



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, ILLINOIS 60532-4352

August 3, 2022

EA-22-064

Mr. Mark Behrens  
President & Director of Geotechnical Engineering  
Terra Site Development, Inc.  
1307 W 161<sup>st</sup> St  
Westfield, IN 46074

SUBJECT: NRC ROUTINE INSPECTION REPORT NO. 03038010/2022001(DNMS) –  
TERRA SITE DEVELOPMENT, INC.

Dear Mr. Behrens:

On May 24, 2022, an inspector from the U.S. Nuclear Regulatory Commission (NRC) conducted a routine inspection at your facility in Westfield, Indiana. The purpose of the inspection was to review activities performed under your NRC license to ensure that activities were being performed in accordance with NRC requirements. Mr. Zahid Sulaiman of my staff conducted a final exit meeting by telephone with you on July 20, 2022, to discuss the inspection findings. The enclosed inspection report presents the results of the inspection.

During this inspection, the NRC staff examined activities conducted under your license related to public health and safety. Additionally, the staff examined your compliance with the Commission's rules and regulations as well as the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, two apparent violations of NRC requirements were identified and are being considered for escalated enforcement action in accordance with the NRC Enforcement Policy. The current Enforcement Policy is included on the NRC's website at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>. The apparent violations concerned the licensee's failure to (1) control and maintain constant surveillance of one portable moisture density gauge left on the garage floor outside its normally locked storage cabinet and to secure the gauge from unauthorized removal or access with a minimum of two independent physical controls as required by Title 10 of the Code of Federal Regulations (CFR) 20.1802 and 30.34(i), and (2) secure from unauthorized removal or access with a minimum of two independent physical controls that form tangible barriers two portable gauges that were left chained inside the unlocked, open storage cabinet with one physical control but not under the control and constant surveillance of the licensee, as required by 10 CFR 30.34(i).

Because the NRC has not made a final determination in this matter, the NRC is not issuing a Notice of Violation for these inspection findings at this time. Mr. Sulaiman of my staff discussed the circumstances surrounding these apparent violations, the significance of the issues, and the

need for lasting and effective corrective action with you at the inspection exit meeting on July 20, 2022.

Before the NRC makes its enforcement decision, we are providing you an opportunity to either: (1) respond in writing to the apparent violations addressed in this inspection report within 30 days of the date of this letter; or (2) request a Predecisional 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. **Please contact Michael Kunowski, Chief of the Materials Inspection Branch, at 630-829-9618 or [Michael.Kunowski@nrc.gov](mailto:Michael.Kunowski@nrc.gov) within ten days of the date of this letter to notify the NRC of your intended response.**

If you choose to provide a written response, It should be clearly marked as "Response to the Apparent Violations in Inspection Report No. 03038010/2022001(DNMS)" and should include, for the apparent violations: (1) the reason for the apparent violations, or, if contested, the basis for disputing the apparent violations; (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken to avoid further violations; and (4) the date when full compliance was or will be achieved. In presenting your corrective actions, you should be aware that the promptness and comprehensiveness of your actions will be considered in assessing any civil penalty for the apparent violations. The guidance in NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," may be useful in preparing your response. You can find the information notice on the NRC website at: <http://www.nrc.gov/reading-rm/doc-collections/gen-comm/info-notices/1996/in96028.html>. Your response may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. Your response should be sent to the NRC's Document Control Desk, Washington, DC 20555-0001, with a copy mailed to the NRC Region III Office, 2443 Warrenville Road, Suite 210, Lisle, Illinois 60532, 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 or schedule a pre-decisional enforcement conference (PEC).

If you choose to request a PEC, it will afford you the opportunity to provide your perspective on the apparent violations and any other information that you believe the NRC should take into consideration before making an enforcement decision. The topics discussed during the PEC may include the following: 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 to be taken. 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.

As your facility has not been the subject of escalated enforcement action within the last two years or two inspections, a civil penalty may not be warranted in accordance with Section 2.3.4 of the Enforcement Policy. In addition, based upon NRC's understanding of the facts and your corrective actions, it may not be necessary to conduct a PEC in order to enable the NRC to make a final enforcement decision. Our final decision will be based on your confirming on the license docket that the corrective actions previously described to the staff have been or are being taken.

In addition, please be advised that the number and characterization of the apparent violations described in the enclosed inspection report may change as a result of further NRC review. You will be advised by separate correspondence of the results of our deliberations on this matter.

