

December 13, 2006

EA-06-299  
NMED No. 060666

Andrew Rathsack, President  
Andrews Environmental Engineering, Inc.  
7478 Shadeland Station Way  
Indianapolis, IN 46256

SUBJECT: NRC SPECIAL INSPECTION REPORT 030-34711/06-01(DNMS) -  
ANDREWS ENVIRONMENTAL ENGINEERING, INC.

Dear Mr. Rathsack:

This refers to the inspection conducted from November 8 through 13, 2006, at your Naperville, Illinois facility. The purpose of the inspection was to review the circumstances related to the damaged gauge event that occurred on November 2, 2006, at your temporary job site in Brook, Indiana. The enclosed report presents the results of the inspection.

Based on the results of this inspection, one apparent violation was identified and is being considered for escalated enforcement action in accordance with the NRC Enforcement Policy. The current Enforcement Policy is included on the NRC's Web site at [www.nrc.gov](http://www.nrc.gov); select **What We Do, Enforcement**, then **Enforcement Policy**. In accordance with 10 CFR 20.1802, the apparent violation involved the failure to control or maintain constant surveillance of a soil moisture/density gauge, containing approximately 8 millicuries of cesium-137 and 40 millicuries of americium-241:beryllium, located at a temporary job site in Brook, Indiana. The circumstances surrounding this apparent violation, the significance of the issue, and the need for lasting and effective corrective actions were discussed with you and members of your staff at the inspection exit meeting teleconference on November 13, 2006. As a result, it may not be necessary to conduct a predecisional enforcement conference in order to enable the NRC to make an enforcement decision.

In addition, since your facility has not been the subject of escalated enforcement actions within the last two inspections and, based on our understanding of your corrective actions, a civil penalty may not be warranted in accordance with Section VI.C.2. of the Enforcement Policy. The 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.

Before the NRC makes its enforcement decision, we are providing you an opportunity to either: (1) respond to the apparent violation addressed in this inspection report within 30 days of the date of this letter, or (2) request a predecisional enforcement conference. If a conference is held, it will be open for public observation. The NRC will also issue a press release to announce the conference. Please contact Jamnes Cameron of my staff at 630-829-9833 within 7 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 a "Response to Apparent Violation in Inspection Report 030-34711/06-01; EA-06-299" and should include for the apparent violation: (1) the reason for the apparent violation, or, if contested, the basis for disputing the apparent violation; (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 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 the enclosed excerpt from NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," may be helpful. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. 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 predecisional enforcement conference.

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

Sincerely,

*/RA/*

Steven A. Reynolds, Director  
 Division of Nuclear Materials Safety

Docket No. 030-34711  
 License No. 13-32079-01

Enclosures:

1. Inspection Report 030-34711/06-01(DNMS)
2. Excerpt from NRC Information Notice 96-28

cc: State of Indiana

DISTRIBUTION:

See next page

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Letter to Andrew Rathsack from Steven A. Reynolds dated December 13, 2006

SUBJECT: NRC SPECIAL INSPECTION REPORT 030-34711/06-01(DNMS)

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REGION III

Docket No.: 030-34711

License No.: 13-32079-01

Report No.: 030-34711/06-01(DNMS)

Licensee: Andrews Environmental Engineering, Inc.

Facility: 1701 Quincy Ave., Suite 25  
Naperville, IL 60540  
(Event occurred at the licensee's job-site in Brook,  
Indiana)

Inspection Dates: November 8 through 13, 2006

Final Exit Teleconference: November 13, 2006

Inspector: Sarah Bakhsh, Health Physicist

Approved By: Jamnes L. Cameron, Chief  
Decommissioning Branch  
Division of Nuclear Materials Safety

NMED No. 060666

Enclosure 1

## EXECUTIVE SUMMARY

### **Andrews Environmental Engineering, Inc. NRC Inspection Report 030-34711/06-01(DNMS)**

This was a special inspection of Andrews Environmental Engineering, Inc. (licensee) at its Naperville, Illinois facility, performed from November 8 through 13, 2006, in response to the licensee's November 2, 2006 report of damage to a moisture/density gauge at the Newton County landfill (temporary job site) in Brook, Indiana. The purpose of the inspection was to review the circumstances surrounding the damaged gauge incident and ensure that licensed activities performed by the licensee were conducted safely and in accordance with NRC requirements.

The incident occurred when a Troxler moisture/density gauge was damaged when a piece of heavy earth-moving equipment struck the gauge with a front wheel. The engineering technician who used the gauge was between tests and had walked away from the gauge to answer his cell phone when the incident occurred. The gauge's plastic shell sustained damage, but the source rod was in its shielded position. Leak tests later confirmed that the source was not compromised as a result of the event. As he answered a cell phone call, the technician was distracted, which resulted in the technician's failure to control or maintain constant surveillance of the licensed material.

Based on the results of the inspection, the inspector identified one apparent violation of NRC requirements involving the licensee's failure to control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage, in accordance with 10 CFR 20.1802.

The licensee implemented immediate corrective actions which included: (1) suspending the responsible technician from using gauges until the RSO re-emphasized the importance of maintaining control and constant surveillance of gauges in the field; and (2) having the president of the company notify the company office directors to communicate with all the gauge users the importance of constant surveillance and control of the gauges. The licensee's long-term corrective actions to prevent a similar event include a commitment to revise its annual refresher training to highlight to all employees the significance of maintaining control and constant surveillance of gauges when in use and a commitment to revise its written annual training documents to emphasize the importance of constant surveillance and control.

