

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

OFFICIAL RECORD COPY

Licensee		3. License Number 37-19378-03
1. Roy F. Weston, Inc. Design and Technology Division		4. Expiration Date October 31, 2001
2. One Weston Way West Chester, Pennsylvania 19380-1499		5. Docket or Reference No. 030-34098
6. Byproduct, Source, and/or Special Nuclear Material	7. Chemical and/or Physical Form	8. Maximum Amount that Licensee May Possess at Any One Time Under This License
A. Cesium 137 B. Americium 241	A. Sealed sources B. Sealed neutron sources	A. 90 millicuries B. 440 millicuries
9. Authorized use		
A. and B. For possession and use in Troxler Electronic Laboratories, Inc., Campbell Pacific Nuclear Corp., Humboldt Scientific, Inc., Seaman Nuclear Corporation, or Soiltest, Incorporated devices which have been evaluated and approved for licensing purposes under a license issued by the U.S. Nuclear Regulatory Commission or any Agreement State.		

CONDITIONS

10. Licensed material may be stored at the licensee's facilities located at One Weston Way, West Chester, Pennsylvania, and may be used only at temporary job sites of the licensee anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material.
11. A. Licensed material shall only be used by, or under the supervision and in the physical presence of, Richard Shimko or individuals who have successfully completed the manufacturer's training program for gauge users, have been instructed in the licensee's routine and emergency operating procedures and who have been designated in writing by the Radiation Safety Officer.
- B. The Radiation Safety Officer for this license is Richard Shimko.
12. A. Sealed sources and detector cells containing licensed material shall be tested for leakage and/or contamination at intervals not to exceed six months or at such other intervals as are specified by the certificate of registration referred to in 10 CFR 32.210, not to exceed three years.
- B. Notwithstanding Paragraph A of this Condition, sealed sources designed to emit alpha particles shall be tested for leakage and/or contamination at intervals not to exceed three months.

ML 10

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number 37-19378-03
Docket or Reference Number 030-34098

- C. In the absence of a certificate from a transferor indicating that a leak test has been made within six months prior to the transfer, a sealed source or detector cell received from another person shall not be put into use until tested.
- D. Each sealed source fabricated by the licensee shall be inspected and tested for construction defects, leakage, and contamination prior to any use or transfer as a sealed source.
- E. Sealed sources and detector cells need not be leak tested if:
- (i) they contain only hydrogen-3; or
 - (ii) they contain only a radioactive gas; or
 - (iii) the half-life of the isotope is 30 days or less; or
 - (iv) they contain not more than 100 microcuries of beta and/or gamma emitting material or not more than 10 microcuries of alpha emitting material; or
 - (v) they are not designed to emit alpha particles, are in storage, and are not being used. However, when they are removed from storage for use or transfer to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source or detector cell shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.
- F. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission and the source or detector cell shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. The report shall be filed within five days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region I, ATTN: Chief, Nuclear Materials Safety Branch, 475 Allendale Road, King of Prussia, Pennsylvania 19406. The report shall specify the source or detector cell involved, the test results, and corrective action taken.
- G. The licensee is authorized to collect leak test samples for analysis by Troxler Electronic Laboratories, Inc. Alternatively, tests for leakage and/or contamination may be performed by persons specifically licensed by the Commission or an Agreement State to perform such services.
13. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.
14. The licensee shall conduct a physical inventory every six months to account for all sealed sources and devices containing licensed material received and possessed under the license.

MATERIALS LICENSE
SUPPLEMENTARY SHEETLicense Number
37-19378-03Docket or Reference Number
030-34098

15. The licensee shall not acquire licensed material in a sealed source or device unless the source or device has been registered with the U.S. Nuclear Regulatory Commission pursuant to 10 CFR 32.210 or equivalent regulations of an Agreement State.
16. Each portable nuclear gauge shall have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. The gauge or its container must be locked when in transport, storage or when not under the direct surveillance of an authorized user.
17. Any cleaning, maintenance, or repair of the gauge(s) that requires removal of the source rod shall be performed only by the manufacturer or by other persons specifically licensed by the Commission or an Agreement State to perform such services.
18. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."
19. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.
- A. Application dated February 20, 1996
B. Letter dated August 29, 1996

Date OCT - 1 1996

For the U.S. Nuclear Regulatory Commission

ORIGINAL SIGNED BY:

By

PENNY A. LANZISERA

Division of Nuclear Materials Safety
Region I
King of Prussia, Pennsylvania 19406

OCT - 1 1996

License No. 37-19378-03
Docket No. 030-34098
Control No. 122985

Richard Shimko
Radiation Safety Officer
Roy F. Weston, Inc.
Design and Technology Division
One Weston Way
West Chester, PA 19380-1499

Dear Mr. Shimko:

Please review the enclosed document carefully and be sure that you understand all conditions. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region I Office, Licensing Assistance Team, (610) 337-5093 or 5239, so that we can provide appropriate corrections and answers.

Please be advised that your license expires at the end of the day, in the month, and year stated in the license. Until your license is terminated, you must conduct your program involving byproduct materials in accordance with the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, note that you must:

1. Operate in accordance with NRC regulations 10 CFR Part 19, "Notices, Instructions and Reports to Workers; Inspections," 10 CFR Part 20, "Standards for Protection Against Radiation," and other applicable regulations.
2. Notify NRC, in writing, within 30 days:
 - a. when an authorized user or Radiation Safety Officer, permanently discontinues performance of duties under the license or has a name change; or
 - b. when the mailing address on the license changes (no fee is required if the location of byproduct material remains the same).
3. In accordance with 10 CFR 30.36(b) and/or license condition, notify NRC, promptly, in writing, and request termination of the license when you decide to terminate all activities involving materials authorized under the license.

4. Request and obtain a license amendment before you:
 - a. permit anyone to work as an authorized user under the license;
 - b. change Radiation Safety Officer;
 - c. order byproduct material in excess of the amount, or radionuclide, or form different than authorized on the license;
 - d. add or change the areas of use, or address or addresses of use identified in the license application or on the license; or
 - e. change ownership of your organization.
5. Submit a complete renewal application with proper fee or termination request at least 30 days before the expiration date of your license. You will receive a reminder notice approximately 90 days before the expiration date. Possession of byproduct material after your license expires is a violation of NRC regulations. A license will not normally be renewed, except on a case-by-case basis, in instances where licensed material has never been possessed or used.

In addition, please note that NRC Form 313 requires the applicant, by his/her signature, to verify that the applicant understands that all statements contained in the application are true and correct to the best of the applicant's knowledge. The signatory for the application should be the licensee or a certifying official of the licensee rather than the Radiation Safety Officer or a consultant.

You will be periodically inspected by the NRC. Failure to conduct your program in accordance with NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC will result in enforcement action against you. This could include issuance of a notice of violation, or imposition of a civil penalty, or an order suspending, modifying or revoking your license as specified in the "General Statement of Policy and Procedure for NRC Enforcement Actions," (Enforcement Policy), NUREG 1600.

Since serious consequences to employees and the public can result from failure to comply with NRC requirements, prompt and vigorous enforcement action will be taken when dealing with licensees who do not achieve the necessary meticulous attention to detail and the high standard of compliance which NRC expects of its licensees.

R. Shimko
Roy F. Weston

-3-

Thank you for your cooperation.

Sincerely,

Penny Lanzisera
Division of Nuclear Materials Safety

License No. 37-19378-03
Docket No. 030-34098
Control No. 122985

Enclosures:

1. License No. 37-19378-03
2. 10 CFR Parts 2, 19, 20, 30, and 170
3. NRC Forms 3 and 313

DOCUMENT NAME: R:\WPS\MLTR\L3719378.03

To receive a copy of this document, indicate in the box: "C" = Copy w/o attach/encl "E" = Copy w/ attach/encl "N" = No copy

OFFICE	DNMS/RI	N	DNMS/RI				
NAME	Lanzisera <i>PL</i>						
DATE	09/27/96	09/	/96	09/	/96	09/	/96

OFFICIAL RECORD COPY

TROXLER ELECTRONIC LABORATORIES, INC.

HEREBY CERTIFIES THAT

RICHARD SHIMKO

of

ROY F. WESTON

HAS SUCCESSFULLY COMPLETED THE TROXLER ELECTRONIC LABORATORIES, INC.
TRAINING COURSE FOR THE USE OF NUCLEAR TESTING EQUIPMENT.

SUBJECTS INCLUDED IN THIS COURSE WERE AS FOLLOWS:

Radiological Safety

1. Principles and practices of radiation protection.
2. Leak testing procedures.
3. Mathematics and calculations basic to the use and measurement of radioactivity.
4. Biological effects of radiation.
5. Radioactivity measurement standardization and monitoring techniques and instruments.
6. Accident and incident procedures.
7. Procedures for nuclear gauge storage and transportation.
8. General safety precautions.

Gauge Operation

1. Instrument theory
2. Operating procedures
3. Maintenance
4. Field application
5. Gauge calibration

Harvey Dunlevy
HARVEY DUNLEVY

INSTRUCTOR

9-10-96

DATE

N^o 28653

WILLIAM F. TROXLER

PRESIDENT

OFFICIAL RECORD COPY

ML 10

122985

SEP 12 1996



Roy F. Weston, Inc.
1 Weston Way
West Chester, Pennsylvania 19380-1499
610-701-3000 • Fax 610-701-3186

M56
P-6

29 August 1996

Ms. Penny Lanzisera
Division of Nuclear Safety
Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406-1415

Subject: Docket No. 030-34098, Mail Control No. 122985, Application for License.

Dear Ms. Lanzisera:

Enclosed is my response to your phone call of August 1, 1996 regarding the license application of DATD, ROY F. WESTON, INC. (WESTON®)

In responding to your comments I have revised the response to your written comments which I provided on 10 May 1996, and the Nuclear Moisture/Density Gauge Safety Procedure. The complete package submitted on 10 May 1996 has been resubmitted. New text is bolded for ease of identification.

Your verbal comments and WESTON's response are summarized below.

1. Provide copy of the RSO's Troxler training certificate.

RESPONSE: I am scheduled to take a Troxler gauge safety class on September 10, 1996. I will fax you a copy of my training certificate as soon as possible after I take the class.

2. Put the mail control number on the responses.

RESPONSE: This has been done.

3. Comment 10. A detector is required within 1 to 2 hours of an incident.

RESPONSE: The response to comment 10 and the Procedure have been revised to require that a detector be at each jobsite where a Troxler gauge is used.

4. Comment 12. All of the requirements of Appendix H of Draft Regulatory Guide DG-0008 have not been incorporated in the procedure.

RESPONSE: A copy of Appendix H has been attached to the Procedure and will be incorporate as part of the annual training.

license.dcl.doc

OFFICIAL RECORD COPY

ML 10

122 985

SEP - 3 1996





5. Comment 13. Provide the qualifications of the auditors. Do not provide the auditors names.

RESPONSE: The response to comment 13 has been revised to require that the auditor be a CHP.

If you have any questions, please call me at (610) 701-3107.

Very truly yours,

ROY F. WESTON, INC.

A handwritten signature in cursive script that reads "Richard Shimko".

Richard G. Shimko, P.E., C.H.P.
Project Manager

RGS/dcl

cc: R. Schoenfelder
J. Thorsen
G. Roberts



RESPONSE TO NRC COMMENTS

Docket No. 030-34098, Mail Control No. 122985

1. In your mailing address you indicate DATD. Please define DATD.

RESPONSE: DATD stands for Design and Technology Division

2. Please indicate whether sealed sources will be lowered into the ground more than 3 feet. If so, please provide emergency procedures should the source become stuck.

RESPONSE: The sealed source will not be lowered into the ground more than 3 feet.

3. Please provide a copy of the Radiation Safety Officer (RSO) delegation of authority as provided by management. The delegation of authority should include a commitment that the RSO is authorized to stop unsafe operations and has sufficient time to perform radiation safety duties and responsibilities.

RESPONSE: A copy of the Radiation Safety Officer's delegation of authority is included as Attachment A.

4. Provide the name and date of manufacturer training attended by the RSO and/or training and experience with gauging devices.

RESPONSE: The RSO is not a gauge user. However, the RSO will attend the Troxler Nuclear Gauge Safety Training course when it is offered in Philadelphia in August 1996.

5. Submit a description of the duties and responsibilities of your Radiation Safety Officer. Appendix C to Draft Regulatory Guide DG-0008, "Applications for the Use of Sealed Sources in Portable Gauging Devices", may be used for guidance.

RESPONSE: A description of the duties and responsibilities of the RSO is provided in Section 3 of the attached procedure (Attachment B).

6. Please provide an organizational chart that shows the RSO's reporting path to management. This chart should demonstrate that the RSO has sufficient authority and direct communication with responsible management officials.

RESPONSE: See organization chart in Attachment C.



7. With regard to your training program, please confirm:

- a. all users receive the manufacturer training provided prior to using the gauge.
- b. each user will be designated in writing by the RSO.
- c. annual refresher training includes review of DOT requirements, changes in applicable regulations or license conditions, and deficiencies identified during the performance of annual audits of the radiation safety program.
- d. all training records including refresher training records are maintained.
- e. Individuals responsible for or having access to gauge storage are (s) are provided radiation safety training.

