

JAN 24 1995

Mr. Gary E. Weiss
Radiation Safety Officer
TEI Analytical Services Inc.
P.O. Box 534
35 West Point Road
Washington, PA 15301

SUBJECT: ROUTINE INSPECTION NO. 030-29882/94-001

Dear Mr. Weiss:

This letter refers to your December 2, 1994 correspondence, in response to our November 15, 1994 letter.

Thank you for informing us of the corrective and preventive actions documented in your letter. These actions will be examined during a future inspection of your licensed program.

No reply to this letter is required. Thank you for your cooperation in this matter.

Sincerely,

Original Signed By:
Walter J. Pasciak

Walter J. Pasciak, Chief
Industrial Applications Section
Division of Radiation Safety
and Safeguards

Docket No. 030-29882
License No. 37-28004-01

cc:
Commonwealth of Pennsylvania

Distribution: 9501310072 950124
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DOCUMENT NAME: S:\PENDING\TEI\ANAL\RL

OFFICE	DRSS/RI	DRSS/RI	DRSS/RI	DRSS/RI
NAME	Ladun/gxc	Pasciak		
DATE	01/10/95	01/10/95	01/ /95	01/ /95

300005 RETURN ORIGINAL TO
REGION I

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IE 07



December 2, 1994

U.S. Nuclear Regulatory Commission
Washington, D.C. 20555
Mailed Certified, Return Receipt
ATTENTION: Document Control Desk

SUBJECT: Routine Inspection #030-29882/94-001
REPLY TO A NOTICE OF VIOLATION

Gentlemen,

In accordance with the provisions of 10 CFR 2.201, this reply is being submitted to your office concerning the two (2) violations referenced in the subject inspection. The violations are detailed below with corrective actions.

VIOLATION 1

License Condition 18, item 9 of the application (storage) states that when exposure devices are returned to the facility they will be stored either in the underground storage vault or in the underground radiographic area. The underground radiographic area being used when the storage vault cannot accommodate. Between 10/14/94 and 10/17/94, T/O 680, S/N 206 was stored in an unauthorized location outside of the facility in a secured fenced-in area in a locked utility trailer.

REASON FOR THIS VIOLATION: The RSO incorrectly interpreted the "temporary" storage provision of TEI's radioactive material license.

CORRECTIVE ACTION

1. CORRECTIVE STEPS WHICH HAVE BEEN TAKEN: On October 17, 1994, TEI removed the subject exposure device from the fenced-in area and placed it in the authorized underground radiographic area where it was secured.
2. CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS: A bulletin was generated on 10/17/94 explaining the license requirement to all radiographic personnel. This notice was posted on the vault utilization log (where devices are tracked for movement from shop), the utility trailer, and bulletin boards in both shop and office. Please see Attachment #1 for copy of directions from RSO regarding storage and security of these devices.
3. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED: Compliance with requirement was achieved 10/17/94.

41240095

DEC - 8 1994



VIOLATION #2

Attachment #6 of a letter dated September 27, 1993 states that each Radiographer and Radiographer's Assistant actively engaged in the company's radiography program shall be inspected at intervals not to exceed three (3) months. If an individual has not participated in radiographic operations for more than three (3) months since the last inspection, that individual's performance must be observed and recorded the next time the individual participates in a radiographic operation. A radiographer's assistant, who had not participated in radiographic operations since 1993, did not have his performance observed and recorded the next time he participated in radiographic operations, which was October 1, 1994.

REASON FOR THIS VIOLATION: This individual was reactivated in TEI's program by Production. It was erroneously thought that the requirement for an audit of ninety days would apply as the individual was previously employed by TEI.

CORRECTIVE ACTIONS

1. **CORRECTIVE STEPS WHICH HAVE BEEN TAKEN:** On 10/18/94, the radiographer's assistant in question reported to TEI's Washington shop. An orientation which included a physical demonstration of the company's radiation safety practices was performed and recorded. Please see Attachment #2.
2. **CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS:** Department supervisors have received an updated indoctrination of radiation safety policy for rehire of radiological personnel. The radiation safety department will verify an individual's audit status prior to dispatching a rehire.
3. **THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED:** See #1.

Sincerely,

TEI ANALYTICAL SERVICES, INC.

A handwritten signature in cursive script that reads 'Gary E. Weiss'.

Gary E. Weiss
Radiation Safety Officer

CC: File

Region I, Regional Administrator - Mailed Certified, Return Receipt ✓



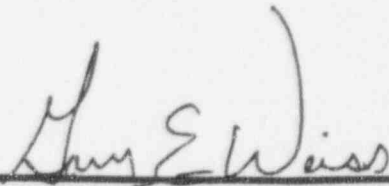
ANALYTICAL
SERVICES, INC.

