Before the NRC makes its enforcement decision, we are providing you an opportunity to (1) respond to the apparent violations addressed in this inspection report within 30 days of the date of this letter, or (2) request a pre-decisional enforcement conference (PEC). If a PEC is held, it will be open for public observation and the NRC will issue a press release to announce the time and date of the conference.

If you decide to participate in a PEC, please contact Christopher Cahill at (610) 337-5108 or via email at Christopher.Cahill@nrc.gov within 10 days of the date of this letter. A PEC should be held within 30 days of the date of this letter.

If you choose to provide a written response, it should be clearly marked as a "Response to Apparent Violations in NRC Inspection Report (150-00009/2022-003); EA-22-128." Your response may reference or include previously docketed correspondence if the correspondence adequately addresses your response. Additionally, your response should be sent to U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy mailed to Mr. Blake D. Welling, Director, Division of Radiological Safety & Security, U.S. Nuclear Regulatory Commission Region I, 475 Allendale Road, Suite 102, King of Prussia, PA, 19406, and emailed to R1Enforcement@nrc.gov within 30 days of the date of this letter. If an adequate response is not received within the time specified or an extension of time has not been granted by the NRC, the NRC will proceed with its enforcement decision.

In lieu of providing this written response, you may choose to provide your perspective on this matter, including the significance, cause, and corrective actions, as well as any other information that you believe the NRC should take into consideration by requesting a PEC to meet with the NRC. If you choose to request a PEC, the conference will afford you the opportunity to provide your perspective on these matters and any other information that you believe the NRC should take into consideration before making an enforcement decision. The decision to hold a PEC does not mean that the NRC has determined that a violation has occurred or that enforcement action will be taken. This conference would be conducted to obtain information to assist the NRC in making an enforcement decision. The topics discussed during the conference may include information to determine whether a violation occurred, information to determine the significance of a violation, information related to the identification of a violation, and information related to any corrective actions taken or planned.

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter, its enclosure, and your response, if you choose to provide one, will be made available electronically for public inspection in the NRC Public Document Room and from the NRC's Agencywide Document Access and Management System (ADAMS), accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy or proprietary information so that it can be made available to the public without redaction.

L. Copeland, Jr.

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If you have any questions concerning this matter, please contact Jason vonEhr of my staff at (610) 337-5256.

Sincerely,

Blake D. Welling, Director
Division of Radiological Safety and Security

Docket No. 150-00009
License No. FL-3025-1

Enclosure:
NRC Inspection Report 150-00009/2022-003

cc (w/Enclosure):
S. Mitchell, Southern Earth Sciences, Inc.
L. Fowler, Southern Earth Sciences, Inc.
K. Meyn, South Earth Sciences, Inc.
State of Florida
State of Louisiana

SUBJECT: SOUTHERN EARTH SCIENCES, INC. - NRC INSPECTION REPORT
150-00009/2022003 DATED FEBRUARY 16, 2023

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<https://usnrc.sharepoint.com/teams/Region-I-DNMS1/Shared Documents/Administrative Items and Reports/Southern Earth Sciences - Draft Choice Letter 01-23-2023.docx>

ADAMS ACCESSION NUMBER: ML23024A097

SUNSI Review: ADAMS: Non-Publicly Available Non-Sensitive Keyword:
By: JEV Yes No Publicly Available Sensitive

OFFICE	RI:DRSS	RI:DRSS	RI:ORA	RI:DRSS		
NAME	JvonEhr	CGCahill	MMcLaughlin	BDWelling		
DATE	01/20/2023	01/20/2023	01/23/2023	02/16/2023		

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**U.S. NUCLEAR REGULATORY COMMISSION
REGION I**

Docket: 150-00009

License: FL-3025-1

Report: 2022-003

Licensee: Southern Earth Sciences, Inc.

Locations Inspected: N/A – Remote Review of Temporary Job Sites in NRC Jurisdiction

Inspection Dates: October 31, 2022, through November 28, 2022, with in-office review through January 10, 2023

Inspector: Jason vonEhr, Health Physicist
Commercial, Industrial, R&D and Academic Branch
Division of Radiological Safety and Security

Approved By: Christopher G. Cahill, Chief
Commercial, Industrial, R&D and Academic Branch
Division of Radiological Safety and Security

