

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 030-04837/91001(DRSS)

Docket No. 030-04837

License No. 21-05472-01

Category C1

Priority 1

Licensee: X-R-I Testing, Inc.
Division of X-Ray Industries
1328 Wheaton
Troy, MI 48083-6298

Inspection Conducted at: X-R-I Testing, Inc. (Field Office)
120 James Street
Holland, MI 49424

Inspection Conducted on: January 17, 1991

Purpose of Inspection: This inspection was conducted in response to allegations received by the NRC Region III office pertaining to the licensee's radiation safety program (AMS RIII-90-A-0123).

Inspector: Bryan A. Parker
Bryan A. Parker
Radiation Specialist

02/15/91
Date

Reviewed By: Roy J. Caniano
Roy J. Caniano, Chief
Nuclear Materials Safety
Section 2

2/15/91
Date

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2/17/91
Date

Inspection Summary

Inspection Conducted on January 17, 1991 (Report No. 030-04837/91001(DRSS))
Areas Inspected: This was an unannounced, special inspection conducted in response to allegations received by the NRC Region III office pertaining to the licensee's radiation safety program. The allegations were that radiographers were not being furnished personnel dosimetry while employed or

termination reports upon the end of employment; and that employees (other than radiographers) who work in the vicinity of radiographic operations were not being trained. The allegations concerned the Holland, Michigan, field office only. The inspection included a review of the above areas as well as the areas of radiographer and radiographer's assistant training; internal audits; facilities, materials, and equipment; surveys; notifications and reports; receipt and transfer; transportation; posting and labeling; and independent measurements.

Results: Of the allegations received by the NRC, two were substantiated and are described in Section 5. Also, two apparent violations of NRC requirements were identified during the inspection relative to internal audits and notifications and reports. No violations were identified in the other program areas reviewed.

1. Failure to furnish an exposure report to the NRC and a former employee notifying them of the individual's exposure to radiation or radioactive material, 10 CFR 20.409(b) and 10 CFR 20.408(b) (Section 5).
2. Failure to perform quarterly unannounced audits of operating personnel at areas of radiographic operations, License Condition No. 19 (Section 6).

DETAILS

1. Persons Contacted

*Leonard Schlipp, Corporate Radiation Safety Officer
*James Broadbent, Laboratory Manager
Robyn Davis, Office Manager
Patty Berry, Secretary
Gail Storm, X-Ray Technician

*Indicates present at exit meeting held January 17, 1991.

2. Licensed Program

X-R-I Testing, Inc. (XRI) is authorized by NRC License No. 21-05472-01 to use iridium-192 (Ir-192) and cobalt-60 (Co-60) in the conduct of industrial radiography. The license also authorizes the use of cesium-137 (Cs-137) for survey instrument calibration. All of the licensed material authorized may be used and stored at the licensee's facilities located at 1361 Thunderbird, Troy, Michigan. Licensed material may also be stored at various field offices including one located at 120 James Street, Holland, Michigan. Ir-192 and Co-60 may be used at temporary jobsites anywhere in the United States where the NRC maintains jurisdiction for regulating the use of byproduct material.

The Corporate Radiation Safety Officer (RSO) is Leonard Schlipp, who is based out of the aforementioned Holland, Michigan, field office. The Holland office currently employs approximately six radiographers and seven radiographer's assistants. While the Holland office acts as a base for field radiography occurring in the local area, it also is used as a temporary jobsite when radiography is conducted on the premises and no fixed radiography is performed.

3. Inspection History

The licensee was last inspected on June 25, 1990, at which time one violation of NRC requirements was identified. The violation was a failure to post all of the information required by 10 CFR 19.11. A routine inspection conducted on March 28, 1989, identified no violations of NRC requirements and a routine inspection conducted on August 28, 1987, identified five violations of NRC requirements. These violations were: (1) providing unauthorized survey instrument calibration services commercially; (2) failure to provide refresher training; (3) failure to perform quarterly equipment inspections; (4) failure to include all necessary information into shipping papers; and (5) failure to properly label shipping containers.

4. Purpose of Inspection

This inspection was conducted in response to allegations received by the NRC Region III office pertaining to the licensee's radiation safety program at the Holland, Michigan, facility and, as a result, this

inspection was limited to the Holland, Michigan, facility. All of the previous inspections mentioned above were conducted at the licensee's facilities in Troy and/or Detroit, Michigan.

The specific allegations are as follows:

- ° Field radiographers are not provided appropriate personnel monitoring and/or the dosimetry results are not adequately maintained;
- ° Some employees (not radiographers) who work in the vicinity of radiographic operations have not been trained;
- ° Two radiographers were not provided termination exposure reports as required by 10 CFR Part 20.

5. Allegation Followup/NRC Findings (AMS R111-90-A-0123)

Allegation No. 1: Field radiographers are not provided appropriate personnel monitoring and/or the dosimetry results are not adequately maintained.

As followup to this allegation, the inspector reviewed dosimetry records for all radiographers and assistants employed at the Holland, Michigan facility, for the period of January 1, 1988 through November 30, 1990. The records contained all of the necessary information (names, birthdates, Social Security numbers, etc.) and no time gaps, excessive exposures, or other problems were noted. The maximum annual whole body exposures for the years 1988, 1989 and 1990 are 240, 80, and 140 millirem, respectively. Employees are issued a whole body film badge upon initial employment and the inspector noted during the inspection that film badges are being worn by all personnel.

