

Aljela

Research &

Testing Labs, Inc.

QA, QC, NDE
Research and Development

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June 4, 1985

MS 16
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United States Nuclear Regulatory Commission
Region 1
631 Park Avenue
King of Prussia, Pennsylvania 19406

Docket No.: 030-21248
Control No.: 103706

Attention: Jack Davis
Nuclear Materials Safety
Section A
Division of Radiation Safety

Gentlemen:

We acknowledge receipt of your correspondence dated May 22, 1985 with reference to our application for a Byproduct Material License dated April 17, 1985.

We submit corrective action taken as follows:

Item 1 Section 8.D.1 - "Radiation Safety Training Program" of your Radiation Safety and Control Manual you provide the requirements to be an assistant radiographer. However, you did not specify that a written examination was required and the minimal passing score. Please note that individuals must be qualified as a radiographer's assistant prior to entering the on-the-job training phase of your program.

Corrective
action taken:

Assistant Radiographer

- A. 16 hours classroom/field training
- B. Specific instruction for use of radiographic equipment to which candidate will be assigned.
- C. Operating/Emergency Procedures
- D. Case Histories of Radiation Accidents
- E. Proper Survey Procedures
- F. Written Examination (25 test questions)
- G. Minimum passing score 80%
- H. as Assistant Radiographer prior to on-job-training

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Item 2 Section 8.D.2 - "Radiation Safety Training Program" of your Radiation Safety and Control Manual you provide the requirements to be a radiographer. However, you did not specify that a written examination and a field examination will be given. An individual with no previous experience should receive a minimum of three months on-the-job-training.

Corrective Radiographer

Action Taken: A. 40 hours of classroom/field training
 B. Written examination (50 test questions)
 1. Fundamentals of Radiation Safety
 2. Detection instruments
 3. Radiographic equipment
 4. Inspection/Maintenance Procedures
 5. Case Histories
 6. NRC Regulations
 7. Specific Instruction for Equipment
 8. Operating/Emergency Procedures
 C. Field Examination (Exhibit 1)

Item 3 Section 8.D.2 - "Radiation Safety Training Program" of your Radiation Safety and Control Manual you provide the requirements for personnel with previous radiographic experience. However, you did not specify that a written examination and field examination will be given. If you will be giving an examination similar or the same as that which you give to qualify individuals as radiographer's assistants, please specify.

Corrective Previous Radiographic Experience (Radiographer)

Action Taken: A. 16 hours classroom/field training
 B. Written examination (similar to qualify Radiographer's Assistant) 25 questions
 C. Field Examination (Exhibit 1)

Item 4 Item 3.2.5 - "Radiation Detection Instruments" of your Radiation Safety and Control Manual you state that the area monitor must be turned on. The alarm must be operational 24 hours per day. Please confirm that the alarm will sound a warning whenever radiation is present and the door to the exposure room is opened without having to turn on or connecting the alarm.

Corrective 3.2.5 The area monitor alarm will be operational 24 hours per day.
Action Taken: The alarm will sound a warning whenever Radiation is present and the door to the exposure room is opened without having to turn on or connecting the alarm.
 Refer to Drawing ART-0002 attached

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Item 5

Attachment 6 - "Description of Calibration Procedure" of your Radiation Safety and Control Manual you state that you will determine the distance from the source at which the radiation intensity would be 800 mr/hr. In a like manner how to determine the radiation intensities for 200 mr/hr, 80 mr/hr, 20 mr/hr, 8 mr/hr and 2 mr/hr. However, Attachment 5 - "Sample Calibration Data Sheet" you specify the calibration point to be 2.5 mr/hr, 7.5 mr/hr, 25 mr/hr, 75 mr/hr, 250 mr/hr and 750 mr/hr. Please resolve this conflict. In addition, please note that mr/hr should be in lower case letter not capitals. Furthermore, please specify who will do the calibrations of the survey meters.

Corrective
Action Taken:

CERTIFICATE OF CALIBRATION

Survey Meters

Date:

Manufacturer

Electronic Test

Model Number

Serial Number

<u>RANGE</u>	<u>CALIBRATION POINT</u>	<u>ACTUAL READING</u>	<u>ERROR</u>
1. Figure 3	800 mr/hr	_____	_____
2. 0.25 Attenuator	200 mr/hr	_____	_____
3. 0.10 Attenuator	80 mr/hr	_____	_____
4. 0.25 Attenuator	20 mr/hr	_____	_____
5. 0.10 Attenuator	8 mr/hr	_____	_____
6. 0.25 Attenuator	2 mr/hr	_____	_____

Repairs/Parts

The calibration and certification is in accordance with the Nuclear Regulatory Commission requirements of 10 CFR Part 34 Regulations.

The above instrument was calibrated with a Cesium 137 Source - NRC Regulations require that it be recalibrated not later than 3 months.

Calibrated by: Radiation Safety Officer/Radiographer

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Item 6 Section 4 - "Personnel Monitoring Equipment," of your Radiation Safety and Control Manual you do not specify what radiation source you will be using to calibrate the pocket dosimeters. In addition please specify who will do the calibrations of the pocket dosimeters.

