

April 2, 1997

William P. Crabtree  
President  
UTS of Massachusetts, Inc.  
5 Richardson Lane  
Stoneham, MA 02180

SUBJECT: INSPECTION NO. 030-31213/97-001

Dear Mr. Crabtree:

This letter refers to your March 19, 1997 correspondence, in response to our February 24, 1997 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.

Your cooperation with us is appreciated.

Sincerely,

ORIGINAL SIGNED BY:

*Duncan White*

*for* Jenny M. Johansen, Chief  
Nuclear Materials Safety Branch 3  
Division of Nuclear Materials Safety

Docket No. 030-31213  
License No. 20-28399-01

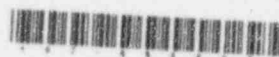
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W. P. Crabtree  
UTS of Massachusetts, Inc.

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| OFFICE | DNMS/RI   | <input checked="" type="checkbox"/> N | DNMS/RI  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| NAME   | Reber/ent |                                       | Johansen |                          |                          |                          |                          |
| DATE   | 04/02/97  |                                       | 04/2/97  |                          | 04/ /97                  |                          | 04/ /97                  |

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**Of Massachusetts Inc.**

**"The Construction Testing People"**

March 19, 1997

Ms. Jenny Johanson  
United States Nuclear Regulatory Commission  
Region 1  
475 Allendale Road  
King of Prussia, Pennsylvania 19406-1415

RE: Reply to a Notice of Violation  
Inspection No. 030-31213/97-001  
Docket No. 030-31213  
License No. 20-28399-D1

Dear Ms. Johanson:

I am responding to the above referenced inspection and Notice of Violation, as required per your letter of February 24, 1997.

Violation A: Seal Sources to be Tested for Leakage at Intervals not to Exceed Six Months

The explanation for this violation is our record keeping system. UTS employs Troxler Electronic Laboratories, Inc. to process our leak test whips. Troxler also sends us reminder postcards every six months, to have a particular gauge leak tested. I believe UTS responded, and performed leak testing between February 1, 1995 and December 2, 1996.

I was, at the time of the safety inspection, unable to document these leak tests. I am in the process of contacting Troxler to document the leak test results. The corrective measures that have been taken are as follows:

UTS has developed a computer program and a print-out sheet, to control the leak test requirements of two leak tests per year, per gauge.

We have also employed a Quality Assurance Manager, Mr. David Horn, on February 7, 1997. Mr. Horn is an experienced technician and has been Troxler Certified in the training course of nuclear testing equipment. Mr. Horn will be my assistant as Radiation Safety Officer. I will review these requirements and documentation of test results and record keeping with Mr. Horn every six months to insure UTS compliance with the regulations. These corrective measures have been in force as of February 7, 1997.

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MAR 21 1997



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**"The Construction Testing People"**

Violation B: The Driver of a Vehicle not having Shipping Papers  
Readily Available in the Driver's Compartment

The explanation for this violation is my technician's misunderstanding of this regulation; he had the shipping papers in the vehicle, but they were stored with the gauge instead of in the driver's compartment. The corrective measures I have taken are as follows:

I have reviewed the transportation requirements determined by the Department of Transportation, with each UTS Certified Nuclear Gauge Technician during the month of February, 1997 and I have verified the following:

Radioactive packages are prepared, marked and labeled in accordance with (49 CFR, Parts 172 & 173) requirements

The technician has records of performance testing from sources and DOT 7A Packages

Shipping papers are prepared, have all needed information and are readily accessible during transport (49 CFR 172, 200 - 204, 177.718)

Packages are blocked and braced - (49 CFR 177 & 842)

The UTS Nuclear Densometer technicians know the transportation requirements, from this review.

I have also obtained a "Sample Audit Program" from Troxler Laboratories, which will be conducted for each Troxler Certified Nuclear Gauge Operator. I know this Audit Program will be very helpful for the UTS technicians in reviewing and the implementation of the licensee's Radiation Protection Program.

