



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE RD. SUITE 210
LISLE, IL 60532-4352

October 2, 2017

EA-17-157

Mr. Dibakar Sundi, P.E.
President
K & S Engineers, Inc.
9715 Kennedy Avenue
Highland, IN 46322

**SUBJECT: NRC ROUTINE INSPECTION REPORT NO. 03028612/2017002(DNMS) AND
NOTICE OF VIOLATION – K & S ENGINEERS, INC.**

Dear Mr. Sundi:

On July 25, 2017, an inspector from the U.S. Nuclear Regulatory Commission (NRC) conducted a routine inspection at your Beech Grove, Indiana office, with continued in-office review through September 14, 2017. 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. The in-office review included a review of information related to your radiation safety program that was unavailable at your Beech Grove field office at the time of the onsite inspection. The enclosed inspection report (Enclosure 2) 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, one apparent violation of NRC requirements 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 website at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>. The apparent violation concerned the licensee's failure to secure from unauthorized removal or access licensed materials that are stored in controlled or unrestricted areas and to use a minimum of two independent physical controls to form a tangible barrier to secure a portable gauge from unauthorized removal whenever the gauge was not under the licensee's control and constant surveillance, as required by Title 10 of the *Code of Federal Regulations* (CFR) Section 20.1801 and 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 this inspection finding at this time. Ms. Deborah A. Piskura of my staff discussed the circumstances surrounding this apparent violation, the significance of the issue, and the need for lasting and effective corrective action with you by telephone during the inspection exit meeting on September 14, 2017.

Before the NRC makes its enforcement decision, we are providing you an opportunity to either: (1) respond in writing 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 (PEC). **Please contact Aaron T. McCraw at 630-829-9650 or Aaron.McCraw@nrc.gov within 10 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 Violation in NRC Inspection Report No. 03028612/2017002(DNMS); EA-17-157" 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 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 violation. 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's 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 U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Director, Division of Nuclear Materials Safety, U.S. Nuclear Regulatory Commission, Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532. 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 PEC.

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

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.

The NRC has also determined that four Severity Level IV violations of NRC requirements occurred. The violations were evaluated in accordance with the NRC Enforcement Policy and involved: (1) the failure to review the radiation protection program content and implementation at least annually, as required by 10 CFR 20.1101(c); (2) the failure to block and brace the gauge during transport as required by 10 CFR 71.5(a) and 49 CFR 177.842(d); (3) the failure to have the shipping paper readily available and within the driver's reach during transport, as required by 10 CFR 71.5(a) and 49 CFR 177.817(e); and (4) the failure to maintain documentation demonstrating that unmonitored individuals were not likely to receive in excess of 10 percent of the allowable limits in 10 CFR Part 20 or provide dosimetry, as required by License Condition 20 of your license. The violations are cited in the enclosed Notice of Violation (Notice) (Enclosure 1). The violations are being cited in the enclosed Notice because the NRC inspector identified them.

You are also required to respond to the enclosed Notice and should follow the instructions specified in the enclosed Notice when preparing your response. The guidance in Information Notice 96-28 may also be helpful in preparing your response to the Notice. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

As mentioned in our letter dated August 11, 2017, transmitting NRC Inspection Report No. 03028612/2017001(DNMS), the NRC is concerned about the adequacy of your oversight of the radiation safety program. Effective oversight of the radiation safety program is vital to licensee's achieving and sustaining compliance with NRC's regulatory requirements. K & S Engineers, Inc.'s performance during past and recent NRC inspections suggests a continued lack of attention to detail towards applicable regulatory requirements. Although the issues identified have not yet resulted in actual health or safety consequences, the NRC is concerned that continued failure to comply with various requirements could make such consequences more likely and more severe. As a result, you are requested in your response to describe: (1) how you plan to improve the oversight of your radiation safety program; (2) how you plan to monitor the effectiveness of your actions to improve the oversight of your radiation safety program; and (3) why you believe your corrective actions for the aforementioned violations will be more successful in preventing similar violations in the future than past corrective actions for similar violations.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response, 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, your 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 Ms. Piskura if you have any questions regarding this inspection. Ms. Piskura can be reached at 630-829-9867.

Sincerely,

/RA/

John B. Giessner, Director
Division of Nuclear Materials Safety

Docket No. 030-28612
License No. 13-24480-01

Enclosure:
1. Notice of Violation
2. IR 03028612/2017002(DNMS)

cc w/encl: State of Indiana

Letter to Dibakar Sundi from John Giessner dated October 2, 2017.

