UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

February 20, 2008

EA-08-008
EA-08-009
EA-08-010
EA-08-011

Christopher J. Moreau, Vice President
Global X-Ray & Testing Corporation
212 Clendenning Road
Houma, Louisiana 70363

SUBJECT: NRC INSPECTION REPORT 150-00017/07-007 AND INVESTIGATION REPORT NO. 4-2007-031

Dear Mr. Moreau:

This letter refers to the inspection which began on March 13, 2007, with continued in-office review through November 26, 2007, regarding an event that occurred onboard the Lonestar Horizon laybarge located in Offshore Federal waters. The event involved the inability to retract a sealed source to the fully shielded position while performing industrial radiography.

This inspection was an examination of activities conducted under the provisions of a General License pursuant to 10 CFR 150.20 as they relate to safety and compliance with the Commission's rules and regulations, and with the conditions of Global X-Ray & Testing Corporation's Agreement State license (Louisiana License No. LA-0577-L01). Within these areas, the inspection consisted of interviews with licensee personnel, examination of procedures and representative records, and a visit to the Lonestar laybarge for confirmatory measurements. Additionally, an investigation by the NRC's Office of Investigations (OI) was initiated on April 17, 2007. The preliminary inspection findings were discussed with you at the conclusion of the onsite portion of the inspection in Houma, Louisiana. The enclosed report presents the results of this inspection. A final exit meeting was conducted telephonically with you on February 14, 2008.

Based on the results of the inspection and investigation, four apparent violations of NRC requirements were identified and are being considered for escalated enforcement action in accordance with the NRC Enforcement Policy, included on the NRC's Website at www.nrc.gov/about-nrc/regulatory/enforcement.html. The apparent violations involve failures to: 1) provide the NRC with complete and accurate information; 2) prevent workers from resuming work after their pocket dosimeters were found to be off-scale; 3) directly supervise the radiographer's assistant during radiographic operations; and 4) wear personnel dosimeters at all times while performing radiographic operations. In addition, the NRC is concerned that willfulness is associated with the apparent failure to provide NRC with complete and accurate

information. Since the NRC has not made a final determination in this matter, no Notice of Violation is being issued for these inspection findings at this time. In addition, please be advised that the number and characterization of apparent violations described in the enclosed inspection report may change as a result of further NRC review.

A closed predecisional enforcement conference to discuss these apparent violations has been scheduled for March 17, 2008, at 3:00 p.m. in Arlington, Texas.

The decision to hold a predecisional enforcement conference does not mean that the NRC has determined that a violation has occurred or that enforcement action will be taken. This conference is being held to obtain information to assist the NRC in making an enforcement decision. This may include information to determine whether a violation occurred, information to determine the significance of a violation, information related to the identification of a violation, and information related to any corrective actions taken or planned. The conference will provide an opportunity for you to provide your perspective on these matters and any other information that you believe the NRC should take into consideration in making an enforcement decision. 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 ACTIONS," may be helpful.

Instead of a PEC, you may request alternative dispute resolution (ADR) with the NRC in an attempt to resolve these issues. ADR is a general term encompassing various techniques for resolving conflict outside of court using a neutral third party. The technique that the NRC has decided to employ is mediation. Additional information concerning the NRC's program is described in the enclosed brochure (NUREG/BR-0317) and can be obtained at the following Web address: http://www.nrc.gov/about-nrc/regulatory/enforcement/adr.html. The Institute on Conflict Resolution (ICR) at Cornell University has agreed to facilitate the NRC's program as an intake neutral. Please contact ICR at 877-733-9415 within 10 days of the date of this letter if you are interested in pursuing resolution of this issue through ADR.

You will be advised by separate correspondence of the results of our deliberations on this matter. No response regarding the apparent violations is required at this time.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure(s), 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's document system (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/pdr.html or 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, proprietary, or safeguards information so that it can be made available to the Public without redaction.

