September 12, 2008

Richard D. Olson, P.E.
Vice President
Earth Exploration, Inc.
7770 West New York Street
Indianapolis, IN 46214-2988

SUBJECT: NRC INSPECTION REPORT NO. 030-32764/08-01(DNMS) – EARTH EXPLORATION, INC.

Dear Mr. Olson:

This refers to the inspection conducted on July 21, 2008 with continued in-office review through August 26, 2008, at Earth Exploration, Inc., Indianapolis, Indiana. Another inspection was conducted on August 14 and 15, 2008 at your South Bend, Indiana office. The inspector also examined your licensed activities at temporary job sites in Indianapolis and South Bend during the respective inspection dates. Our in-office review consisted of a review of your proposed corrective actions of the inspection findings. The inspection findings were discussed with Dr. Scott Ludlow, your president, at the conclusion of the inspection on August 26, 2008. The enclosed report presents the results of the inspection.

The inspection examined activities conducted under your NRC license as they relate to radiation safety and to compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of your portable gauge activities in progress, independent measurements, and interviews with personnel.

In response to observations and findings from our inspection you committed to completing certain corrective actions in your August 15, 2008, letter to the NRC. These commitments were subsequently documented in a September 4, 2008, Commitment Action Letter issued to you from the NRC. The Commitment Action Letter items will be subject to a future inspection.

Several unresolved issues were identified during this inspection regarding your radiation safety program. The unresolved issues involve the failure to: (1) ensure through your Radiation Safety Officer, that radiation safety activities were performed in accordance with your approved license procedures and regulatory requirements; (2) secure portable gauges on three separate occasions using two independent barriers; (3) perform annual reviews of the radiation protection program; (4) perform leak testing and physical inventory of sealed sources; (5) ensure that a gauge or the container is locked when in storage; (6) ensure that dosimetry provided to gauge users was processed and evaluated; (7) ensure through the Radiation Safety Officer that required tests and conditions of your NRC license are performed as required; and (8) follow certain Department of Transportation requirements while transporting licensed material.

However, because these issues remain under NRC review, no response for this letter is required at this time. You will be notified in separate correspondence of the results of our review. In addition, pleased be advised that the number and characterization of the unresolved issues described in the enclosed inspection report may change as a result of further NRC review.

Should you have any questions, please contact Patrick L. Louden of my staff at 630-829-9627.

Sincerely,

/RA by Mark Delligatti acting for/

Steven A. Reynolds, Director
Division of Nuclear Materials Safety

Docket No. 030-32764
License No. 13-26408-01

Enclosure:
Inspection Report 030-32764/08-01

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REGION III

Docket No.	030-32764
License No.	13-26408-01
Report:	030-32764/08-01(DNMS)
Licensee:	Earth Exploration, Inc.
Locations Inspected:	7770 W. New York Street Indianapolis, Indiana
	4310-C Technology Drive South Bend, Indiana
Temporary Job Sites:	Indianapolis International Airport Indianapolis, Indiana
	Eddy Street Commons South Bend, Indiana
Dates:	July 21, 2008 (Indianapolis Office)
	August 14-15, 2008 (South Bend Office)
Final Exit Meeting:	August 26, 2008
Inspector:	Deborah A. Piskura, Health Physicist
Approved by:	Patrick L. Louden, Chief Materials Inspection Branch Division of Nuclear Materials Safety

Enclosure

EXECUTIVE SUMMARY

Earth Exploration, Inc.
Indianapolis, Indiana
NRC Inspection Report No. 030-32764/08-01(DNMS)

This was a routine inspection initiated on July 21, 2008, to review the activities at the Indianapolis office and included an inspection at a temporary job site located at the Indianapolis International Airport. 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 several deficiencies of NRC requirements and concerns regarding the management oversight of the radiation safety program. Based on the number of issues identified at the licensee's Indianapolis office, an inspection was also conducted to review the licensee's South Bend, Indiana, office on August 14 and 15, 2008.

