INSPECTION RECORD

Region III **Inspection Report No.** 03014020/12001(DNMS)
License No. 48-18672-01 **Docket No.** 030-14020

Licensee (Name and Address):
AECOM Technical Services, Inc.
750 Corporate Woods Parkway
Vernon Hills, Illinois 60061

Licensee Contact: Jerome Russell – RSO **Telephone No.** (847) 279-2505

Priority: 5 **Program Code**: 03121

Date of Last Inspection: 5/22/2008 **Date of This Inspection**: 11/9 and 12/19/12 with continued in-office review until 1/17/13 to review portable gauge physical inventories

Type of Inspection: () Initial ( ) Announced (X) Unannounced
(X) Routine ( ) Special

Next Inspection Date: 1/2018 (X) Normal ( ) Reduced

Summary of Findings and Actions:

( ) No violations cited, clear U.S. Nuclear Regulatory Commission (NRC) Form 591 or regional letter issued
( ) Non-cited violations (NCVs)
( ) Violation(s), Form 591 issued
(X) Violation(s), regional letter issued
( ) Followup on previous violations

Inspector Andrew M. Bramnik, Health Physicist Date 1/25/2013

Approved Tamara E. Bloomer, Chief, Materials Inspection Branch Date 1/28/13

PART I-LICENSE, INSPECTION, INCIDENT/EVENT, AND ENFORCEMENT HISTORY

1. AMENDMENTS AND PROGRAM CHANGES:

Amendment No.	Date	Subject
21	June 23, 2011	License renewal, new RSO (Jerome Russell), new corporate mailing address
20	February 25, 2011	Removal of Grand Rapids, MI location
19	August 18, 2009	Change in company name and corporate mailing address, removal of locations in Kalamazoo, Detroit, and Lansing, MI

2. INSPECTION AND ENFORCEMENT HISTORY:

No violations were identified during the previous two routine inspections on May 22, 2008, and April 9, 2003.

3. INCIDENT/EVENT HISTORY:

None

PART II - INSPECTION DOCUMENTATION

1. ORGANIZATION AND SCOPE OF PROGRAM:

The licensee was construction engineering, testing, and services company with corporate offices and satellite locations in various Midwestern states. Prior to being called AECOM, the licensee was known as STS Acquisition Company before 2009. AECOM is a large, international corporation that has purchased and acquired a variety of smaller companies over the past decade.

The licensee maintained byproduct material licenses from the states of Illinois, Minnesota, and Wisconsin, in addition to their NRC license. The current RSO took over responsibility for the NRC-licensed radiation protection program beginning in 2011. At the time of the inspection, the licensee possessed approximately 80 portable moisture density gauges containing licensed material across its Midwest region, including Agreement States. The licensee's work in areas of NRC jurisdiction was confined to the State of Michigan, where the licensee was authorized to use and store licensed material at a location in Marquette. This issue will be addressed in greater detail in Item 4, below. The RSO informed the inspector that the licensee did not work in any other non-Agreement States due to time and cost constraints. Specifically, the RSO said that the licensee subcontracted work in Indiana to another NRC portable gauge licensee, rather than transport gauges to the temporary job site from either Illinois or Michigan.

2. SCOPE OF INSPECTION:

Inspection Procedure(s) Used: 87124

Focus Areas Evaluated: Sections 03.01 through 03.07

On November 9, 2012, the inspector conducted an on-site inspection at the licensee's corporate office in Vernon Hills, Illinois. The inspector interviewed the corporate RSO regarding the radiation protection program, including portable gauge operations, security of portable gauges in areas where the NRC maintains jurisdiction, transportation, dosimetry, and program audit activities. The RSO informed the inspector that the licensee was in the process of closing and consolidating some of its offices across the Midwest, and did not believe that any gauges were present at the licensee's only authorized location of use in Marquette, MI.

The inspector reviewed documentation for portable gauges at locations that had previously been closed, decommissioned, and removed from the NRC license. The licensee retained incomplete documentation from each of five previous locations that had been removed from the NRC license at its Illinois corporate office. The remainder was kept at individual (former) locations of use or at a different corporate office in Green Bay, WI.