The individual technicians audit will be conducted at the beginning of each year as required by regulations, and documented. As Radiation Safety Officer and with assistance from UTS Quality Assurance Manager, Dave Horn, we will make these corrections.

In conclusion, UTS will use more manpower, Mr. Horn and myself to review and document leak testing regulations and results. This will be done on a six month program and we will use our computer program, along with our leak test log sheet.



**Of Massachusetts Inc.**  
**"The Construction Testing People"**

UTS will also adapt the Audit Program to an individual technicians program to improve Radiological Safety and to insure that all NRC requirements are met.

I have included the following documents for your review:

David Horns promotion to Quality Assurance Manager  
and his accompanying certification

Leak Test Sheet 1997

Sample Audit Program

Sincerely

UTS OF MASSACHUSETTS, INC.

William P. Crabtree  
Radiation Safety Officer





**Of Massachusetts Inc.**  
**"The Construction Testing People"**

February 7, 1997

ATTENTION: UTS INSPECTION PERSONNEL

UTS is pleased to announce the in-house promotion of inspector David Horn to Quality Assurance Manager.

We would appreciate your cooperation with his recommendations regarding job performance.

Thank You,  
UTS of Massachusetts, Inc.

*Steven T. Crabtree /jk*

Steven T. Crabtree

# Q/C RESOURCE

## Training Course Certification

This is to certify that

David N. Horn

has successfully completed the user's course as required by the U.S. Nuclear Regulatory Commission and the Agreement States, in the Fundamentals of Safety and Gage operation, for the use of nuclear moisture/density equipment.  
The course covered:

|                             |                    |                    |
|-----------------------------|--------------------|--------------------|
| Atomic Physics              | Transportation     | Operation          |
| Radiation Safety            | Risk               | Field Applications |
| Dose/Shielding Calculations | ALARA              | Calibration        |
| Accidents/Storage           | Measurement Theory | Maintenance        |

August 5, 1995

Date of Training

0592

Certificate Number

*Philip C. Palla*

Instructor - Philip C. Palla

TROXLER LEAK TEST  
SHEET  
YEAR 1997

| TROX<br># | TROXLER<br>SERIAL # | MODEL  | TEST #1<br>DATE | TEST #2<br>DATE |
|-----------|---------------------|--------|-----------------|-----------------|
| 1         | 17454               | 3411-B | ___/___/___     | ___/___/___     |
| 2         | 17971               | 3411-B | ___/___/___     | ___/___/___     |
| 3         | 18392               | 3411-B | ___/___/___     | ___/___/___     |
| 4         | 18571               | 3411-B | ___/___/___     | ___/___/___     |
| 5         | 18572               | 3411-B | ___/___/___     | ___/___/___     |
| 6         | 25948               | 3430   | ___/___/___     | ___/___/___     |
| 7         | 19876               | 3411-B | ___/___/___     | ___/___/___     |
| 8         | 19877               | 3411-B | ___/___/___     | ___/___/___     |
| 9         | 19888               | 3430   | ___/___/___     | ___/___/___     |



## APPENDIX I

### SAMPLE AUDIT PROGRAM

An audit is conducted, in part, to fulfill the requirements of 10 CFR 20.1101 for an annual review of the content and implementation of the licensee's radiation protection program. It should also identify program weaknesses and allow licensees to take early corrective actions (before an NRC inspection). During an audit, the auditor needs to keep in mind not only the requirements of NRC's regulations, but also the licensee's commitments in its applications and other correspondence with NRC. The auditor should also evaluate whether the licensee is maintaining exposures to workers and the general public as low as is reasonably achievable (ALARA) and, if not, make suggestions for improvement.

The form in this Appendix can be used to document the annual audit of the radiation protection program. Guidance follows on completing each section of the form. In the remarks portions of the form, note any deficiencies that were identified and the corrective actions taken (or to be taken).