RESPONSE:

- a. All users will take the Troxler Nuclear Gauge Safety Training course prior to using the gauge.
- b. Each user will be designated in writing by the RSO.
- c. Annual refresher training will include a review of DOT requirements, changes in applicable regulations or license conditions, and deficiencies identified during the performance of annual audits of the radiation safety program
- d. All training records including refresher training will be maintained as specified in the Draft Regulatory Guide DG-0008.
- e. The only persons having access to the storage shed where the gauges are stored will be Troxler trained or have taken a 40 hour course in accordance with the OSHA regulation 29 CFR 1910.120 "Hazardous Waste Operations and Emergency Response", which, for WESTON personnel, includes a 2 hours radiation safety segment.

8. With regards to your facilities and equipment, please:

- a. indicate whether One Weston Way is also a use location
- b. describe how gauges will be secured while located in transport vehicles. For example, gauges will be locked in the truck of a car, hidden from view while in a locked van, or secured by a lock and chain while in an open bed truck.



- c. describe how gauges will be controlled by the constant surveillance of authorized users when not in storage and how they will be secured while in storage at temporary jobsites. For example, describe how gauges will be secured from damage or theft during periods of non-use (e.g., lunch time) and describe how the gauges will be secured during off-duty hours while located at temporary jobsites.
- d. provide your justification for not returning the gauge to the permanent place of storage (One Weston Way) at the end of each work day. If you will be using gauges at local temporary jobsites, either (1) commit to returning the gauges to a permanent storage facility (One Weston Way) or (2) explain why the gauge is not returned at the end of each work day to a permanent storage location and describe the steps you will take to ensure that the gauge is secured from unauthorized removal and the area is posted in accordance with the requirements of 10 CFR 20.1903, and that members of the general public are not exposed to radiation in excess of 10 CFR 20.1301 limits. It is not acceptable for a device to be chained to a post or left lying unattended at the place of use.
- e. confirm that each portable nuclear gauge will have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. The gauge or its container must be locked when in transport, storage or when not under the direct surveillance of an authorized user.

RESPONSE:

- a. One Weston Way is only a storage location.
- b. See Section 8.3 of the attached procedure.
- c. In the attached procedure, see Section 6.0 regarding control by operators and Section 7.1 regarding storage.
- d. For some projects, the gauge operator will not return to the office each day because of the distance of the site from the office. As discussed in Section 7.1 of the attached procedure, the gauge will be secured from unauthorized removal by keeping it under a double lock system. As discussed in Section 7.2, the storage area will be posted in accordance with 10 CFR 20.1903. As discussed in Section 7.1 of the attached procedure, when a gauge is temporarily stored in a trailer, it will be located a minimum of 15 feet from any normally occupied location. The dose rate at 15 feet has been measured to be less than 0.02 mrem/hr. Therefore, a person exposed at this rate for 2,000 hours per year, would receive an annual dose of 40 mrem/hr, which is less than the limits for the general public contained in 10 CFR 20.1301. The gauge will not be chained to a post or left unattended.
- e. See Section 6.0 of the attached procedure.



9. Please provide the name of the vendor and the NVLAP accreditation for your dosimetry processor.

RESPONSE: The TLD badges are processed by TMA/Eberline, NVLAP Lab Code 0515.

10. In compliance with 10 CFR 20.1501 (a) and (b), please provide either:

- a a commitment to have at least one appropriate, calibrated survey meter at each jobsite for timely evaluation of source integrity following an incident. This commitment should list the type and ranges of survey instruments you will have available, the frequency of calibration, the calibration process, and the procedure for determining if the instrument is working properly.

OR

- b an explanation of how you will have access to an appropriate survey meter for timely evaluation of source integrity following an incident at any jobsite.

RESPONSE: At each jobsite WESTON will have at least one survey instrument. The survey instruments are G-M detectors with a range of 0 to 0.5 millisievert per hour (50 millirem per hour). This instrument will be used to perform surveys after an incident.. Each instrument will be calibrated by the manufacturer at intervals not to exceed 6 months. As discussed in the attached Safety Procedure, before using a survey instrument, WESTON personnel will check the response of the instrument with a dedicated check source and, if the instrument does not respond properly, will not use the instrument until it is repaired and operable or until an operable instrument is obtained.

11. With regards to your leak test procedure, please provide:

- a. the name, address, and license number of the kit supplier.
- b. the kit model number
- c. information on the supplier's procedures for analyzing samples collected using its kit and providing timely reports of the results to you.

RESPONSE:

- a Troxler Electronic Laboratories, Inc.
P.O. Box 12057
Research Triangle Park, NC 27709



License No. NC 032-0187-1

b. Troxler Model 3880 Leak Test Kit

c. Analysis of samples is performed using a dual channel flow-through proportional counter capable of detecting activities of 0.00003 uCi. Troxler Labs will, in most cases, process the wipe samples within 24 hours after receipt. If the analysis reveals the presence of 0.001 to 0.005 uCi, Troxler will place a call requesting that an additional test be made. If the analysis reveals activities greater than 0.005 uCi, Troxler will place a call to initiate removal of the sealed source from service.

12. With regards to your operating and emergency procedures, please review the requirements and prohibitions outlined in Appendix H to Draft Regulatory Guide DG-0008 and incorporate the items as appropriate. Also, confirm that a copy of your operating and emergency procedures will be maintained at each jobsite.

RESPONSE: The operating and emergency procedure has been revised and is attached. **The revised procedure include a copy of Appendix H as Attachment 6.**

13. 10 CFR 20.1101 requires, in part, that each licensee (1) develop, document, and implement a radiation protection program commensurate with the scope and extent of license activities and sufficient to ensure compliance with the regulations, and (2) review, at least annually, the content and implementation of their radiation programs. An example of an audit program is provided in appendix I to Draft Regulatory Guide DG-0008. With regards to this audit, please submit:

- a. the name and radiation safety qualifications of the individual who will conduct audits.
- b. a description of the scope and extent of the audits.
- c. a commitment to conduct audits at intervals not to exceed 12 months and to maintain records of the audits for at least 3 years after the record is made.
- d. management's commitment to review the documented results of the audit.
- e. a commitment to take prompt action to correct deficiencies identified during audits and to inform all personnel of the deficiencies and the actions management expects its personnel to take to avoid similar deficiencies.

RESPONSE:

a. **The audits will be performed by a CHP (a Health Physicist certified by the American Board of Health Physics).**



- b. The audits will be conducted using the Sample Audit Program contained in Appendix I of the Draft Reg Guide DG - 0008 as a guide.
- c. In accordance with 10 CFR 20.1101, audits will be conducted annually (once a calendar year) and records will be kept for at least 3 years.
- d. The Division Manager, Mr. Jack Thorsen, will review the results of each audit.
- e. A written response will be prepared promptly for each audit by the RSO. The response will provide for corrective action for any deficiencies which may include extra training for gauge users to identify deficiencies and actions to take to avoid similar deficiencies.

14. In accordance with 49 CFR 172.201, please confirm that shipping papers contain an emergency response telephone number. Also, an updated copy of NRC Form 3 is enclosed for your use.

RESPONSE: All shipping papers will contain an emergency response telephone number. WESTON has an emergency phone number that can be called at any time and a safety official will be located to handle an emergency.



ATTACHMENT A
LETTER OF AUTHORIZATION

Inter-Office Memorandum



TO: Richard Shimko

cc: R. Schoenfelder
W. Zahn
J. Barco

FROM: John W. Thorsen,
Division Manager

John W. Thorsen for

DATE: 7 May, 1996

PROJECT:

W. O. NO.:

SUBJECT: Delegation of Authority as
Radiation Safety Officer

ACTION:

You are authorized to serve as Radiation Safety Officer (RSO) for our division's license to possess Troxler nuclear density gauges. You are charged with performing the duties of the RSO as stipulated in our license with the Nuclear Regulatory Commission. While serving in this function you will report to me and you will also receive direction from WESTON Corporate Radiation Safety Officers (CRSO). You, as the RSO, have the authority to stop unsafe operations involving the Troxler nuclear gauges. You are authorized to take time, as necessary, to perform your duties as RSO during and outside of the normal working day.

In accordance with our NRC license, you will be audited annually by the CRSO or his designee. I request a copy of each audit report and each response, if required, for my review.



ATTACHMENT B

PROCEDURE



ATTACHMENT C
ORGANIZATION CHART



NUCLEAR MOISTURE/DENSITY GAUGE SAFETY PROCEDURE

1.0 Purpose

This procedure provides the storage, transport, and handling requirements for the use of Troxler nuclear moisture/density gauges by qualified personnel in DATD. Training, certification, and monitoring requirements for gauge users and guidelines for incident response and recordkeeping are also included.

2.0 Policy

It is the policy of ROY F. WESTON, INC. (WESTON®) to provide a safe working environment for its employees. To implement this policy, WESTON provides training for its employees that work with potentially hazardous materials and maintains employee monitoring programs, as necessary. In addition, WESTON maintains radiation exposures to its employees and the general public at levels that are as low as reasonably achievable.

3.0 Roles and Responsibilities of the Radiation Safety Officer

The Radiation Safety Officer (RSO) in DATD ensures compliance with WESTON's radioactive source material license as it applies to the Troxler gauges. The RSO conducts and documents the routine tasks required by the license such as leak tests, annual retraining of gauge users, gauge cleaning, **arranging for recibration of survey detectors** and personnel monitoring.

The RSO serves as WESTON's point of contact for the U.S. Nuclear Regulatory Commission (NRC) for issues concerning the Troxler gauges. The RSO provides information to the NRC inspector during an on-site inspection and responds to violations, if any are noted. The RSO's responsibilities include those listed in Appendix C of Reg Guide DG-0008 which is included as Attachment 5.

WESTON's Corporate Radiation Safety Office (CRSO) will provide program oversight and will arrange for an annual audit.

4.0 Certification Requirements for Gauge Users

WESTON employees who may use the gauge have complied with the following requirements.

- They have successfully completed the 8-hour Troxler training course.
- Within the past year, they have completed a refresher training course conducted by WESTON or have repeated the 8-hour Troxler course.
- Copies of these training certificates are on file with the RSO.



5.0 Radiological Monitoring

Users of the gauges are included in WESTON's thermoluminescent dosimeter (TLD) program. Whole body TLD badges are exchanged quarterly and results are provided by the dosimeter service subcontractor to WESTON's CRSO and to the DATD dosimetry coordinator. An annual summary of occupational radiation exposure is provided confidentially to each badged employee after the end of the calendar year. Abnormal readings or results that exceed 50 mrem in one quarter are noted by the CRSO and discussed with the appropriate employee when the quarterly report is received. Data are maintained on the radiation exposure tracking system (RETS). Employees will wear their badges while using the gauge, and will store them in a background radiation area when not using the gauge.

6.0 Requirements During Field Use

Proper handling, storage, and posting are as important when the gauge is at remote field locations as when it is stored in West Chester. Storage and posting requirements provided in Section 7.0 of this document will be followed as applicable.

At temporary job sites, where a secure storage location cannot be provided at the site, a certified gauge user will be responsible for storing the gauge off-site, in a project vehicle or hotel room. When left in a vehicle the gauge will be secured against theft by stowing it out of sight and locking the vehicle. The vehicle should not be parked near an area that may be occupied.

Gauges will be kept under constant surveillance by the gauge user at all times. During periods when the gauge is not being used, such as lunchtime or when the gauge operator needs to make a phone call, the gauge will be returned to locked storage or be appropriately locked in a vehicle. To repeat, the gauge must not be left unattended. The gauge container will be locked at all times when not in use, including when being transported or stored.

It is preferred that the gauge not be stored in a hotel room or other living quarters. However, if no other storage location is available the following precautions will be followed.

1. The gauge will be stowed as far away as possible and not less than 10 feet from the normally occupied area of the room.
2. The gauge will be stowed away from walls that are common to other occupied rooms.
3. The gauge will not be left in the room during the work day.



Appendix H of Reg Guide DG-0008 is included as Attachment 6. This contains a checklist of safe practices and includes a NRC memorandum on reporting of damaged portable gauges.

6.1 Survey Instrument

A radiation survey detector will be taken on each job site in order to determine if the radioactive source has been damaged in an accident. The survey detector will have a range of 0 to 50 mrem/hour and the RSO will arrange to have the detector calibrated by the manufacture every six months. A check source will be taken with the survey detector. At the start of the project, three readings will be taken with the detector in contact with the check source and an average of the three readings will be calculated. An additional reading will be taken once a week and before each use of the detector. If the reading is different from the initial average reading by more than 20%, the detector will be taken out of service and replaced. All readings will be recorded in the field notebook.

7.0 Storage Requirements

The following requirements are necessary to maintain compliance with WESTON's radioactive materials license.

7.1 Storage

Routine storage of the gauge will be in such a manner as to minimize exposure to WESTON employees and members of the general public. The gauge will always be contained in its transport case when it is not in use. The gauge will be stored no closer than 15 feet from the nearest full-time work location or frequently occupied area. The gauge will be stored at least 15 ft. from any area that may be occupied under normal conditions by a member of the general public.