If you have any questions concerning any information provided in this letter or the enclosed inspection report, please contact Mr. James Thompson at (817) 276-6538 or Ms. Vivian Campbell at (817) 860-8287.

Sincerely,

/RA/

Elmo E. Collins
Regional Administrator

Docket No.: 150-00017
General License: 10 CFR 150.20

Enclosures:
1. NRC Inspection Report 150-00017/07-007
2. NUREG/BR-0317
3. Excerpt from NRC IN 96-28

cc w/enclosure 1:
Louisiana Radiation Control Program Director

EA-08-008
EA-08-009
EA-08-010
EA-08-011

bcc Distribution w/enclosure 1 (via e-mail):

RIDSSECYMAILCENTER	RIDSOCAMAILCENTER
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S Merchant - OE	A Tull, FSME
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Copy to RIV Materials Docket File (5th Floor)
R Erickson
L McLean
N Hilton, OE
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R4ALLEGATION

SUNSI Review Completed: ADAMS: X Yes Initials: JLT .

X Publicly Available X Non-Sensitive

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RIV:DNMS:NMIB	C:NMIB	C:NMLB	ACES	D:ACES/RC
JLThompson	VHCampbell	JEWhitten	MCMaier	KFuller
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U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.:	150-00017
License No.:	General License Pursuant to 10 CFR 150.20
Report No.:	150-00017/07-007
EA No.:	EA-08-008 EA-08-009 EA-08-010 EA-08-011
Licensee:	Global X-Ray & Testing Corporation
Facility:	District Office
Location:	Houma, Louisiana
Dates:	March 13 through November 26, 2007
Inspector:	James L. Thompson, Health Physicist Materials Safety Branch -A
Approved By:	Vivian H. Campbell, Chief Materials Safety Branch -A
Attachment:	Supplemental Inspection Information

EXECUTIVE SUMMARY

Global X-Ray and Testing Corporation
NRC Inspection Report 150-00017/07-007

This was an inspection of licensed activities involving the use of byproduct material for industrial radiography conducted under a general license pursuant to the provisions of 10 CFR 150.20. The inspection was conducted in response to an event that occurred on April 20, 2006, involving the inability to retract a radiation source to its fully shielded position while working onboard a laybarge in Offshore Federal waters. The scope of the inspection was limited to the review of selected representative records and procedures, discussions with licensee personnel, and confirmatory measurements taken onboard the laybarge. In addition, an investigation was performed by NRC's Office of Investigations Region IV Field Office. This report describes the findings of the inspection and investigation.

Program Overview

Global X-Ray & Testing Corporation (Global) is a large nondestructive testing company with its corporate office located in Morgan City, Louisiana, and its district office located in Houma, Louisiana. Global is authorized to conduct industrial radiography operations under their State of Louisiana radioactive materials license (LA-0577-L01). Global is also authorized to conduct radiographic operations in Offshore Federal waters in NRC jurisdiction under the authority of a general license pursuant to the provisions of 10 CFR 150.20. (Section 1)

Inspection Findings

- The licensee failed to provide complete and accurate information to the Commission regarding pocket dosimeter readings documented on the daily job sheet for a radiographer and radiographer's assistant involved in the unshielded source event that occurred on April 20, 2006. Additionally, the licensee failed to provide complete and accurate information in a 30-day report to the Commission regarding the event described above, as well as in a telephonic discussion of this event on June 12, 2006. (Section 2)

- The licensee allowed a radiographer and his assistant to resume work after their pocket dosimeters had gone off-scale, prior to making a determination of these individuals' radiation exposure, as the result of the unshielded source event that occurred on April 20, 2006. (Section 2)

- The licensee allowed a radiographer's assistant to use a radiographic exposure device without the assistant being under the personal supervision of a radiographer, and without the radiographer's direct observation of the assistant radiographer. (Section 2)

- The licensee permitted a radiographer to perform radiographic operations without wearing a personnel dosimeter on April 20, 2006. (Section 2)