Corrective
Action Taken:

C E R T I F I C A T E O F C A L I B R A T I O N

Client:

Date:

Manufacturer

Test Media: Cesium 137

Model Number

Serial Numbers

<u>CALIBRATION PROCEDURE</u>	<u>CALIBRATION POINT</u>	<u>ACTUAL READING</u>	<u>ERROR</u>
Section 4	15 mr/hr	_____	_____
Pers. Monitoring	60 mr/hr	_____	_____
Radiation Safety/ Control Manual	150 mr/hr	_____	_____

Repairs/Parts

The calibration and certification is in accordance with the Nuclear Regulatory Commission requirements of 10 CFR Part 34 Regulations.

The above pocket dosimeters were calibrated with a Cesium 137 Source - NRC Regulations require that calibration be performed at least once every three (3) months.

Calibrated by: R.S.O./Radiographer

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By _____

Item 7 Item 7.5.1.B - "Excessive Radiation Exposure to Personnel" of your Radiation Safety and Control Manual you state that radiographic personnel are limited to 3 rem per calendar quarter and adults are limited to 1.25 rem per calendar quarter. However, Section 20.101 of 10 CFR Part 20 requires individuals in a restricted area to be limited to 1.25 rem per calendar quarter unless an NRC Form 4 is completed, then a licensee is permitted to receive 3 rem per calendar quarter. Please explain who these "Adults" are?

Corrective 7.5.1.B Adults--1.25 rem during any calendar quarter for adults
Action Taken: over the age of 18 - Individuals in a restricted area to be limited to 1.25 rem per calendar quarter, unless N.R.C. Form 4 is completed.

Item 8 Item 6.6.4.1.B(f) - "General Operating Procedure" of your Radiation Safety and Control Manual you state..."so that oper-". Please complete this sentence.

Corrective Item 6.6.4.1.B(f) - Connect Source Position Indicator Control to
Action Taken: your machine lock box and extend control, so that operation provides a visual signal to indicate the Source fully extended position. Secures the Source automatically in projector when fully returned to storage position. Must be reset by operator after every exposure. Visually indicates if source stored or in open position.

Item 9 Item 6.6.4.1.B(t) - "General Operating Procedure" of your Radiation Safety and Control Manual you state the Transportation Index is the number of millirem per hour at three feet. However, Section 173.411(bb) of 49 CFR Part 173 specifies that the transport index is the number expressing the maximum radiation level in millirem per hour at one meter (3.3 feet) from the external surface of the package. Please modify your instructions.

Corrective 6.6.4.1.B(t) - Two D.O.T. style shipping labels are included in the
Action Taken: envelope. These are to be pasted over the similar labels on the shipping box. The blank spaces should be filled in as follows:

Principal Radioactive Content - SPELL OUT:

Iridium-192

(Not IR-192)

Activity of Contents ----Number of Curies

Transportation Index ----Max Radiation Level at one
meter (3.3 feet) from
external surface of package

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Item 10

The Radiation Safety Internal Audit Form does not contain all of the elements of an acceptable internal inspection program. Exhibit 1 is an internal inspection checklist for a field radiography job-site. Please modify your audit form to contain all of these elements.

Corrective
Action Taken:

EXHIBIT 1

Field Radiography

Internal Inspection Checklist

Radiographic Location _____ Date _____ Time _____
Radiographer _____ Inspector _____
Radioisotope _____ Curies _____ Serial No. _____
Projector Serial No. _____ Projector Model No. _____
Survey Meter Model No. _____ Serial No. _____ Calibration Due Date _____

Yes No

1. Was the radiographer wearing a film badge and dosimeter?
2. Were other individuals working within the restricted area wearing film badges and dosimeters?
3. Was the restricted area posted with "CAUTION (or DANGER) RADIATION AREA" signs?
4. Was the restricted area properly controlled to prevent unauthorized entry?
5. Was the high radiation area posted with "CAUTION (or DANGER) HIGH RADIATION AREA" signs?
6. Did the radiographer have a calibrated and properly operating survey meter?
7. Was the utilization log properly filled out?
8. Did the radiographer have sufficient knowledge of safety rules? (Ascertained by oral questions.)
9. Was the radiographer working with defective equipment?
10. Did the radiographer properly survey the source projector and source tube and take a radiation reading 1 foot (0.3 m) in front of the source following the radiographic exposure?
11. Were radioactive isotopes stored properly and kept locked to prevent unauthorized removal?

EXHIBIT 1, continued

Yes No

12. Was the storage area posted with "CAUTION (or DANGER) RADIOACTIVE MATERIAL" signs?
13. Did the radiographer possess a copy of the applicant's operating and emergency procedures and, as applicable, State or NRC rules and regulations for protection against radiation?
14. Were there any items of noncompliance other than those listed on this form? (If any, explain in remarks.)

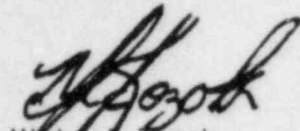
Remarks _____

Copies of Alicia Research & Testing Labs, Inc. "Application for Material License", Book I and Book II, have been subjected to the "Corrective Action Taken". Enclosures, as indicated in the above correspondence, have been incorporated in Book I and Book II of the above application.

We trust that this submittal, in reply to your letter of May 22, 1985, copy enclosed, will expediate your review of our application for a By-Product Material License.

Sincerely,

ALICIA RESEARCH & TESTING LABS, INC.



Michael Kozak
President

MK/krs

Enclosures:

- 1 - 2 copies of submittal
- 2 - 2 copies of Internal Inspection Checklist
- 3 - 2 copies ART-0002 (Alarm System Drawing)
- 4 - 2 copies Figure 3
- 5 - 2 copies NRC Letter 5/22/85

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