SUBJECT: NRC ROUTINE INSPECTION REPORT NO. 03028612/2017002(DNMS) AND NOTICE OF VIOLATION – K&S ENGINEERS, INC.

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NAME	DPiskura:ps		AMcCraw		RSkowkowski PRPelke for		JGiessner	
DATE	9/28/2017		9/28/2017		9/29/2017		10/2/2017	

OFFICIAL RECORD COPY

NOTICE OF VIOLATION

K & S Engineers, Inc.
Beech Grove, Indiana

License No. 13-24480-01
Docket No. 030-28612

During a U.S. Nuclear Regulatory Commission (NRC) inspection conducted on July 25, 2017, with continued in-office review through September 14, 2017, four violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

- A. Title 10 of the *Code of Federal Regulations* (CFR) Section 20.1101(c), requires that the licensee shall periodically (at least annually) review the radiation protection program content and implementation.

Contrary to the above, between June 28, 2012, and July 25, 2017, an interval greater than annually, the licensee did not review its radiation protection program content and implementation for its licensed activities out of the Beech Grove, Indiana field office.

This is a Severity Level IV violation (Section 6.7).

- B. Title 10 CFR 71.5(a) requires, in part, that each licensee who transports licensed material outside of the site of usage, as specified in the NRC license, comply with the applicable requirements of the regulations appropriate to the mode of transport of the Department of Transportation (DOT) in 49 CFR Parts 171 through 180.

Title 49 CFR 177.817(e) requires, in part, that the driver of a motor vehicle containing hazardous material ensure that the shipping paper required by 49 CFR 177.817(a) is readily available to, and recognizable by, authorities in the event of accident or inspection. Specifically, (i) when the driver is at the vehicle's controls, the shipping paper shall be: (a) within the driver's immediate reach while the driver is restrained by the lap belt; and (b) either readily visible to a person entering the driver's compartment or in a holder which is mounted to the inside of the door on the driver's side of the vehicle; (ii) when the driver is not at the vehicle's controls, the shipping paper shall be: (a) in a holder which is mounted to the side of the door on the driver's side of the vehicle; or (b) on the driver's seat in the vehicle. Pursuant to 49 CFR 172.101, radioactive material is classified as a hazardous material.

Contrary to the above, on six occasions in 2017, the licensee transported a portable moisture/density gauge containing licensed radioactive material outside the site of usage, as specified on the NRC license, or on a public highway, and the driver of the vehicle did not ensure that the shipping paper was readily available in the driver's compartment, as required. Specifically, the shipping paper was stored within the gauge transportation case in the truck bed and neither within the driver's immediate reach while the driver is restrained by the lap belt nor readily visible to a person entering the driver's compartment.

This is a Severity Level IV violation (Section 6.8).

- C. Title 10 CFR 71.5(a) requires, in part, that each licensee who transports licensed material outside of the site of usage, as specified in the NRC license, comply with the applicable requirements of the regulations appropriate to the mode of transport of the Department of Transportation (DOT) in 49 CFR Parts 171 through 180.

Title 49 CFR 177.842(d) states packages [of Class 7 radioactive materials] must be so blocked and braced that they cannot change position during conditions normally incident to transportation.

Contrary to the above, on six occasions in 2017, the licensee transported a package containing licensed material, outside the site of usage, as specified on the NRC license, or on a public highway, and the package was not blocked and braced such that it could not change position during conditions normally incident to transportation.

This is a Severity Level IV violation (Section 6.8).

- D. Condition 20. of NRC License No. 13-24480-01, Amendment 07, requires, in part, that the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the listed documents, including the licensee's application dated July 19, 2011.

Item 10, "Radiation Safety Program-Occupational Dosimetry," of the application dated July 19, 2011, states, in part, "either we will maintain, for inspection by NRC, documentation demonstrating that unmonitored individuals are not likely to receive a radiation dose in excess 10 percent of the allowable limits in 10 CFR Part 20, or we will provide dosimetry processed and evaluated by an NVLAP-approved processor."

Contrary to the above, between June 28, 2012, and July 25, 2016, the licensee failed to maintain documentation demonstrating that unmonitored individuals were not likely to receive a radiation dose in excess of 10 percent of the allowable limits in 10 CFR Part 20 or provide dosimetry.

This is a Severity Level IV violation (Section 6.3).