Corrective Actions

- The RSO stated during interviews that he did not intend to leave out information regarding the pocket dosimeter readings in the 30-day report he provided to the NRC. He stated that the information was in his head, but that he inadvertently failed to include it into the report. He stated that he now understands the importance of including all information known in reports of incidents to the NRC, and will ensure that he includes this information in the future. The radiographer stated that he would be more vigilant in the future to document the correct information regarding pocket dosimeter readings on the Area Survey Record. (Section 3)

- The RSO stated that if he had known that the radiographer's and assistant's pocket dosimeters had gone off-scale, he would have replaced them with a new crew, and not allowed them to return to work until a determination of their true radiation exposure had been made. However, neither the radiographer nor the assistant told him that their dosimeters had gone offscale during the event. The RSO failed to inquire about pocket dosimeter readings for the radiographer and assistant until two days after the event, when the radiographer faxed the RSO a letter stating that their dosimeters had gone offscale. The RSO stated that, in the future, he would inquire about pocket dosimeter readings prior to allowing anyone to resume work after an unshielded source event had occurred. (Section 3)

- Corrective actions are not known at this time for the apparent violation involving the radiographer's assistant being allowed to use a radiographic exposure device while not under the personal supervision and direct observation of the radiographer. (Section 3)

- After learning that the radiographer had not worn personnel dosimetry during the unshielded source event that occurred on April 20, 2006, the President of Global temporarily suspended the radiographer, and required the radiographer to undergo additional refresher training. (Section 3)

Report Details

1 Program Overview (87121)

1.1 Inspection Scope

The inspector reviewed Global's NRC Form 241 application, supporting documents, and records maintained by the licensee pertaining to the unshielded source event that occurred onboard the Lonestar Horizon laybarge on April 20, 2006. Collectively, these documents describe the licensee's industrial radiography activities in offshore Federal waters and its radiation safety program. Interviews with licensee personnel involved in the event were also conducted. The inspector performed confirmatory measurements onboard the laybarge involved in the event, and observed actual distances and material composition of the vessel.

1.2 Observations and Findings

Global is a large nondestructive testing company with its district office located in Houma, Louisiana. Global is authorized to conduct industrial radiography operations under their State of Louisiana radioactive materials license LA-0577-L01. Global is also authorized to conduct radiographic operations in offshore Federal waters in NRC jurisdiction under the authority of a general license authorized pursuant to the provisions of 10 CFR 150.20.

2 Inspection Findings (87121)

2.1 Inspection Scope

The inspector reviewed documentation of the event that occurred onboard the Lonestar Horizon laybarge on April 20, 2006. This documentation included daily job sheets, records of personnel radiation exposure, and a 30-day report submitted to NRC regarding this event. The inspector also interviewed personnel involved in the event onboard Lonestar Horizon laybarge on April 20, 2006.

2.2 Observations and Findings

10 CFR 150.20(a) provides, in part, that any person who holds a specific license from an Agreement State is granted an NRC general license to conduct the same activity in offshore waters, provided that the provisions of 10 CFR 150.20(b) have been met.

10 CFR 30.9(a) requires, in part, that information provided to the Commission that is required by statute or the Commission's regulations, orders, or license conditions to be maintained by the licensee, shall be complete and accurate in all material respects.

On April 20, 2006, a radiographer employed by the licensee documented the dose received on his pocket dosimeter as zero for the work shift. However, during a review of the daily job sheet for that day, and through discussions with the RSO, it was determined that the radiographer's pocket dosimeter had actually gone off-scale while attempting to shield a radiation source that could not be retracted to the fully shielded position within the radiographic exposure device. This means that the radiographer's pocket dosimeter likely received a radiation exposure in excess of 200 millirem. Further, the radiographer

entered information regarding his assistant's pocket dosimeter reading as 10 millirem, even though he knew that the assistant's dosimeter had also received a radiation exposure in excess of 200 millirem, because the assistant's dosimeter had gone off-scale as well.