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

Please feel free to contact Mr. Sulaiman of my staff if you have any questions regarding this inspection. Mr. Sulaiman can be reached at 630-829-9752.

Sincerely,



Heck, Jared signing on behalf  
of Curtis, David  
on 08/03/22

D. Curtis, Director  
Division of Nuclear Materials Safety

Docket No. 030-38010  
License No. 13-32741-01

Enclosure:  
Inspection Report No. 03038010/2022001(DNMS)

cc (w/encl): State of Indiana

Letter to M. Behrens from D. Curtis dated August 3, 2022.

SUBJECT: NRC INSPECTION REPORT NO. 03038010/2022001(DNMS) – TERRA SITE  
DEVELOPMENT, INC.

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OFFICE	RIII-DNMS		RIII-DNMS		RIII-EICS		RIII DNMS	
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**U.S. Nuclear Regulatory Commission  
Region III**

Docket No.	030-38010
License No.	13-32741-01
Report No.	03038010/2022001(DNMS)
EA No./NMED No.	EA-22-064
Licensee:	Terra Site Development, Inc.
Facility:	1307 W 161st St Westfield, IN
Inspection Dates:	May 24, 2022
Exit Meeting Date:	July 20, 2022
Inspector:	Zahid Sulaiman, Health Physicist
Approved By:	Michael Kunowski, Chief Materials Inspection Branch Division of Nuclear Materials Safety

Enclosure

## **EXECUTIVE SUMMARY**

### **Terra Site Development, Inc. NRC Inspection Report 03038010/2022001(DNMS)**

This was an unannounced routine inspection of an engineering company located in Westfield, Indiana. The licensee was authorized to possess four portable moisture density gauges (three Seaman Model C-300 gauges and a Troxler Model 3400 gauge) for measuring physical properties of construction materials. This inspection consisted of a tour of the facilities, interview with select licensee personnel, a review of select records, an observation of security of the materials, and independent measurement.

As a result of these inspection activities, the NRC determined that two apparent violations of regulatory requirements occurred: (1) 10 CFR 20.1802 and 30.34(i) for failure to control and maintain constant surveillance of one portable moisture density gauge left on the garage floor outside its normally locked storage cabinet and to secure the gauge from unauthorized removal or access with a minimum of two independent physical controls, and (2) 10 CFR 30.34(i) for failure to secure from unauthorized removal or access with a minimum of two independent physical controls that form tangible barriers two portable gauges that were left chained inside the unlocked, open storage cabinet with one physical control but not under the control and constant surveillance of the licensee.

The circumstances surrounding the event and the apparent violations, as well as a discussion of the root causes, contributing factors, and the licensee's corrective actions, are discussed in more detail in the following report.

## **REPORT DETAILS**

### **1 Program Overview and Inspection History**

Terra Site Development, Inc., is authorized under NRC Materials License No. 13-32741-01 to use licensed material for measuring physical properties of materials with nuclear gauging devices. The licensee possessed four gauges (three Seaman Model C-300 gauges each containing 5.5 millicuries of Radium-226 and a Troxler Model 3400 gauge containing 9 millicuries of Cesium-137 and 44 millicuries of Americium-241). The gauges are normally stored inside their locked transportation cases and chained inside a locked wooden storage cabinet in a detached garage at the licensee's residence. The last time the licensee used any nuclear gauge was in 2018 and it was the Troxler gauge.

The NRC last performed a routine inspection of the licensee on July 14, 2016. NRC identified four Severity Level IV violations of NRC requirements during that inspection.

Since then, the NRC performed one special inspection of the licensee, on June 30, 2020, at the Westfield, IN facility. No violations of NRC requirements were identified during that inspection.

### **2 Radiation Safety Program**

#### **2.1 Inspection Scope**

On May 24, 2022, the inspector reviewed the elements of the licensee's radiation safety program including the following: records of the physical inventories, leak tests, annual audit, and dosimetry records. This inspection consisted of a tour of the facilities, interview with select licensee personnel, a review of select records, an observation of security of the materials, and independent measurement.

#### **2.2 Observations and Findings**

On May 24, 2022, when the inspector arrived at the licensee facility and parked in the driveway of the residence, the inspector found no one was present, the garage door was open, and a gauge was sitting on the garage floor partially concealed by the open door of the RAM-labelled storage cabinet (the gauge was visible to the inspector from outside the garage). The inspector knocked at the main door to residence with no response, and then walked around the property but could not find anyone present. Before the inspector had arrived, the licensee (owner) and his wife, who were doing renovation work outside the house, separately left the premises.