In addition to film badges, radiographers and radiographer's assistants are provided pocket dosimeters and audible alarms when the individuals are actively involved in industrial radiography. The pocket dosimeters are checked annually for response and the audible alarms are preset at 500 milliRoentgens/hour as required.

The allegation was not substantiated and no violations of NRC requirements were identified.

Allegation No. 2: Some employees (not radiographers) who work in the vicinity of radiographic operations have not been trained.

10 CFR Part 19.12 requires a licensee to train individuals in certain specified items who work in or frequent a restricted area. The licensee has two restricted areas within the Holland facility. One is in the radioactive material storage area and the other only exists when radiography is being performed on the premises. The radiography is done in a remote corner area of the licensee's facility and is treated as a temporary jobsite (ropes, signs, surveys, surveillance, etc). Access to

both these areas is controlled as necessary and limited to authorized personnel only (i.e. radiographers and assistants). Thus, no personnel other than radiographers and radiographer's assistants ever work in or even frequent a restricted area at the licensee's Holland facility, so training pursuant to 19.12 is not required for anyone other than radiographers and radiographer's assistants.

During the inspection, the RSO indicated that new employees, at the time of film badge issuance, receive some informal training related to the purpose of the film badge and the uses of radiation and radioactive material at XRI. Also, non-radiation workers attend a radiation safety training session. Interviews with two office personnel (a secretary and the office manager) indicated that one of the individuals had received some training and the other had not.

However, as previously discussed, the duties of these personnel do not warrant training by the licensee pursuant to their license or 10 CFR Part 19.

The allegation was substantiated in that the licensee does not train employees (other than radiographers) who work in the vicinity of radiographic operations but, as previously indicated, there is no NRC requirement for these individuals to be trained since they do not frequent restricted areas. The training of radiographers and radiographer's assistants was found to be adequate.

No violation of NRC requirements were identified.

Allegation No. 3: Two radiographers were not provided termination exposure reports as required by 10 CFR Part 20.

10 CFR 20.408(b) requires, in part, that an exposure report be furnished to the NRC within 30 days after the exposure of the individual has been determined by the licensee or 90 days after the date of termination of employment, whichever is earlier.

10 CFR 20.409(b) states that when a licensee is required pursuant to 10 CFR 20.405 or 20.408 to report to the NRC any exposure of an individual to radiation or radioactive material, the licensee shall also notify the individual. Such notice shall be transmitted at a time no later than the transmittal to the NRC, and shall comply with the provisions of 10 CFR 19.13(a) of this chapter.

A review of records during the inspection indicated that the licensee failed to furnish an exposure report to the NRC and a former employee as required. Specifically, a radiographer terminated employment on August 10, 1990, and a termination exposure report was not furnished to the NRC and the individual until January 17, 1991, which is a period greater than 90 days. This constitutes an apparent violation of 10 CFR 20.409(b). According to the licensee, no other radiographers or radiographer's assistants have terminated employment in the recent past.

The cause of this violation appears to be an oversight on the part of the licensee. According to the licensee, when an employee of one the

XRI satellite facilities terminates employment, a "termination packet" containing the employee's records (training certificates, final dosimetry reports, etc.) is forwarded to the XRI Corporate Headquarters (Corporate) in Troy, Michigan, for processing. According to the RSO, the termination packet for the radiographer who terminated in August 1990 was initially forwarded to Corporate in a timely manner and was either lost in transit or lost after arriving at Corporate. The terminated radiographer eventually contacted the licensee and inquired about the termination report at which time Corporate obtained the information on January 17, 1991, from the Holland office and processed it.

The allegation was substantiated in that one radiographer was not provided a termination exposure report as required by 10 CFR Part 20.

One apparent violation of NRC requirements was identified.

6. Other Areas Inspected

With regard to the other areas inspected, no violations of NRC requirements were identified with the following exception:

10 CFR 34.11(d)(1) requires, in part, that an applicant have an inspection program that requires the observation of the performance of each radiographer and radiographer's assistant during an actual radiographic operation at intervals not to exceed three months.

License Condition No. 19 incorporates the inspection program containing the requirements stated in 10 CFR 34.11(d)(1) as submitted in application dated April 29, 1987, into the license. Item 7(C)(1) of the aforementioned application requires the licensee to make unannounced audits of operating personnel at areas of radiographic operations at least quarterly.

The licensee indicated during the inspection that, since January 1988, an approximate total of seven radiographers and seven radiographer's assistants have been employed by the Holland office. The inspector reviewed the audit histories for the current active radiographers and radiographer's assistants and found that on approximately 15 occasions since January 1988, the licensee failed to make unannounced audits of operating personnel at areas of radiographic operations at least quarterly. The frequencies that the audits had been conducted were at approximate six month intervals. This constitutes an apparent violation of License Condition No. 19.

The cause of this violation appears to be insufficient staffing. According to the RSO, performance audits are not completed as often as required because he is the only individual authorized to perform quarterly audits and he must cover three Michigan offices as well as two offices in Ohio. The licensee plans to have more individuals authorized as assistant RSOs through an amendment to the license to allow them to function as auditors.

One apparent violation of NRC requirements was identified.

7. Exit Meeting

An exit meeting was held at the licensee's Holland facility following the inspection between the inspector and those individuals indicated in Section 1 of this report. The allegations were discussed as were the preliminary findings, including the apparent violations. Also, the NRC Enforcement Policy was discussed with the licensee. No information described in this report was identified by the licensee as proprietary in nature.