Section 1, Audit History. Enter the date on the last audit, whether any deficiencies were identified, and whether actions were taken to correct the deficiencies.

Section 2, Organization and Scope of Program. Give a brief description of the organizational structure, noting any changes in personnel. Describe the scope of licensed activities at the audited location. Check whether the Radiation Safety Officer (RSO) is the person identified in the license and fulfills the duties specified in the license.

Section 3, Training, Retraining, and Instructions to Workers. Ensure that workers have received the training required by 10 CFR 19.12. Be sure that, before being permitted to use a gauge, the user has received training (from the manufacturer or in an alternative course approved by NRC) and has a copy of, and training in, the licensee's operating and emergency (O/E) procedures; records should be maintained. Note whether refresher training is conducted in accordance with licensee commitments. By interview and/or observation of selected workers, ensure that each has a copy of the licensee's O/E procedures and can implement them properly.

Section 4, Audits. Verify that audits fulfill the requirements of 10 CFR 20.1101, are conducted in accordance with licensee commitments, and are properly documented.

Section 5, Facilities. Verify that the licensee's facilities are as described in its license documents.

Section 6, Materials. Verify that the license authorizes the sealed source-device combinations that the licensee possesses. Verify that the licensee uses the source-device combinations in accordance with license provisions. Ensure that gauges are maintained in accordance with licensee commitments.

Section 7, Leak Tests. Verify that all sealed sources are tested for leakage at the prescribed frequency and in accordance with licensee commitments. Records of results should be maintained.

Section 8, Inventories. Verify that inventories are conducted at least once every 6 months to account for all sealed sources; inventory records should be maintained.

Section 9, Radiation Surveys. Verify that the licensee has at least one operable, calibrated survey instrument at each jobsite and that the instruments are calibrated in accordance with licensee commitments; in accordance with 10 CFR 20.2103, calibration records must be retained for 3 years after the record is made. Alternatively, evaluate the licensee's arrangements for timely access to survey instruments in case of an incident. Check that radiation levels in the vicinity of gauge use and immediately outside areas used for gauge storage are within regulatory limits; in accordance with 10 CFR 20.2103, records of surveys must be retained for 3 years after the record is made. Verify compliance with 10 CFR 20.1301; records should be maintained.

Section 10, Receipt and Transfer of Radioactive Material (Includes Waste Disposal). Verify that gauges received from others (e.g., new gauges) are received, opened, and surveyed in accordance with 10 CFR 20.1906. Ensure that gauge transfers are performed in accordance with 10 CFR 30.41. Records of surveys, receipt, and transfer must be maintained in accordance with 10 CFR 20.2103 and 30.51.

Section 11, Transportation. Determine compliance with Department of Transportation (DOT) requirements. Verify that hazardous materials training is conducted as required by 49 CFR 172.700-704. Verify that radioactive packages are prepared, marked, and labeled in accordance with 49 CFR Parts 172 and 173 requirements. Be sure that the licensee has records of performance testing of its special form sources and DOT-7A packages. Verify that shipping papers are prepared, contain all needed information, and are readily accessible during transport (49 CFR 172.200-204 and 177.718). Check that packages are blocked and braced (49 CFR 177.842). Check for any needed placarding (49 CFR 172.504); if overpacks are used, verify that they are properly marked and labeled (49 CFR 173.25).

Section 12, Personnel Radiation Protection. Evaluate the licensee's determination that unmonitored personnel are not likely to receive more than 10 percent of the allowable limits. Alternatively, if personnel dosimetry is provided and required, verify that it complies with 10 CFR 20.1501(c) and licensee commitments. Review personnel monitoring records; compare exposures of individuals doing similar work; determine reasons for significant differences in exposures. If any worker declared her pregnancy in writing, evaluate the licensee's compliance with 10 CFR 20.1208. Check whether records are maintained as required by 10 CFR 20.2101-2104 and 20.2106.