During the inspections, several unresolved issues were identified. These unresolved issues will continue to be reviewed by NRC. The unresolved issues included the licensee's failures to:

- Secure portable gauges on three separate occasions using two independent physical barriers as required by 10 CFR 30.34(i)
- Perform annual reviews of the radiation protection program as required by 10 CFR 20.1101(c)
- Perform leak testing of sealed sources as required by License Condition 13
- Perform physical inventories every 6 months of sealed sources as required by License Condition 16
- Ensure that a gauge or the container is locked when in storage as required by License Condition 19
- Ensure that dosimetry provided to gauge users was processed and evaluated by a NAVLAP-approved processor as required by License Condition 21
- Ensure through the Radiation Safety Officer that required tests and conditions of the NRC license are performed as required by License Condition 21
- Follow certain Department of Transportation requirements while transporting licensed material as required by 10 CFR 71.5 and 49 CFR.

Due to the number of items identified during the inspections, the NRC requested the licensee to describe its corrective actions for each item; the licensee summarized its corrective actions in letter dated August 15, 2008. The licensee's corrective actions addressed each of the items listed above and included promptly securing the gauges from unauthorized access, and discussions with gauge users concerning gauge security and transportation requirements. In letter dated September 4, 2008, the NRC summarized its understanding of the licensee's corrective actions and communicated concerns on the management oversight of the licensee's radiation protection program.

Report Details

1 Program Scope and Inspection History

Earth Exploration, Inc. (licensee) is a private construction, engineering, and environmental consulting firm employing 50 individuals. The company operates two offices in Indiana with the main office located in Indianapolis, Indiana and a satellite office in South Bend. Collectively, the company possessed 19 portable moisture/density gauges that were used for measuring the properties of construction materials at various temporary job sites. Gauges are typically used at the Indianapolis office site on a daily basis, and several times per week at the South Bend office. The licensee approved 14 individuals as authorized gauge users.

The NRC last inspected the licensee's activities limited to its South Bend office on August 4, 2003, with no violations noted. The previous NRC inspection on March 25, 1998 was limited to a review of the Indianapolis activities; no violations of NRC requirements were identified during that inspection.

2 Management Oversight and Duties of the Radiation Safety Officer

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 RSO. The inspector also reviewed the license's audit reports for the 2002 to the year-to-date (YTD) 2008 period.

2.2 Observations and Findings

The RSO reported directly to the Vice President. The RSO is based at the Indianapolis office and he is responsible for implementing the entire radiation safety program, which included the activities at the Indianapolis and South Bend offices. The RSO also serves as the construction manager and oversees the day-to-day operations at the company's largest contract, the Indianapolis International Airport reconstruction project. The branch manager oversees the daily activities at the South Bend office. An individual based in South Bend assisted the RSO by performing sealed source leak tests, maintaining files, and managing the personnel monitoring, etc. for the South Bend office.

Title 10 Code of Federal Regulations (CFR) 20.1101 requires, in part, that a licensee periodically (at least annually) review the radiation protection program content and implementation. Interviews with the RSO revealed that he could not recall when he last performed a review of the radiation protection program. Review of the licensee's files found that the last documented annual program review (for the Indianapolis office) was performed by the previous RSO and dated February 7, 2002, for the year 2001 activities. The RSO stated that although he had not performed an annual program review, he was in the field daily and observed the gauge users. According to the RSO, these observations included security of the gauges, use of personnel monitoring, and radiation safety practices. No documentation was maintained of these field observations. Prior to August 15, 2008, the RSO had not personally reviewed the activities at the South Bend office. The RSO relied on staff members at the South Bend office to perform various tasks within the radiation safety program including sealed source leak tests, distributing

personnel dosimetry, maintaining records, etc. During the respective on-site exit meetings at the Indianapolis and South Bend offices the licensee committed to review its radiation protection program. These reviews were completed on August 3 for the Indianapolis office and August 19, 2008, for the South Bend office. The licensee's failure to review the radiation protection program on an annual basis is an unresolved issue pending further NRC review.

License Condition 21.A. of License No. 13-26408-01 (tie down) references the license renewal application dated March 11, 2002. The attachment entitled, "RADIATION SAFETY PROGRAM" Item 1, "Radiation Safety Officer," specifies the duties and responsibilities of the Radiation Safety Officer. The duties of the Radiation Safety Officer included, in part: (1) to assure that all terms and conditions of the license are being adhered to and that the information contained in the license is current and accurate; (2) to verify that the equipment (portable gauges) has been leak tested in the required time frame; (3) to assure that the use of the equipment (portable gauges) is only by individuals who wear personnel monitoring equipment when utilizing the equipment; (4) to see that the equipment is properly secured against unauthorized removal at all times when not in use; (5) to perform an annual audit, documenting license activities and making corrective actions if necessary; and (6) develop, implement and document corrective actions when violations of regulations or weaknesses of the program are identified.