Pursuant to the provisions of 10 CFR 2.201, K & S Engineers is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, Region III, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include: (1) the reason for the violation, or, if contested, the basis for disputing the violation or its severity level; (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken; and (4) the date when full compliance was or will be achieved. Your response may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

Your response 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, the response should not include any personal privacy, proprietary, or safeguards information so that it can be made publicly available without redaction.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days of receipt.

Dated this 2nd day of October, 2017.

**U.S. Nuclear Regulatory Commission
Region III**

Docket No.: 030-28612

License No.: 13-24480-01

Report No.: 03028612/2017002(DNMS)

EA No.: EA-17-157

Licensee: K & S Engineers, Inc.

Facility: 161 Garstang Street
Beech Grove, Indiana

Inspection Dates: July 25, 2017, with continued in-office
review through September 14, 2017

Exit Meeting Date: September 14, 2017

Inspector: Deborah A. Piskura, Senior Health Physicist

Approved By: Aaron T. McCraw, Chief
Materials Inspection Branch
Division of Nuclear Materials Safety

EXECUTIVE SUMMARY

K & S Engineers, Inc. NRC Inspection Report 03028612/2017002(DNMS)

The U.S. Nuclear Regulatory Commission (NRC) conducted a routine inspection of the subject license on July 25, 2017, to review licensed activities at the Beech Grove, Indiana office. The inspection included in-office review through September 14, 2017, of information related to the radiation safety program that was unavailable at the time of the onsite inspection. The purpose of the inspection was to evaluate the licensee's performance and compliance with NRC regulations and license conditions. The inspector reviewed several program areas including security, radiation protection, transportation, posting and labeling, and training.

The inspector identified an apparent violation involving the licensee's failure to secure from unauthorized removal or access licensed materials that are stored in controlled or unrestricted areas and to use a minimum of two independent physical controls that form tangible barriers to secure a portable gauge from unauthorized removal, whenever the gauge was not under the control and constant surveillance of the licensee as required by Title 10 of the *Code of Federal Regulations* (CFR) Section 20.1801 and 10 CFR 30.34(i). The inspector identified that the licensee had stored its gauge in an unlocked room at its Beech Grove, Indiana field office without the use of two independent physical controls to prevent unauthorized removal or access. The licensee implemented immediate corrective actions to restore compliance.

The inspector also determined that four cited violations of NRC requirements occurred. The violations involved: (1) the failure to review the radiation protection program content and implementation at least annually, as required by 10 CFR 20.1101(c); (2) the failure to block and brace the gauge during transport as required by 10 CFR 71.5(a) and 49 CFR 177.842(d); (3) the failure to have the shipping paper readily available and within the driver's reach during transport, as required by 10 CFR 71.5(a) and 49 CFR 177.817(e); and (4) the failure to maintain documentation demonstrating that unmonitored individuals were not likely to receive a radiation dose in excess of 10 percent of the allowable limits in 10 CFR Part 20 or provide dosimetry, as required by License Condition 20 of the license.

REPORT DETAILS

1 Program Overview and Inspection History

K & S Engineers, Inc. (licensee) was a private construction, engineering, and environmental consulting firm. The company operated two offices in Indiana with the main office located in Highland, Indiana and a satellite office in Beech Grove. The licensee also operated a field office in an Agreement State. Collectively, the company possessed 15 portable moisture/density gauges that were used for measuring the properties of construction materials at various temporary job sites; the Beech Grove office maintained one gauge. The gauge was used by the Beech Grove office on an infrequent basis in 2017, and several times during 2016. The Beech Grove office employed three individuals designated and trained as authorized gauge users.

The NRC recently inspected the licensee's activities limited to its Highland office on May 16, 2017. The inspector identified three violations during the inspection involving: (1) the possession of unauthorized radioactive material in a gauging device, as required by 10 CFR 30.3; (2) the failure to secure a gauge with two means that form tangible barriers, as required by 10 CFR 30.34(i); and (3) the failure to ensure that each of its employees transporting radioactive materials have received recurrent hazmat training at least once every three years, as required by 49 CFR 172.704(c). The NRC used enforcement discretion not to cite the licensee for the violations of 10 CFR 30.3 and 10 CFR 30.34(i).

The last routine NRC inspection on June 28, 2012, resulted in two violations of NRC and U.S. Department of Transportation (DOT) requirements. These previous violations involved: (1) the failure to ensure that each of its employees transporting radioactive materials have received recurrent hazmat training at least once every three years, as required by 49 CFR 172.704(c); and (2) the failure to ensure that, when a driver is not at the vehicle's controls, the shipping paper is in one of the required locations, as required by 49 CFR 177.817(e)(2)(ii). The violation involving access to the shipping paper was also cited during a previous inspection on March 5, 2008.