The licensee (owner) was renovating the property in keeping with plans to sell the property by end of the year and move his gauges to his new office, which was about a mile from the house. The owner had decided to remove the battery from the gauges to prevent battery leakage. He had pulled out one of the Seaman Model C-300 gauges from the gauge storage cabinet and removed the battery and then decided to perform a leak test. However, the leak test kit was kept at the new office. The owner instructed his wife to keep an eye on the gauges while he went to the new office to retrieve a kit. At the new office, the licensee was delayed by a phone call, and the wife, who had been doing renovation work outside the house, left the premises to retrieve some refreshments.

Approximately 20-25 minutes after the inspector had arrived onsite, the owner's wife returned, followed shortly by the owner. Both apologized to the inspector for leaving the gauges unattended. The inspector entered the garage with the owner and confirmed that a Seaman Model C-300 was left on the floor, unsecured outside the storage cabinet. The inspector also observed a Seaman Model C-300 gauge and a Troxler Model 3400 gauge were locked in their transportation cases and were chained in the storage cabinet with one physical barrier. The 4<sup>th</sup> gauge was properly secured in the licensee's vehicle.

### Findings

The inspector identified two apparent violations of NRC requirements:

Title 10 of the *Code of Federal Regulations* (CFR) 20.1802 requires, that the licensee control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage.

Title 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 from unauthorized removal, whenever portable gauges are not under the control and constant surveillance of the licensee.

The licensee failed to control and provide constant surveillance of or use a minimum of two independent physical controls that form tangible barriers to secure from unauthorized removal a Seaman Model C-300 gauge containing 5.5 millicuries of radium-226 that was not in storage and had been left unsecured and uncontrolled on the garage floor at the licensee's facility.

Title 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 from unauthorized removal, whenever portable gauges are not under the control and constant surveillance of the licensee.

The licensee failed to use a minimum of two independent physical controls that form tangible barriers to secure two portable gauges (a Seaman Model C-300 gauge containing 5.5 millicuries of radium-226 and a Troxler Model 3400 gauge containing 9 millicuries of cesium-137 and 44 millicuries of americium-241) from unauthorized removal, when the gauges were not under the control and constant surveillance of the licensee. The portable gauges were secured with only one tangible barrier to prevent unauthorized removal from the unlocked storage cabinet.

As corrective action, the owner immediately put the Seaman Model C-300 gauge in the case, locked and chained the case inside the storage cabinet, and secured all the gauges with two independent physical barriers (by locking the cabinet).

## 2.3 Conclusions

The inspector identified two apparent violations: 1) 10 CFR 20.1802 and 10 CFR 30.34(i) for the failure to control and maintain constant surveillance of a moisture density gauge; and 2) 10 CFR 30.34(i) for failure to use a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal,



whenever portable gauges are not under the control and constant surveillance of the licensee.

### **3 Radiation Safety Program**

#### **3.1 Inspection Scope**

The inspector visited the licensee's facility in Westfield, Indiana, interviewed staff, and reviewed a selection of records to evaluate the licensee's continued oversight of its radiation safety program.

#### **3.2 Observations and Findings**

The inspector toured the portable gauge storage area. The gauge storage area was properly posted. Gauges present in storage were in good condition, as were their transport containers. The inspector performed independent and confirmatory surveys in the vicinity of the storage area; readings in unrestricted areas were well below limits to members of the public.

The inspector reviewed the licensee's continued implementation of its radiation safety program, including measures for material accountability, gauge maintenance, sealed source leak testing, and gauge user training. The inspector reviewed a selection of leak test results, utilization logs, emergency response procedure, and annual program audits.

#### **3.3 Conclusions**

The inspector had no findings in this area.

### **4 Exit Meeting Summary**

The NRC inspector presented preliminary inspection findings following the onsite inspection on May 24, 2022. The licensee acknowledged the findings presented. The licensee did not identify any documents or processes reviewed by the inspector as proprietary. The inspector conducted a final exit meeting with the licensee on July 20, 2022.

### **LIST OF PERSONNEL CONTACTED**

# Mr. Mark Behrens (Owner)

# Attended exit meeting on July 20, 2022.

### **INSPECTION PROCEDURES USED**

IP 87124 – Fixed and Portable Gauge Program