



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

February 25, 2016

EN 51404
NMED 150527 (Closed)

Mr. William D. Reeve
Corporate Radiation Safety Officer
JANX Integrity Group
8550 East Michigan Avenue
Parma, MI 49269

SUBJECT: NRC ROUTINE INSPECTION REPORT NO. 03011772/2016002(DNMS)
JANX INTEGRITY GROUP

Dear Mr. Reeve:

On January 19-21, 2016, an inspector from the U.S. Nuclear Regulatory Commission (NRC) conducted a routine inspection at your facility in Parma, Michigan, and at several temporary job sites within the State of Michigan. The purpose of the inspection was to review activities performed under your NRC license to ensure that activities were being performed in accordance with NRC requirements. Mr. Ryan Craffey of my staff conducted a final exit meeting by telephone with you on February 4, 2016 to discuss the inspection findings. The enclosed inspection report presents the results of the inspection.

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

Based on the results of this inspection, the NRC identified three unresolved items concerning the NRC's regulations for conducting radiographic operations at temporary job sites. The unresolved items are described in the enclosed report (Enclosure 1). The NRC will continue to review these items, and you will be advised by separate correspondence of the results of our deliberations on these matters. Because these items remain under NRC review, you are not required to respond on the matters at this time. Please be advised that the number and characterization of the issues described in the report may change as a result of further NRC review.

Enclosure 2 contains Sensitive Unclassified Non-Safeguards Information. When separated from Enclosure 2, this transmittal letter and Enclosure 1 are decontrolled.

W. Reeve

-2-

In addition, this letter acknowledges the receipt of your letter dated October 8, 2015, reporting a radiography source disconnect and retrieval that occurred on September 16, 2015, in Twilight, West Virginia. The NRC reviewed your letter and examined the circumstances of the event during this inspection and has no further questions at this time.

In accordance with Title 10 of the *Code of Federal Regulations* (CFR) 2.390 of the NRC's "Rules of Practice," a copy of this letter, Enclosure 1 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 Web site at <http://www.nrc.gov/reading-rm/adams.html>. The Security Addendum to the Inspection Report (Enclosure 2) contains security-related information, and its disclosure to unauthorized individuals could present a security vulnerability; therefore, Enclosure 2 will not be made available electronically for public inspection.

Please feel free to contact Mr. Craffey of my staff if you have any questions regarding this inspection. Mr. Craffey can be reached at 630-829-9655.

Sincerely,

/RA/

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

Docket No. 030-11772
License No. 21-16560-01

Enclosures:

1. IR 03011772/2016002(DNMS) (publicly available)
2. Security Addendum (non-public)

cc w/encl 1: State of Michigan

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W. Reeve

-2-

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Letter to William Reeve from Aaron McCraw, dated February 25, 2016.

SUBJECT: NRC ROUTINE INSPECTION REPORT NO. 03011772/2016002(DNMS)
JANX INTEGRITY GROUP

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

Docket No. 030-11772

License No. 21-16560-01

Report No. 03011772/2016002(DNMS)

NMED No. 150527 (Closed)

Licensee: JANX Integrity Group

Facility: 8550 East Michigan Avenue
Parma, Michigan

Temporary Job Sites in Stockbridge,
Fair Haven, and Detroit, Michigan

Inspection Dates: January 19-21, 2016

Exit Meeting Date: February 4, 2016

Inspector: Ryan Craffey, Health Physicist

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

Enclosure 2 contains Sensitive Unclassified
Non-Safeguards Information. When
separated from Enclosure 2, this Enclosure
and its transmittal letter are decontrolled.

Enclosure 1

EXECUTIVE SUMMARY

**JANX Integrity Group
NRC Inspection Report 03011772/2016002(DNMS)**

This was a routine inspection of a non-destructive testing company authorized by the U.S. Nuclear Regulatory Commission (NRC) Materials License No. 21-16560-01 to use byproduct material in NRC jurisdiction for industrial radiography. The inspection included a review of the radiation safety program at the company's headquarters in Parma, Michigan, and observations of the conduct of radiographic operations at several temporary job sites in the State of Michigan.

During the inspection, the inspector identified three unresolved items involving the manner in which licensee personnel conducted radiographic operations on September 19, 2015 at a temporary job site in Samaria, Michigan. The items were identified by the licensee and shared with the inspector during the routine inspection on January 21, 2016.

As corrective action, the licensee terminated the employment of the individuals involved in the operations on September 19, 2015, and incorporated a discussion of the incident in its 2016 refresher training to radiography personnel.