A double lock system will be employed to ensure against potential theft and to enforce restricted access to the gauge. An example of a double lock system is to lock the case and place it inside a locked vehicle, building, or trailer. It is not acceptable for the gauge to be chained to a post. Keys that are required to remove the gauge from the storage area are provided only to personnel who are certified users or are responsible for the storage area.

7.2 Posting

The storage area door will be posted with a radiation caution sign as shown in Attachment 1. In addition, a copy of the US NRC instruction form, Attachment 2, will be posted.



8.0 Shipping and Transportation Requirements

United States Department of Transportation (DOT) regulations will be followed when the gauge is transported or shipped. Regulatory requirements include proper packaging, marking, labeling and completing shipping papers.

8.1 Packaging, Marking and Labeling

The Troxler transport case is constructed and labeled as a DOT Type A package, and the instrument must be secured in the case whenever it is moved from the storage area or a project site. No other packaging is required.

Required markings and labels have been permanently affixed to the transport case.

8.2 Shipping Documentation

Shipping papers include the Waybill or Bill of Lading, and the Shippers Declaration for Hazardous Goods. Shipping papers must be completed according to DOT requirements for "Radioactive Material, Special form, n.o.s." as shown in the examples in Attachment 3. It is important to note that the source activities listed on the papers are different for each gauge, and the appropriate value must be provided on the shipping papers for the gauge being shipped.

8.3 Transportation by Private (WESTON) Vehicle

Transportation of the gauge in a vehicle own or rented by WESTON or an employee of WESTON requires compliance with DOT requirements for an exclusive use vehicle. The gauge must be contained in the transport case, and shipping documents should be kept with the gauge.

The gauge must be transported in the trunk or cargo area of the vehicle, not in the passenger area, and must be secured against loss or theft. The gauge must be locked in the trunk of a car, hidden from view while in a locked van, or secured by a lock and chain while in an open bed truck.

8.4 Regulatory Agency

WESTON is licensed to use the Troxler gauge in the State of Pennsylvania. Agencies in other states will recognize the NRC license maintained by WESTON, but may require advance written notification if the gauge is to be used at the site in their state. A list of state agencies and NRC status is provided in Attachment 4. The agency may request a copy of WESTON's license.



9.0 Gauge Maintenance

The Troxler gauge is maintained according to guidance provided in the Troxler Safety Training Manual. Maintenance activities to be conducted by WESTON employees include cleaning the exterior surfaces of the gauge with the source retracted, and performing leak tests on the gauge. Other maintenance activities that require removing the sources from the gauge are performed by the Troxler Service Department. Gauges that are not functioning correctly and damaged gauges are also returned to the Troxler Service Department.

Leak tests are performed at intervals not exceeding six months using the Troxler Leak Test Kit or suitable substitute. WESTON employees must wear their dosimeters when conducting leak tests, as they must for any other activity using the gauge. Instruction for performing the leak test are provided in the leak test kit. Precautions to minimize potential radiation exposures must be followed. Employees must not touch the sources with their hand or fingers, and the source rod will not be extended out of the shielded housing during the test.

Results for the leak tests will be retained by the RSO for review by NRC inspector during a review of WESTON's license.

10.0 Accident/Incident Response

The response to an accident or incident involving the gauge is conducted in accordance with the requirements of the NRC, appropriate local and state authorities, and applicable radiation safety practices. Accidents and incidents may involve damage to the gauge or the loss or theft of the gauge or its sources.

10.1 Damaged Gauge

When in use at construction sites, measures will be taken to minimize potential accidents that would damage the gauge. The gauge will not be left unattended in a construction area. The gauge will not be left in the path of vehicles and heavy equipment. The gauge will not be placed near a parked vehicle or equipment that may cause damage when started.

Occasionally, a gauge may be damaged at a project site. In case of an incident it is assumed that the shielding around the source is affected and elevated exposure rates are probable. The following steps must be followed.

1. The gauge must not be moved or left unattended.
2. If the health and safety of an individual is at risk, measures shall be taken to protect him or her. Medical attention will be provided as necessary.



3. If a vehicle or heavy equipment is involved, it may not be moved until an instrument survey has been conducted to ensure that it is not contaminated.
4. The area, within 15 feet of the gauge will be partitioned off, and access to the area will be restricted to personnel who must work on the instrument.
5. **The area around the gauge will be surveyed with a radiation detector to determine if the radioactive source has been breached.**
6. The certified gauge user at the site must contact the RSO to report the incident and request guidance for additional response efforts. The user will relay details of the incident to the RSO including the location and time of the incident, names and status of individuals involved, details of the occurrence, status of the gauge, position of its sources, and integrity of the shielding in the case, and actions taken to the point in response to the incident.
7. The RSO provides guidance as necessary to the gauge user and arranges for supplemental response, as necessary. Additional response efforts may include sending **additional** radiation detection equipment to the user, arranging to have a health physicist at the site, and contacting the Troxler Service Department to request assistance.
8. The RSO must contact the CRSO and then, in the case of accidents that resulted in damage to the gauge, he will contact the appropriate regulatory agencies. At a minimum, agencies requiring notification include the license granting agency (NRC Region 1, King of Prussia, PA) and the local agency responsible for radiological control in the state where the accident occurred.
9. If the shielding was not seriously damaged, the gauge may be packaged and transported according to the normal shipping procedure to the Troxler Service Department for repair and check-out. If the shielding or source were damaged and elevated levels of exposure or contamination are measured, it will be conducted under the direction of the CRSO and under review by the regulatory agencies.
10. The RSO will develop and submit to the CRSO a report of the accident, its causes and results, and the response efforts that were enacted. The RSO is also responsible for completing and submitting reports required by the regulatory agencies.



10.2 Theft and Misplacement

Theft should be prevented by following procedures for storage, transport, and use. In case of loss or theft the certified user or the individual that discovers the gauge missing must contact the RSO. The RSO will conduct the following activities.

1. Notify the license-granting agency and appropriate agencies in the state where the gauge was last seen.
2. Notify the Troxler Electronic Laboratories, Inc.
3. Notify the CRSO.
4. Notify other agencies as directed by the regulatory agency personnel.
5. Complete and submit a report to the CRSO and regulatory agency personnel, as necessary.

11.0 Reporting, Notification and Recordkeeping

It is the responsibility of the RSO in the DATD Division to ensure that the appropriate reporting, notification, and recordkeeping procedures are implemented. Those requirements are summarized below.

11.1 Notification and Reporting to the CRSO

The RSO ensures that the CRSO is informed of activities that may affect the condition of the gauge or the status of WESTON's radioactive material license. The RSO notifies the CRSO immediately of accidents and incidents or NRC inspections that involve the Troxler. The RSO obtains the signatures of the Corporate Secretary and the Corporate Radiation Safety Officer on all correspondence with the NRC regarding the license and inspections of the Troxler gauges. Approval of the CRSO is also obtained on requisition for the purchase of new gauges.

The RSO provided copies of all records and documents associated with the maintenance and use of the Troxler gauge, in a timely manner, to the CRSO. The following reports are included.

- leak test results every six months
- employee training certificates (initial and annual retraining)
- accident and incident reports
- regulatory agency reports and WESTON responses employee monitoring data.



11.2 Notification and Reporting to the NRC

The RSO immediately notifies the Region 1 NRC at King of Prussia, Pennsylvania of accidents or incidents involving the gauge. The NRC is also notified immediately if the gauge is stolen or if the gauge or its sources are lost. Notification is followed by the timely submittal of a written report that explains the circumstances of the incident, actions taken in response, and actions taken to prevent recurrence.

Attachment 6 of this procedure contains a NRC memorandum which provides guidance on reporting of damaged portable gauges.

11.3 RSO Records

The RSO maintains organized, current files of the following records.

- Source certificates from Troxler Electronic Laboratories, Inc.
- Records of gauge maintenance and repair
- Records of semi-annual leak tests
- **Records of semi-annual survey detector calibration.**
- Copies of applicable regulations
- Advance written notification to the other state agencies
- Training certificates for gauge users
- Employee monitoring data
- Records of inventory, transfer and gauge location
- A copy of the Troxler Type A package certification for the transport case
- A copy of the notice to employees (attachment 2).
- Telephone numbers and addresses of emergency contacts.
- **Records of audits**

12.0 Disposal

When a gauge is no longer operable or no longer needed, it is disposed of by transfer to another licensed user or returned to the manufacturer for final disposal. Disposition of the gauge is documented in the files of the RSO.

ATTACHMENT 1

CAUTION



RADIOACTIVE MATERIALS

89-527

PRINTED IN U.S.A.

STORAGE AREA PLACARD (FACSIMILE)
FIGURE 24



ATTACHMENT 2



NOTICE TO EMPLOYEES

STANDARDS FOR PROTECTION AGAINST RADIATION (PART 20); NOTICES, INSTRUCTIONS AND
REPORTS TO WORKERS; INSPECTIONS (PART 19); EMPLOYEE PROTECTION

WHAT IS THE NUCLEAR REGULATORY COMMISSION?

The Nuclear Regulatory Commission is an independent Federal regulatory agency responsible for licensing and inspecting nuclear power plants and other commercial uses of radioactive materials.

WHAT DOES THE NRC DO?

The NRC's primary responsibility is to ensure that workers and the public are protected from unnecessary or excessive exposure to radiation and that nuclear facilities, including power plants, are constructed to high quality standards and operated in a safe manner. The NRC does this by establishing requirements in Title 10 of the Code of Federal Regulations (10 CFR) and in licenses issued to nuclear users.

WHAT RESPONSIBILITY DOES MY EMPLOYER HAVE?

Any company that conducts activities licensed by the NRC must comply with the NRC's requirements. If a company violates NRC requirements, it can be fined or have its license modified, suspended or revoked.

Your employer must tell you which NRC radiation requirements apply to your work and must post NRC Notices of Violation involving radiological working conditions.

WHAT IS MY RESPONSIBILITY?

For your own protection and the protection of your co-workers, you should know how NRC requirements relate to your work and should obey them. If you observe violations of the requirements or have a safety concern, you should report them.

WHAT IF I CAUSE A VIOLATION?

If you engaged in deliberate misconduct that may cause a violation of the NRC requirements, or would have caused a violation if it had not been detected, or deliberately provided inaccurate or incomplete information to either the NRC or to your employer, you may be subject to enforcement action. If you report such a violation, the NRC will consider the circumstances surrounding your reporting in determining the appropriate enforcement action, if any.

HOW DO I REPORT VIOLATIONS AND SAFETY CONCERNS?

If you believe that violations of NRC rules or the terms of the license have occurred, or if you have a safety concern, you should report them immediately to your supervisor. You may report violations or safety concerns directly to the NRC. However, the NRC encourages you to raise

your concerns with the licensee since it is the licensee who has the primary responsibility for, and is most able to ensure, safe operation of nuclear facilities. If you choose to report your concern directly to the NRC, you may report this to an NRC inspector or call or write to the NRC Regional Office serving your area. If you send your concern in writing, it will assist the NRC in protecting your identity if you clearly state in the beginning of your letter that you have a safety concern or that you are submitting an allegation. The NRC's toll-free SAFETY HOTLINE for reporting safety concerns is listed below. The addresses for the NRC Regional Offices and the toll-free telephone numbers are also listed below.

WHAT IF I WORK WITH RADIOACTIVE MATERIAL OR IN THE VICINITY OF A RADIOACTIVE SOURCE?

If you work with radioactive materials or near a radiation source, the amount of radiation exposure that you are permitted to receive may be limited by NRC regulations. The limits on your exposure are contained in sections 20.1201, 20.1207, and 20.1208 of Title 10 of the Code of Federal Regulations (10 CFR 20) depending on the part of the regulations to which your employer is subject. While these are the maximum allowable limits, your employer should also keep your radiation exposure as far below those limits as "reasonably achievable."

MAY I GET A RECORD OF MY RADIATION EXPOSURE?

Yes. Your employer is required to advise you of your dose annually if you are exposed to radiation for which monitoring was required by NRC. In addition, you may request a written report of your exposure when you leave your job.

HOW ARE VIOLATIONS OF NRC REQUIREMENTS IDENTIFIED?

NRC conducts regular inspections at licensed facilities to ensure compliance with NRC requirements. In addition, your employer and site contractors conduct their own inspections to ensure compliance. All inspectors are protected by Federal law. Interference with them may result in criminal prosecution for a Federal offense.

MAY I TALK WITH AN NRC INSPECTOR?

Yes. NRC inspectors want to talk to you if you are worried about radiation safety or have other safety concerns about licensed activities, such as the quality of construction or operations at your facility. Your employer may not prevent you from talking with an inspector. The NRC will make all reasonable efforts to protect your identity where appropriate and possible.

MAY I REQUEST AN INSPECTION?

Yes. If you believe that your employer has not corrected violations involving radiological working conditions, you may request an inspection.

Your request should be addressed to the nearest NRC Regional Office and must describe the alleged violation in detail. It must be signed by you or your representative.

HOW DO I CONTACT THE NRC?