2 Oversight of the Radiation Safety Program

2.1 Inspection Scope

The inspector reviewed the licensee's management of the radiation safety program and the annual radiation protection program reviews. The inspector interviewed the company vice president, a branch manager, and the Radiation Safety Officer (RSO). The inspector also reviewed the license's audit reports for the 2014 to the year-to-date (YTD) March 31, 2017 period.

2.2 Observations and Findings

The RSO also functioned as the President of the company. The RSO was based at the Highland office, and he is responsible to implementing the entire radiation safety program, which included the activities at the Highland and Beech Grove, Indiana offices as well as a Lombard, Illinois office (under a State of Illinois license). The office manager oversaw the daily activities at the Beech Grove office. An individual based in

Beech Grove assisted the office manager by performing sealed source leak tests on the gauge.

Title CFR 20.1101(c) requires, in part, that a licensee to periodically (at least annually) review the radiation protection program content and implementation. Interviews with the RSO revealed that he visited the Beech Grove field office approximately three weeks prior to the on-site inspection. The RSO stated that he did not review the radiation protection program and he did not observe the gauge that was in use at a temporary job site at the time of his office visit. Review of the licensee's files found no documented annual program review for the Beech Grove office. The licensee provided documentation of previous program reviews that specifically listed a different office location and Agreement State requirements; however, there was no indication that the Beech Grove location was part of these audits. The audit records referenced the licensee's agreement state license number and the respective agreement state requirements. The licensee's failure to review the radiation protection program for the Beech Grove field office on an annual basis is a violation 10 CFR 20.1101(c).

2.3 Conclusions

The inspector identified a violation of 10 CFR 20.1101(c) involving the licensee's failure to review the radiation protection program at its Beech Grove field office.

3 Security of Licensed Material

3.1 Inspection Scope

The inspector toured the licensee's field office in Beech Grove and observed the licensee's method of securing its portable gauge in the storage room. The inspector interviewed the office manager, the RSO and one gauge user. The gauge user demonstrated how he secured the gauge during transport.

3.2 Observations and Findings

In response to the inspection findings identified at the licensee's Highland, Indiana field office (IR 03028612/2017001, EA-17-100), the Region conducted an inspection to review the licensee's activities at its field office in Beech Grove, Indiana, on July 25, 2017. When the inspector arrived at the office, no one was present in the lobby. The inspector could hear a conversation in the distance and called out a few times until acknowledged by the office manager. The inspector observed that the offices were located on one end of the building connected by a hallway to the garage/warehouse. The inspector observed that the path between the hallway and the garage was on the opposite end of the building with no occupied offices.

The inspector found that the licensee stored its portable gauge in a storage room, shared with other drilling and construction equipment. Other members of the licensee's staff who were not authorized gauge users had access to this storage room. The inspector noted that the door handle to the storage room was missing and the single cylinder deadbolt was intact but unlocked. The licensee staff indicated that the door knob to the storage room had been missing for an unspecified timeframe. The inspector noted that the gauge was secured to a workbench with a single chain with one lock looped through one handle of the gauge's case. The inspector further noted that the

keys to the gauge case and the single chain/lock were located on the workbench approximately one foot away from the gauge and no individuals were continuously present to maintain control or constant surveillance of the gauge. In this configuration, the inspector determined that the licensee's storage and securing method for the portable gauge presented no barriers preventing unauthorized access or removal. Although the licensee stored its gauge in a locked case with one chain securing one handle of the case locked to a workbench, the keys to these locks were located in plain sight on the top of the workbench, compromising the one physical barrier. Specifically, the lock on the gauge case could be defeated, allowing unauthorized removal or access to the gauge unit in its case. Alternatively, the single lock securing the chain through the handle on the gauge case could be defeated, allowing unauthorized removal or access to the case containing the gauge.

Title 10 CFR 20.1801 requires that the licensee secure from unauthorized removal or access licensed materials that are stored in controlled or unrestricted areas. Furthermore, 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's failure to secure from unauthorized removal or access licensed materials that are stored in controlled or unrestricted areas and to use a minimum of two independent controls that form tangible barriers to secure a portable gauge from unauthorized removal when the gauge is not under the control and constant surveillance of the licensee is an apparent violation of 10 CFR 20.1801 and 10 CFR 30.34(i).

