



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION I
2100 RENAISSANCE BOULEVARD, SUITE 100
KING OF PRUSSIA, PA 19406-2713

October 13, 2016

Docket No. 03020982
EA-15-272

License No. 37-23370-01

Don B. Shumway, Jr.
President
Prime NDT Services, Inc.
4345 Independence Dr.
Schnecksville, PA 18078

SUBJECT: NRC INSPECTION REPORT NO. 03020982/2015003, PRIME NDT SERVICES, INC., SCHNECKSVILLE, PENNSYLVANIA SITE; EXERCISE OF ENFORCEMENT DISCRETION AND NOTICE OF VIOLATION

Dear Mr. Shumway:

On December 14, 2015, Dennis Lawyer and on July 21, 2016, Michael Reichard of this office conducted a reactive safety inspection at your facility. The purpose of the inspection was to review the circumstances of a radiographer who exceeded the NRC annual whole body dose limits in 2015. The inspectors also performed an in-office review of additional information provided by you and your staff between December 15, 2015, and September 21, 2016, as part of the inspection. The findings were discussed with you at the conclusion of the inspection. The enclosed report presents the results of this inspection.

Based on the results of this inspection and in accordance with the NRC Enforcement Policy, the NRC has determined that three violations of NRC requirements occurred. The first violation involved a failure to limit occupational dose to 5 rem in a year to an individual. This violation would have been assessed at Severity Level III. However, as described in the enclosed inspection report, the NRC determined the individual received most of the dose while working in the Commonwealth of Pennsylvania (an Agreement State), and the Commonwealth has already issued an enforcement action against Prime NDT Services, Inc. that included a \$40,000 civil penalty for this violation. The NRC considered that the enforcement action assessed by the Commonwealth adequately addressed the issue and was commensurate with any enforcement that would be issued by the Commission. Consequently, I have been authorized, after consultation with the Director, Office of Enforcement, to exercise discretion not to take additional enforcement action against Prime NDT Services, Inc. for this issue.

The two remaining violations were assessed at Severity Level IV and involved the failures to properly record direct reading dosimeter exposures and to submit a written report within 30 days of discovering that the radiographer had exceeded the annual dose limit. These violations are cited in the enclosed Notice of Violation (Notice), because they were identified by the NRC.

The NRC has concluded that information regarding the reasons for the violations and the corrective actions taken and planned to correct the violations and prevent recurrence are adequately addressed in our records. Therefore, you are not required to respond to this letter unless the description of your corrective actions in this letter and inspection report does not

accurately reflect your corrective actions or your position. In that case, or if you choose to provide additional information, you should follow the instructions specified in the enclosed Notice.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response, if you choose to provide one, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC document system (ADAMS), accessible from the NRC Web site 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 available to the Public without redaction.

Current NRC regulations and guidance are included on the NRC's Web site at www.nrc.gov; select **Nuclear Materials; Med, Ind, & Academic Uses**; then **Regulations, Guidance and Communications**. The current Enforcement Policy is included on the NRC's website at www.nrc.gov; select **About NRC, Organizations & Functions; Office of Enforcement; Enforcement documents**; then **Enforcement Policy (Under 'Related Information')**. You may also obtain these documents by contacting the Government Printing Office (GPO) toll-free at 1-866-512-1800. The GPO is open from 8:00 a.m. to 5:30 p.m. EST, Monday through Friday (except Federal holidays).

Please contact Dennis Lawyer at 610-337-5366 if you have any questions regarding this matter.

Sincerely,

/RA/

James M. Trapp, Director
Division of Nuclear Materials Safety

Enclosures:

1. Notice of Violation
2. Inspection Report No. 03020982/2015003

cc: Commonwealth of Pennsylvania

accurately reflect your corrective actions or your position. In that case, or if you choose to provide additional information, you should follow the instructions specified in the enclosed Notice.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response, if you choose to provide one, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC document system (ADAMS), accessible from the NRC Web site 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 available to the Public without redaction.