Talk to an NRC inspector on-site or call or write to the nearest NRC Regional Office in your geographical area (see map below). If you call the NRC's toll-free SAFETY HOTLINE during normal business hours, your call will automatically be directed to the NRC Regional Office for your geographical area. If you call after normal business hours, your call will be directed to the NRC's Headquarters Operations Center, which is manned 24 hours a day.

CAN I BE FIRED FOR RAISING A SAFETY CONCERN?

Federal law prohibits an employer from firing or otherwise discriminating against you for bringing safety concerns to the attention of your employer or the NRC. You may not be fired or discriminated against because you:

- ask the NRC to enforce its rules against your employer;
- refuse to engage in activities which violate NRC requirements;
- provide information or are about to provide information to the NRC or your employer about violations of requirements or safety concerns;
- are about to ask for, or testify, help, or take part in an NRC, Congressional, or any Federal or State proceeding.

WHAT FORMS OF DISCRIMINATION ARE PROHIBITED?

It is unlawful for an employer to fire you or discriminate against you with respect to pay, benefits, or working conditions because you help the NRC or raise a safety issue or otherwise discourage you from engaging in protected activities. Violations of Section 211 of the Energy Reorganization Act (ERA) of 1974 (42 U.S.C. 5851) include the harassment and intimidation by employers of (i) employees who bring safety concerns directly to their employers or to the NRC, (ii) employees who have refused to engage in an unlawful practice, provided that the employee has identified the illegality to the employer, (iii) employees who have testified or are about to testify before Congress or in any Federal or State proceeding regarding any provision (or proposed provision) of the ERA or the Atomic Energy Act (AEA) of 1954, (iv) employees who have commenced or caused to be commenced a proceeding to the administration or enforcement of any requirement imposed under the ERA or AEA or who have, or are about to, testify, assist, or participate in such a proceeding.

HOW DO I FILE A DISCRIMINATION COMPLAINT?

If you believe that you have been discriminated against for bringing violations or safety concerns to the NRC or your employer, you may file a

complaint with the U.S. Department of Labor (DOL) pursuant to Section 211 of the ERA. Your complaint must describe the firing or discrimination and must be filed within 180 days of the occurrence. Filing an allegation, complaint, or request for action with the NRC does not extend the requirement to file a complaint with the DOL within 180 days. You must file the complaint with the DOL. The NRC cannot file the complaint for you.

Send complaints to:

Office of the Administrator
Wage and Hour Division, Room 53802
Employment Standards Administration
U.S. Department of Labor
Constitution Avenue, NW
Washington, DC 20210

or any local office of the DOL, Wage and Hour Division. Check your telephone directory under U.S. Government listings.

WHAT CAN THE DEPARTMENT OF LABOR DO?

If your complaint involves a violation of Section 211 of the ERA by your employer, it is the DOL, NOT THE NRC, that provides the process for obtaining a personal remedy. The DOL will notify your employer that a complaint has been filed and will investigate your complaint.

If the DOL finds that your employer has unlawfully discriminated against you, it may order that you be reinstated, receive back pay or compensation for any injury suffered as a result of the discrimination.

WHAT WILL THE NRC DO?

The NRC will evaluate each allegation of harassment, intimidation, or discrimination. Following this evaluation, an investigator from the NRC's Office of Investigations may interview you and review available documentation. Based on the evaluation, and, if applicable, the interview, the NRC will assign a priority and a decision will be made whether to pursue the matter further through an investigation. The assigned priority is based on the specifics of the case and its significance relative to other ongoing investigations. The NRC may not pursue an investigation to the point that a conclusion can be made whether the harassment, intimidation, or discrimination actually occurred. Even if NRC decides not to pursue an investigation, if you have filed a complaint with DOL, the NRC will monitor the results of the DOL investigation.

If the NRC or DOL finds that unlawful discrimination has occurred, the NRC may issue a Notice of Violation to your employer, impose a fine, or suspend, modify, or revoke your employer's NRC license.



* - Callaway Plant Site in Missouri and Grand Gulf Plant Site in Mississippi are under the purview of Region IV.

UNITED STATES NUCLEAR REGULATORY COMMISSION REGIONAL OFFICE LOCATIONS

A representative of the Nuclear Regulatory Commission can be contacted by employees who wish to register complaints or concerns about radiological working conditions or other matters regarding compliance with Commission rules and regulations at the following addresses and telephone numbers.

REGIONAL OFFICES		
REGION	ADDRESS	TELEPHONE
I	U.S. Nuclear Regulatory Commission, Region I 475 Alderside Road King of Prussia, PA 19406-1415	(800) 432-1156
II	U.S. Nuclear Regulatory Commission, Region II 101 Marietta Street, N.W., Suite 2900 Atlanta, GA 30323-0199	(800) 577-8510
III	U.S. Nuclear Regulatory Commission, Region III 801 Warrenville Road Lisle, IL 60532-4351	(800) 522-3025
IV	U.S. Nuclear Regulatory Commission, Region IV 611 Ryan Plaza Drive, Suite 400 Arlington, TX 76011-8064	(800) 952-9677
WALNUT CREEK FIELD OFFICE	U.S. Nuclear Regulatory Commission 1450 Marie Lane Walnut Creek, CA 94596-5368	(800) 882-4672

To report safety concerns or violations of NRC requirements by your employer, telephone

NRC SAFETY HOTLINE

1-800-695-7403

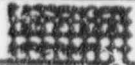
To report incidents involving fraud, waste or abuse by an NRC employee or NRC contractor, telephone

OFFICE OF THE INSPECTOR GENERAL

HOTLINE

1-800-233-3497

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

Shipper Troxler International Ltd. Cornwallis Road Research Triangle Park, NC 27709 USA				Air Waybill No. Page of Pages Shipper's Reference Number (optional)	
Consignee John Doe Enterprises 9999 Anystreet Anywhere, Anystate 99999					
Two completed and signed copies of this Declaration must be handed to the operator				WARNING Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder or an IATA cargo agent.	
TRANSPORT DETAILS This shipment is within the limitations prescribed for (delete non-applicable) <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;">  </div> <div style="border: 1px solid black; padding: 2px;"> CARGO AIRCRAFT ONLY </div> </div> Airport of Departure:					
Airport of Destination:				Shipment type: (delete non-applicable) <div style="display: flex; gap: 10px;"> <div style="border: 1px solid black; padding: 2px;">NON-RADIOACTIVE</div> <div style="border: 1px solid black; padding: 2px;">RADIOACTIVE</div> </div>	
NATURE AND QUANTITY OF DANGEROUS GOODS					
Dangerous Goods Identification					
Proper Shipping Name	Class or Division	UN or ID No.	Subsidiary Risk	Quantity and type of packing	Packing Inst. Authorization
Radioactive Material Special Form, N.O.S.	7	UN2974		Cs-137/Am-241:Be Metal Solid 1 TYPE A PACKAGE X 0.008 Ci*/0.040 Ci	Yellow Spec. Form II Certificate II-0.5 GB/140/S GB/7/S DIM 35X47 X79 CM
Additional Handling Information <div style="text-align: center; padding: 10px;">NONE</div>					
I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labelled, and are in all respects in the proper condition for transport by air according to the applicable international and National Government Regulations.				Name/Title of Signatory Place and Date Signature (See warning above)	

Form 30-062

Printed and Sold by UIC & Co. Division of Scott Printing Corp. 180 Baskin Avenue, Jersey City, N.J. 07310 — (201) 795-5400 Telex (800) 621 3098

SHIPPER'S DECLARATION FOR DANGEROUS GOODS FORM (FACSIMILE)
FIGURE 19

ATTACHMENT 3

Bill of Lading—
Short Form
Original—Not Negotiable
It is subject to the
classifications and tariffs in effect on
the date of issue of this Original Bill of
Lading.



SHIPPER NO 003908

Consigned to and destination:

"SHIP TO ADDRESS"

SHIPPER	
Troxler Electronic Laboratories, Inc.	
Troxler International, Ltd.	

Out Order No	Customer Order No	Date Shipped

Route (CARRIER) _____ Carrier No _____ Delivering Carrier _____

FREIGHT CARRIERS NAME

NO. OF PACKAGES	UNIT	DESCRIPTION OF GOODS, SPECIAL MARKS AND EXCEPTIONS	WEIGHT (GROSS)	RATE	TOTALS
1	X	RADIOACTIVE MATERIALS, SPECIAL FORM, NOS UN2974			
		RADIOACTIVE YELLOW II LABELS, T.I.-0.1			
		1 TYPE A PACKAGE,			
		X .0080 C1 Ca137/.040 C1 Am241:Be	82 lbs		
		\$.40/lb Eval			

<p>REMIT TO TO 3008 Cornwallis Road • P.O. Box 12057 Research Triangle Park North Carolina 27709 USA</p>	<p>COD AMT \$</p>	<p>COD FEE PREPAID COLLECT TOTAL CHARGES \$</p>
<p>IF FREIGHT CHARGES ARE PREPAID UNLESS MARKED COLLECT CHECK BOX IF CHARGES ARE COLLECT</p>		

YOUR NAME & TITLE

SIGNATURE

TROXLER WAYBILL (FACSIMILE)
FIGURE 21



ATTACHMENT 4

LICENSING

The following list contains the names, addresses, and telephone numbers of the licensing agencies for each state:

ALABAMA PH: (334) 613-5391
FX (334) 613-5387

Whatley Kirksey E, Director
Division of Radiation Control
State Department of Public Health
State Office Building
Montgomery, AL 36130-1701

ALASKA
USNRC REGION V,

ARIZONA PH: (602) 255-4845
FX: (602) 437-0705

Godwin Audrey V, Director
Arizona Radiation Regulatory Agency
4814 South 40th Street
Phoenix, AZ 85040

ARKANSAS PH: (501) 661-2301
FX: (501) 661-2468
Bevill Bernard R, Acting Director
Division of Radiation control & Emergency
Mgmt
Department of Health
4815 West Markham Street, Slot 30
Little Rock, AR 72205-3867

CALIFORNIA PH: (916) 322-3482
FX: (916) 324-3610
Bailey Edgar D., C.H.P., Chief
Radiologic Health Branch
Food, Drugs & Radiation Safety Division
State Department of Health Services
714-744 P Street
P.O. Box 942732
Sacramento, CA 94234-7320

COLORADO PH: (303) 692-3030
FX: (303) 782-5083

Quillin Robert M., Director
Radiation Control Division-(RCD-DO-B1)
Department of Public Health & Environment
4300 Cherry Creek Drive South
Denver, CO 80222-1530

CONNECTICUT
USNRC REGION I,

DELAWARE
USNRC REGION I,

DISTRICT OF COLUMBIA
USNRC REGION I,

FLORIDA PH: (904) 487-1004
FX: (904) 487-0435

Jerrett Lyle E., Chief
Office of Radiation Control
Department of Health & Rehabilitative
Services
1317 Winewood Boulevard
Tallahassee, FL 32399-0700

GEORGIA PH: (404) 362-2675
FX: (404) 362-2653

Hill, Thomas E., Manager
Radioactive Materials Program
Department of Natural Resources
4244 International Parkway, Suite 114
Atlanta, GA

HAWAII
USNRC REGION V,

IDAHO PH: (515) 281-3478
FX: (515) 242-6284

Flater Donald A., Chief
Bureau Of Radiological Health
Iowa Department of Public Health
Lucas State Office Building
Des Moines, IA 50319

ILLINOIS PH: (217) 785-9868
FX: (217) 524-4724

Thomas W. Ortziger, Director
Department of Nuclear Safety
1035 Outer Park Drive
Springfield, IL 62704

INDIANA
USNRC REGION III,

KANSAS PH: (913) 296-1562
FX: (913) 296-0984

Allen Gerald W., Chief
X-Ray & RAM control Section
Department of Health & Environment
Bureau of Air & Radiation
Forbes Field, Building 283
Topeka, KS 66620

KENTUCKY PH: (502) 564-3700
FX: (502) 564-6533

Volpe John A., Ph.D, Manager
Radiation Control Branch
Cabinet for Human Resources
275 East Main Street
Frankfort, KY 40621-0001

LOUISIANA PH: (504) 765 0160
FX: (504) 765-0220

Spell William H., Administrator
Radiation Protection Division
Office of Air quality & Radiation Protection
Department of Environmental Quality
7290 Bluebonnett Road
P.O. Box 82135
Baton Rouge, LA 70884-2135

MAINE PH: (207) 287-5698
FX: (207) 287-4172

Schell Robert J., Nuclear Engineering
Specialist
Division of Health Engineering
Radiation Control Program
State House, Station 10
Augusta, ME 04333

MARYLAND PH: (410) 631-3300
FX: (410) 631-3198

Roland G. Fletcher, Manager
Radiological Health Program
Air and Radiation Management
Administration
Maryland Department of the Environment
2500 Broening Highway
Baltimore, MD 21224

MASSACHUSETTS
USNRC REGION I,

MICHIGAN
USNRC REGION III,

MINNESOTA
USNRC REGION III,

MISSISSIPPI PH: (601) 354-6657
FX: (601) 354-6167

Fuente Eddie S., Director
Division of Radiological Health
State Department of Health
3150 Lawson Street
P.O. Box 1700
Jackson, Ms 39215-1700

