UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

March 3, 2006

EA-06-014

Mr. Michael McIntire, President
Southwest X-Ray Corporation
P. O. Box 130
Glenrock, Wyoming 82637

SUBJECT: NRC INSPECTION REPORT 030-32768/05-01

Dear Mr. McIntire:

This refers to the routine, unannounced inspection conducted on August 23, 2005, at a temporary job site in Casper, Wyoming, and to the inspection conducted on November 16, 2005, at your corporate office in Casper, Wyoming. The inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of the license. Within these areas, the inspection consisted of observations of licensed activities, selected examination of written procedures, representative records and interviews with personnel. Preliminary inspection findings were discussed with you and your staff at the conclusion of the onsite portion of the inspection. A final exit briefing was conducted with you telephonically on January 30, 2006.

Based on the results of this inspection, one apparent violation was identified, involving the failure to wear all required dosimetry during radiographic operations, and is being considered for escalated enforcement action in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy). The current Enforcement Policy is included on the NRC's Web site at www.nrc.gov; select **What We Do, Enforcement,** then **Enforcement Policy.**" The circumstances surrounding this apparent violation, the significance of the issue, and the need for lasting and effective corrective action were discussed with you during the final exit briefing. As a result, it may not be necessary to conduct a predecisional enforcement conference in order to enable the NRC to make an enforcement decision.

In addition, since your facility has not been the subject of escalated enforcement actions within the last two years, a civil penalty may not be warranted in accordance with Section VI.C.2 of the Enforcement Policy. The final decision will be based on your written confirmation to us that corrective actions are implemented and are being taken.

Before the NRC makes its enforcement decision, we are providing you an opportunity to either (1) respond to the apparent violation addressed in this inspection report within 30 days of the date of this letter or (2) request a predecisional enforcement conference. If a conference is held, it will be open for public observation, and the NRC will issue a press release to announce the conference. Please contact Mark Shaffer at (817) 860-8287 within 7 days of the date of this letter to notify the NRC of your intended response.

If you choose to provide a written response, it should be clearly marked as a “Response to an Apparent Violation in Inspection Report 030-32768/2005-001" and should include: (1) the reason for the apparent violation, or, if contested, the basis for disputing the apparent violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. In presenting your corrective action, you should be aware that the promptness and comprehensiveness of your actions will be considered in assessing any civil penalty for the apparent violations. The guidance in the enclosed excerpt from NRC Information Notice 96-28, "SUGGESTED GUIDANCE RELATING TO DEVELOPMENT AND IMPLEMENTATION OF CORRECTIVE ACTION," may be helpful. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate response is not received within the time specified or an extension of time has not been granted by the NRC, the NRC will proceed with its enforcement decision or schedule a predecisional enforcement conference.

Please be advised that the characterization of the apparent violation described in the enclosed inspection report may change as a result of further NRC review. You will be advised by separate correspondence of the results of our deliberations on this matter.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC’s 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.

Sincerely,

/RA/

Leonard D. Wert, Director
Division of Nuclear Materials Safety

Docket No.: 030-32768
License No.: 49-27434-01

Enclosure(s):
1. NRC Inspection Report 030-32768/05-01
2. NRC Information Notice 96-28.

cc w/Enclosure 1:
Wyoming Radiation Control Program Director

bcc w/enclosures via ADAMS:
BSMallett
KSFuller
LDWert
JEWhitten
MRShaffer
CLCain
RRMuñoz
GMVasquez
SMerchant, OE
MBurgess, NMSS
OEMail
MIS System
NMIB
RIV 5th floor docket file

SUNSI Reviews Completed: RRM____

ADAMS U ‘ Yes ‘ No Initials: ____

U ‘ Publicly Available ‘ Non-Publicly Available ‘ Sensitive U ‘ Non-Sensitive

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RRMunoz	MRShaffer	GMVasquez	LDWert
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ENCLOSURE 2