Current NRC regulations and guidance are included on the NRC's Web site at www.nrc.gov; select **Nuclear Materials; Med, Ind, & Academic Uses**; then **Regulations, Guidance and Communications**. The current Enforcement Policy is included on the NRC's website at www.nrc.gov; select **About NRC, Organizations & Functions; Office of Enforcement; Enforcement documents**; then **Enforcement Policy (Under 'Related Information')**. You may also obtain these documents by contacting the Government Printing Office (GPO) toll-free at 1-866-512-1800. The GPO is open from 8:00 a.m. to 5:30 p.m. EST, Monday through Friday (except Federal holidays).

Please contact Dennis Lawyer at 610-337-5366 if you have any questions regarding this matter.

Sincerely,

/RA/

James M. Trapp, Director
Division of Nuclear Materials Safety

Enclosures:

1. Notice of Violation
2. Inspection Report No. 03020982/2015003

cc: Commonwealth of Pennsylvania

DISTRIBUTION:

B. Bickett, RI

DOCUMENT NAME: G:\WordDocs\Mailed\Insp Letter\L37-23370-01.201500310132016.doc

SUNSI Review Complete: DLawyer

After declaring this document "An Official Agency Record" it will be released to the Public.

ML16288A486

To receive a copy of this document, indicate in the box: "C" = Copy w/o attach/encl "E" = Copy w/ attach/encl "N" = No copy

OFFICE	DNMS/RI	N	DNMS/RI	N	ORA/RI	N	DNMS/RI	N
NAME	DLawyer/dl*		MReichard/mcr*		MMclaughlin/mmm*		BWelling/bw*	
DATE	10/3/16		10/3/16		10/5/16		10/13/16	
OFFICE	DNMS/RI	N						
NAME	JTrapp/jt*							
DATE	10/13/16							

*see previous concurrences

OFFICIAL RECORD COPY

NOTICE OF VIOLATION

Prime NDT Services, Inc.
Schnecksville, PA

Docket No. 03020982
License No. 37-23370-01

During an NRC inspection conducted on December 14, 2015, and July 21, 2016, two violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

- A. 10 CFR 34.47(b) requires, in part, that direct reading dosimeters such as pocket dosimeters or electronic personal dosimeters, must be read and the exposures recorded at the beginning and end of each shift.

Contrary to the above, between March 19 and May 28, 2015, direct reading dosimeters were not always read and the exposures recorded at the beginning and the end of each shift. Specifically, a radiographer while working in NRC jurisdiction did not record the exposures from his direct reading dosimeters on March 19, March 26, and May 28, 2015.

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

- B. 10 CFR 20.2203(a)(2)(i) requires, in part, that each licensee shall submit a written report within 30 days after learning of doses in excess of the occupational dose limits for adults in 10 CFR 20.1201.

10 CFR 20.1201(a)(1)(i) requires, in part, that the licensee control the occupational dose to individual adults to an annual limit of the total effective dose equivalent being equal to 5 rems.

Contrary to the above, as of November 14, 2015, the licensee did not submit a written report within 30 days after learning of a dose in excess of the occupational dose limits for adults in 10 CFR 20.1201. Specifically, the licensee learned that an employee exceeded the annual dose limit of 5 rem on October 15, 2015, but did not submit the written report until November 25, 2015, a period greater than 30 days.

This is a Severity Level IV violation (Enforcement Policy Section 6.9).

The NRC has concluded that information regarding the reasons for the violations, the corrective actions taken and planned to correct the violations and prevent recurrence and the date when full compliance will be achieved is already adequately addressed on the docket. However, you are required to submit a written statement or explanation pursuant to 10 CFR 2.201 if the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to respond, clearly mark your response as a "Reply to a Notice of Violation," and send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region I, within 30 days of the date of the letter transmitting this Notice of Violation (Notice).

If you contest this enforcement action, you should also provide a copy of your response to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, any response which contests an enforcement action shall be submitted under oath or affirmation.