MISSORI
USNRC REGION III,

MONTANA
USNRC REGION IV,

NEBRASKA PH: (402) 471-2133
FX: (402) 471-0383
Mark B. Horton., M.D., M.S.P.H., Director
Nebraska Department of Health
P.O. Box 95007
Lincoln, NE 68509-5007

NEVADA PH: (702) 687-5394
FX: (702) 687-5751
Stanley R. Marshall, Supervisor
Radiological Health Section
Department of Human Resources
505 Est King Street
Carson City, NV 89710

NEW HAMPSHIRE PH: (603) 271-4588
FX: (603) 225-2325
Diane E. Tefft, Administrator
Radiological Health Bureau
Division of Public Health Services
6 Hazen Drive
Concord, NH 03301-6527

NEW JERSEY:
USNRC REGION I,

NEW MEXICO PH: (505) 827-1557
FX: (505) 827-1544

Garcia Benito, Chief
Bureau of Hazardous & Radioactive
Materials
Water and Waste Management Division
Department of Environment
P.O. Box 26110
Santa Fe, NM 87502

NEW YORK PH: (518) 457-1202
FX: (518) 457-5545

Aldrich Rita, Principal Radiophysicist
Radiological Health Unit
Division of Safety and Health
New York State Department of Labor
New York State Office Campus
Building 12, Room 457
Albany, NY 12240

NORTH CAROLINA PH: (919) 571-4141
FX: (919) 571-4148

Brown, Dayne H., Director
Division of Radiation Protection
Department of Environment, Health &
Natural Resources
3825 Barrett Drive
P.O. Box 27687
Raleigh, NC 27611-7687

NORTH DAKOTA PH: (701) 328-5188
FX: (701) 328-5200

Mount Dana k., Director
Division of Environmental Engineering
Department of Health
1200 Missouri Ave, Room 304
Bismarck, ND 58506-5520

OHIO
USNRC REGION III,

OKLAHOMA
USNRC REGION IV,

OREGON PH: (503) 731-4014
FX: (503) 731-4081

Paris Ray D., Manager
Radiation Protection Services
State Health Division
Department of Human Resources
800 N.E. Oregon Street, No. 21
Portland, OR 97232

PENNSYLVANIA
USNRC REGION I,

RHODE ISLAND PH: (401) 277-2438
FX: (401) 277-6953

Stoeckel Marie, Chief
Division of Occupation & Radiologic Health
Department of Health
206 Cannon Building
3 Capital Hill
Providence, RI 02908-5097

SOUTH CAROLINA PH: (803) 737-7400
FX: (803) 737-7412

Batavia Max K., P.E. Chief
Bureau of Radiological Health
Department of Health & Environmental
Control
2600 Bull Street
Columbia, SC 29201

SOUTH DAKOTA
USNRC REGION IV

TENNESSEE PH: (615) 532-0360
FX: (615) 532-7938

Mobley Michael H., Director
Division of Radiological Health
Department of Environment and Conservation
L&C Annex, 3rd Floor
401 Church Street
Nashville, TN 37243-1532

TEXAS PH: (512) 834-6688
FX: (512) 834-6708

Patliff Richard A., P.E., Chief
Bureau of Radiation Control
Texas Department of Health
1100 West 49th Street
Austin, TX 78756-3189

UTAH PH: ((801) 536-4250
FX: (801) 533-4097

Sinclair William J., Director
Division of Radiation Control
Department of Environmental Quality
168 North 1950 West
P.O. Box 144850
Salt Lake City, UT 84114-4850

VERMONT
USNRC REGION I

VIRGINIA
USNRC REGION II

WASHINGTON PH: (360) 586-8949
FX: (360) 753-1496

Strong Terry R., Director
Division of Radiation Protection
Department of Health
Agricultural Center Building #5
P.O. Box 47827
Olympia, WA 98504-7827

WEST VIRGINIA
USNRC REGION II

WISCONSIN
USNRC REGION III

WYOMING
USNRC REGION IV



ATTACHMENT 5
RSO RESPONSIBILITIES
(REPRODUCTION OF APPENDIX C OF
NRC REG GUIDE DG-0008)

APPENDIX C
DUTIES AND RESPONSIBILITIES OF THE RADIATION SAFETY OFFICER

The Radiation Safety Officer (RSO) is responsible for implementing the radiation safety program and ensuring that radiation safety activities are performed in accordance with approved procedures and regulatory requirements.

The RSO's duties and responsibilities include:

1. Ensure that licensed material possessed by the licensee is limited to the kinds (e.g., cesium-137 as a sealed source) and quantities of byproduct material listed on the license.
2. Ensure that individuals using gauges are properly trained; are designated by the RSO; receive refresher training at least annually, including participation in a "dry run" of emergency procedures and review of operating and emergency procedures and Department of Transportation (DOT) requirements; and are informed of all changes in regulatory requirements and deficiencies identified during annual audits.
3. Ensure that personnel monitoring devices are used as required and reports of personnel exposure are reviewed in a timely manner.
4. Ensure that gauges are properly secured against unauthorized removal at times when gauges are not in use.
5. Ensure that proper authorities are notified in case of accident, damage to gauges, fire, or theft.
6. Ensure that audits are performed at least annually to ensure that (a) the licensee is abiding by NRC and DOT regulations and the terms and conditions of the license (e.g., periodic leak tests, inventories, use limited to trained, approved users), (b) the licensee's radiation protection program content and implementation achieve occupational doses and doses to members of the public that are ALARA (see 10 CFR 20.1101), and (c) the licensee maintains required records with all required information (e.g., records of

personnel exposure; receipt, transfer, and disposal of licensed material; gauge user training) sufficient to comply with NRC requirements.

7. Ensure that results of audits, identification of deficiencies, and recommendations for change are documented (and maintained for at least 3 years) and provided to management for review; ensure that prompt action is taken to correct deficiencies.
8. Ensure that audit results and corrective actions are communicated to all personnel who use licensed material (regardless of their location or the license under which they normally work).
9. Ensure that all incidents, accidents, and personnel exposure to radiation in excess of ALARA or Part 20 limits are investigated and reported to NRC and other authorities, as appropriate, within the required time limits.
10. Ensure that licensed material is transported in accordance with all applicable DOT requirements.
11. Ensure that licensed material is disposed of properly.
12. Ensure that he or she has up-to-date copies of NRC's regulations, reviews new or amended NRC regulations, and revises licensee procedures, as needed, to comply with NRC regulations.
13. Ensure that the license is amended whenever there are changes in licensed activities, responsible individuals, or information or commitments provided to NRC in the licensing process.



ATTACHMENT 6

CHECKLIST ON

STANDARD OPERATING AND EMERGENCY PROCEDURES

(REPRODUCTION OF APPENDIX H OF NRC REG GUIDE DG-0008)

APPENDIX H
STANDARD OPERATING AND EMERGENCY PROCEDURES

Operating Procedures

1. Before removing the gauge from its place of storage, check to make sure that the gauge source rod is in the shielded, locked position, then lock the transport case if possible.
2. Sign the gauge out in a log book, stating the dates of use, names of the authorized users who will be responsible for the gauge, and the temporary jobsites where the gauge will be used.
3. Never leave the gauge unattended while in your custody.
4. Follow all applicable Department of Transportation (DOT) requirements when transporting the gauge.
5. Do not touch the source rod with your fingers, hands, or any part of your body, and always make sure the source rod is in the shielded position after each measurement is made.
6. Always wear your assigned thermoluminescent dosimeter (TLD) or film badge when using the gauge.
7. Never wear another person's TLD or film badge.
8. Never store your TLD or film badge near the gauge.
9. Always keep unauthorized persons away from the area where the gauge is to be used.
10. Always maintain constant surveillance and immediate control of the gauge when it is not in storage.

11. To make gauges more visible to operators of heavy equipment at construction sites, always "stake and flag" each gauge, being sure that the flags are tall enough to be seen by heavy equipment operators.¹
12. Never look under the gauge when the source rod is being lowered into the ground.
13. After each measurement, always return the source to the shielded position and lock it there.
14. When the gauge is not in use at a temporary jobsite, place the gauge in a secured storage location (e.g., locked in the trunk of a car or locked in a storage shed).
15. Return the gauge to its proper storage location at the end of the work shift.
16. When the gauge is returned to storage, so indicate in the source log.

Emergency Procedures

If the source fails to return to the shielded position (e.g., as a result of being damaged) or if any other emergency or unusual situation arises (e.g., the gauge is struck by a moving vehicle, is dropped, or is in a vehicle involved in an accident):

1. Immediately secure the area around the gauge.
2. Prevent unauthorized personnel from entering the secured area.
3. If any heavy equipment is involved, detain the equipment until it is determined there is no contamination present.

¹A fiberglass whip with a flag at the top (available as a bicycle accessory) can be attached to the gauge to make its location more obvious to heavy equipment operators.

4. Notify licensee management of the situation, calling company personnel in the order listed below.

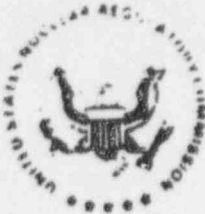
NAME*	WORK PHONE NUMBER*	HOME PHONE NUMBER*
<u>Richard Shimko</u>	<u>610-701-3107</u>	<u>610-544-8981</u>
<u>Robert Schoenfelder</u>	<u>505-837-6556</u>	<u>505-293-7913</u>
<u>George Crawford</u>	<u>610-701-7406</u>	<u>800-206-1507</u>

* List (and update, as needed) the names and telephone numbers of the Radiation Safety Officer (RSO) or other knowledgeable licensee staff to be contacted in case of emergency.

5. Follow the directions provided by the person contacted in step 4.
6. LICENSEE MANAGEMENT MUST:
- 6.1 Arrange for a survey to be conducted as soon as possible by a knowledgeable person using appropriate radiation detection instrumentation. (This person could be a licensee employee using a survey meter located at the jobsite or a consultant.)
- 6.2 Make necessary notifications to local authorities; notify the NRC as required. (Even if not required to do so, you may report ANY incident to NRC by calling NRC's Emergency Operations Center at (301) 816-5100, which is staffed 24 hours a day and accepts collect calls. NRC notification is required when gauges containing licensed material are lost or stolen, and when gauges are damaged or involved in incidents that result in doses in excess of the dose limits in 10 CFR 20.2203. The attached memorandum from R. E. Cunningham, dated July 1, 1993, provides additional guidance.)
- 6.3 Consider the timeliness of reports to the NRC.

6.4 Review the reporting requirements, which are found in 10 CFR 20.2201-2203 and 10 CFR 30.50.

Attachment: Memo dtd 7/1/93



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON D C 20566-0001

July 1, 1993

MEMORANDUM FOR: Those on Attached List

FROM: Richard E. Cunningham, Director
Division of Industrial and
Medical Nuclear Safety, NMSS

SUBJECT: REPORTING OF DAMAGED PORTABLE GAUGES

In the fall of 1992, the Office of Enforcement (OE) asked for our view as to whether a licensee must report a damaged moisture-density gauge to NRC and, if so, on what basis. We conducted a detailed analysis of the reporting requirements and recently responded to OE. The purpose of this memorandum is to provide you with our analysis of the requirements.

Whether or not licensees must report damaged moisture-density gauges depends on the extent of damage to the gauge. The requirement to report also depends on the level of radiation in an unrestricted area or doses to individuals resulting from the damaged gauge. The applicable reporting requirements are given in 10 CFR 20.405(a)(1), 20.2203(a), and 30.50(b). The enclosure provides our detailed analysis of the reporting requirements. In summary, reporting is required in most incidents when damage to the gauge results in one of several conditions:

- (1) the protective housing (shielding) is damaged such that the source is not fully shielded, or cannot be moved into the shielded position (10 CFR 30.50);
- (2) the source is left exposed in an unrestricted area such that the radiation levels exceed 20 mrem in any one hour (10 times the limit of 2 mrem in any one hour) (10 CFR 20.405 and 20.2203); or
- (3) the incident results in doses in excess of limits in Part 20 or in the license (10 CFR 20.405 and 20.2203).

Please note that the method of reporting and the associated time for the licensee to make the report are different for conditions (1), (2), and (3) above.

In a more serious case involving a broken sealed source that leads to contamination, reporting within 24 hours is required (10 CFR 30.50(b)(1)). Likewise, in a case involving a sealed source that causes, or threatens to cause, serious overexposures, immediate notification or 24-hour notification and subsequent written reporting may be required (20.403, 20.2202, and 20.2203). However, these situations are beyond the scope of most damaged gauge incidents and will not be discussed here. Finally, immediate telephonic reporting of loss or theft of a moisture-density gauge is required in most cases, and a written report within 30 days is required in nearly all cases.

Regional Division Directors

-2-

We hope that this clarifies the reporting requirements and their applicability to damaged moisture-density gauges. We are filing this memorandum and enclosure in the Public Document Room and will mail it to several major gauge manufacturers. We also will enter it into the Health Physics Positions database. If you have any questions, please call Scott Moore at 301-504-2014 or Cynthia Jones at 301-504-2629.