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.:	030-32768
License No.:	49-27434-01
Report No.:	030-32768/2005-001
EA No.:	06-014
Licensee:	Southwest X-Ray Corporation
Facility:	Southwest X-Ray Corporation
Location(s):	Temporary Job Site in Casper, Wyoming Corporate Office in Casper, Wyoming
Dates:	August 23, 2005 through January 30, 2006
Inspectors:	R. Rick Muñoz, Health Physicist Nuclear Materials Inspection Branch
Approved By:	Mark Shaffer, Chief Nuclear Materials Inspection Branch
Attachment:	Supplemental Inspection Information

EXECUTIVE SUMMARY

Southwest X-Ray Corporation
NRC Inspection Report 030-32768/05-01

This was a routine, unannounced inspection of licensed activities conducted at a temporary job site located in Casper, Wyoming and at the licensee's offices also located in Casper. The scope of the inspection was limited to observing radiographic operations at the temporary job site, a review of written procedures and records maintained at the corporate office, and discussions with licensee personnel.

Program Overview

Southwest X-Ray Corporation (SWXC) is a nondestructive testing company with its corporate office located in Casper, Wyoming. SWXC is authorized under NRC License 49-27434-01 to use byproduct material for industrial radiography and calibration of radiation detection instruments and dosimetry equipment. Radiographic operations were authorized at one field office location and at temporary job sites. Work was limited to fabrication facilities, pipelines, and at other locations throughout areas of NRC jurisdiction. The licensee employed two personnel involved in radiographic operations and used two exposure devices (Section 1).

Inspection Findings

- During an inspection on August 23, 2005, at a temporary job site in Casper, Wyoming, a licensee radiographer's assistant (RA) failed to wear a direct reading dosimeter and a personnel dosimeter at all times during radiographic operations. This was identified as an apparent violation of 10 CFR 34.47(a). As prompt corrective action, the licensee assured that personnel monitoring was provided to all radiation workers. After the RA realized he was missing his dosimetry, he retrieved and wore his monitoring devices (Section 2).

- A review of records for radiation exposures potentially in excess of the annual limits was conducted. The overnight and weekend storage location for the RA's optically stimulated luminescence dosimeter (OSL) was located in an area adjacent to the radioactive material storage vault for the majority of calendar year 2005. This was a contributing factor in the elevated readings on the RA's personnel monitoring device. The OSL device storage location was relocated to an area further away from the storage vault in October 2005. The licensee has also revised their radiation dosimetry program to more effectively manage doses received by workers as a result of licensed operations. (Section 3).

Report Details

1 Program Overview (87121)

SWXC is authorized under NRC License 49-27434-01 to use byproduct material for industrial radiography and calibration of radiation detection instruments and dosimetry equipment. At the time of inspection, radiographic operations were authorized at one field office location and at temporary job sites. SWXC conducts radiographic operations at fabrication facilities, on oil and gas pipelines, and at other locations throughout areas of NRC jurisdiction on a routine basis. The licensee employed two individuals, one radiographer and one RA. Radiographic operations were limited to two exposure devices.

2 Temporary Job Site Inspection (87121)

2.1 Inspection Scope

The scope of the temporary job site inspection included direct observation of radiographic operations, equipment, posting and surveillance.

2.2 Observations and Findings

The portion of the inspection performed on August 23, 2005, was an unannounced inspection of licensed activities involving the use of byproduct material for industrial radiography at a temporary job site located at a metal fabrication shop in Casper, Wyoming. The inspection included direct observation of radiographic operations, a review of available equipment, posting and surveillance, and interviews with licensee personnel.

When the inspector arrived at the temporary job site, he approached the mobile dark room located at the rear of the licensee's vehicle to speak to the radiographer. At this time, he observed that the RA reached into the cab of the truck and walked away from the vehicle. The inspector followed and eventually stopped the RA to ask him what he had retrieved from the vehicle. The RA stated that he was not wearing his direct reading dosimeter nor personnel dosimeter. In fact, the inspector confirmed that during one exposure, the RA failed to wear the dosimetry required.