Your response will be placed in the NRC Public Document Room (PDR) and on the NRC Web site. To the extent possible, it should, therefore, not include any personal privacy, proprietary, or safeguards information so that it can be made publically available without redaction. However, if you find it necessary to include such information, you should clearly indicate the specific information that you desire not to be placed in the PDR, and provide the legal basis to support your request for withholding the information from the public.

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

Dated This 13th_ day of October 2016

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection No. 030-20982/2015-003

Docket No. 030-20982

License No. 37-23370-01

EA No. EA-15-272

Licensee: Prime NDT Services, Inc.

Address: 4345 Independence Drive
Schnecksville, PA 18078

Inspection Dates: December 14, 2015, through September 21, 2016

Exit Meeting: September 21, 2016

Inspectors:	<i>/RA BWelling for/</i>	<i>10/13/16</i>
	_____	_____
	Dennis Lawyer, Health Physicist Commercial, Industrial, R&D and Academic Branch Division of Nuclear Materials Safety	date
	<i>/RA BWelling for/</i>	<i>10/13/16</i>
	_____	_____
	Michael Reichard, Health Physicist Commercial, Industrial, R&D and Academic Branch Division of Nuclear Materials Safety	date
Approved By:	<i>/RA/</i>	<i>10/13/16</i>
	_____	_____
	Blake D. Welling, Chief Commercial, Industrial, R&D and Academic Branch Division of Nuclear Materials Safety	date

EXECUTIVE SUMMARY

Prime NDT Services, Inc.
NRC Inspection Report No. 030-20982/2015-003

On December 14, 2015, the NRC commenced a reactive inspection of Prime NDT Services, Inc. (Prime NDT) to review the circumstances of a radiographer who exceeded the annual occupational dose limit of 5 rem in a year.

Prime NDT provides non-destructive testing services to clients in Pennsylvania, Ohio, and West Virginia. On October 15, 2015, a dosimetry vendor reported to Prime NDT that a radiographer received a deep dose equivalent dose of 1.151 rem for the period of August 20, 2015, through September 19, 2015. The radiographer's year to date dose (YTD) was 5.195 rem, which exceeded the annual occupational dose limit of 5 rem in a year. Prime NDT performed an investigation to determine the root cause of the high exposure and to determine appropriate corrective actions. Prime NDT submitted a written report to the NRC, dated November 25, 2015, which documented the conclusions of their investigation, (NMED Item No. 160009, LER 2015-017).

The NRC reviewed the events pertaining to the overexposure, Prime NDT's investigation, and corrective actions. Three violations were identified by the inspectors:

The first violation was the licensee's failure to limit occupational dose to 5 rem per year for their radiation workers, as required by 10 CFR 20.1201(a)(1). Specifically, an individual working under the Prime NDT license obtained 5.315 rem in 2015. The individual received most of the dose while working in the Commonwealth of Pennsylvania's jurisdiction, and the Commonwealth issued a Notice of Violation (NOV) against Prime NDT and imposed a \$40,000 civil penalty. The NRC determined that the NOV and civil penalty assessed by the Commonwealth was commensurate with any actions that would be taken by the Commission. Consequently, the NRC is exercising enforcement discretion and is not taking additional actions against Prime NDT for this issue.

The second violation was a Severity Level IV violation for failing to properly record the exposures of a direct reading dosimeter, as required by 10 CFR 34.47(b).

The third violation was a Severity Level IV violation for failing to submit a written report to the NRC within 30 days of learning that the radiographer had exceeded the annual dose limit, as required by 10 CFR 20.2203(a)(2)(ii).

REPORT DETAILS

1. Organization and Scope of the Program

a. Inspection Scope

The inspectors reviewed the organization and scope of the activities performed under License No. 37-23370-01 by interviewing licensee staff and reviewing selected records.

b. Observations and Findings

Prime NDT provides non-destructive testing services, including radiography to clients. The licensee utilizes approximately 80 radiography technicians and has offices in Ohio and Pennsylvania. The company was established in 1997.