Additionally, in the 30-day report submitted to the NRC on May 18, 2006, by the licensee regarding the April 20, 2006, unshielded source event, the licensee failed to provide the information required in the 30-day report as specified in 10 CFR 30.50(c)(2). Specifically, the licensee failed to include information regarding the fact that the radiographer's and assistant's pocket dosimeters had gone off-scale during the event, as well as information regarding potential radiation exposure to members of the public involved in the event.

Further, in a documented conversation between the RSO and NRC staff on June 12, 2006, the RSO stated that the 104 curie iridium-192 source remained in the 20 half-value-layer collimator during the 5 hours that the source could not be retracted to the fully shielded position within the radiographic exposure device. During subsequent interviews regarding this event, it was determined that the source was actually located in the guide tube for 5 hours, which would have greatly increased the potential for overexposure to the radiographers and members of the public, since the guide tube does not provide the shielding that the collimator would have.

These failures to provide complete and accurate information to the NRC regarding the April 20 event were identified as an apparent violation of 10 CFR 30.9(a). (150-00017/0707-01)

10 CFR 34.47(d) requires, in part, that if an individual's pocket chamber (dosimeter) is found to be off-scale, and the possibility of radiation exposure cannot be ruled out as the cause, the individual's personnel dosimeter must be sent for processing within 24 hours. In addition, the individual may not resume work associated with licensed material use until a determination of the individual's radiation exposure has been made.

During emergency operations on April 20, 2006, in an effort to shield a 104 curie iridium-192 source that could not be retracted to the fully shielded position within the radiographic exposure devicce, both the radiographer and the radiographer's assistant wore pocket dosimeters that went off-scale. The RSO appropriately sent in the radiographer's and assistant's personnel dosimeters for emergency processing; however, the radiographer and assistant were allowed to resume work prior to the licensee making a determination of their radiation exposure. The RSO stated during interviews that he was not made aware of the fact that the pocket dosimeters had gone off-scale until two days after the April 20 event.

Allowing these individuals to resume work after their pocket dosimeters had gone off-scale, and prior to a determination of their radiation exposure, was identified as an apparent violation of 10 CFR 34.47(d). (150-00017/0707-02)

10 CFR 34.46(c) requires, in part, that whenever a radiographer's assistant uses radiographic exposure devices, the assistant shall be under the personal supervision of a radiographer, and that the personal supervision must include the radiographer's direct observation of the assistant's performance of the operations.

During interviews with the radiographer and assistant involved in the April 20 event, the inspector determined that it had been common practice, while working onboard laybarges, to have the radiographer developing film in the darkroom, while one assistant cranked out the source, and the other assistant observed the operation, and kept members of the public out of the restricted area. During the April 20 event in which the source could not be retracted to the fully shielded position, the radiographer was again in the darkroom developing film, while the assistants were using the radiographic exposure device unsupervised. When the source became stuck, one of the assistants went to the darkroom to inform the radiographer of the emergency.

The failure of the radiographer to directly observe the assistant's performance of industrial radiographic operations was identified as an apparent violation of 10 CFR 34.46(c). (150-00017/0707-03)

10 CFR 34.47(a) requires, in part, that the licensee may not permit any individual to act as a radiographer or assistant unless, at all times during radiographic operations, each individual wears, on the trunk of the body, a personnel dosimeter.

During interviews with the radiographer associated with the April 20 event on the Lonestar Horizon, the radiographer maintained that he was wearing his personnel dosimeter when conducting emergency operations to shield the radiation source. He did state, however, that he routinely removed his personnel dosimeter whenever he entered the darkroom to develop film, and this radiographer was in the darkroom developing film when the unshielded source event occurred. The assistant told the radiographer of the emergency, and the radiographer ran out of the darkroom to assist in attempting to shield the source.