When interviewed by the inspector, the RA explained that he did in fact have all required dosimetry present at the job site. The RA stated that he routinely removes his dosimetry packet (containing his direct reading pocket dosimeter and his OSL) from his pocket when he breaks for lunch. He does not routinely wear the packet on his belt, instead it was normally carried in a shirt or pant pocket. He went on to explain that the crew had returned from lunch, but just after arriving back to the job site, a brief rain storm forced both the radiographer and the RA back into the cab of their truck for protection until the storm passed. During this time, the RA indicated that he had taken off his "dosimetry packet" and placed it and other equipment back into the vehicle. After the storm passed, the RA left the vehicle to commence radiographic operations but forgot to retrieve his packet from the dashboard of the truck. It was during this interruption that the RA forgot to retrieve his dosimetry from the truck. Due to the confusion and being in a rush, the RA failed to put his dosimetry devices back into his pocket. The RA did have

his alarming rate meter clipped on his belt, as it was separate from the other dosimetry devices. The RA stated that he normally wears his alarming rate meter on his belt, and does not remove it during the work day. He further stated he did not realize the dosimetry devices were missing until the NRC inspector arrived on site.

10 CFR 34.47(a) states, in part, that a licensee may not permit any individual to act a s a radiographer or a radiographer's assistant unless, at all times during radiographic operation, each individual wear, on the trunk of the body, a direct reading dosimeter, an operating alarm ratemeter, and a personnel dosimeter that is processed and evaluated by an accredited National Voluntary Laboratory Accreditation Program (NVLAP) processor. The failure of the RA to wear all required dosimetry during radiographic operations was identified as an apparent violation of 10 CFR 34.47(a) (030-32768/0501-01).

2.3 Conclusions

During the inspector's observation of radiographic operations and through interviews with licensee personnel, one apparent violation was identified. This apparent violation involved a failure of the RA to wear, on the trunk of his body, at all times during radiographic operations, a direct reading dosimeter and a personnel dosimeter that is processed and evaluated by an accredited NVLAP processor.

3 Corporate Office Inspection (87121, 83822)

3.1 Inspection Scope

A follow-up unannounced routine safety inspection was conducted on November 16, 2005, at the licensee's corporate office in Casper, Wyoming. This portion of the inspection included interviews with licensee personnel and a review of required records. Personnel monitoring (PM) records were reviewed to assess potential exposures in excess of the annual limits and accumulated whole body dose adjustment requests to the dosimetry supplier.

3.2 Observations and Findings

10 CFR 20.1201 requires, in part, that the licensee limit the annual occupational exposure to an individual to 0.05 Sv (5 Rem) total effective dose equivalent. In addition, 10 CFR 20.2206 requires, in part, that each licensee who possesses or uses byproduct material for purposes of radiography submit an annual report of the results of individual monitoring carried out by the licensee for each individual for whom monitoring was required during that year.

On October 16, 2005, the licensee notified the inspector by facsimile, that the RA had been suspended from conducting any radiography duties until January 2006. The reason given by the licensee was that the RA's dosimeter readings were over the annual limit and an investigation was currently underway. The individual had been notified by the licensee that he had received a reported dose by the dosimetry supplier of 60.55 mSv (6,055 mRem) through August 31, 2005, for calender year 2005.

Although it appeared an overexposure had occurred, it was determined during the November 16, 2005 inspection, that the overnight and weekend storage location for the RA's OSL was located in an area adjacent to the radioactive material storage vault. This area was used to store the RA's monitoring device since February 2005, when the licensee moved to its current authorized licensed location under license amendment 08.