Additionally, the licensee described how its gauge was secured during transport and use at temporary job sites. The inspector noted that the licensee secured the gauge/case in an open-bed pickup truck with one independent physical control, a single chain and a single pad lock on the case; however, the licensee asserted that a gauge user maintained control and constant surveillance at all times. The inspector discussed with the licensee the potential vulnerability for non-compliance with NRC requirements if the gauge user fails to maintain control and constant surveillance.

The inspector determined that the root cause of the apparent violation of 10 CFR 20.1801 and 10 CFR 30.34(i) was attributed to the licensee's failure to provide adequate oversight to the radiation safety program. The RSO is based in the Highland, Indiana field office (approximately 180 miles from the Beech Grove office). The RSO relied on the Beech Grove office manager to oversee the daily activities at this field office. The office manager for this location did not have prior experience in managing a portable gauge program and was unaware of the NRC requirements related to radioactive material. The inspector directed the office manager to Appendix G of NUREG-1556, Volume 1, "Consolidated Guidance about Materials Licensees – Program-Specific Guidance about Portable Gauge Licensees" for guidance on acceptable methods to secure the gauge.

At the time of the onsite inspection, the office manager attempted to locate the key to the storage room and immediately lock the gauge within the room; however, these search efforts were unsuccessful. Following the onsite inspection, the licensee obtained additional chains and padlocks to secure the gauge within the storage room. The licensee also obtained additional chains and locks to secure the gauge within the vehicle

during transportation activities. The licensee provided instruction to its gauge personnel at the Beech Grove office on methods to secure the gauge with two tangible barriers.

3.3 Conclusions

The inspector identified an apparent violation of 10 CFR 20.1801 and 10 CFR 30.34(i). The licensee took immediate corrective actions to restore compliance and prevent recurrence.

4 Transportation of Licensed Material

4.1 Inspection Scope

The inspector interviewed one authorized gauge user and observed a demonstration of the transportation of the gauge.

4.2 Observations and Findings

The licensee transported its gauge in company-owned vehicles. The inspector observed a gauge user demonstrate how the gauge was stored within the transportation case with a lock securing the transportation case; the gauge user demonstrated how the transportation case was secured at one end with a chain looped through the carrying handle and locked to the bed of the vehicle. The inspector determined that the licensee's method for securing gauges within the vehicle was not sufficient to prevent movement during transport.

Title 10 CFR 71.5(a) requires that a licensee who transports licensed material outside of the site of usage, as specified in the NRC license, or where transport is on public highways, or who delivers licensed material to a carrier for transport, comply with the applicable requirements of the regulations appropriate to the mode of transport of the U.S. Department of Transportation (DOT) in 49 CFR Parts 170 through 189.

Title 49 CFR 177.842(d) states packages [of Class 7 radioactive materials] must be so blocked and braced that they cannot change position during conditions normally incident to transportation. The licensee's failure to block and brace packages containing radioactive material against movement within the vehicle during transportation is a violation of 10 CFR 71.5(a) and 49 CFR 177.842(d).

The inspector also determined through the interview with the gauge user that, when transporting licensed material, the licensee routinely carried the shipping paper within the gauge transport case, which was secured within the bed of the truck, and not readily available.

Title 49 CFR 177.817(e) requires, in part, that the driver of a motor vehicle containing hazardous material (i.e., radioactive material) ensure that the shipping paper is readily available to, and recognizable by, authorities in the event of accident or inspection. When the driver is at the vehicle controls, the shipping paper shall be (a) within his immediate reach while he is restrained by the lapbelt; and (b) either readily visible to a person entering the driver's compartment or in a holder, which is mounted to the inside of the door on the driver's side of the vehicle. When the driver is not at the vehicle's controls, the shipping paper shall be: (a) in a holder which is mounted to the side of the

door on the driver's side of the vehicle; or (b) on the driver's seat in the vehicle. The licensee's failure to ensure that the shipping paper was readily available by maintaining the shipping paper in the driver's compartment is a violation of 10 CFR 71.5(a) and 49 CFR 177.817(e).

The inspector attributed the root cause of these violations to the licensee's failure to provide adequate oversight of the radiation safety program. The licensee provided guidance to its gauge personnel at the Beech Grove office on acceptable methods to properly block and brace a package and the acceptable locations to stow shipping papers during transport.