The inspector identified deficiencies in the licensee's radiation safety program which were attributed to the RSO's failure to (1) assure that all terms and conditions of the license are being adhered to and that the information contained in the license is current and accurate; (2) verify that the equipment (portable gauges) has been leak tested in the required time frame; (3) assure that the use of the equipment (portable gauges) is only by individuals who wear personnel monitoring equipment when utilizing the equipment; (4) see that the equipment is properly secured against unauthorized removal at all times when not in use; (5) perform an annual audit, documenting license activities and making corrective actions if necessary; and (6) develop, implement and document corrective actions when violations of regulations or weaknesses of the program are identified. The extent of inspection findings and number of unresolved issues identified during this inspection indicated that the RSO failed to provide oversight of the radiation safety program in that he failed to perform his duties as described in the licensee's application dated March 12, 2002 and referenced in License Condition 21.A. The inspector identified several unresolved issues concerning specific duties described above as they relate to specific aspects of the licensee's radiation safety program; these unresolved issues are pending further NRC review.

2.3 Conclusions

The inspector identified an unresolved issue regarding the licensee's failure to perform annual reviews of its radiation protection between 2002 and 2008. The inspector also identified an unresolved issue concerning the RSO's responsibility for providing oversight of the radiation safety program. These unresolved issues will continue to be reviewed by the NRC.

3 Security of Licensed Material

3.1 Inspection Scope

The inspector toured the gauge storage locations at the Indianapolis and South Bend offices and the storage trailer at the Indianapolis International Airport. The inspection included observations of the licensee's field activities at the Indianapolis Airport in Indianapolis, Indiana, and the Eddy Street Commons project in South Bend, Indiana. The inspector interviewed selected staff to evaluate how the licensee secured licensed material from unauthorized access.

3.2 Observations and Findings

The gauge units were stored within a storage room at each respective office. At the Indianapolis Airport, the licensee used a trailer as a temporary office and storage area for gauges used for the project. According to the licensee's practices, each unit was stored within its approved transport container. The licensee cemented a bar into the floor of the storage rooms which the licensee intended to secure the gauge cases within the storage room with a cable locked to a bar. The licensee would use one cable to secure several gauges to this bar by threading the cable through a handle on each gauge case and locking the cable to the bar. At the Indianapolis Airport trailer, the licensee secured the gauge cases within the trailer using a cable with a cable locked to a permanent fixture. Authorized gauge users were issued the keys to the gauges and keys to the gauge storage room. The inspector determined that the licensee's office facilities observed during this inspection were the same as those described in the licensee's NRC license renewal application. Gauges used locally were also required to be returned to the office upon completion of the shift. If the user needed to store a gauge at his residence or hotel overnight, then he must obtain approval from the respective office.

During the inspection on August 14, 2008, the inspector observed that five portable gauges were stored in a locked storage room within a garage at the licensee's South Bend facility; two gauges were in use at a temporary job site. The inspector noted that one portable gauge transport case was unlocked containing a gauge with the gauge operating handle (source rod) which was also unlocked. The inspector observed that the garage doors were opened and the area was not under constant surveillance by the licensee. Further, upon entry into the storage room, the gauges were stacked on the floor with no additional security measures. According to the licensee staff, the gauges should have been secured using a cable padlocked to a cemented bar on the storage room floor. Licensee personnel indicated that the gauge users probably forgot to re-secure the gauges remaining within the storage room when they removed two gauges for field use earlier that day.

When not in use at a temporary job site, the gauge was stored in the rear of the licensee's open-bed pick up truck. At the Indianapolis job site, the inspector observed that a gauge was stored within the transport case with a lock securing the transport case. The inspector observed that the gauge was secured in truck with two cables. Each cable was looped through one of the two opposing side handles located at each end of the transport case and locked to each side of the truck bed using two padlocks. A bungee cord was used to secure the case lid. However the bungee cord was not secured with a lock and would not serve as a second tangible barrier to secure the case

lid since the case lid was secured with only a padlock. At the South Bend job site, the inspector observed that two transport cases were secured by looping a heavy cable through one handle on the case and locking the cable to the truck bed. All gauge users indicated that they were not always present at their vehicles during field work.