NRC License No. 37-23370-01 authorizes industrial radiography, replacement of sources, and shielding for radiographic equipment at temporary job sites anywhere the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material. The only area in NRC jurisdiction that the licensee worked was West Virginia.

The radiographers work for a field supervisor. This field supervisor reports to an Operations Manager and a Corporate Vice President. The Vice President reports to the President. The President is also the Radiation Safety Officer. The Radiation Safety Officer has an assistant to aid him with management of the radiation safety program.

c. Conclusions

No violations were identified.

2. Review of Activities Related to a Radiographer Exceeding the Annual Limit for Dose

a. Inspection Scope

The inspectors performed a reactive inspection per Inspection Procedure 87103 to review Prime NDT's investigation of a radiographer who exceeded the annual occupational dose limit. The inspection consisted of reviewing the licensee's written reports, interviewing personnel, and review of pertinent records and procedures.

b. Observations and Findings

On October 15, 2015, a dosimetry vendor reported to Prime NDT that a radiographer received a deep dose equivalent dose of 1.151 rem for the period of August 20 through September 19, 2015. The radiographer's YTD dose was 5.195 rem, which exceeded the annual occupational dose limit of 5 rem in a year. Prime NDT notified the NRC by written report dated November 25, 2015 (NMED Event Number 160009, LER 2015-017), in accordance with 10 CFR 20.2203, "Reports of exposures, radiation levels, and concentrations of radioactive materials exceeding the constraints or limits." The

inspector noted that this written report was not submitted within 30 days of learning of this occurrence.

The following chart summarizes the reported dosimetry values and licensee's actions taken.

Prime NDT Services, Inc. Overexposure					
Dosimetry Records					
Dosimetry Vendor Report Date*	Dosimetry Wear Period	Reported Dose (rem)	YTD Total (rem)	Direct Reading Dosimeter Record (R)	Licensee Actions (Action taken within day of dosimetry vendor date)
08/17/2015	June 20 – July 19, 2015	0.889	2.846	0.51	Discussed ALARA Techniques
09/17/2015	July 20 – Aug 19, 2015	1.198	4.044	0.71	Reassigned radiographer to lower dose work
10/15/2015	Aug 20 – Sept. 19, 2015	1.151	5.195	0.65	Removed radiographer from job duties
11/25/2015	Sept. 20 – Oct. 8, 2015	0.12	5.315	0.059	
*The delay between the end of the dosimeters' wear period and the dosimetry vendors report date is due to a two week dosimetry collection time by the licensee and a two week processing time by the vendor.					

The licensee's procedures require an investigation of doses whenever an individual exceeds 0.75 rem in a month or 3.75 rem in the calendar year. If either of these dose investigation levels are exceeded, the licensee evaluates the cause for the high result and determines appropriate corrective actions. The licensee met with the radiographer on approximately August 17, 2015, and September 17, 2015, to discuss the dosimetry readings and ALARA techniques.

The licensee's procedure was not effective, because the licensee followed their process, but an individual exceeded their dose limit. The procedure did not establish investigation levels low enough to compensate for the delay between the wear period and the dosimetry vendor report date. The procedure was implemented when the radiographer exceeded 3.75 rem for the year and 0.75 rem for one month.

The licensee determined that some individuals were not accurately recording the readings from their direct reading dosimeters, which hindered the licensee's ability to assess exposures other than by the personal dosimeter results. The licensee conducted a review of direct reading dosimeter logs for 2015 and determined that several individuals had direct reading dosimeter results that were more than 20% lower than the personal dosimetry results for the same period. For the radiographer in question, his direct reading dosimeter results were 56% lower than his personal dosimeter results for the August 20-September 19 monitoring period. The licensee reviewed the individual's direct reading dosimeter logs, and determined that he did not record entries for March 19, March 26, and May 28, 2015, though he worked on those dates in West Virginia, a location of NRC jurisdiction. Incomplete direct reading dosimeter data led the RSO to believe that the individual had not exceeded the occupational dose limit prior to July 20, 2015.