The three unresolved items remain under NRC review.

REPORT DETAILS

1 Program Overview and Inspection History

JANX Integrity Group was authorized by NRC Materials License No. 21-16560-01 to use byproduct material in NRC jurisdiction for industrial radiography. The licensee's corporate management and radiation safety staff, including Corporate Radiation Safety Officer (RSO) were based in Parma, Michigan, as were many of the licensee's radiographic exposure devices. The licensee also maintained a field station in O'Fallon, Missouri, as well as numerous storage locations (primarily radiographers' home addresses) and several long-term temporary job sites on the license. At the time of the inspection, the licensee had approximately 350 radiographers on staff, though not all actively performed radiographic operations.

The NRC last inspected the licensee's radiation safety program on January 27-29, 2015. As a result of that inspection, security-related violations were identified. These violations were reviewed and closed during this inspection.

Since the last inspection of the licensee's radiation safety program, the NRC has inspected the licensee's conduct of radiographic operations at the following job sites and field offices:

- Montezuma, Indiana – April 2, 2015
- Job Site in Royal Oak, Michigan – October 19, 2015
- Job Site in Six Lakes, Michigan – November 19, 2015
- O'Fallon, Missouri – January 11, 2016

No violations of NRC requirements were identified as a result of the field inspections in 2015. The January 11, 2016 inspection remained open at the time of issuance of this report.

2 Radiation Safety Program

2.1 Inspection Scope

On January 19 and 21, 2016, the inspector reviewed select elements of the licensee's radiation safety program at its headquarters in Parma, Michigan. The inspector conducted interviews with members of the licensee's radiation safety staff and reviewed a selection of related records.

2.2 Observations and Findings

The inspector reviewed the licensee's implementation of processes for initial and refresher safety training, periodic radiographer audits, quarterly equipment maintenance, quarterly sealed source inventories, and annual audits of the radiation safety program.

The inspector reviewed documentation of the most recent program audit, the list of topics covered by the 2016 refresher safety training, initial training records for a random selection of new hires, as well as records of equipment maintenance, Depleted Uranium (DU) shield leak tests, radiographer audits and refresher training for crews observed in

the field during this inspection. The inspector also reviewed the most recent available dosimetry reports, which showed maximum occupational exposures to staff of 3,474 millirem in 2014 and 3,428 millirem in 2015 through November 30.

The inspector discussed with the licensee a 2015 reduction in force that saw the departure of its two full-time radiographer auditors, the only radiation safety staff to be laid off at that time. The licensee stated that the auditors' responsibilities were reassigned to regional managers and other staff, and found that through the increased and more geographically diverse manpower that it was still able to observe the conduct of each radiographer and assistant on staff at least every six months, and sometimes much more frequently. The inspector reviewed the licensee's audit tracking database and confirmed that, as of January 21, 2106, all of the licensee's active radiographers had been audited within the last six months.

2.3 Conclusions

The inspector reviewed the licensee's implementation of the radiation safety program and had no findings in these areas.

3 **Radiographer Audits**

3.1 Inspection Scope

The inspector reviewed and discussed the results of recent radiographer audits with the licensee's radiation safety staff.

3.2 Observations and Findings

On September 18, 2015, the licensee's Corporate RSO performed an audit of a radiographer and his assistant (also a qualified radiographer) at a job site in Samaria, Michigan. The RSO did so as part of the disciplinary actions resulting from an August 13, 2015 audit of the radiographer and another assistant, in which one potential violation of Ohio regulatory requirements for radiography was identified. As a result of the observations in Samaria, the RSO also identified three potential violations of NRC requirements for radiography.

Prior to announcing his presence, the RSO observed the crew set up its job site and conduct a number of exposures. During this time, the RSO observed the assistant perform exposures while the radiographer sat in the cab of his rig, facing away from the restricted area as he completed paperwork and used his phone. The RSO also observed the radiographer performing the exposures repeatedly fail to survey the camera and guide tube after each exposure. After approaching the crew and announcing his presence, the RSO asked the crew to demonstrate a number of safety related activities, including equipment checks normally performed before first use. The previous auditor suspected, based on earlier observations, that the crew failed to perform a misconnect test of the drive cable before using the equipment. The crew performed these tests at the RSO's request, and the drive cable failed the misconnect test, confirming the previous auditor's suspicions.