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. In addition, Condition 19 of License Number 13-26408-01 requires, in part, that each portable gauge or its container must be locked when in transport, storage, or when not under the direct surveillance of an authorized user.

The licensee's failure to use a minimum of two independent controls that form tangible barriers to secure portable gauge from unauthorized removal, when the portable gauge was not under the control and constant surveillance of the licensee is an unresolved issue pending further NRC review. The licensee's failure to lock a portable gauge or its container when in storage at the South Bend office is another unresolved issue pending further NRC review.

In addition to the deficiencies in security measures described above, the inspector identified concerns regarding the manner in which the South Bend office controlled the keys to its gauge storage area. During the on-site inspection, members of the licensee's staff informed the inspector that the gauge storage area was accessible to other employees besides authorized gauge users. It was revealed that although other employees (not authorized gauge users) had been previously instructed not to store their equipment in the gauge storage room, these employees had access to the storage room and continued to keep equipment in the gauge storage room. During the facility tour, a member of the staff accidentally locked his key within the gauge storage room. While he was able to retrieve a spare key, the key was located in an area known and accessible by other members of the staff. An additional key was found in an unlocked truck parked in the garage only 10 feet away from the storage room. The licensee committed to take immediate corrective action by implementing additional measures to secure the keys.

3.3 Conclusions

The inspector identified three examples of the licensee's failure to use two independent physical controls that form tangible barriers to secure its portable gauges from unauthorized removal. The inspector identified several concerns regarding the licensee's control of the keys to its South Bend storage room. The inspector also identified that the licensee failed to ensure that a gauge or the container stored within the South Bend location was locked. These matters are considered unresolved issues and will continue to be reviewed by the NRC.

4 Physical Inventory and Leak Testing of Sealed Sources

4.1 Inspection Scope

The inspector reviewed records of sealed source leak tests and inventories at the Indianapolis and South Bend offices. The inspector also interviewed the RSO and selected licensee staff.

4.2 Observations and Findings

According to the licensee's records, the most current leak tests on the gauges possessed at the Indianapolis office were conducted on January 16, 2006. Condition No. 13 A. of NRC License No. 13-26408-01 requires that sealed sources be tested for leakage and/or contamination at intervals not to exceed the intervals specified in the certificate of registration issued by NRC under 10 CFR 32.210. The certificate of registration for the gauges possessed by the licensee specifies leak testing at 12 month intervals. Discussions on sealed source leak tests revealed that the RSO collected leak tests samples on 10 gauges (in possession at that time) on July 14, 2006. The RSO also collected leak test samples in January 2008 (exact date unknown) on four gauges. However, the leak test samples collected in 2006 and 2008 were not sent to the gauge manufacturer for analysis.

Condition 16 of NRC license No. 13-26408-01 requires the licensee to conduct a physical inventory every 6 months, or at other intervals approved by the NRC to account for all sources and/or devices received and possessed under the license. Physical inventories of the gauges had not documented since the previous routine inspection in 2003. The licensee maintained an inventory form which the RSO maintained in files on each gauge unit however the RSO stated that he had not used the inventory form. The RSO stated that he performed physical inventories every year but these inventories were not documented. During the physical inventory, the RSO stated that he checked the locks on the gauge source rod and the shipping case and examined the general condition of each gauge unit.

The licensee's failure to perform sealed source leak tests and physical inventories at the required frequencies are unresolved issues pending further NRC review.

4.3 Conclusions

Two unresolved issues were identified regarding the licensee's failures to perform leak tests and physical inventory of its portable gauges at 12 month and 6 month interval respectively. NRC will continue its review of these unresolved issues.

5 Personnel Monitoring

5.1 Inspection Scope

The inspector interviewed the vice president, the RSO, and selected licensee personnel and reviewed select records and the personnel exposure reports from the dosimetry vendor.

5.2 Observations and Findings

The inspector reviewed radiation exposure dosimetry records on file from 2005 to present and discussed those records with licensee representatives to determine licensee's dosimetry program complied with regulatory and license requirements. The most recent dosimetry report on file at the Indianapolis office was for the 4th quarter 2006 monitoring period and the maximum personnel exposure was recorded as 60 millirem.