Section 13, Auditor's Independent Measurements (If Made). If the licensee performs extended maintenance, then the auditor should make independent measurements and compare his/her results with those made or used

by the licensee. If the licensee does not perform extended maintenance, the auditor may, if he/she wishes, make independent measurements.

Section 14, Notification and Reports. Check on the licensee's compliance with the notification and reporting requirements in 10 CFR Parts 19, 20, and 30. Ensure that the licensee is aware of the telephone number for NRC's Emergency Operations Center.

Section 15, Posting and Labeling. Check for compliance with the posting and labeling requirements of 10 CFR 19.11, 20.1902, 20.1904, and 21.6.

Section 16, Recordkeeping for Decommissioning. Check to determine compliance with 10 CFR 30.35(g).

Section 17, Bulletins and Information Notices. Check to determine if the licensee is receiving bulletins, information notices, NMSS Newsletters, etc., from NRC. Check whether the licensee took appropriate action in response to NRC mailings.

Section 18, Special License Conditions or Issues. Verify compliance with any special conditions on the licensee's license. If the licensee has any unusual aspect of its work with portable gauges, review and evaluate compliance with regulatory requirements. If the licensee conducts licensed activities at locations other than the one being audited, consider the deficiencies identified at the other locations and ensure that the corrective actions implemented in response to those deficiencies have in fact been implemented at the audited locations.

Section 19, Continuation of Report Items. This section is self-explanatory.

Section 20, Problems or Deficiencies Noted; Recommendations. This section is self-explanatory.

Section 21, Evaluation of Other Factors. Evaluate management's involvement with the radiation safety program, whether the RSO has sufficient time to perform his/her duties, and whether the licensee has sufficient staff to handle the workload and maintain compliance with regulatory requirements.

NOTES FOR AUDITS OF PORTABLE GAUGE LICENSEE'S OPERATIONS

NOTE: All areas indicated in audit notes may not be applicable to every license and may not need to be addressed during each audit.

Audit Report No. \_\_\_\_\_

License No. \_\_\_\_\_

Licensee's name and mailing address:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Audit of activities at (Address):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Contact at Audit Location \_\_\_\_\_ Telephone No. \_\_\_\_\_

Date of Last Audit of this Location \_\_\_\_\_

Date of This Audit \_\_\_\_\_

Summary of Findings and Action:

- ( ) No deficiencies
- ( ) Deficiencies
- ( ) Action on previous deficiencies

Recommendations:

Auditor: \_\_\_\_\_  
(Signature)

Date \_\_\_\_\_

1. AUDIT HISTORY

( ) N/A<sup>1</sup> - Initial audit

- A. Last audit of this location conducted \_\_\_\_\_  
 B. Problems/deficiencies identified during last two audits or two years, whichever is longer ( ) Y ( ) N  
 C. Open problems/deficiencies from previous audits:

Status

| Requirement | Prob./Def. | Corrective Action Taken (Y/N) | Open/Closed |
|-------------|------------|-------------------------------|-------------|
|             |            |                               |             |
|             |            |                               |             |
|             |            |                               |             |
|             |            |                               |             |
|             |            |                               |             |
|             |            |                               |             |

- D. Any previous problem/deficiency not corrected or repeated ( ) Y ( ) N ( ) N/A  
 Explain.

2. ORGANIZATION AND SCOPE OF PROGRAM

- A. Briefly describe organizational structure

- (1) Structure is as described in license documents ( ) Y ( ) N  
 (2) Multiple authorized locations of use ( ) Y ( ) N  
 (3) Briefly describe scope of activities involving byproduct material, frequency of use, staff size, etc.

- B. Radiation Safety Officer

- (1) Authorized on license ( ) Y ( ) N  
 (2) Fulfills duties as RSO (App. C of guide) ( ) Y ( ) N

<sup>1</sup> N/A means "Not applicable."