Attachments: Supplemental Inspection Information

Enclosure

EXECUTIVE SUMMARY

Southern Earth Sciences, Inc. NRC Inspection Report 150-00009/2022-003

Program Overview

Southern Earth Sciences, Inc. (SES) was a geotechnical consulting and materials testing company headquartered in Mobile, Alabama, with offices in Alabama, Mississippi, Louisiana, and Florida. The company utilized portable nuclear gauges under Agreement State licenses to conduct soil density testing. SES possesses radioactive materials licenses with, among other Agreement States, the State of Florida, and State of Louisiana, which authorizes SES to possess and use portable nuclear gauges to measure the physical properties of materials. SES routinely applied for and received approval to perform the same licensed activities within NRC jurisdiction under the NRC's reciprocity program and the provisions in Title 10 of the *Code of Federal Regulations* Part 150.20 "Recognition of Agreement State Licenses." (Section 1 of this report)

Inspection Findings

Two apparent violations were identified through a non-routine and unplanned inspection of the activities performed by SES and its performance of these activities within NRC jurisdiction. This review was initiated when SES requested deletion of certain dates from its reciprocity approval in calendar year 2022. In supporting this request, SES provided documentation which, upon review by the NRC, identified that SES had performed licensed activities in NRC jurisdiction on days that had not been requested by SES nor approved by the NRC.

Specifically, on January 6, 2022, SES performed licensed activities within NRC jurisdiction without having filed an initial application for reciprocity with the NRC for calendar year 2022. In addition, fourteen other instances were identified where SES's office in Florida had performed licensed activities on days that were not submitted to the NRC via an initial or amended NRC Form 241 or equivalent. Finally, it was identified that the SES's office in Louisiana had likewise performed licensed activities in NRC jurisdiction on March 25, 2022, without either (1) filing an initial application for reciprocity using the SES radioactive materials license with the State of Louisiana; or (2) filing an amended Form 241 or equivalent using the already-approved reciprocity license with the NRC through the State of Florida radioactive materials license. (Section 2 of this report)

Corrective Actions

During the NRC's expanded review of the extent of the apparent violations, SES determined that it would need a specific NRC license in order to continue to perform licensed activities within NRC jurisdiction without interruption, as it had effectively exhausted the 180 days of reciprocity authorized in a calendar year under 10 CFR 150.20(b)(4). SES applied to the NRC for this license on November 4, 2022, which was finalized and issued by the NRC on December 22, 2022, therefore preventing the apparent violations from occurring in the future so long as SES maintained the NRC license. (Section 3)

REPORT DETAILS

1. Program Overview (Inspection Procedure 87139)

Southern Earth Sciences, Inc. (SES) was a geotechnical consulting and materials testing company headquartered in Mobile, Alabama, with offices in Alabama, Mississippi, Louisiana, and Florida. The company utilized portable nuclear gauges under Agreement State licenses to conduct soil density testing. SES possesses radioactive materials licenses with, among other Agreement States, the State of Florida, and State of Louisiana, which authorizes to SES to possess and use portable nuclear gauges to measure the physical properties of materials. SES routinely applied for and received approval to perform the same licensed activities within the U.S. Nuclear Regulatory Commission's (NRC's) jurisdiction under the NRC's reciprocity program and the provisions in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 150.20 "Recognition of Agreement State Licenses." SES was approved for reciprocity via its State of Florida license every calendar year from 2016 through 2022. Furthermore, SES applied separately for reciprocity in calendar year 2022 with the NRC for its operations in the State of Louisiana using the subject State's radioactive materials license.

2. Observations and Findings

2.1. Inspection Scope

The inspection was an examination of activities conducted within the jurisdiction of the NRC, as they related to NRC-licensed byproduct material. Within this area, the inspection consisted of a selected examination of representative records and interviews with personnel.

2.2. Observations and Findings

SES regularly filed amended NRC Form 241s in calendar year 2022 to address its continuing possession and use of portable nuclear gauges within NRC jurisdiction, specifically for construction-related activities at Tyndall Air Force Base (TAFB) outside of Panama City, Florida, an area of exclusive Federal jurisdiction, and therefore requiring either a specific NRC license or a general license under reciprocity and the provisions of 10 CFR 150.20.

Leading up to the end of October 2022, the NRC communicated to SES regarding the regulation in 10 CFR 150.20(b)(4), which limits reciprocity licensees to 180 days of licensed activities per calendar year. On October 28, 2022, SES was approved for a further five days of licensed activities in NRC jurisdiction, which brought the calendar year cumulative total to 174 days. On October 31, 2022, SES submitted a request for the deletion of days in which it was authorized for the performance of reciprocity but had not performed licensed activities and included a gauge user's timesheet to demonstrate the absence of licensed activities on certain days.

During the NRC's initial review of this request, five instances were identified in which the gauge user's timesheet recorded the use of a portable nuclear gauge in the performance of density testing at TAFB. This was communicated to SES on November 4, 2022, along with a request for additional information sufficient to expand the NRC's review to include the entirety of the calendar year, as only partial information was initially submitted.