Signed by Carl J. Paperfello

Richard E. Cunningham, Director
Office of Industrial and
Medical Nuclear Safety, NMSS

Enclosure: As stated

REPORTING REQUIREMENTS FOR DAMAGED MOISTURE-DENSITY GAUGES

A. Requirements Based On Radiation Levels:

20.405(a)(1)(v):

. . . each licensee shall make a report in writing concerning any one of the following types of incidents within 30 days of its occurrence: . . . Levels of radiation or concentrations of radioactive material (whether or not involving excessive exposure of any individual) in an unrestricted area in excess of ten times any applicable limit set forth in this part or in the license.

20.2203(a)(3)(ii):

. . . each licensee shall submit a written report within 30 days after learning of any of the following occurrences: . . . Levels of radiation or concentrations of radioactive material in . . . An unrestricted area in excess of 10 times any applicable limit set forth in this part or in the license (whether or not involving exposure of any individual in excess of the limits in 20.1301) . . .

[NOTE: 10 CFR 20.105(b)(1) and 20.1301(a)(2) limit doses in unrestricted areas to not exceed 2 mrem in any one hour.]

If a gauge is damaged such that it causes dose levels in an unrestricted area to exceed 20 mrem in any one hour, then the incident must be reported (see sections referenced above). Portable moisture-density gauges often contain up to 10 millicuries of cesium-137 (Cs-137). The specific gamma emission factor for Cs-137 is 0.33 R/hr at 1 mCi. For a 10 mCi Cs-137 source:

$$3.3 \text{ mR/hr @ 1 m} = 37 \text{ mR/hr @ 30 cm} = 0.61 \text{ mR/min @ 30 cm}$$

Thus, if the source was left in the unshielded position in an unrestricted area for over 33 minutes, the dose levels would exceed 20 mrem in an hour, and a written report would be required within 30 days.

Issues regarding what is a restricted area and what is an unrestricted area with regards to the damaged gauge are not so clear. A restricted area is an area to which access is controlled by the licensee for purposes of protection of individuals from exposure to radiation and radioactive materials. If a gauge user was in immediate control of the undamaged gauge (i.e., standing near the gauge and restricting access to it) so that he or she could, at all times, prevent damage to or misuse of the gauge, then we could consider the area to be restricted. However, if a gauge user is not in immediate control of the gauge, then we could consider the area to be unrestricted, because the user is not controlling access to the area (also note that the licensee is in violation of 20.207(b) if the licensed material is not under immediate control). In most circumstances, if a gauge is damaged on a construction site, then the user was not in immediate control of the device.

[Enclosure

If the licensee took prompt action to limit the dose rate in the unrestricted area (such as returning the source to the shielded position, shielding the source with some other material, and/or identifying the area as a restricted area and fulfilling all associated requirements regarding a restricted area), then the licensee would not have to file a written report.

B. Requirements Based On Device Damage:

- 30.50(b)(2): Twenty-four hour report. Each licensee shall notify the NRC within 24 hours after the discovery of any of the following events involving licensed material: . . . An event in which equipment is disabled or fails to function as designed when:
- (i) The equipment is required by regulation or license condition to . . . prevent exposures to radiation and radioactive materials exceeding regulatory limits, or to mitigate the consequences of an accident;
 - (ii) The equipment is required to be available and operable when it is disabled or fails to function; and
 - (iii) No redundant equipment is available and operable to perform the required safety function.

The shielding around the source and the source rod in a portable gauge can be considered to be safety equipment. If the shielding is damaged such that it cannot properly shield the source or the source rod is bent with the source in the exposed position, then the shield or source rod "fails to function as designed." In that case, the three criteria of 30.50(b)(2) apply: (i) the shield and source rod are required by license condition (i.e., model and type of gauge) to prevent exposures to radioactive materials exceeding regulatory limits, (ii) the shield and source rod are required to be operable when they fail to function, and (iii) no redundant shielding is available and operable.

C. Reporting Based on Doses:

- 20.405(a)(1): . . . each licensee shall make a report in writing concerning any one of the following types of incidents within 30 days of its occurrence:
- (i) Each exposure of an individual to radiation in excess of the applicable limits in 20.101 or 20.104(a) of this part, or the license;
 - (ii) Each exposure of an individual to radioactive material in excess of the applicable limits in 20.103(a)(1), 20.103(a)(2), or 20.104(b) of this part, or in the license;

20.2203(a)(2):

- . . . each licensee shall submit a written report within 30 days after learning of any of the following occurrences:
. . . Doses in excess of any of the following:
(i) The occupational dose limits for adults in 20.1201; or
(ii) The occupational dose limits for a minor in 20.1207; or
(iii) The limits for an embryo/fetus of a declared pregnant woman in 20.1208; or
(iv) The limits for an individual member of the public in 20.1301; or
(v) Any applicable limit in the license . . .

If any incident involving a damaged portable gauge leads to a dose in excess of the respective Part 20 limits or applicable limits in the license, then the licensee is required to report within 30 days. In cases where the incident causes or threatens to cause a serious overexposure or where the dose limits will be exceeded within a 24-hour period, immediate notification or 24-hour notification may be required (see 20.403 and 20.2202). However, incidents of such severity are beyond the scope of most damaged portable gauge incidents.

D. Reporting Theft or Loss of a Moisture-Density Gauge

If the moisture-density gauge is lost or stolen, then licensees are required to report to NRC immediately, by telephone, as required by 10 CFR 20.402. In nearly all cases of loss or theft of a moisture-density gauge, the loss or theft of byproduct material would be of such quantities and under such circumstances that it would appear that "a substantial hazard may result to persons in unrestricted areas" (the conditions under which immediate reporting is required).

10 CFR 20.402 has specific requirements for the licensee to make a report, in writing and within 30 days, whenever a telephonic report of loss or theft of licensed material is made to NRC.

10 CFR 20.2201 of the revised Part 20 (effective January 1, 1994) contains different reporting requirements for loss or theft of licensed material. If the loss or theft involves 1000 times the quantity of material given in Appendix C to 10 CFR 20.1001-20.2401 "under such circumstances that it appears to the licensee that an exposure could result to persons in unrestricted areas," then the licensee is required to report immediately.

If the gauge contains more than 10 mCi of cesium-137 or 1 mCi of Am-241, then immediate reporting by telephone of the loss or theft is required (the Appendix C value for Cs-137 is 10 microcuries; for americium-241, (Am-241), 0.001 microcurie. 10 CFR 20.2201 also has a requirement for a follow-up written report within 30 days, whenever the licensee is required to make an immediate telephonic report. Since most moisture-gauges contain byproduct material in activities near or in excess of these reporting levels, licensees would be prudent to report all losses or thefts of licensed materials immediately by telephone to NRC.

10 CFR 20.2201 of the revised Part 20 also contains a requirement for reporting in writing loss or theft of licensed material in excess of 10 times the Appendix C value within 30 days after the occurrence. Because this reporting level equates to 100 microcuries of Cs-137 or 0.01 microcurie of Am-241, nearly all moisture-density gauges using these radionuclides would be required to report (a typical gauge may contain up to 10 mCi Cs-137 and 40 mCi Am-241).

In summation, under the revised Part 20, loss or theft of most moisture-density gauges would require immediate notification, and loss or theft of nearly all moisture-density gauges would require a written report within 30 days.

E. Other Requirements

If the moisture-density gauge is damaged such that the sealed source is broken open, resulting in contamination, the reporting is required within 24 hours under 10 CFR 30.50(b)(1). However, IMNS staff is not aware of any cases where encapsulation was breached as a result of an incident involving damage to the gauge.

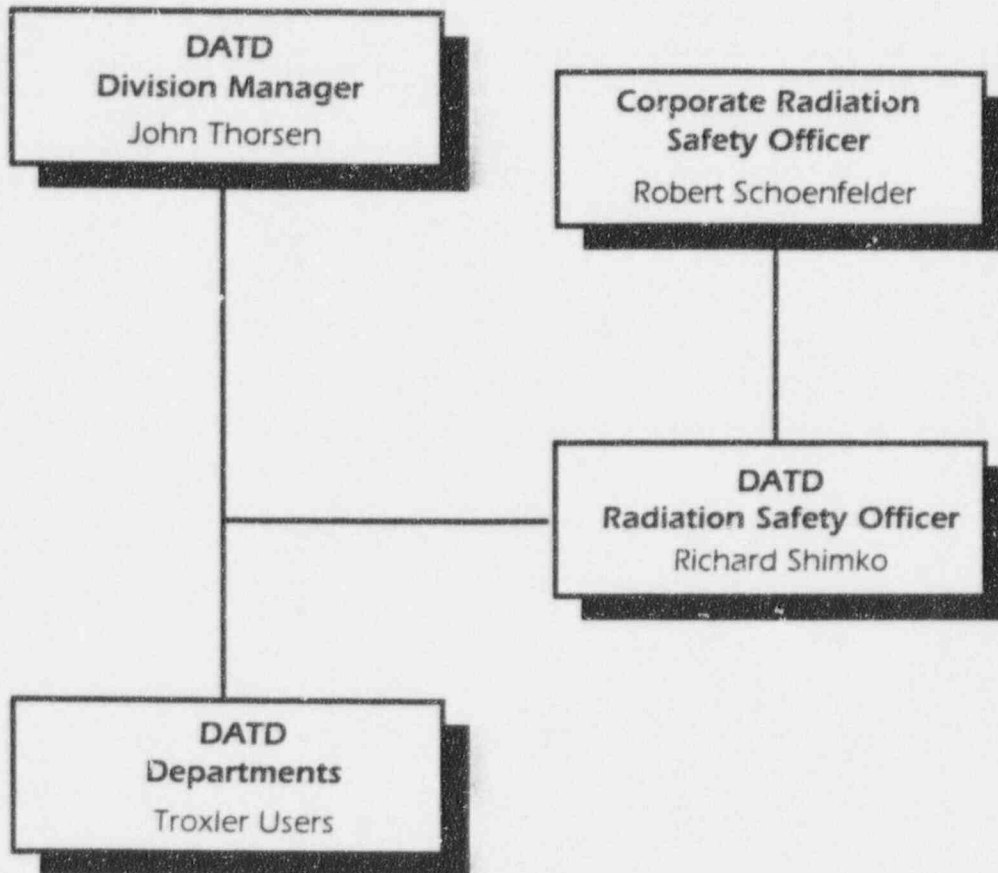
If the moisture-density gauge is damaged with the source in the shielded position and the source remains in the shielded position without any loss of integrity of the shielding, then the incident is not reportable under 10 CFR 30.50. If the incident does not cause or threaten to cause excessive doses (i.e., doses in excess of the limits) or dose rates in excess of the limits for an unrestricted area, then the incident is not reportable under 10 CFR Part 20.

F. Violations of 10 CFR 20.207

The previous discussion applies to reporting of damage to gauges, not failure to control licensed material in unrestricted areas. The reporting requirements and the requirement to control licensed materials are independent. Licensees could have an incident where they failed to control licensed material (i.e., violated 20.207(b)) leading to damage to the gauge, but where the incident is not required to be reported. The reporting requirements must be determined separately from the requirements to keep the gauge "under the constant surveillance and immediate control of the licensee."



ATTACHMENT C
ORGANIZATION CHART



TELEPHONE CONVERSATION RECORD		Date: 8-1-96	Time: 2 pm
Mail Control No.: 122985		License No.: N/A	Docket No.: 030-34098
Person Called: Richard Shimko Project Manager		Organization: Roy F. Weston	Telephone Number: 610 701-3107
Person Calling: Penny Lanzisera			
Subject: License			
Summary: 1) Provide training certificate for RSO, or provide T&E with gauges. 2) Access to a survey meter overnight seems excessive. Describe timely availability of a survey meter in case of an incident. 3) Operating and Emergency procedures did not include all items in App. H of the Draft Reg. Guide. Re-review and incorporate items into procedures as applicable. 4) Provide the minimum qualifications expected of all auditors.			
Action Required/Taken: response			
Signature: <i>Penny Lanzisera</i>		Date: 8-1-96	

Designated "Official Record"
Date 8/2/96



Roy F. Weston, Inc.
1 Weston Way
West Chester, Pennsylvania 19380-1499
610-701-3000 • Fax 610-701-3186

10 May, 1996

MS16
P-6

Ms. Penny Lanzisera
Division of Nuclear Safety
Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406-1415

Subject: Docket No. 030-34098, Mail Control no. 122985, Application for License.

Dear Ms. Lanzisera:

Enclosed is my response to your letter dated April 12 1996 regarding the license application of DATD, Roy F. Weston, Inc.

In responding to your comments, I found it necessary to slightly revise the Nuclear Moisture/Density Gauge Safety Procedure, a copy of which had been submitted with our license application. The revised procedure is included as Attachment B. Text which has been added to the procedure has been bolded for ease of identification.

If you have any questions, please call me at (610) 701-3107.

Very truly yours,

ROY F. WESTON, INC.

Richard G. Shimko, P.E., C.H.P.
Project Manager

RGS/dcl

cc: R. Schoenfelder
J. Thorsen

license.dcl.doc

OFFICIAL RECORD COPY
ML 10

122985
MAY 13 1996





RESPONSE TO NRC COMMENTS

1. In your mailing address you indicate DATD. Please define DATD.

RESPONSE: DATD stands for Design and Technology Division

2. Please indicate whether sealed sources will be lowered into the ground more than 3 feet. If so, please provide emergency procedures should the source become stuck.