- C. Use only by authorized individuals who have been designated by the RSO

( ) Y ( ) N

Remarks:

3. TRAINING, RETRAINING, AND INSTRUCTIONS TO WORKERS

- A. Instructions to workers per [10 CFR 19.12] ( ) Y ( ) N  
B. Training program required ( ) Y ( ) N

(1) Initial training - Manufacturer's Course:

Before using gauge, user received (a) manufacturer's course that meets App. D of guide re: content, instructor qualifications, tests, etc; (b) copy of, and training in licensee's operating and emergency procedures

( ) Y ( ) N

Training records maintained

( ) Y ( ) N

(2) Initial training - Alternative Course:

Before using gauge, user received (a) alternative course (as described in correspondence with NRC-- content, instructor qualifications, tests, etc); (b) copy of, and training in licensee's operating and emergency procedures

( ) Y ( ) N

Training records maintained

( ) Y ( ) N

(3) Refresher training

( ) Y ( ) N

Frequency, topics, instructor as described in correspondence with NRC

( ) Y ( ) N

Records of refresher training maintained

( ) Y ( ) N

- C. Evaluation of individuals' understanding of procedures and regulations based on interviews, observation of selected workers

- (1) Each has an up-to-date copy of the licensee's operating and emergency (O/E) procedures  
(2) Adequate understanding of

( ) Y ( ) N

Current operating procedures  
Emergency procedures

( ) Y ( ) N

( ) Y ( ) N

Use of survey meters (if licensee expects workers to use meters after an incident) ( ) Y ( ) N ( ) N/A

- (3) Demonstration of proper implementation of selected procedures, including security of gauge when in storage and maintaining constant surveillance and control during use ( ) Y ( ) N

D. Revised Part 20

Workers cognizant of requirements for:

- (1) Radiation Safety Program [20.1101] ( ) Y ( ) N  
(2) Annual dose limits [20.1301, 1302] ( ) Y ( ) N  
(3) New forms 4 and 5 ( ) Y ( ) N ( ) N/A  
(4) 10% monitoring threshold [20.1502] ( ) Y ( ) N  
(5) Dose limits to embryo/fetus and declared pregnant worker [20.1208] ( ) Y ( ) N  
(6) Procedures for opening packages [20.1906] ( ) Y ( ) N ( ) N/A

Remarks:

4. INTERNAL AUDITS, REVIEWS OR INSPECTIONS

- A. Audits are conducted ( ) Y ( ) N  
(1) Audits conducted by \_\_\_\_\_  
(2) Frequency \_\_\_\_\_  
B. Content and implementation of the radiation protection program reviewed annually [20.1101(c)] ( ) Y ( ) N  
C. Records maintained [20.2102] ( ) Y ( ) N

5. FACILITIES

- A. Facilities as described in license application ( ) Y ( ) N

Remarks:

6. MATERIALS

- A. Isotopes, quantities, mfg.'s name and model no. of sources and devices, and use as authorized on license ( ) Y ( ) N  
B. Maintenance of gauges:

- (1) By licensee with source in shielded position in accordance with manufacturer's directions or recommendations ( ) Y ( ) N
- (2) For work requiring source in unshielded position, returned to manufacturer; if licensee-performed, needs specific authorization and must be performed in accordance with commitments to NRC ( ) Y ( ) N ( ) N/A

Remarks:

## 7. LEAK TESTS

- A. Leak test performed as described in correspondence with NRC (consultant; leak test kit; licensee performed) ( ) Y ( ) N
- B. Frequency: every 6 months or other interval as approved by NRC or Agreement State ( ) Y ( ) N
- C. Records with appropriate information maintained ( ) Y ( ) N

Remarks:

## 8. INVENTORIES

- A. Conducted at 6-month intervals ( ) Y ( ) N
- B. Records with appropriate information maintained ( ) Y ( ) N

Remarks:

## 9. RADIATION SURVEYS

- A. Instruments and equipment: ( ) N/A
- (1) Appropriate operable survey instrumentation possessed or readily accessible ( ) Y ( ) N
- (2) Calibrated as required [20.1501] ( ) Y ( ) N
- (3) Calibration records maintained [20.2103(a)] ( ) Y ( ) N
- (4) At least 1 meter at each jobsite ( ) Y ( ) N
- OR
- B. Evaluation of adequacy of arrangements for timely access to instruments in case of incident at any jobsite ( ) Y ( ) N ( ) N/A
- C. Briefly describe area survey requirements [20.1501(a)]:

- D. Performed as required [20.1501(a)] ☐ Y ☐ N
- (1) Radiation levels within regulatory limits ☐ Y ☐ N
- (2) Corrective action taken and documented ☐ Y ☐ N
- E. Records maintained [20.2103] ☐ Y ☐ N
- F. Protection of members of the public
- (1) Adequate surveys made to demonstrate either (a) that the TEDE to the individual likely to receive the highest dose does not exceed 100 mrem in a year, or (b) that if an individual were continuously present in an unrestricted area, the external dose would not exceed 2 mrem in any hour and 50 mrem in a year [20.1301(a)(1), 1302(b)] ☐ Y ☐ N
- (2) Unrestricted area radiation levels do not exceed 2 mrem in any one hour [20.1301(a)(2)] ☐ Y ☐ N
- (3) Records maintained [20.2103, 2107] ☐ Y ☐ N

Remarks:

10. RECEIPT AND TRANSFER OF RADIOACTIVE MATERIAL (INCLUDES WASTE DISPOSAL)

- A. Describe how packages (e.g., new gauges) are received and by whom: ☐ N/A
- B. Written package opening procedures established and followed [20.1906(e)] ☐ Y ☐ N
- C. If package show evidence of degradation, monitor for contamination and radiation levels ☐ Y ☐ N ☐ N/A
- D. Monitoring of degraded packages performed within time specified [20.1906(c)] ☐ Y ☐ N ☐ N/A
- E. Transfer(s) between licensees (including "disposal" of unneeded gauges) performed per [30.41] ☐ Y ☐ N ☐ N/A
- F. All sources surveyed before shipment and transfer [20.1501(a), 49 CFR 173.475(i), L/C<sup>2</sup>] ☐ Y ☐ N
- G. Records of surveys and receipt/transfer maintained [20.2103(a), 30.51] ☐ Y ☐ N

<sup>2</sup> L/C means "License Condition."

- H. Transfers within licensee's authorized users or locations performed as required [L/C] ( ) Y ( ) N ( ) N/A
- I. Package receipt/distribution activities evaluated for compliance with 20.1301 [20.1302] ( ) Y ( ) N ( ) N/A

Remarks:

11. TRANSPORTATION (10 CFR 71.5(a) and 49 CFR 170-189) ( ) N/A

- A. Licensee shipments are:
- delivered to common carriers ( ) Y ( ) N ( ) N/A
  - transported in licensee's own private vehicle ( ) Y ( ) N ( ) N/A
  - both ( ) Y ( ) N ( ) N/A
  - no shipments since last inspection ( ) Y ( ) N ( ) N/A
- B. HAZMAT training [172.700-704] ( ) Y ( ) N ( ) N/A
- C. Packages ( ) N/A
- (1) Authorized packages used [173.415, 416(b)] ( ) Y ( ) N
  - (2) Performance test records on file ( ) Y ( ) N
    - a. Special Form Sources [173.476(a)] ( ) Y ( ) N
    - b. DOT-7A packages [173.415(a)] ( ) Y ( ) N
  - (3) Two labels (White-I, Yellow-II, Yellow-III) with TI, Nuclide, Activity, and Hazard Class [172.403, 173.441] ( ) Y ( ) N
  - (4) Properly marked (Shipping Name, UN Number, Package Type, RQ, Name and Address of consignee) [172.301, 306, 310, 312, 324] ( ) Y ( ) N
  - (5) Closed and sealed during transport [173.475(f)] ( ) Y ( ) N
- D. Shipping Papers ( ) N/A
- (1) Prepared and used [172.200(a)] ( ) Y ( ) N
  - (2) Proper (Shipping name, Hazard Class, UN Number, Quantity, Package Type, Nuclide, RQ, Radioactive Material, Physical and Chemical Form, Activity, Category of label, TI, Shipper's Name, Certification and Signature, Emergency Response Phone Number, "Cargo Aircraft Only" (if applicable)) [172.200-204] ( ) Y ( ) N
  - (3) Readily accessible during transport [177.718(e)] ( ) Y ( ) N
- E. Vehicles ( ) N/A
- (1) Cargo blocked and braced [177.842(d)] ( ) Y ( ) N



