UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 E. LAMAR BLVD.
ARLINGTON, TX 76011-4511

April 11, 2018

Mr. Keith Griffin
Radiation Safety Officer
NonDestructive and Visual Inspection, LLC
2449 West Park Ave.
Gray, Louisiana 70359

SUBJECT: NRC INSPECTION REPORT 030-38376/2017-001 AND UNRESOLVED ITEM

Dear Mr. Griffin:

This letter refers to the routine, announced inspection conducted on June 14, 2017, at your facility in Gray, Louisiana. The inspection was an examination of activities conducted under your license as they relate to public health and safety, to confirm compliance with the U.S. Nuclear Regulatory Commission's (NRC) rules, regulations, and with the conditions of your license. Within these areas, the inspection consisted of a selected examination of procedures and representative records and interviews with personnel. The preliminary inspection findings were discussed with you at the conclusion of the onsite portion of the inspection on June 14, 2017. A final telephonic exit briefing was conducted with you on April 11, 2018.

Based on the results of this inspection, the NRC identified one unresolved item regarding the use of Direct Ion Storage dosimetry devices (Mirion Instadose) to satisfy the regulatory requirements in Title 10 of the *Code of Federal Regulations* (CFR) Part 34 for personnel monitoring during radiographic operations. The unresolved item is described in the enclosed Inspection Report. The NRC will continue to review this unresolved item and you will be advised by separate correspondence of the results of our deliberation on this matter. Please be advised that the number and characterization of the issues described in the inspection report may change as a result of further NRC review. Because this item remains under NRC review, you are not required to respond to this matter at this time. However, if you choose to respond, and Security-Related Information is necessary to provide an acceptable response, please mark your entire response Security-Related Information in accordance with 10 CFR 2.390(d)(1) and follow the instructions for withholding in 10 CFR 2.390(b)(1). In accordance with 10 CFR 2.390(b)(1)(ii), the NRC is waiving the affidavit requirements for your response.

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

Should you have any questions regarding this letter or the enclosed report, please contact Janine F. Katanic, PhD, CHP, at 817-200-1151, or the undersigned at 817-200-1455.

Sincerely,

/RA/

Michael C. Hay, Chief
Materials Licensing and Inspection Branch
Division of Nuclear Materials Safety

Docket: 030-38376
License: 17-29410-01

Enclosure:
Inspection Report 030-38376/2017-001

cc w/Enclosure:
Bryan Riche, Radiation Control Program Director
Louisiana Department of Environmental Quality
Office of Environmental Compliance
P.O. Box 4312
Baton Rouge, LA 70821-4312

NRC INSPECTION REPORT 030-38376/2017-001 - DATED APRIL 11, 2018.

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ADAMS ACCESSION NUMBER: ML18101A163

X SUNSI Review By: **JFK**	ADAMS: **X** Yes ☐ No	☐ Non-Publicly Available **X** Publicly Available	**X** Non-Sensitive ☐ Sensitive	Keyword: NRC-002

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U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket:	030-38376
License:	17-29410-01
Report:	2017-001
EA No.:	N/A
Licensee:	NonDestructive and Visual Inspection, LLC
Location Inspected:	2449 West Park Ave. Gray, Louisiana
Inspection Date:	June 14, 2017
Exit Meeting Date:	April 11, 2018
Inspector:	Janine F. Katanic, PhD, CHP, Senior Health Physicist Materials Licensing and Inspection Branch Division of Nuclear Materials Safety
Approved By:	Michael C. Hay, Chief Materials Licensing and Inspection Branch Division of Nuclear Materials Safety
Attachment:	Supplemental Inspection Information

Enclosure

EXECUTIVE SUMMARY

NonDestructive and Visual Inspection, LLC
NRC Inspection Report No. 030-38376/2017-001

This was a routine, announced inspection of U.S. Nuclear Regulatory Commission (NRC) licensed activities at a NonDestructive and Visual Inspection, LLC, a company authorized by the NRC Materials License 17-29410-01 to use byproduct material in NRC jurisdiction. The scope of the inspection was limited to review of the licensee's implementation of its radiation safety program for NRC licensed activities conducted at temporary job sites in NRC jurisdiction.