On November 4, 2022, the NRC inspector interviewed the only gauge user who was purported to have possessed or used a portable nuclear gauge at TAFB. This interview confirmed that, to the best of the individual's knowledge, only that individual had performed any work for SES involving the portable nuclear gauge at TAFB and confirmed the individual's practices with respect to the preparation and completion of the timesheets submitted in support of SES's reciprocity deletion request.

SES provided the additional information on November 14, 2022, pursuant to the NRC's request made on November 4, 2022, allowing a full calendar year review of the activities performed at TAFB. Included in the above was information concerning the licensed activities performed out of the SES's Louisiana office at a military facility in Louisiana.

Following the NRC's expanded review, a total of fifteen instances were identified in which SES performed licensed activities at TAFB without having requested or been approved by the NRC to perform these activities. One item of note is that the gauge user's timesheet only recorded instances when the individual used the portable nuclear gauge in the performance of density testing: the individual stated in their interview that a portable nuclear gauge was likely brought to TAFB in many instances when density testing was initially requested by the client, but this testing had been delayed or cancelled. As a result, it is likely that additional instances beyond the fifteen noted above occurred in which SES: (1) possessed the portable nuclear gauge at TAFB, itself a licensed activity even in the absence of the use of the device, (2) did not record "density testing" on the individual's timesheet, and (3) was not approved by the NRC to possess and use the portable nuclear gauge at TAFB. However, insufficient documentation existed or could be readily created after-the-fact to identify when and how many instances of this nature occurred.

Furthermore, it was identified that SES's first instance of a positively identified unapproved licensed activity in NRC jurisdiction in calendar year 2022 occurred on January 6, 2022, prior to SES initially filing for reciprocity for calendar year 2022. SES filed for reciprocity for calendar year 2022 on January 7, 2022, requesting authorization for the performance of licensed activities at TAFB on January 11-14, 2022, with no mention of the activities that had been performed on January 6, 2022.

Finally, SES's operations out of Louisiana were identified to have performed licensed activities on March 25, 2022, at Naval Air Station Joint Reserve Base New Orleans, an area of exclusive Federal jurisdiction, without NRC approval. SES's responsible office in Louisiana had requested this authorization on March 16, 2022, under a new and separate initial reciprocity application¹ using the State of Louisiana radioactive materials license but had made an error in the NRC email address to-be-transmitted to, and as a result the email failed to reach the NRC and SES failed to notice the email "bounce" back. SES's Louisiana office was later approved for reciprocity by the NRC's Region IV office on April 8, 2022, but this later approval did not include, even after-the-fact, approval for the activities on March 25, 2022.

¹ Note: There was no requirement for SES to file a second and separate reciprocity application with the NRC to possess and use portable nuclear gauges out of its Louisiana office. SES could have filed an amended NRC Form 241 with the NRC using the authority and authorizations provided in its State of Florida radioactive materials license to authorize this activity, so long as the subject licensed activities were authorized on the State of Florida license.

2.3. Apparent Violation

Two apparent violations of NRC requirements were identified. The first apparent violation involved the failure to file an initial reciprocity application with the NRC prior to the performance of licensed activities within NRC jurisdiction for the first time in calendar year 2022, or, alternatively, to possess a specific license with the NRC authorizing the same activity. The apparent violation (150-00009/2022-003/01) is described below:

10 CFR 30.3 requires, in part, that no person shall manufacture, produce, transfer, receive, acquire, own, possess, or use byproduct material except as authorized in a specific license issued in accordance with the regulations in Chapter I.

10 CFR 150.20(a)(1) states, in part, that any person who holds a specific license from an Agreement State is granted a general license to conduct the same activity in non-Agreement States subject to the provisions of 10 CFR 150.20(b).

10 CFR 150.20(b) requires, in part, that any person engaging in activities in Non-Agreement States, at least 3 days before engaging in each activity for the first time in a calendar year, file a submittal containing an NRC Form 241 "Report of Proposed Activities in Non-Agreement States," a copy of its Agreement State specific license, and the appropriate fee with the Regional Administrator of the appropriate U.S. Nuclear Regulatory Commission Regional Office.

Contrary to the above, on January 6, 2022, SES, which was authorized for possession and use of radioactive material under a specific license issued by the State of Florida, used a portable nuclear gauging device containing byproduct material in an area of exclusive Federal jurisdiction without a specific or general license issued by the NRC and without filing a submittal containing an NRC Form 241, a copy of its Agreement State specific license, and the appropriate fee with the appropriate U.S. Nuclear Regulatory Commission Regional Office for the Region in which the Agreement State that issued the license is located. Specifically, SES possessed and used a portable nuclear gauge at TAFB, a location of exclusive Federal jurisdiction, on January 6, 2022, prior to submitting a request for the performance of reciprocity with the NRC, or, alternatively, possessing a specific license with the NRC authorizing the same activity.