- (2) Placarded, if needed [172.504] ( ) Y ( ) N  
 (3) Proper overpacks, if used (shipping name, UN Number, labeled, statement indicating that inner package complies with specification packaging) [173.25] ( ) Y ( ) N

F. Any incidents reported to DOT [171.15, 16] ( ) Y ( ) N

Remarks:

## 12. PERSONNEL RADIATION PROTECTION

- A. ALARA considerations are incorporated into the Radiation Protection Program [20.1101(b)] ( ) Y ( ) N  
 B. Adequate documentation of determination that unmonitored gauge users are not likely to receive >10% of allowable limit [20.1502(a)] ( ) Y ( ) N ( ) N/A  
     OR  
 C. External dosimetry provided and required ( ) Y ( ) N ( ) N/A  
     (1) Supplier \_\_\_\_\_ Frequency \_\_\_\_\_  
     (2) Supplier is NVLAP-approved [20.1501(c)] ( ) Y ( ) N  
     (3) Dosimeters exchanged at required frequency [L/C] ( ) Y ( ) N  
 D. Reports ( ) N/A  
     (1) Reviewed by \_\_\_\_\_ Frequency \_\_\_\_\_  
     (2) Auditor reviewed personnel monitoring records for period \_\_\_\_\_ to \_\_\_\_\_  
     (3) Prior dose determined for individuals likely to receive doses [20.2104] ( ) Y ( ) N  
     (4) Maximum exposures TEDE \_\_\_\_\_ Other \_\_\_\_\_  
     (5) NRC Forms or equivalent [20.2104(d), 2106(c)] \_\_\_\_\_  
         a. NRC-4<sup>3</sup> ( ) Y ( ) N Complete: ( ) Y ( ) N  
         b. NRC-5<sup>4</sup> ( ) Y ( ) N Complete: ( ) Y ( ) N  
     (6) Worker declared her pregnancy in writing during inspection period (review records) ( ) Y ( ) N ( ) N/A  
         If yes, determine compliance with [20.1208] ( ) Y ( ) N  
         check for records per [20.2106(e)] ( ) Y ( ) N

<sup>3</sup> "Cumulative Occupational Exposure History"

<sup>4</sup> "Occupational Exposure Record for a Monitoring Period"

- E. Records of exposures, surveys, monitoring, and evaluations maintained [20.2102, 2103, 2106, L/C] ☐ Y ☐ N

Remarks:

13. AUDITOR'S INDEPENDENT MEASUREMENTS (IF MADE)

- A. Survey instrument      Serial No.      Last calibration
- B. Auditor's measurements were compared to licensee's ☐ Y ☐ N
- C. Describe the type, location, and results of measurements:

14. NOTIFICATION AND REPORTS

☐ N/A

- A. Licensee in compliance with [19.13, 30.50] (reports to individuals, public and occupational, monitored to show compliance with Part 20) ☐ Y ☐ N ☐ N/A
- B. Licensee in compliance with [20.2201, 30.50] (theft or loss) ☐ Y ☐ N ☐ None
- C. Licensee in compliance with [20.2202, 30.50] (incidents) ☐ Y ☐ N ☐ None
- D. Licensee in compliance with [20.2203, 30.50] (overexposures and high radiation levels) ☐ Y ☐ N ☐ None
- E. Licensee aware of new telephone number for NRC Emergency Operations Center [(301) 816-5100] ☐ Y ☐ N