The inspection identified one unresolved item regarding the licensee's use of Direct Ion Storage dosimeter devices (Mirion Instadose) to satisfy the regulatory requirements in Title 10 of the *Code of Federal Regulations* Part 34 for personnel monitoring during radiographic operations.

This unresolved item remains under NRC review.

REPORT DETAILS

1 Program Overview (87121)

1.1. Inspection Scope

This was an announced, routine inspection of NonDestructive and Visual Inspection, LLC (NVI). The inspection was performed at the NVI office in Grey, Louisiana, on June 14, 2017. The licensee is authorized by the U.S. Nuclear Regulatory Commission (NRC) Materials License No. 17-29410-01 to use and store byproduct material at temporary job sites in areas of NRC jurisdiction. The licensee's staff includes approximately 200 radiographers. These radiographers are based out of NVI facilities located in Agreement States. Radiographers from these facilities enter NRC jurisdiction to perform licensed activities in areas of NRC jurisdiction, which consists primarily of work performed in offshore Federal waters. Licensed activities have also been routinely conducted in West Virginia by NVI personnel.

The previous NRC inspection was conducted on April 19, 2016, with no violations identified. The scope of the current inspection was limited to NRC licensed activities since the previous inspection. The inspection included a review of relevant records and interviews with the Corporate Radiation Safety Officer (RSO) regarding licensed activities conducted in areas of NRC jurisdiction. The inspection also included a review of records related to the licensee's compliance with the access authorization and physical security requirements in Title 10 C*ode of Federal Regulations* (CFR) Part 37 for activities and personnel in NRC jurisdiction. No violations related to 10 CFR Part 37 were identified. One inspection finding related to NRC's health and safety requirements was identified as an unresolved item and is discussed in Section 2.

2 Personnel Monitoring (87121)

2.1. Inspection Scope

On June 14, 2017, the inspector reviewed the licensee's use of personnel monitoring devices in areas of NRC jurisdiction. The inspector interviewed the Corporate RSO and examined a selection of representative records related to the licensee's use of personnel monitoring devices, which included licensee procedures and temporary job site records.

2.2. Observations and Findings

10 CFR 34.47(a) states, in part, that the licensee may not permit any individual to act as a radiographer or a radiographer's assistant unless, at all times during radiographic operations, each individual wears, on the trunk of the body, a personnel dosimeter that is processed and evaluated by an accredited National Voluntary Laboratory Accreditation Program (NVLAP) processor.

The inspector found that for NVI activities in offshore Federal waters, radiographers and radiographer's assistants utilized personnel dosimeters that were processed and evaluated by a NVLAP processor. Specifically, the Corporate RSO stated that these personnel utilized Landauer optically stimulated luminescence (OSL) dosimeters.

The inspector found that for NVI activities conducted in West Virginia, radiographers and radiographer's assistants were not utilizing Landauer OSL dosimeters but were instead using another type of dosimeter, called Direct Ion Storage (DIS) dosimeters. Specifically, these personnel were using Mirion Instadose dosimeters. These dosimeters are designed such that the individual's radiation exposure data from the dosimeter can be determined using a software interface on a local computer rather than requiring that the dosimeter be physically returned to a dosimetry processor to extract the data from the dosimeter. The personnel NVI utilizing the Mirion Instadose dosimeters were based out of the licensee's facilities in New York and Pennsylvania. These NVI personnel traveled to temporary job sites in West Virginia to perform NRC licensed activities.