The RSO stated that the licensee performed leak tests for all of its portable gauges everywhere in the company every six months, because that is a condition of their State of Illinois license. The inspector reviewed leak test documentation from a sample of the licensee's portable gauges, including some gauges that had previously been stored at authorized locations of use in Michigan. Based on the RSO's statement that all portable gauges were leak tested every six months, the inspector asked for the licensee to compile and e-mail documentation of gauge transfers and/or close-out records for the licensee's location of use in Marquette, MI, and former location of use in Lansing, MI (that had been removed from the license in 2009).

On November 21, 2012, the RSO e-mailed the inspector several documents, including the most recent physical inventory from the Marquette office and leak test records from four portable gauges: two Troxler Model 3430s and two CPN Model MC1DRPs. The Marquette inventory was dated September 10, 2012, and indicated that the licensee possessed 11 portable gauges at that location. The inventory also showed that two Troxler Model 3430 gauges (serial numbers 21864 and 27311) were transferred to Lansing on May 16, 2011; however, the licensee was not authorized to store radioactive materials at any location other than Marquette, MI at that time. The licensee's leak test records for the same two Troxler Model 3430 gauges were sent to a shipping address in Lansing, MI. The licensee's leak test records for the two CPN Model MC1DRP gauges (serial numbers 7762 and 7764) were also sent to the same shipping address in Lansing, MI. The shipping address in Lansing was different than the address that had been authorized on a previous amendment of their NRC license.

Based on this information, the inspector spoke with the RSO via phone and also e-mailed the RSO on December 4, 2012, to express concerns about the licensee's storage of portable gauges at an unauthorized location of use. The inspector requested the RSO to provide the following information via e-mail by December 7, 2012: (1) a consolidated inventory or listing of all nuclear gauges possessed and/or used under the

AECOM NRC license; (2) the dates when all of the gauges were last physically inventoried; (3) specific information about any permanent location that AECOM stores nuclear gauges in states where the NRC maintains jurisdiction; and (4) if any gauges could not be located, to contact the inspector as well as the NRC Headquarters Operations Center as soon as possible under the reporting requirements of 10 CFR 20.2201.

The RSO e-mailed the inspector on December 7, 2012, with a number of documents attached via e-mail. For Item 1 of the request, the RSO sent spreadsheets listing inventories of all nuclear gauges the licensee possessed at the following locations: Minneapolis, MN; Stevens Point, WI; Milwaukee, WI; Green Bay, WI; Lansing, MI; and Marquette, MI. For item 2 of the request, the RSO stated that he "failed to conduct physical inventories and leak test at 6 month intervals." The RSO continued by stating that "I intend to rectify this situation by having ALL gauges leak tested every January and July of each year." The dates for the physical inventories were included in the spreadsheets from item 1. For item 3 of the request, the RSO stated that "the attached spreadsheets indicates the permanent location of the gauges," and continued by writing that "AECOM is in the process of removing gauges per our NRC license and relocating gauges to permanent office locations. Your office will be notified prior to the removal of gauges and relocation of permanent storage locations." For item 4 of the request, the RSO stated that "all gauges are accounted for per our NRC license."

The licensee's physical inventory for Lansing, MI, listed four portable gauges: two Troxler Model 3430 gauges (serial numbers 21864 and 27311) and two CPN MC1DRP gauges (serial numbers 7762 and 7764). The date of the physical inventory was December 4, 2012, with a result of "all accounted for." During a telephone conversation with the inspector on December 10, 2012, the RSO stated that he was previously unaware that the Lansing office possessed four portable gauges, but that he had verified that all of the gauges were accounted for and present at that office.