The most recent dosimetry report for personnel at the South Bend office was for the 1st quarter of 2008. The inspector noted that the maximum personnel exposures for 2004 and 2005 were 152 millirem and 155 millirem respectively and these exposures were not typical compared to other exposure data (average annual exposure was recorded as 60-70 millirem). Interviews with South Bend personnel could not determine whether the licensee investigated these exposures.

The inspector observed the use of personnel dosimetry by licensee personnel during the field inspections. Based on these reviews and discussions, the inspector determined that each gauge user was issued a whole body badge to be exchanged on a quarterly frequency.

Condition 21.B. of License No. 13-26408-01, requires the licensee to conduct its program in accordance with the statements, representations and procedures contained in letter dated May 28, 2002. The licensee's letter dated May 28, 2002, requires, in part, that the licensee will provide dosimetry to its employees who use moisture/density gauges and that the dosimetry processed and evaluated by a NAVLAP-approved processor.

During the July 21, 2008, inspection at Indianapolis, the RSO presented a "zip-lock" bag containing 9 used/worn personnel dosimeters for various monitoring periods (1 badge July 1-September 30, 2006, 5 badges April 1-June 30, 2007, and 3 badges July 1-September 30, 2007). As the inspection progressed, the RSO indicated that there were several more "old" dosimeters in his possession. He presented the inspector with 7 mailing packs from the dosimetry vendor. Three bags were filled with used/worn badges which the RSO did not forward to the vender for processing (monitoring periods of April 1-June 30, 2006, July 1-September 30, 2006, and April 1-June 30, 2007). Therefore, as of the date of the inspection, the licensee failed to send these dosimeters to the vender for processing and evaluation. Four additional unopened packs were filled with unused/unworn badges (monitoring periods October 1-December 31, 2006, October 1-December 31, 2007, January 1-March 31, 2008, and April 1-June 30, 2008). A review of the licensee's gauge usage logs compared with the above monitoring periods confirmed that gauges were used during the monitoring periods above. The failure to provide dosimetry to gauge users, that is processed and evaluated by a NAVLAP-approved processor in accordance with Licnese Condition 21.B. is an unresolved issue pending further NRC review.

5.3 Conclusions

The inspector concluded that the licensee only provided personnel monitoring to gauge users based at the Indianapolis office on an infrequent basis. Several periods elapsed where the licensee did not promptly forward the worn dosimeters to the vendor for processing and evaluation. The NRC considers this an unresolved issue will continue its review of this matter.

6 Field Inspections

Inspection Scope

The inspector conducted three field inspections of four authorized gauge users at the Indianapolis International Airport, Indianapolis, Indiana (two locations), and the Eddy

Street Commons Project, South Bend, Indiana. The field inspections consisted of interviews with the authorized gauge users, observations of security of the gauges at the job site, examinations of the gauge units and the transport cases, and a review of selected records. At the time of the field inspections, the gauges were not in use.

Observations and Findings

The licensee transported packages of licensed materials in company-owned vehicles. The licensee transported the gauges in appropriate manufacturer-supplied transport packages; however, the inspector noted that several Department of Transportation (DOT) required "RADIOACTIVE YELLOW-II" labels were illegible. In addition, several "TYPE A" markings were illegible. The inspector observed that, while in transport, each gauge was stored within the transportation case with a lock securing the transportation case. At South Bend, each transportation case was secured at one end with a heavy cable 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 two vehicles (based at the South Bend office) was not sufficient to prevent movement during transport.

The inspector's review of the shipping papers determined that the licensee listed an emergency contact and phone number. The RSO informed the inspector that this phone number is that of the Indianapolis office however, this phone number is not monitored at all times while licensed material in is transportation (including storage incidental to transportation). The inspector also determined that when transporting licensed material, one gauge user placed the shipping papers in the visor while another gauge user routinely carried the associated shipping papers within the gauge transport case which was secured within the bed of the truck. Other gauge users, at the Indianapolis job sites stored the shipping paper in a 3-ring binder with other reference material; however the shipping paper neither appeared first nor was distinctively tabbed.

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 Department of Transportation (DOT) in 49 CFR Parts 170 through 189.

Title 49 CFR 172.310 requires, in part, that for each package containing radioactive materials, the packaging must be marked on the outside of the package, with the words "TYPE A" as appropriate. The licensee's failure to ensure that each package of radioactive material was appropriately and clearly marked "TYPE A" is an unresolved issue pending further NRC review.