In response to these issues, the licensee has taken the following corrective actions:

The licensee revised the notification criteria with the dosimetry vendor. The vendor will notify the licensee when an individual's result is greater than 0.5 rem in a month or 2.5 rem year to date.

The licensee submitted an amendment request on January 7, 2016, to reduce dose control action levels to 3 rem per calendar year and 0.75 rem per month based upon direct reading dosimeter results. The limiting value is calculated as 4.5 rem minus current year to date dose (YTD), divided by the number of months remaining in the year (Mo) that the radiographer remains working, times 75% [allowable direct reading dosimeter result = $(4.5 \text{ rem} - \text{YTD}/\text{Mo}) \times 0.75$]. The amendment was issued March 7, 2016. If the calculated action level is exceeded, the licensee will restrict work activities until personal dosimeter results are reported by the vendor.

The licensee will also consider additional dose control techniques, when warranted, such as shifting duties between radiographers to better distribute exposures, increasing distances between the source and radiographer during exposures, or implementing other techniques such as longer control cables, shorter guide tubes, faster film, larger collimators, etc.

The licensee committed to implementing a peer checking system to ensure that direct reading dosimeter results are recorded. The licensee has also taken steps to ensure that any future occurrences of exceeded dose limits will be reported within 30 days.

c. Conclusions

Three violations were identified:

The first violation was the failure to limit occupational dose to less than 5 rem per year for all of their radiation workers, as required by 10 CFR 20.1201(a). Specifically, an individual working under the Prime NDT license obtained 5.315 rem in 2015. The individual received most of the dose while working in the Commonwealth of Pennsylvania's jurisdiction, and the Commonwealth issued a Notice of Violation (NOV) against Prime NDT and imposed a \$40,000 civil penalty pertaining to this issue. The NRC determined that the NOV and civil penalty assessed by the Commonwealth was commensurate with any actions that would be taken by the Commission. Consequently, the NRC is exercising enforcement discretion and is not taking additional actions against Prime NDT for this issue.

The second violation was a Severity Level IV violation for failing to properly record the exposures of a direct reading dosimeter, as required by 10 CFR 34.47(b).

The third violation was a Severity Level IV violation for failing to submit a written report to the NRC within 30 days of learning that the radiographer had exceeded the annual dose limit, as required by 10 CFR 20.2203(a)(2)(ii).

3. Exit Meeting

On September 21, 2016, the lead inspector presented the results of the inspection by telephone. The licensee acknowledged the findings.

ATTACHMENT: SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

#*Don B. Shumway, Jr., President and Radiation Safety Officer
#*Brian Shumway, Assistant Radiation Safety Officer/Shop Foremen
Scott Elliot, Vice President of Operations
David Toth, Radiographer
Joseph Berkich – Supervisor Radiographer

#Present at entrance meeting

*present at exit meeting

INSPECTION PROCEDURES USED

Manual Chapter 2800, "Materials Inspection Program"
Inspection Procedure 87121, "Industrial Radiography Programs"
Inspection Procedure 87103, "Inspection of Materials Licensees Involved in an Incident or Bankruptcy Filing"

LIST OF DOCUMENTS REVIEWED

Selected reports from:

Dosimetry Vendor dose reports of 2015
Current Organization chart
Results of the investigation of pocket ionization chamber readings
Self-reader evaluation of the radiographer and partner for 2015
Self-reader summation compared to dosimeter of record readings for July-August by individual
Calibration record of the self-reader
Location report of radiographer in 2015
Daily Radiation Report and Shipping Certification for Radioactive Material in 2015

LIST OF ACRONYMS USED

LER	Licensing Event Report
NDT	non-destructible testing
NMED	Nuclear Material Events Database
R	roentgen
YTD	year to date dose