4.3 Conclusions

The inspector identified two violations involving transportation of licensed material: (1) the licensee's failure to block and brace a package (10 CFR 71.5 and 49 CFR 177.842(d)) and (2) the licensee's failure to ensure the accessibility of the shipping paper (10 CFR 71.5 and 49 CFR 177.817(e)).

5 Personnel Monitoring

5.1 Inspection Scope

The inspector interviewed the president/RSO and selected licensee personnel.

5.2 Observations and Findings

The licensee did not have radiation exposure dosimetry records available at the Beech Grove office for review during the onsite portion of the inspection. During initial interviews, the licensee could not determine the location of these records, the time frame of the missing records, or whether the licensee had any elevated or unusual personnel exposures requiring investigation. The office manager presented several unopened packs filled with unused/unworn dosimetry badges and control badges. He was unaware of the purpose of these badges.

The inspector interviewed one gauge user who was considered the "active" user for the office over the last year. The individual confirmed that he was not issued any type of dosimetry. The individual had been employed by the licensee for over one year and used the gauge on approximately 6-10 occasions. Another individual used the gauge the previous year; it is unknown if this individual was assigned or wore dosimetry.

Condition 20. of NRC License No. 13-24480-01, requires the licensee to conduct its program with the statements, representations, and procedures contained in the listed documents, including the licensee's application dated July 19, 2011. Item 10, "Radiation Safety Program-Occupational Dosimetry" of the licensee's application states, in part, that the licensee will either maintain documentation demonstrating that unmonitored individuals were not likely to receive a radiation dose in excess of 10 percent of the allowable limits in 10 CFR Part 20 or provide dosimetry processed and evaluated by a NVLAP-approved processor.

The failure to provide dosimetry that is processed and evaluated by a NVLAP-approved processor to gauge users is a violation of License Condition 20. Select staff at the

Beech Grove field office, including the office manager, were unaware of this license requirement. The inspector attributed the root cause of the violation to the licensee's failure to provide adequate oversight to the radiation safety program. As a corrective action to restore compliance, the RSO obtained dosimetry for the "active" gauge user.

5.3 Conclusions

The inspector identified a violation of License Condition 20 involving the licensee's failure to either maintain documentation demonstrating that unmonitored individuals were not likely to receive a radiation dose in excess of 10 percent of the allowable limits in 10 CFR Part 20 or provide dosimetry processed and evaluated by a NVLAP-approved processor. The licensee took corrective action to restore compliance.

6 **Other Areas Inspected**

6.1 Inspection Scope

The inspector reviewed other aspects of the licensee's radiation protection program which included training for gauge users, sealed source leak tests, labeling of containers, and postings. The inspector interviewed selected individuals, toured the licensee's facilities, and examined the licensee's portable gauge.

6.2 Observations and Findings

The inspector determined that the licensee provided training to all authorized gauge users through a program sponsored by the device manufacturer or a service firm. Active gauge users attended DOT Hazmat training within the last three years; the licensee maintained copies of all training certificates. Through interviews, the inspector determined that the licensee staff understood the service and disposal requirements for the gauge.

The inspector examined the gauge in the licensee's possession. The inspector noted that the gauge unit had a clearly visible label, identifying the radionuclides and source activities. The licensee performed leak tests of the sealed sources every 12 months, as authorized under the device manufacturer's sealed source and device registration. In the event of an emergency, the Beech Grove office could obtain a survey meter from the licensee's Highland field office.

The inspector observed that the licensee posted the most current copy of NRC Form 3. The inspector also observed that the room where the gauge was stored, was posted with a "CAUTION-RADIOACTIVE MATERIALS" sign.

6.3 Conclusions

The inspector determined that no violations of NRC requirements were identified in these areas.

7 **Exit Meeting**

The NRC inspector presented preliminary inspection findings following the onsite inspection on July 25, 2017. The NRC conducted a final exit meeting on

September 14, 2017, by telephone. The licensee did not identify any documents or processes reviewed by the inspectors as proprietary. The licensee acknowledged the findings presented.

LIST OF PERSONNEL CONTACTED

- Srinivas Gone, P.E.
 - Zeljko (Zack) Novakovich
 - #Joe Gunderson, P.E., Manager
 - *Dibakar Sundi, P.E., President, Radiation Safety Officer
 - Dipak Tiwari, Ph.D., Engineer
- # Attended exit meeting on July 25, 2017
- * Individual contacted by phone on September 14, 2017 for final exit teleconference

INSPECTION PROCEDURE USED

87124: Fixed and Portable Gauge Programs