URGENT

TO: ALL PERSONNEL

DATE: 10/18/94

**Co60 EXPOSURE DEVICES &
DEPLETED URANIUM COLLIMATORS
MUST BE UNLOADED FROM THE TRANSPORT
VEHICLE TO THE SHOP. RECORD REMOVAL &
RETURN OF THE Co60 UNIT ON THE VAULT
SURVEY LOG. FAILURE TO LOCK THE DEVICE
IN THE PIT IS A VIOLATION OF TEI'S NRC
RADIOACTIVE MATERIAL LICENSE.**



GARY WEISS, RSO



RADIATION SAFETY AUDIT REPORT

Quarterly Requirement

Special Review (Specify):

Reinitiating on T&E Procedures

10/18/94
(Date)

12:00
(Time)

AM PM

Ray E. Weiss
(Individual Conducting Audit)

LOCATION: Client Name:

TEI Demo & Practical

Address:

TEI SHP
WASH, PA

PERSONNEL

Radiographer: _____ Film Badge: # _____

Dosimeter Pencil: # _____ Calibration Due Date: _____

Alarm Rate Meter: # _____ Calibration Due Date: _____

Asst. Radiographer: _____ Film Badge: # 182X

Dosimeter Pencil: # 3061078 Calibration Due Date: 8/31/95

Alarm Rate Meter: # 200731 Calibration Due Date: 9/22/95

Additional Personnel: _____

Are the Personnel Monitoring Devices worn? YES Dosimeter Reading 0 mR
Dosimeter Reading _____ mR

RADIOGRAPHIC EQUIPMENT

X-Ray Machine: Manufacturer: N/A Model: _____ S/N: _____

Exposure Device: Manufacturer: AI Model: 500 S/N: 0087

Source S/N: JW-276 Strength: 91 Ci Leak Test Due: 3/95

Survey Meters:
Manufacturer: NDS Model: NDS-2000 S/N: 7308
Calibration Due Date 11/4/94 Meter Operating Correctly: Yes _____ No

Manufacturer: _____ Model: _____ S/N: _____
Calibration Due Date _____ Meter Operating Correctly: _____ Yes _____ No



SAFETY REQUIREMENTS

ARE PROPER SIGNS AT OR ON THE FOLLOWING:

- | | | |
|-------------------------------------|--------------------------|-----------------------------------|
| YES | NO | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | High Radiation Area |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Radiation Area |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Exposure Device |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Storage Box |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Entry to Darkroom |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | All Four (4) Sides of Mobile Unit |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>*YELLOW III ONLY</u> |

ARE LOCKS PRESENT AND OPERABLE ON THE FOLLOWING:

- | | | |
|-------------------------------------|--------------------------|-----------------|
| YES | NO | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Exposure Device |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Storage Box |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Darkroom |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Cab of Truck |
- UNIT 100 and 101*

PRACTICAL APPLICATION OF SAFETY REQUIREMENTS:

- | | | |
|-------------------------------------|--------------------------|---|
| YES | NO | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Posted boundary survey performed during initial exposure |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Exposure device surveyed after each exposure |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Entire length of source tube surveyed after each exposure |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Was survey meter used properly during each exposure |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Was exposure device locked after each exposure |

RSO asked to WATCH AREA DURING SURVEY!
WAS CONSTANT SURVEILLANCE MAINTAINED ON THE FOLLOWING:

- | | | |
|-------------------------------------|-------------------------------------|---|
| YES | NO | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Exposure device when out of shipping container |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | All accessible entrances to the restricted area |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Did personnel use the ALARA concepts in the performance of their duties |
- 032 count*

RADIATION LEVELS AT THE FOLLOWING:

- | | |
|---------------|------------------------------------|
| <u>1.5</u> mR | Signs at "Caution Radiation Area" |
| <u>200</u> mR | Maximum Surface of Exposure Device |
| <u>0.3</u> mR | Outside Surface of Mobile Unit |
| <u>0</u> mR | Driver Compartment of Mobile Unit |



RADIATION SAFETY EQUIPMENT/DOCUMENT CHECKLIST

YES	NO	ITEM
✓	—	Caution Radiation Area Sign(s)
✓	—	Caution High Radiation Sign(s)
✓	—	Decay Curve/Leak Test Certificate
✓	—	O & E Procedures Manual
✓	—	Notice(s) to Employees
✓	—	Emergency Contact List
✓	—	Collimator
* ✓	—	Secured Storage Container <i>ADD. LEAD PUT IN THIS DATE</i>
✓	—	Radioactive Material(s) License
✓	—	Transportation Records Correct and Complete
✓	—	Shipping Labels Correct
✓	—	Dosimeter Charger Operable

SKETCHES OR NOTES ON AUDIT:

COMMENTS/RECOMMENDATIONS: When exposing source body position was such that the wall provided no shielding to asst. rad. spoke to him about ALARA and using localized shielding when making exposures. Verified retraction of source