Title 10 of the *Code of Federal Regulations* (10 CFR) Part 34.41(a) states that whenever radiography is performed at a location other than a permanent radiographic installation, the radiographer must be accompanied by at least one other qualified radiographer or an individual who has at a minimum met the requirements of section 34.43(c). The additional qualified individual shall observe the operations and be capable of providing immediate assistance to prevent unauthorized entry. Radiography may not be performed if only one qualified individual is present. The circumstances surrounding the conduct of operations on September 18, 2015, relative to this regulatory requirement is an unresolved item, which remains under NRC review.

Title 10 CFR Part 34.49(b) states in part that the licensee shall conduct a survey of the radiographic exposure device and the guide tube after each exposure when approaching the device or the guide tube. The survey must determine that the sealed source has returned to its shielded position before exchanging films, repositioning the exposure head, or dismantling equipment. The circumstances surrounding the conduct of operations on September 18, 2015, relative to this regulatory requirement is an unresolved item, which remains under NRC review.

Title 10 CFR Part 34.31(a) states in part that the licensee shall perform visual and operability checks on radiographic exposure devices and associated equipment before use on each day the equipment is to be used to ensure that the equipment is in good working condition, that the sources are adequately shielded, and that required labeling is present. If equipment problems are found, the equipment must be removed from service until repaired. The circumstances surrounding the conduct of operations on September 18, 2015, relative to this regulatory requirement is an unresolved item, which remains under NRC review.

Upon discovery of these items, the licensee relieved the crew of duty, and called in another crew to finish the work. The licensee repossessed all equipment and dosimetry from the crew, and instructed them to return the rig to the field office in Ohio. Shortly afterwards, the licensee terminated the crew's employment. The licensee has since incorporated this experience into its current round of refresher training to radiography personnel.

3.3 Conclusions

The inspector identified three unresolved items involving the manner in which licensee personnel conducted radiographic operations, which the NRC will continue to review.

4 Field Observations

4.1 Inspection Scope

On January 20, 2016, the inspector visited three temporary job sites in the State of Michigan (Stockbridge, Fair Haven, and Detroit) to observe and evaluate the conduct of radiographic operations by licensee personnel.

4.2 Observations and Findings

The inspector observed the conduct of several radiographic exposures at the job sites, noting the satisfactory set-up and use of restricted area boundaries, as confirmed by independent surveys using a Thermo Fischer Scientific RadEye G meter (calibrated on November 16, 2015). The inspector also observed the crews maintain adequate surveillance of the restricted area during the operations. The inspector interviewed the crews and found through various discussions that they were knowledgeable and conscientious of radiation protection principles and licensee procedures. The inspector also found that the crews' survey meters and dosimetry were calibrated and operable.

The inspector reviewed a selection of available records at these sites, including utilization logs and current copies of the licensee's operating and emergency procedures maintained by each crew.

4.3 Conclusions

The inspector observed the conduct of radiographic operations at three job sites in NRC jurisdiction and had no findings in this area.

5 Review of EN 51404 (NMED 150527)

5.1 Inspection Scope

The inspector reviewed the licensee's initial notification and written report for the subject event, and discussed the circumstances with the licensee's radiation safety staff.

5.2 Observations and Findings

The inspector reviewed the circumstances of the September 16, 2015 event in Twilight, West Virginia, including the licensee's response. The inspector agreed with the licensee's assessment that the root cause of the incident was operator error. The inspector found the source retrieval, as documented in correspondence and as described during the inspection, to have been conducted safely and in accordance with NRC requirements. The inspector also found the licensee's corrective actions taken in response to the event to be adequate.

5.3 Conclusions

The inspector reviewed the circumstances of EN 51404 and had no findings in this area. The NRC considers this event to be closed.

6 Exit Meeting Summary

The NRC inspector presented preliminary inspection findings by telephone on February 4, 2016. 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

- Josh Bambach, Radiographer
 - Tim Blue, Radiographer
 - Jason Buter, Radiographer
 - Josh Buter, Radiographer
 - Yolanda Gilbert, Safety Assistant
 - Sandy Gubry, Assistant RSO
 - Lee Hadden, Central Michigan Division Manager
 - Steve Henderson, Radiographer
 - Mark Herman, Radiographer
 - Eli Lewis, Radiographer
 - Eric Postma, Radiographer
 - # Willaim Reeve, Corporate RSO
 - Josh Tigner, Radiographer
- # Participated in exit meeting by telephone on February 4, 2016.

INSPECTION PROCEDURES USED

87121: Industrial Radiography Programs