## Report Details

### **1 Program Scope and Inspection History**

Andrews Environmental Engineering, Inc. (licensee) provides construction, engineering, and environmental services throughout the Midwest. The licensee is authorized by NRC License No. 13-32079-01 to possess and use portable gauges at temporary job sites anywhere in the United States where the NRC maintains regulatory jurisdiction. At the time of the special inspection, the licensee possessed approximately 12 Troxler Model 3400 Series portable gauges each containing 8 millicuries of cesium-137 and 40 millicuries of americium-241:beryllium in sealed source form. Two gauges (including the one involved in the damaged gauge event) were normally stored and dispatched from the licensee's facility in Naperville, Illinois, which was authorized by a license issued by the State of Illinois. The licensee's other offices were located in Pontiac, Michigan; Springfield, Illinois; St. Louis, Missouri; and Indianapolis, Indiana.

Routine inspections were conducted at the licensee's facility in Indianapolis, Indiana, in September 1998, and August 2003, during which no violations of NRC requirements were identified.

### **2 Event Chronology and Corrective Actions**

#### **2.1 Inspection Scope**

The inspector evaluated the circumstances surrounding the damaged gauge event (event) that occurred on November 2, 2006, by interviewing selected licensee staff, observing a re-enactment of the event, and reviewing select records.

Specifically, the inspection consisted of an interview of the engineering technician regarding security during storage and transport, demonstrations of his use of the gauge in the field and a review of the licensee's "Operating and Emergency Procedures" and other select documents.

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

On November 2, 2006, a licensee authorized gauge user (engineering technician) conducted soil moisture/density tests using the gauge at the Newton County landfill (temporary job site) in Brook, Indiana. After performing a test, the engineering technician retracted the source rod and prepared to perform his next test. Meanwhile, his cell phone rang and, due to the noise level, he turned his back to the gauge and walked approximately 50 feet away to answer the phone. While the technician was talking on the phone, an operator of a piece of heavy earth-moving equipment (compactor) performing work in the area struck the gauge with the compactor's front wheel. The operator noticed that he had struck an object and stopped the compactor to investigate. He noticed that the compactor wheel had not completely run over the gauge, but the gauge's yellow plastic shell had cracked. The operator of the compactor walked over to the engineering technician on the phone and informed him of the situation.

Title 10 Code of Federal Regulation (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. The failure to control and maintain constant surveillance of the gauge is an apparent violation of 10 CFR 20.1802.

Immediately following the event, the engineering technician notified the Radiation Safety Officer (RSO) of the event, cleared the area around the gauge and restricted access to the damaged gauge by setting up a 20 foot perimeter using stakes and flags. The engineering technician waited for the RSO to arrive onsite to bring a survey instrument. The RSO notified the NRC within an hour of the event.

When the RSO arrived on site, he performed radiation surveys of the damaged gauge, the surrounding areas within the 20 foot perimeter, and the wheel of the compactor. The survey meter indicated background radiation levels, which indicated no significant damage to the shielding in the gauge. The RSO placed the damaged gauge into its approved transport container and released the area where the event had occurred. The RSO transported the gauge to the licensee's facility in Indianapolis, Indiana. He properly secured the gauge and stored it in a van in the parking lot of the Indianapolis facility until the next day. The RSO contacted a service provider in Sheboygan, Wisconsin regarding the damaged gauge. The service provider requested a leak test sample to confirm the source was not compromised. The RSO performed the leak test on the gauge and shipped the sample to the company. Analysis of the sample confirmed that the source was not leaking and the service provider is currently in the process of repairing the gauge per the licensee's request.

As he answered a cell phone call, the technician was distracted, which resulted in the technician's failure to control or maintain constant surveillance of the licensed material. In response to the event, the licensee implemented immediate corrective actions which included: (1) suspending the responsible technician from using gauges until the RSO re-emphasized the importance of maintaining control and constant surveillance of gauges in the field; and (2) having the president of the company notify the company office directors to communicate with all the gauge users the importance of constant surveillance and control of the gauges. The licensee plans to provide a written report.

The licensee's long-term corrective actions to prevent a similar event include a commitment to revise its annual refresher training to highlight to all employees the significance of maintaining control and constant surveillance of gauges when in use and a commitment to revise its written annual training documents to emphasize the importance of constant surveillance and control.

### 2.3 Conclusions

The inspector identified an apparent violation of 10 CFR 20.1802 involving the licensee's failure to control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage. The licensee committed to implement appropriate corrective actions to address the apparent violation.

### **3 Exit Meeting Summary**

The inspector discussed the preliminary conclusions described in this report with licensee management during a final exit meeting teleconference on November 13, 2006. The inspector discussed the activities reviewed, the inspection findings, and the apparent violation. The licensee did not identify any information reviewed during this inspection and selected for inclusion in this inspection report as proprietary in nature.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

**PARTIAL LIST OF PERSONS CONTACTED**

- # Andrew Rathsack, President, Andrews Environmental Engineering, Inc.
- # Stephen Reuter, Radiation Safety Officer
  
- # Attended the November 13, 2006 final exit meeting teleconference