Title 49 CFR 172.403 requires, in part, that each package of radioactive material be labeled, as appropriate, with two RADIOACTIVE WHITE-I, RADIOACTIVE YELLOW-II, or RADIOACTIVE YELLOW-III labels on opposite sides of the package. The licensee's failure to ensure that each package of radioactive material was appropriately labeled with a RADIOACTIVE YELLOW-II label is an unresolved issue pending further NRC review.

Title 49 CFR 177.834(a) requires, in part, that packaging not permanently attached to the motor vehicle and containing radioactive material must be secured (blocked and braced) against movement within the vehicle on which it is being transported, under 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 an unresolved issue pending further NRC review.

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. The licensee must clearly distinguish the shipping paper, if it is carried with other papers by either distinctively tabbing it or by having it appear first. 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 failures to ensure that shipping papers were clearly distinguished and were readily available by maintaining the shipping paper in a holder on the driver's side door or on the driver's seat in the vehicle is an unresolved issue pending further NRC review.

Title 49 CFR 172.604(a)(1) requires, in part, that the licensee who offers a hazardous material for transportation must provide an emergency response telephone number which must be monitored at all times the hazardous material is in transportation, including storage incidental to transportation. The licensee's failure to provide a telephone number that is monitored at all times the licensed material is in transportation is an unresolved issue pending further NRC review.

Conclusions

The inspector identified unresolved issues involving the licensee's failure to: 1) ensure proper/legible markings on packages (49 CFR 178.3(a)); 2) label transport packages (49 CFR 172.403); 3) block and brace two packages (49 CFR 177.834(a)); 4) ensure the accessibly of shipping papers (49 CFR 177.817(e)); and 5) provide an emergency response telephone number which is monitored at all times radioactive material is in transportation (49 CFR 172.604(a)(1)) .

7 Other Areas Inspected

7.1 Inspection Scope

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

7.2 Observations and Findings

The inspector determined that the device manufacturer provided initial training to all authorized gauge users. Through interviews, the inspector determined that the licensee staff understood the service and disposal requirements for the gauges.

The inspector examined several gauges in the licensee's possession. Each gauge unit was noted to bear a clearly visible label identifying the radionuclides and source activities.

The inspector observed that the licensee posted the most current copy of NRC Form 3. The inspector also observed that the rooms where the gauges were stored, were properly posted with "CAUTION-RADIOACTIVE MATERIALS" signs.

7.3 Conclusions

Based on record reviews, interviews with personnel, and the observations described above, the inspector determined that no violations of NRC requirements were identified.

8 Licensee Corrective actions

8.1 Inspection Scope

The inspector reviewed the licensee's corrective actions taken in response to the inspection findings. The inspector reviewed the licensee's corrective actions described in its letter dated August 15, 2008.

8.2 Observations and Findings

During the exit meeting on July 21, 2008, at the conclusion of the inspection at the Indianapolis office the licensee committed to promptly correct all issued identified during the inspection. The inspector contacted the RSO on July 30th to confirm the status of the licensee's corrective actions. As of July 30, 2008, the RSO indicated the sealed source leak test samples had not been mailed, the personnel dosimeters had not been mailed, and that the physical inventory, and program review is in progress. On August 1, 2008, the inspector and the MIB acting branch chief telephoned the licensee's vice president and discussed concerns regarding the aggressiveness and the timeliness of the licensee's corrective actions.

The licensee's RSO remained in contact with the inspector and provide updates on the corrective actions as these actions were completed through e-mail communication between July 22 and August 19, 2008. On August 8, 2008, NRC region III management contacted the licensee's management and requested that the licensee submit a detailed description of its corrective actions taken and planned. The licensee summarized its corrective actions in its letter dated August 15, 2008. The NRC issued an acknowledgement letter on September 4, 2008, confirming the corrective actions the licensee took in response to the inspection findings.

Security of licensed material

In order to secure portable gauges using two independent barriers, the licensee purchased additional chain link to be used as a secondary barrier. The licensee is considering additional methods to secure its gauges. The licensee confirmed that the chain link and pad locks will be used to secure gauges during transport and while in storage. The licensee informed gauge users of the duplicate (two-barrier) security

requirements for the transportation case lids on July 22 and 28, 2008. On August 5, 2008, the RSO sent photos demonstrating the new gauge security measures. These corrective actions were completed on July 22, 2008, at the Indianapolis office and on August 15, 2008 at the South Bend office.