On December 19, 2012, another inspector visited the licensee's office in Lansing, MI. The inspector met with the licensee's Safety Director, Office Director, and an International / Regulatory Affairs Manager. The inspector verified that the four portable gauges were present at the Lansing office and properly secured in accordance with 10 CFR 30.34(i). The inspector reviewed documentation to verify the following leak test dates and also determined the following timeline of events:

	Troxler S/N 21864	Troxler S/N 27311	CPN S/N 7762	CPN S/N 7764
Last Leak Test	March 2012	March 2012	June 2012	June 2012
Prev. Leak Test	February 2011	February 2011	June 2011	May 2011
Inventories Due	**August 2011**	**August 2011**	**December 2011**	**November 2011**
** Performed OK*	**September 2012**	**September 2012**	*Dec 2012 **	*Dec 2012 **

In December 2010, two CPN portable gauges were transferred from the licensee's former location in Grand Rapids, MI, to Lansing for project-based work at a temporary job site. In February 2011, the Grand Rapids office was decommissioned and removed from the NRC license. At that time, the two CPN gauges were transferred to the Marquette location for service and storage. In May 2011, two Troxler portable gauges were transferred from the Marquette office to the Lansing office. The two CPN portable

gauges were also returned to the Lansing office. Around that time, the licensee's former RSO left the company. The outgoing RSO did not perform a turnover with his replacement, the current RSO, although the aforementioned Safety Director helped the RSO prepare a license amendment request to the NRC with notification of the change in RSO. Both the current RSO and the Safety Director stated that the storage of portable gauges at the Lansing office was an oversight that they missed when notifying the NRC.

3. INDEPENDENT AND CONFIRMATORY MEASUREMENTS:

Independent measurements taken at the licensee's Lansing, Michigan facility did not indicate readings in excess of the limits in Title 10 of the Code of Federal Regulations (CFR) Part 20 in restricted or unrestricted areas. The licensee possessed a radiation survey meter that was calibrated and operational. Surveys were not conducted at the licensee's Vernon Hills, Illinois facility because it was not under NRC jurisdiction.

4. VIOLATIONS, NCVs, AND OTHER SAFETY ISSUES:

A. Title 10 CFR 30.34(c) requires that each licensee confine its possession and use of byproduct materials to the locations and purposes authorized by the license.

Contrary to the above, between May 2011 and December 26, 2012, the licensee failed to confine its possession of byproduct material to the locations authorized by the license. Specifically, the licensee possessed four moisture density gauges containing licensed material at 401 S. Washington Square in Lansing, Michigan, a location not authorized by the license.

The root cause of the violation was the licensee's lack of understanding of the requirement to amend their license to authorize a new permanent storage location before storing licensed materials at that location. As corrective action, the licensee submitted an amendment request to add the Lansing facility as a location of use on December 26, 2012.

B. Condition No. 16 to NRC License No. 48-18672-01 states that the licensee shall conduct a physical inventory to account for all sealed sources and devices received and possessed under the license every 6 months.

Contrary to the above, in August 2011, December 2011, and September 2012 the licensee failed to conduct physical inventories every 6 months to account for all sealed sources and devices received and possessed under the license.

The root cause of the violation was a lack of attention to ensuring that the physical inventories were being performed timely by the RSO. As corrective action, the Lansing staff inventoried the gauges on December 4, 2012, and the RSO stated that he will track the physical inventories through a system to ensure that the leak tests are performed timely in the future.

C. Title 10 CFR 20.1101(c) requires that the licensee periodically (at least annually) review the radiation protection program content and implementation.

Contrary to the above, as of January 17, 2013, the licensee failed to review the radiation protection program content and implementation.

The root cause of this violation was the RSO's lack of knowledge that such program reviews are required. The licensee's safety manager stated that a comprehensive audit of the license will be completed by February 28, 2012, and the audits will be tracked to ensure that future audits are performed timely.

5. PERSONNEL CONTACTED:

* Jerome Russell, Radiation Safety Officer
* Kenneth Bergschultz, Waste Service Manager, Central Region
* Nash Doyle, Safety Health & Environmental Manager, Central Region
  James Carter, Michigan Operations Manager

* Individual present at January 17, 2013 final telephone exit meeting

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