The Corporate RSO explained to the inspector that the NVI Northeast Division used the Mirion Instadose dosimeters whereas the NVI Southern Division utilized the Landauer OSL dosimeters, mainly due to personal preferences on the part of the Division RSOs. The Corporate RSO further explained that for the Northeast Division, separate Instadose dosimeters were issued to each individual radiographer or radiographer's assistant upon hire. The Mirion dosimeter reading software interface was placed on the NVI laptop computers that were provided to radiographers or onto the personal laptop computers of the radiographer's assistants. Each user was provided with a unique username and password to log onto the software. The Northeast Division RSO provided NVI personnel with instructions on how to utilize the dosimeter and the software interface. Personnel were instructed that the dosimeters must be "read" on a monthly basis. The dosimeters are read by attaching the dosimeter to a USB port attached to the computer. The NVI personnel were instructed to read the badge preferably toward the end of each month, although some personnel read the dosimeter more often. All readings are date and time stamped and maintained in each individual's dose history. The radiation exposure data from the dosimeter was then used as the dose of record for the monitored individuals. A self-diagnostic is performed on the dosimeter each time that it is read and can identify any errors or malfunctions. The NVI personnel were informed that the Northeast Division RSO should be contacted immediately should any error or malfunction occur while the dosimeter is being read. If an error or malfunction cannot be resolved, the individual was not allowed to conduct licensed activities until a new dosimeter was provided. If a dosimeter was physically damaged or was unable to be read, it would be sent via overnight mail to Mirion in an attempt to determine the cause of the malfunction and retrieve the radiation exposure data since the last time the dosimeter was read. Daily radiation exposure readings from direct-read pocket ionization chambers and recorded on the NVI utilization logs could be used to provide an estimate if the radiation exposure data from the Instadose dosimeter was not retrievable. The radiation exposure data from the Instadose dosimeters was reviewed by the Northeast Division RSO on a monthly basis. The Corporate RSO was also able to review the radiation exposure data. If an individual ceases employment with NVI, the dosimeter is read for a final time and the individual's identity information is removed from the dosimeter.

At the conclusion of the onsite portion of the inspection, the inspector explained that the NRC was in the process of evaluating DIS technology such as Mirion Instadose as it relates to compliance with the requirements for personnel monitoring in 10 CFR Part 34. After this matter was discussed with the Corporate RSO, the licensee decided that until the issue was resolved by the NRC, Landauer OSL dosimeters would be issued to any personnel from the Northeast Division who will perform licensed activities in areas of NRC jurisdiction, such as West Virginia. Additionally, on July 5, 2017, the licensee

requested an exemption from the NRC's regulations in 10 CFR 34.47(a); 10 CFR 34.47(a)(3); and 10 CFR 34.47(a)(4).

The licensee provided the inspector with records related to licensed activities conducted by the Northeast Division in West Virginia. The records indicated that from April 19, 2016, to June 14, 2017, there were approximately 140 instances of radiography being performed by NVI personnel in West Virginia. Approximately 14 radiographers or radiographer's assistants participated in these activities and utilized Mirion Instadose dosimeters. The use of Mirion Instadose dosimeters relative to the NRC's regulatory requirements in 10 CFR Part 34 is an unresolved item, which remains under NRC review.

2.3. Conclusions

The inspection identified one unresolved item regarding the licensee's use of DIS dosimeter devices (Mirion Instadose) to satisfy the regulatory requirements in Title 10 of the *Code of Federal Regulations* Part 34 for personnel monitoring during radiographic operations.

3 Exit Meeting Summary

The NRC inspector presented the preliminary inspection findings at the conclusion of the onsite inspection on June 14, 2017. On April 11, 2018, a final telephonic exit briefing that included a discussion of the unresolved item was conducted with Mr. Keith Griffin, Corporate RSO. The licensee acknowledged the findings and did not dispute any of the details presented during the exit call.

SUPPLEMENTAL INSPECTION INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Keith Griffin, Radiation Safety Officer

INSPECTION PROCEDURES USED

87121	Industrial Radiography Programs
87137	10 CFR Part 37 Materials Security Programs

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

030-38376/2017-01	Unresolved Item	The use of Direct Ion Storage devices (Mirion Instadose) relative to 10 CFR Part 34 is an unresolved item, which remains under NRC review.

LIST OF ACRONYMS AND ABBREVIATIONS USED

ADAMS	Agencywide Document Access and Management System
CFR	*Code of Federal Regulations*
DIS	Direct Ion Storage
NRC	Nuclear Regulatory Commission
NVLAP	National Voluntary Laboratory Accreditation Program
OSL	Optically Stimulated Luminescence
RSO	Radiation Safety Officer