Leak testing and physical inventory of sealed sources

The licensee performed leak testing of its portable gauges at the Indianapolis office on July 22, 23, and 27, 2008. The tests were mailed to the device manufacturer on July 30, 2008. The results were received on August 6, 2008, and forwarded to NRC for review. Old leak tests previously performed, yet not submitted for analysis, were also mailed to the device manufacturer for analysis. The results were received on August 11, 2008, and submitted to the NRC on August 13, 2008, for review.

The physical inventory of gauges at the Indianapolis office was completed on August 3, 2008, with a copy submitted to the NRC on August 4, 2008. The licensee performed a physical inventory of the gauges at the South Bend office beginning on August 15, 2008, and completed it on August 19, 2008. The licensee committed to performing physical inventories every 6 months and maintaining documentation of the inventories in its files.

Personnel Monitoring

As of August 1, 2008, for the Indianapolis office, the RSO distributed dosimeters for the current monitoring period and submitted badges for previous monitoring periods to the dosimetry vendor for processing. Results of the dosimetry readings were received on August 11, 13, and 14, 2008. The dosimetry results were forwarded on August 14, 2008, to the NRC for review. Corrective action included making assurances the gauge operators have received badges for the current monitoring period, collecting the used badges at the end of the monitoring periods, and submitting the dosimeters to the vendor for processing on a timely basis. The licensee also committed to maintaining a file of dosimetry reports.

On August 15, 2008, the RSO requested copies of 2006 and 2007 reports which were initially missing from the files at the South Bend office. These reports were forwarded to the NRC on August 19, 2008. The licensee committed to maintain a file of radiation dosimetry reports at the South Bend office with a copy maintained at the Indianapolis office.

Transportation of licensed material

Following the on-site preliminary exit meeting at Indianapolis, between July 22 and 24, 2008, the RSO revised the Bill of Lading (shipping paper) to include a 24-hour emergency contact number. On July 25, 2008, the RSO informed the South Bend location and provided them with a new example of a shipping paper. The license held a meeting with the gauge users at the Indianapolis office on July 28, 2008, informing them of the requirements for properly stowing shipping papers during transport.

On August 15, 2008, the RSO met with the gauge users at the South Bend office and discussed the requirement to exhibit the bill of lading clearly on the dash or the seat of their respective work vehicles. In addition, the licensee purchased additional bungee cords to be used as a means to block and brace the gauge transport case within the vehicle.

Labeling

On July 25, 2008, the licensee placed new labels on certain gauge cases located at the Indianapolis office which previously had illegible DOT Type A labels. The licnesee also committed to replace other DOT Type A labels on certain gauge transportation cases at your South Bend office by August 18, 2008. In addition, on August 14, 2008, the transportation label (Yellow II) was replaced on one gauge used at a temporary job site the same day.

Annual review of the Radiation Protection Program

On July 22, 2008 the RSO initiated an in-house audit of the activities at the Indianapolis office and completed the audit on August 3, 2008; the RSO provided his final audit report to NRC for review. On August 15, 2008, the RSO assisted by another member of the staff began an in-house audit of the South Bend facility. The audit was completed on August 19, 2008. The licensee committed to maintain documentation of the audits on a yearly basis.

8.3 Conclusions

The licensee initiated actions to resolve and address all inspection findings identified during the inspection. All inspection findings are categorized as unresolved issues under review by the NRC. The NRC will continue its review of the licensee's commitments for corrective actions during a follow up inspection.

9 Exit Meeting Summary

The inspector discussed the preliminary conclusions with licensee management during the exit meeting conducted at the licensee's facilities on July 21, 2008, and August 15, 2008, and during an August 26, 2008, teleconference. The licensee did not identify any information reviewed during the inspection and proposed for inclusion in the inspection report as proprietary in nature.

LIST OF PERSONNEL CONTACTED

*Christopher S. Loyd, Radiation Safety Officer
Scott Ludlow, Ph.D., P.E., President, Co-Owner
James E. McAlister, Field Supervisor
Nick McAlister, Authorized User
Brad Melton, Authorized User
Kenneth P. Miller, Branch Manager, South Bend Office
*Richard D. Olson, P.E., Vice President, Co-Owner
Greg Schuster, Authorized User
Terry Sharp, Authorized User
Dan Troutman, Authorized User

* Individual(s) present at exit meeting