The second apparent violation involved the apparent failures to file amended NRC Form 241s or equivalent with the NRC and be approved for these changes prior to the performance of licensed activities within NRC jurisdiction that differ from those activities already submitted and approved under the prior initial calendar year NRC Form 241 or in subsequent amended NRC Form 241s for the same calendar year (150-00009/2022-003-02).

The second apparent violation is described below:

10 CFR 30.3 requires, in part, that except for persons exempt as provided in this part and Part 150 of Title 10 Chapter I of the *Code of Federal Regulations*, no person shall own, possess, or use byproduct material except as authorized in a specific or general license issued pursuant to the regulations in Title 10 Chapter I.

10 CFR 150.20(a) states, in part, that any person who holds a specific license from an Agreement State is granted a general NRC license to conduct the same activity in areas of exclusive Federal jurisdiction within Agreement States, subject to the provisions of 10 CFR 150.20(b)

10 CFR 150.20(b)(2) requires, in part, that any person engaging in activities in areas of exclusive Federal jurisdiction within Agreement States, under the general licenses provided in this section shall file an amended NRC Form 241 or letter with the Regional Administrator to request approval for changes in work locations, radioactive material, or work activities different from the information contained on the initial NRC Form 241.

Contrary to the above, on fifteen occasions from February 8, 2022, through October 24, 2022, SES, which was authorized for possession and use of radioactive material under specific licenses issued by the State of Florida and State of Louisiana, performed specifically licensed activities at TAFB and Naval Air Station Joint Reserve Base New Orleans, locations of exclusive Federal jurisdiction, without having filed an amended NRC Form 241 or letter with the Regional Administrator to request approval for changes in work locations, radioactive material, or work activities different from the information contained on the initial NRC Form 241 or later amended and approved NRC Form 241s.

2.4. Conclusions

The NRC inspection identified two apparent violations, both concerning the filing and request for approval of reciprocity with NRC Form 241s. The first apparent violation concerned the performance of licensed activities without having filed an initial NRC Form 241, while the second apparent violation concerned subsequent licensed activities that had not been described and approved on the initial NRC Form 241 or subsequent amendments.

3. **Corrective Actions**

During the NRC's expanded review of the extent of the apparent violations, SES determined that it would need a specific NRC license in order to continue to perform licensed activities within NRC jurisdiction without interruption, as it had effectively exhausted the 180 days of reciprocity authorized in a calendar year under 10 CFR 150.20(b)(4). SES applied to the NRC for this license on November 4, 2022, which was finalized and issued by the NRC on December 22, 2022. As a result of the issuance of this specific NRC license, SES, so long as this license was maintained, will perform licensed activities under the provisions of 10 CFR Part 30, rather than those provided for in 10 CFR 150.20, thereby eliminating the possibility of re-occurrence of the two apparent violations described above in Section 2.3.

4. Exit Meeting Summary

The NRC inspector presented the preliminary inspection findings with SES management in the Panama City, Florida office following the conclusion of the initial technical review on November 28, 2022. Following the NRC's in-office review, which concluded on January 10, 2023, the NRC conducted a final exit briefing via teleconference on January 20, 2023, with Lewis Copeland, Jr., SES President, as well as representatives from the SES offices in Panama City and New Orleans which were involved in the above-described findings.

SUPPLEMENTAL INSPECTION INFORMATION

LIST OF PERSONS CONTACTED

Lewis Copeland, Jr. – President, Southern Earth Sciences, Inc. (SES)
Logan Fowler, P.E. – Branch Manager, SES Panama City, Florida office
Laura Williams – Project Administrator, SES Panama City, Florida office
Scott Mitchell – Construction Department Manager, Radiation Safety Officer,
SES Panama City, Florida office
Ernest Nillen, Jr. – Soils Department Manager, SES New Orleans, Louisiana office
Kenneth Meyn – Branch Manager, SES New Orleans, Louisiana Office

INSPECTION PROCEDURES USED

87139 – Portable Nuclear Gauge Programs

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

150-00009/2022-003-01	AV	Failure to either apply for and receive an NRC specific license (10 CFR 30.3) or apply for and receive initial approval for reciprocity (10 CFR 150.20(b))
150-00009/2022-003-02	AV	Failure to file and receive approval for changes made to prior-approved reciprocity via an amended NRC Form 241 (10 CFR 150.20(b)(2))

Closed

None

Discussed

None

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
AV	Apparent Violation
CFR	<i>Code of Federal Regulations</i>
NRC	Nuclear Regulatory Commission
PEC	Pre-decisional Enforcement Conference
R&D	Research and Development
SES	Southern Earth Sciences, Inc.
TAFB	Tyndall Air Force Base