RESPONSE: The sealed source will not be lowered into the ground more than 3 feet.

3. Please provide a copy of the Radiation Safety Officer (RSO) delegation of authority as provided by management. The delegation of authority should include a commitment that the RSO is authorized to stop unsafe operations and has sufficient time to perform radiation safety duties and responsibilities.

RESPONSE: A copy of the Radiation Safety Officer's delegation of authority is included as Attachment A.

4. Provide the name and date of manufacturer training attended by the RSO and/or training and experience with gauging devices.

RESPONSE: The RSO is not a gauge user. However, the RSO will attend the Troxler Nuclear Gauge Safety Training course when it is offered in Philadelphia in August 1996.

5. Submit a description of the duties and responsibilities of your Radiation Safety Officer. Appendix C to Draft Regulatory Guide DG-0008, "Applications for the Use of Sealed Sources in Portable Gauging Devices", may be used for guidance.

RESPONSE: A description of the duties and responsibilities of the RSO is provided in Section 3 of the attached procedure (Attachment B).

6. Please provide an organizational chart that shows the RSO's reporting path to management. This chart should demonstrate that the RSO has sufficient authority and direct communication with responsible management officials.

RESPONSE: See organization chart in Attachment C.

7. With regard to your training program, please confirm:

- a. all users receive the manufacturer training provided prior to using the gauge.



- b. each user will be designated in writing by the RSO.
- c. annual refresher training includes review of DOT requirements, changes in applicable regulations or license conditions, and deficiencies identified during the performance of annual audits of the radiation safety program.
- d. all training records including refresher training records are maintained.
- e. Individuals responsible for or having access to gauge storage are (s) are provided radiation safety training.

RESPONSE:

- a. All users will take the Troxler Nuclear Gauge Safety Training course prior to using the gauge.
 - b. Each user will be designated in writing by the RSO.
 - c. Annual refresher training will include a review of DOT requirements, changes in applicable regulations or license conditions, and deficiencies identified during the performance of annual audits of the radiation safety program
 - d. All training records including refresher training will be maintained as specified in the Draft Regulatory Guide DG-0008.
 - e. The only persons having access to the storage shed where the gauges are stored will will be Troxler trained or have taken a 40 hour course in accordance with the OSHA regulation 29 CFR 1910.120 "Hazardous Waste Operations and Emergency Response", which, for WESTON personnel, includes a 2 hours radiation safety segment.
8. With regards to your facilities and equipment, please:
- a. indicate whether One Weston Way is also a use location
 - b. describe how gauges will be secured while located in transport vehicles. For example, gauges will be locked in the truck of a car, hidden from view while in a locked van, or secured by a lock and chain while in an open bed truck.
 - c. describe how gauges will controlled by the constant surveillance of authorized users when not in storage and how they will be secured while in storage at temporary jobsites. For example, describe how gauges will be secured from damage or theft



during periods of non-use (e.g., lunch time) and describe how the gauges will be secured during off-duty hours while located at temporary jobsites.

- d. provide your justification for not returning the gauge to the permanent place of storage (One Weston Way) at the end of each work day. If you will be using gauges at local temporary jobsites, either (1) commit to returning the gauges to a permanent storage facility (one Weston Way) or (2) explain why the gauge is not returned at the end of each work day to a permanent storage location and describe the steps you will take to ensure that the gauge is secured from unauthorized removal and the area is posted in accordance with the requirements of 10 CFR 20.1903, and that members of the general public are not exposed to radiation in excess of 10 CFR 20.1301 limits. It is not acceptable for a device to be chained to a post or left lying unattended at the place of use.
- e. confirm that each portable nuclear gauge will have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. The gauge or its container must be locked when in transport, storage or when not under the direct surveillance of an authorized user.

RESPONSE:

- a. One Weston Way is only a storage location.
 - b. See Section 8.3 of the attached procedure.
 - c. In the attached procedure, see Section 6.0 regarding control by operators and Section 7.1 regarding storage.
 - d. For some projects, the gauge operator will not return to the office each day because of the distance of the site from the office. As discussed in Section 7.1 of the attached procedure, the gauge will be secured from unauthorized removal by keeping it under a double lock system. As discussed in Section 7.2, the storage area will be posted in accordance with 10 CFR 20.1903. As discussed in Section 7.1 of the attached procedure, when a gauge is temporarily stored in a trailer, it will be located a minimum of 15 feet from any normally occupied location. The dose rate at 15 feet has been measured to be less than 0.02 mrem/hr. Therefore, a person exposed at this rate for 2,000 hours per year, would receive an annual dose of 40 mrem/hr, which is less than the limits for the general public contained in 10 CFR 20.1301. The gauge will not be chained to a post or left unattended.
 - e. See Section 6.0 of the attached procedure.
9. Please provide the name of the vendor and the NVLAP accreditation for your dosimetry processor.

RESPONSE: The TLD badges are processed by TMA/Eberline, NVLAP Lab Code 0515.



10. In compliance with 10 CFR 20.1501 (a) and (b), please provide either:

- a a commitment to have at least one appropriate, calibrated survey meter at each jobsite for timely evaluation of source integrity following an incident. This commitment should list the type and ranges of survey instruments you will have available, the frequency of calibration, the calibration process, and the procedure for determining if the instrument is working properly.

OR

- b an explanation of how you will have access to an appropriate survey meter for timely evaluation of source integrity following an incident at any jobsite.

RESPONSE: Although survey meters will not be kept at each jobsite, meters that are calibrated by the manufacturer are available from WESTON's equipment stores in Albuquerque, New Mexico and are available by overnight delivery at any jobsite. WESTON has over 100 radiation detectors and calibration sources. Each is calibrated by the manufacturer every 6 months and the response of each detector is checked with a check source before shipment.

11. With regards to your leak test procedure, please provide:

- a. the name, address, and license number of the kit supplier.
- b. the kit model number
- c. information on the supplier's procedures for analyzing samples collected using its kit and providing timely reports of the results to you.

RESPONSE:

- a Troxler Electronic Laboratories, Inc.
P.O. Box 12057
Research Triangle Park, NC 27709

License No. XXXX

- b. Troxler Model 3880 Leak Test Kit

c. Analysis of samples is performed using a dual channel flow-through proportional counter capable of detecting activities of 0.00003 uCi. Troxler Labs will, in most cases, process the wipe samples within 24 hours after receipt. If the analysis reveals the presence of 0.001 to 0.005 uCi, Troxler will place a

call requesting that an additional test be made. If the analysis reveals activities greater than 0.005 uCi, Troxler will place a call to initiate removal of the sealed source from service.

12. With regards to your operating and emergency procedures, please review the requirements and prohibitions outlined in Appendix H to Draft Regulatory Guide DG-0008 and incorporate the items as appropriate. Also, confirm that a copy of your operating and emergency procedures will be maintained at each jobsite.

RESPONSE: The operating and emergency procedure has been revised and is attached. A copy of the procedure is required to be maintained at each job site.

13. 10 CFR 20.1101 requires, in part, that each licensee (1) develop, document, and implement a radiation protection program commensurate with the scope and extent of license activities and sufficient to ensure compliance with the regulations, and (2) review, at least annually, the content and implementation of their radiation programs. An example of an audit program is provided in appendix I to Draft Regulatory Guide DG-0008. With regards to this audit, please submit:

- a. the name and radiation safety qualifications of the individual who will conduct audits.
- b. a description of the scope and extent of the audits.
- c. a commitment to conduct audits at intervals not to exceed 12 months and to maintain records of the audits for at least 3 years after the record is made.
- d. management's commitment to review the documented results of the audit.
- e. a commitment to take prompt action to correct deficiencies identified during audits and to inform all personnel of the deficiencies and the actions management expects its personnel to take to avoid similar deficiencies.

RESPONSE:

a. The program audits will probably be performed by the Corporate Radiation Safety Officer, (CRSO) Robert Schoenfelder. Mr. Schoenfelder is a CHP and has been CRSO for 8 years, during which time he has performed audits of the labs, Troxler program, and projects involving large radiological investigations and decommissioning efforts. Because Mr. Schoenfelder is located in New Mexico, occasionally an audit may be performed by other professional health physicist, such as Mr. Glenn Roberts. Mr. Roberts is also a CHP and was formerly an auditor for the NRC.

b. The audits will be conducted using the Sample Audit Program contained in Appendix I of the Draft Reg Guide DG - 0008 as a guide.



c. In accordance with 10 CFR 20.1101, audits will be conducted annually (once a calendar year) and records will be kept for at least 3 years.

d. The Division Manager, Mr. Jack Thorsen, will review the results of each audit.

e. A written response will be prepared promptly for each audit by the RSO. The response will provide for corrective action for any deficiencies which may include extra training for gauge users to identify deficiencies and actions to take to avoid similar deficiencies.

14. In accordance with 49 CFR 172.201, please confirm that shipping papers contain an emergency response telephone number. Also, an updated copy of NRC Form 3 is enclosed for your use.

RESPONSE: All shipping papers will contain an emergency response telephone number. WESTON has an emergency phone number that can be called at any time and a safety official will be located to handle an emergency.



ATTACHMENT A
LETTER OF AUTHORIZATION

Inter-Office Memorandum



TO: Richard Shimko

cc: R. Schoenfelder
W. Zahn
J. Barco

FROM: *John W. Thorsen for*
John W. Thorsen,
Division Manager

DATE: 7 May, 1996

PROJECT:

W. O. NO.:

SUBJECT: Delegation of Authority as
Radiation Safety Officer

ACTION:

You are authorized to serve as Radiation Safety Officer (RSO) for our division's license to possess Troxler nuclear density gauges. You are charged with performing the duties of the RSO as stipulated in our license with the Nuclear Regulatory Commission. While serving in this function you will report to me and you will also receive direction from WESTON Corporate Radiation Safety Officers (CRSO). You, as the RSO, have the authority to stop unsafe operations involving the Troxler nuclear gauges. You are authorized to take time, as necessary, to perform your duties as RSO during and outside of the normal working day.

In accordance with our NRC license, you will be audited annually by the CRSO or his designee. I request a copy of each audit report and each response, if required, for my review.



ATTACHMENT B
PROCEDURE



NUCLEAR MOISTURE/DENSITY GAUGE SAFETY PROCEDURE

1.0 Purpose

This procedure provides the storage, transport, and handling requirements for the use of Troxler nuclear moisture/density gauges by qualified personnel in DATD. Training, certification, and monitoring requirements for gauge users and guidelines for incident response and recordkeeping are also included.

2.0 Policy

It is the policy of ROY F. WESTON, INC. (WESTON®) to provide a safe working environment for its employees. To implement this policy, WESTON provides training for its employees that work with potentially hazardous materials and maintains employee monitoring programs, as necessary. In addition, WESTON maintains radiation exposures to its employees and the general public at levels that are as low as reasonably achievable.

3.0 Roles and Responsibilities of the Regional Radiation Safety Officer

The Radiation Safety Officer (RSO) in DATD ensures compliance with WESTON's radioactive source material license as it applies to the Troxler gauges. The RSO conducts and documents the routine tasks required by the license such as leak tests, annual retraining of gauge users, gauge cleaning and personnel monitoring.

The RSO serves as WESTON's point of contact for the U.S. Nuclear Regulatory Commission (NRC) for issues concerning the Troxler gauges. The RSO provides information to the NRC inspector during an on-site inspection and responds to violations, if any are noted. The RSO's responsibilities include those listed in Appendix C of Reg Guide DG-0008 which is included as Attachment 5.

4.0 Certification Requirements for Gauge Users

WESTON employees who may use the gauge have complied with the following requirements.

- They have successfully completed the 8-hour Troxler training course.
- Within the past year, they have completed a refresher training course conducted by WESTON or have repeated the 8-hour Troxler course.
- Copies of these training certificates are on file with the RSO.



5.0 Radiological Monitoring

Users of the gauges are included in WESTON's thermoluminescent dosimeter (TLD) program. Whole body TLD badges are exchanged quarterly and results are provided by the dosimeter service subcontractor to WESTON's CRSO and to the DATD dosimetry coordinator. An annual summary of occupational radiation exposure is provided confidentially to each badged employee after the end of the calendar year. Abnormal readings or results that exceed 50 mrem in one quarter are noted by the CRSO and discussed with the appropriate employee when the quarterly report is received. Data are maintained on the radiation exposure tracking system (RETS). Employees will wear their badges while using the gauge, and will store them in a background radiation area when not using the gauge.

6.0 Requirements During Field Use

Proper handling, storage, and posting are as important when the gauge is at remote field locations as when it is stored in West Chester. Storage and posting requirements provided in Section 7.0 of this document will be followed as applicable.

At temporary job sites, where a secure storage location cannot be provided at the site, a certified gauge user will be responsible for storing the gauge off-site, in a project vehicle or hotel room. When left in a vehicle the gauge will be secured against theft by stowing it out of sight and locking the vehicle. The vehicle should not be parked near an area that may be occupied.