During the attempt to shield the source, both the radiographer and assistant's pocket dosimeters went off-scale, meaning that they received a radiation dose of at least 200 millirem. Both the radiographer and assistant’s personnel dosimeters were sent off for emergency processing. The results showed that the assistant's personnel dosimeter received a radiation dose of 204 millirem. The results of the radiographer's personnel dosimeter showed that he only received a radiation dose of 25 millirem, even though his pocket dosimeter went off-scale during the emergency event. This 25 millirem reported by the dosimetry vendor also includes radiation exposure received for radiography work earlier in the month of April.

The NRC concluded that because of these circumstances, it was reasonable to believe that the radiographer was not wearing his personnel dosimeter during the time in which he entered the restricted area to attempt to shield the source. This failure to wear a personnel dosimeter at all times during radiographic operations was identified as an apparent violation of 10 CFR 34.47(a). (150-00017/0707-04)

2.3 Conclusions

The inspection identified four apparent violations of NRC requirements which involved: 1) the failure to provide the NRC with complete and accurate information; 2) the failure to prevent workers from resuming work after their pocket dosimeters were found to be off-scale, and before a determination of their radiation exposure was made; 3) the failure of the radiographer to directly supervise the assistant during radiographic operations; and

4) the failure to wear personnel dosimeters at all times while performing radiographic operations.

3 Corrective Actions (87121)

- The RSO stated during interviews that he did not intend to leave out information regarding the pocket dosimeter readings on the 30-day report that he provided to NRC. The RSO indicated that he was cognizant of the information, but had inadvertently failed to include it into the report. He stated that he now understands the importance of including all information required in written reports of incidents to the NRC, and will ensure that he includes all required information in the future.

  The radiographer stated that he would be more vigilant in the future to document the correct information regarding pocket dosimeter readings on the Area Survey Record.

- The RSO stated that if he had known that the radiographer's and assistant's pocket dosimeters had gone off-scale, he would have replaced them with a new crew, and not allow them to return to work until a determination of their true radiation exposure had been made. However, neither the radiographer nor the assistant informed him that their dosimeters had gone off-scale during the event. The RSO failed to inquire about pocket dosimeter readings for the radiographer and assistant until two days after the event, when the radiographer faxed the RSO a letter stating that their dosimeters had gone off-scale during the unshielded source event. The RSO stated that, in the future, he would inquire about pocket dosimeter readings prior to allowing anyone to resume work after an unshielded source event had occurred.

- Corrective actions are not known at this time for the apparent violation involving the radiographer's assistants being allowed to use a radiographic exposure device while not under the personal supervision and direct observation of the radiographer.

- After learning that the radiographer had not worn personnel dosimetry during the unshielded source event that occurred on April 20, 2006, the President of Global temporarily suspended the radiographer, and required the radiographer to undergo additional refresher training.

4 Exit Meeting Summary

A final telephonic exit briefing was conducted with Global's President and RSO on February 14, 2008, to review the inspection findings as presented in this report. Licensee representatives acknowledged the inspector's findings. No proprietary information was identified.

SUPPLEMENTAL INSPECTION INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

Christopher J. Moreau, Vice President
Bill Johnston, RSO
Joey Landry, Radiographer
Novell Frey, Radiographer's Assistant

INSPECTION PROCEDURES USED

87121 Radiography Programs

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

150-00017/0707-01	APV	An apparent violation involving the failure to provide complete and accurate information to NRC
150-00017/0707-02	APV	An apparent violation involving the failure to prevent workers from resuming work after their pocket dosimeters were found to be off-scale, and before a determination of their radiation exposure was made
150-00017/0707-03	APV	An apparent violation involving the failure of the radiographer to directly supervise the assistant during radiographic operations
150-00017/0707-04	APV	An apparent violation involving the failure to wear personnel dosimeters at all times while performing radiographic operations.

Closed

None

Discussed

None

LIST OF ACRONYMS USED

CFR	Code of Federal Regulations
NRC	Nuclear Regulatory Commission
RSO	Radiation Safety Officer
APV	Apparent Violation