Although the licensee's survey instrument measured no detectable radiation, independent radiological survey readings taken by the NRC inspector, using a more sensitive instrument with a lower level of detection, measured radiation levels of 3-4 μSv/hr (0.3-0.4 mRem/hr) at the surface of the wall adjacent to the storage vault. This was where the RA's monitoring device packet was stored for most of the 2005 calendar year. The OSL badge storage location was relocated to an area further away from the storage vault in October 2005.

A letter to the dosimetry supplier was submitted by the licensee on October 14, 2005, requesting a reduction in the whole body accumulated dose of 8 mSv (800 mRem) for the RA. Based on the RA's daily radiation reports, his accumulated pocket dosimeter readings showed approximately 6.96 mSv (692 mRem). This was verified by the NRC inspector.

An additional letter to the personnel monitoring dosimetry supplier was submitted by the licensee on November 12, 2005, requesting an additional reduction in the RA's whole body accumulated dose of 8.5 mSv (850 mRem). By making the adjustments requested by the licensee to the dosimetry supplier, the revised annual whole body dose for the RA for calendar year 2005 was 0.044 Sv (4.405 Rem). The annual report submitted by SWXC indicated a dose to the RA of 0.045 Sv (4.570 Rem). SWXC had determined the RA's total annual dose for 2005 to be below the annual limit or 0.05 Sv (5 Rem) set forth in 10 CFR 20.1201. The inspector reviewed the licensee's calculations and concluded that the adjustments to the RA's annual dose were calculated accurately and were based on sound assumptions.

3.3 Conclusions

Although it initially appeared that there may have been an exposure in excess of the annual limit, it was determined that the overnight and weekend storage location for the RA's OSL was located in an area adjacent to the radioactive material storage vault for the majority of calendar year 2005. It was concluded that this situation contributed to the elevated readings of the RA's personnel monitoring device. The OSL device storage location was relocated to an area further away from the storage vault in October 2005.

The licensee revised their radiation dosimetry program to more effectively evaluate dosimetry reports to verify the accuracy of doses received by workers as a result of licensed operations. The radiation safety officer reviews occupational radiation exposure records monthly. If anomalies are identified in the reports, the dosimetry supplier is notified. Until the root causes of any elevated readings are identified, individuals that receive an occupational dose in excess of 0.04 Sv (4 Rem) are reassigned to other activities to keep their dose below the annual occupational dose limits set forth in 10 CFR Part 20. If the dosimetry records are authenticated and

indicate an upward trend in an individual's monthly dose, or that an individual is approaching a dose of 0.04 Sv (4 Rem), the individual is notified and counseled.

4 Corrective Actions

The licensee assured that appropriate personnel monitoring was provided to all radiation workers. The RA retrieved and wore his monitoring devices at the time of the temporary job site inspection on August 23, 2005. On January 30, 2006, the licensee was contacted telephonically and notified of the results of the inspection. The licensee's President/Radiation Safety Officer will notify the NRC on their choice of action in response to this inspection report.

5 Exit Meeting Summary

A preliminary site exit briefing was conducted on November 16, 2005. A final telephonic exit meeting was conducted with the President/RSO on January 30, 2006. Licensee representatives acknowledged the inspector's findings. No proprietary information was identified.

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

Licensee

Michael McIntire, President & Radiation Safety Officer
Travis Jennings, Assistant Radiation Safety Officer
Click Cline, Radiographer

INSPECTION PROCEDURES USED

87121	Industrial Radiography Programs
83822	Radiation Protection

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

030-32768/0501-01	APV	Failure of a RA to wear on the trunk of his body, at all times, during radiographic operations, a direct reading dosimeter and a personnel dosimeter.

Closed
None

Discussed
None

LIST OF ACRONYMS USED

APV	Apparent Violation
CFR	Code of Federal Regulations
NRC	Nuclear Regulatory Commission
OSL	Optically Stimulated Luminescence Dosimeter
RA	Radiographer's Assistant
RAM	Radioactive Material
Sv	Sievert
SWXC	Southwest X-Ray Corporation