15. POSTING AND LABELING

- A. NRC-3 "Notice to Workers" is posted [19.11] ☐ Y ☐ N
- B. Parts 19, 20, 21, Section 206 of Energy Reorganization Act, procedures adopted pursuant to Part 21, and license documents are posted or a notice indicating where documents can be examined is posted [19.11, 21.6] ☐ Y ☐ N
- C. Other posting and labeling per [20.1902, 1904] and the licensee is not exempted by [20.1903, 1905] ☐ Y ☐ N

Remarks:

16. RECORDKEEPING FOR DECOMMISSIONING (if needed) ☐ N/A

- A. Records of information important to the safe and

effective decommissioning of the facility maintained  
in an independent and identifiable location until  
license termination [30.35(g)]

- B. Records include all information outlined in [30.35(g)] ☐ Y ☐ N

Remarks:

17. BULLETINS AND INFORMATION NOTICES

- A. Receipt of NRC Bulletins, NRC Information Notices,  
NMSS Newsletters, etc. ☐ Y ☐ N
- B. Appropriate action taken in response to  
Bulletins, Information Notices, etc. ☐ Y ☐ N

Remarks:

18. SPECIAL LICENSE CONDITIONS OR ISSUES

☐ N/A

- A. Review special license conditions or other issues  
(e./g., extended maintenance); describe findings:
- B. Problems/deficiencies identified at licensee facilities  
other than at audit location:
- C. Evaluation of compliance:

19. CONTINUATION OF REPORT ITEMS

(If more space is needed, use separate sheets and attach to report.) ☐ N/A

20. PROBLEMS OR DEFICIENCIES NOTED; RECOMMENDATIONS

( ) N/A

Note: Briefly state (1) the requirement and (2) how and when violated.  
Provide recommendations for improvement.

21. EVALUATION OF OTHER FACTORS

- A. Senior licensee management is appropriately involved  
with the radiation safety program and/or Radiation  
Safety Officer (RSO) oversight ( ) Y ( ) N
- B. RSO has sufficient time to perform his/her radiation  
safety duties and is not too busy with other  
assignments ( ) Y ( ) N
- C. Licensee has sufficient staff ( ) Y ( ) N

Remarks/recommendations:



**Of Massachusetts Inc.**  
**"The Construction Testing People"**

DAVID N. HORN

EDUCATION; Graduate of University of Kentucky, B.S.

MA Concrete Inspector, License No. 02478A

ACI Concrete Field Testing Technician, Grade 1

WORK

EXPERIENCE; U T S OF MASSACHUSETTS, INC., STONEHAM, MA  
1992 to Present

Senior Technician experienced in all of the following disciplines:

Concrete Field and Lab Construction Inspection - concrete inspection (plant and field), soils testing in field (compaction tests and and visual inspection of excavation and back-filling operations) rebar inspection, precast concrete plant and field inspection, mortar sampling for masonry block, roofing inspection, post tensioning of concrete. Experienced in all phases of fireproofing inspection, including ASTM Test Methods E605 and E736. Also experienced in nuclear density testing using Troxler machine, Certificate Number 0592.

Projects worked on include the following:

Boston Police Headquarters  
Boston

Boston University, Photonics Center & School of Management  
Boston

Andover High School  
Andover

Smith Research Laboratory, Dana Farber  
Boston

Fuel Oil Vault, Gillette  
South Boston

Roofing Projects:

200 Newbury Street, Boston, MA

Camelot, Framingham, MA

Jamaica Plain Ctr., Jamaica Plain,

Boston Police Headquarters, Boston, MA