Corrective Action(s) Required: _____ Yes No

Corrective Action(s) Completed: _____ Date

(RSD did audit)

Signature/Radiation Safety Officer

DAILY RADIATION SURVEY REPORT

Date: 10-18-94

Total Exposures: 1

Total Exp. Time: 00:29:00

Radiographer: _____

Radiographer's Final Dosimeter: _____ mR

Assistant: _____

Assistant's Final Dosimeter: 0 mR

Project Data:

Client Name: TEI
 City: Washington State: PA

Exposure Device:

Gamma Ray Projector X-Ray Machine
 Mfg.: AI
 Model No.: 510
 Serial No.: 0087

Exposure Device	X-Ray Parameters
Top Surface Readings	
Start Of Shift <u>200</u> mR/Hr	Kv _____ mA _____ No. Exp. _____
Midday <u>200</u> mR/Hr	Kv _____ mA _____ No. Exp. _____
End of Shift <u>200</u> mR/Hr	Kv _____ mA _____ No. Exp. _____

NOTE: USE REVERSE SIDE FOR ADDITIONAL NOTES, SKETCHES OR COMMENTS.

Safety Check List:

- (Each Available Item)
- High Radiation Signs
 - Radiation Area Signs
 - Perimeter Rope
 - Collimator
 - O&E Manual
 - NRC/State Notice to Employees
 - Leak Test Certificate
 - DOT Labels
 - Locks on Source Box
 - Locks on Darkroom
 - Dosimeter Charger
 - Emergency Telephone List

Personal Monitoring Devices

	Radiographer	Assistant
Film Badge #:	_____	<u>1824</u>
Film Badge Date:	_____	<u>10-15-94</u>
Dosimeter S/N:	_____	<u>7061078</u>
Calibration Due Date:	_____	<u>8-31-95</u>
Reading @ Start of Shift:	_____ mR	<u>0</u> mR
Reading @ Mid-day:	_____ mR	_____ mR
ARM Mfr.:	_____	<u>KETEX</u>
ARM S/N:	_____	<u>200731</u>
ARM Cal. Due:	_____	<u>9-22-95</u>
Functional Check:	<input type="checkbox"/> Yes*	<input checked="" type="checkbox"/> Yes*

***MUST BE DONE**

Isotope Data: Manufacturer: AM/SENT
 Serial #: JN-275
 Curies: 91
 Decay Curve Available: YES NO

Survey Meter Data:

Make: NDS Unit #: _____
 Model #: ND-200P
 Serial #: 7388
 Cal. Due: 11/4/94 _____

Vehicle Data:

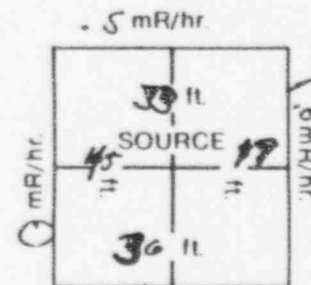
Outside Surface 0.3 mR/hr. CAB 2 mR/hr.

Source Storage Box Data:

Max Surface 0.6 mR/hr. 1 Meter .6 mR/hr

Sketch for Restricted Boundary

Date: 10-18-94



Type of Work: SHOP

EQUIPMENT INSPECTION CHECKLIST

- | | |
|---|--|
| <p>DEVICE MFG: <u>AI</u> S/N: <u>0087</u></p> <p>SAT UNSAT</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Radiation Levels (Record & Operable)</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Safety Plugs (In Position)</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> R.A.M. Labels</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Device Identification</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Handle Condition</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> TEI Identification</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Body Integrity</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Pigtail Condition</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Lock Assembly</p> | <p>DRIVE CABLES (IF APPLICABLE)</p> <p>SAT UNSAT</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Connector</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Cable</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Adapter(s)</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Housing</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Handle</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Hardware Secure</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Freedom of Movement</p> |
|---|--|

GUIDE TUBES

- SAT UNSAT
- Fittings Secure
- Thread Condition
- Tube (Crimps, Bends, etc.)
- Snout Tip
- Collimator

DO NOT USE DEFECTIVE OR MALFUNCTIONING EQUIPMENT!

SOURCE STORED
 NOT USED

SIGNATURE CERTIFIES THAT THE EXPOSURE DEVICE AND RELATED EQUIPMENT WAS USED IN ACCORDANCE WITH COMPANY OPERATING PROCEDURES AND LICENSE REQUIREMENTS.

Signature of Radiographer: _____ Signature of Assistant Radiographer: _____

NOTE: ALL ASSISTANT RADIOGRAPHERS SURVEY REPORTS MUST BE REVIEWED AND SIGNED BY THE RESPONSIBLE RADIOGRAPHER.

Reviewed and approved by R.S.O. _____ Date: _____