Gauges will be kept under constant surveillance by the gauge user at all times. During periods when the gauge is not being used, such as lunchtime or when the gauge operator needs to make a phone call, the gauge will be returned to locked storage or be appropriately locked in a vehicle. To repeat, the gauge must not be left unattended. The gauge container will be locked at all times when not in use, including when being transported or stored.

It is preferred that the gauge not be stored in a hotel room or other living quarters. However, if no other storage location is available the following precautions will be followed.

1. The gauge will be stowed as far away as possible and not less than 10 feet from the normally occupied area of the room.
2. The gauge will be stowed away from walls that are common to other occupied rooms.
3. The gauge will not be left in the room during the work day.



7.0 Storage Requirements

The following requirements are necessary to maintain compliance with WESTON's radioactive materials license.

7.1 Storage

Routine storage of the gauge will be in such a manner as to minimize exposure to WESTON employees and members of the general public. The gauge will always be contained in its transport case when it is not in use. The gauge will be stored no closer than 15 feet from the nearest full-time work location or frequently occupied area. The gauge will be stored at least 15 ft. from any area that may be occupied under normal conditions by a member of the general public.

A double lock system will be employed to ensure against potential theft and to enforce restricted access to the gauge. **An example of a double lock system is to lock the case and place it inside a locked vehicle, building, or trailer. It is not acceptable for the gauge to be chained to a post.** Keys that are required to remove the gauge from the storage area are provided only to personnel who are certified users or are responsible for the storage area.

7.2 Posting

The storage area door will be posted with a radiation caution sign as shown in Attachment 1. In addition, a copy of the US NRC instruction form, Attachment 2, will be posted.

8.0 Shipping and Transportation Requirements

United States Department of Transportation (DOT) regulations will be followed when the gauge is transported or shipped. Regulatory requirements include proper packaging, marking, labeling and completing shipping papers.

8.1 Packaging, Marking and Labeling

The Troxler transport case is constructed and labeled as a DOT Type A package, and the instrument must be secured in the case whenever it is moved from the storage area or a project site. No other packaging is required.

Required markings and labels have been permanently affixed to the transport case.

8.2 Shipping Documentation



Shipping papers include the Waybill or Bill of Lading, and the Shippers Declaration for Hazardous Goods. Shipping papers must be completed according to DOT requirements for "Radioactive Material, Special form, n.o.s." as shown in the examples in Attachment 3. It is important to note that the source activities listed on the papers are different for each gauge, and the appropriate value must be provided on the shipping papers for the gauge being shipped.

8.3 Transportation by Private (WESTON) Vehicle

Transportation of the gauge in a vehicle own or rented by WESTON or an employee of WESTON requires compliance with DOT requirements for an exclusive use vehicle. The gauge must be contained in the transport case, and shipping documents should be kept with the gauge.

The gauge must be transported in the trunk or cargo area of the vehicle, not in the passenger area, and must be secured against loss or theft. **The gauge must be locked in the trunk of a car, hidden from view while in a locked van, or secured by a lock and chain while in an open bed truck.**

8.4 Regulatory Agency

WESTON is licensed to use the Troxler gauge in the State of Pennsylvania. Agencies in other states will recognize the NRC license maintained by WESTON, but may require advance written notification if the gauge is to be used at the site in their state. A list of state agencies and NRC status is provided in Attachment 4. The agency may request a copy of WESTON's license.

9.0 Gauge Maintenance

The Troxler gauge is maintained according to guidance provided in the Troxler Safety Training Manual. Maintenance activities to be conducted by WESTON employees include cleaning the exterior surfaces of the gauge with the source retracted, and performing leak tests on the gauge. Other maintenance activities that require removing the sources from the gauge are performed by the Troxler Service Department. Gauges that are not functioning correctly and damaged gauges are also returned to the Troxler Service Department.

Leak tests are performed at intervals not exceeding six months using the Troxler Leak Test Kit or suitable substitute. WESTON employees must wear their dosimeters when conducting leak tests, as they must for any other activity using the gauge. Instruction for performing the leak test are provided in the leak test kit. Precautions to minimize potential radiation exposures must be followed. Employees must not touch the sources with their hand or fingers, and the source rod will not be extended out of the shielded housing during the test.



Results for the leak tests will be retained by the RSO for review by NRC inspector during a review of WESTON's license.

10.0 Accident/Incident Response

The response to an accident or incident involving the gauge is conducted in accordance with the requirements of the NRC, appropriate local and state authorities, and applicable radiation safety practices. Accidents and incidents may involve damage to the gauge or the loss or theft of the gauge or its sources.

10.1 Damaged Gauge

When in use at construction sites, measures will be taken to minimize potential accidents that would damage the gauge. The gauge will not be left unattended in a construction area. The gauge will not be left in the path of vehicles and heavy equipment. The gauge will not be placed near a parked vehicle or equipment that may cause damage when started.

Occasionally, a gauge may be damaged at a project site. In case of an incident it is assumed that the shielding around the source is affected and elevated exposure rates are probable. The following steps must be followed.

1. The gauge must not be moved or left unattended.
2. If the health and safety of an individual is at risk, measures shall be taken to protect him or her. Medical attention will be provided as necessary.
3. If a vehicle or heavy equipment is involved, it may not be moved until an instrument survey has been conducted to ensure that it is not contaminated.
4. The area, within 15 feet of the gauge will be partitioned off, and access to the area will be restricted to personnel who must work on the instrument.
5. The certified gauge user at the site must contact the RSO to report the incident and request guidance for additional response efforts. The user will relay details of the incident to the RSO including the location and time of the incident, names and status of individuals involved, details of the occurrence, status of the gauge, position of its sources, and integrity of the shielding in the case, and actions taken to the point in response to the incident.
6. The RSO provides guidance as necessary to the gauge user and arranges for supplemental response, as necessary. Additional response efforts may include



sending radiation detection equipment to the user, arranging to have a health physicist at the site, and contacting the Troxler Service Department to request assistance.

7. The RSO must contact the CRSO and then, in the case of accidents that resulted in damage to the gauge, he will contact the appropriate regulatory agencies. At a minimum, agencies requiring notification include the license granting agency (NRC Region 1, King of Prussia, PA) and the local agency responsible for radiological control in the state where the accident occurred.
8. If the shielding was not seriously damaged, the gauge may be packaged and transported according to the normal shipping procedure to the Troxler Service Department for repair and check-out. If the shielding or source were damaged and elevated levels of exposure or contamination are measured, it will be conducted under the direction of the CRSO and under review by the regulatory agencies.
9. The RSO will develop and submit to the CRSO a report of the accident, its causes and results, and the response efforts that were enacted. The RSO is also responsible for completing and submitting reports required by the regulatory agencies.

10.2 Theft and Misplacement

Theft should be prevented by following procedures for storage, transport, and use. In case of loss or theft the certified user or the individual that discovers the gauge missing must contact the RSO. The RSO will conduct the following activities.

1. Notify the license-granting agency and appropriate agencies in the state where the gauge was last seen.
2. Notify the Troxler Electronic Laboratories, Inc.
3. Notify the CRSO.
4. Notify other agencies as directed by the regulatory agency personnel.
5. Complete and submit a report to the CRSO and regulatory agency personnel, as necessary.

11.0 Reporting, Notification and Recordkeeping



It is the responsibility of the RSO in the DATD Division to ensure that the appropriate reporting, notification, and recordkeeping procedures are implemented. Those requirements are summarized below.

11.1 Notification and Reporting to the CRSO

The RSO ensures that the CRSO is informed of activities that may affect the condition of the gauge or the status of WESTON's radioactive material license. The RSO notifies the CRSO immediately of accidents and incidents or NRC inspections that involve the Troxler. The RSO obtains the signatures of the Corporate Secretary and the Corporate Radiation Safety Officer on all correspondence with the NRC regarding the license and inspections of the Troxler gauges. Approval of the CRSO is also obtained on requisition for the purchase of new gauges.

The RSO provided copies of all records and documents associated with the maintenance and use of the Troxler gauge, in a timely manner, to the CRSO. The following reports are included.

- leak test results every six months
- employee training certificates (initial and annual retraining)
- accident and incident reports
- regulatory agency reports and WESTON responses employee monitoring data.

11.2 Notification and Reporting to the NRC

The RSO immediately notifies the Region 1 NRC at King of Prussia, Pennsylvania of accidents or incidents involving the gauge. The NRC is also notified immediately if the gauge is stolen or if the gauge or its sources are lost. Notification is followed by the timely submittal of a written report that explains the circumstances of the incident, actions taken in response, and actions taken to prevent recurrence.

11.3 RSO Records

The RSO maintains organized, current files of the following records.

- Source certificates from Troxler Electronic Laboratories, Inc.
- Records of gauge maintenance and repair
- Records of semi-annual leak tests
- Copies of applicable regulations
- Advance written notification to the other state agencies
- Training certificates for gauge users
- Employee monitoring data



- Records of inventory, transfer and gauge location
- A copy of the Troxler Type A package certification for the transport case
- A copy of the notice to employees (attachment 2).
- Telephone numbers and addresses of emergency contacts.

12.0 Disposal

When a gauge is no longer operable or no longer needed, it is disposed of by transfer to another licensed user or returned to the manufacturer for final disposal. Disposition of the gauge is documented in the files of the RSO.

ATTACHMENT 1

CAUTION



RADIOACTIVE MATERIALS

89-537

PRINTED IN U.S.A.

STORAGE AREA PLACARD (FACSIMILE)
FIGURE 24



ATTACHMENT 2



NOTICE TO EMPLOYEES

STANDARDS FOR PROTECTION AGAINST RADIATION (PART 20); NOTICES, INSTRUCTIONS AND REPORTS TO WORKERS; INSPECTIONS (PART 19); EMPLOYEE PROTECTION

WHAT IS THE NUCLEAR REGULATORY COMMISSION?

The Nuclear Regulatory Commission is an independent Federal regulatory agency responsible for licensing and inspecting nuclear power plants and other commercial uses of radioactive materials.

WHAT DOES THE NRC DO?

The NRC's primary responsibility is to ensure that workers and the public are protected from unnecessary or excessive exposure to radiation and that nuclear facilities, including power plants, are constructed to high quality standards and operated in a safe manner. The NRC does this by establishing requirements in Title 10 of the Code of Federal Regulations (10 CFR) and in licenses issued to nuclear users.

WHAT RESPONSIBILITY DOES MY EMPLOYER HAVE?

Any company that conducts activities licensed by the NRC must comply with the NRC's requirements. If a company violates NRC requirements, it can be fined or have its license modified, suspended or revoked.

Your employer must tell you which NRC radiation requirements apply to your work and must post NRC Notices of Violation involving radiological working conditions.

WHAT IS MY RESPONSIBILITY?

For your own protection and the protection of your co-workers, you should know how NRC requirements relate to your work and should obey them. If you observe violations of the requirements or have a safety concern, you should report them.

WHAT IF I CAUSE A VIOLATION?

If you engaged in deliberate misconduct that may cause a violation of the NRC requirements, or would have caused a violation if it had not been detected, or deliberately provided inaccurate or incomplete information to either the NRC or to your employer, you may be subject to enforcement action. If you report such a violation, the NRC will consider the circumstances surrounding your reporting in determining the appropriate enforcement action, if any.

HOW DO I REPORT VIOLATIONS AND SAFETY CONCERNS?

If you believe that violations of NRC rules or the terms of the license have occurred, or if you have a safety concern, you should report them immediately to your supervisor. You may report violations or safety concerns directly to the NRC. However, the NRC encourages you to raise

your concerns with the licensee since it is the licensee who has the primary responsibility for, and is most able to ensure, safe operation of nuclear facilities. If you choose to report your concern directly to the NRC, you may report this to an NRC inspector or call or write to the NRC Regional Office serving your area. If you send your concern in writing, it will assist the NRC in protecting your identity if you clearly state in the beginning of your letter that you have a safety concern or that you are submitting an allegation. The NRC's toll-free SAFETY HOTLINE for reporting safety concerns is listed below. The addresses for the NRC Regional Offices and the toll-free telephone numbers are also listed below.

WHAT IF I WORK WITH RADIOACTIVE MATERIAL OR IN THE VICINITY OF A RADIOACTIVE SOURCE?

If you work with radioactive materials or near a radiation source, the amount of radiation exposure that you are permitted to receive may be limited by NRC regulations. The limits on your exposure are contained in sections 20.1201, 20.1207, and 20.1208 of Title 10 of the Code of Federal Regulations (10 CFR 20) depending on the part of the regulations to which your employer is subject. While these are the maximum allowable limits, your employer should also keep your radiation exposure as far below those limits as "reasonably achievable."

MAY I GET A RECORD OF MY RADIATION EXPOSURE?

Yes. Your employer is required to advise you of your dose annually if you are exposed to radiation for which monitoring was required by NRC. In addition, you may request a written report of your exposure when you leave your job.

HOW ARE VIOLATIONS OF NRC REQUIREMENTS IDENTIFIED?

NRC conducts regular inspections at licensed facilities to assure compliance with NRC requirements. In addition, your employer and site contractors conduct their own inspections to assure compliance. All inspectors are protected by Federal law. Interference with them may result in criminal prosecution for a Federal offense.

MAY I TALK WITH AN NRC INSPECTOR?

Yes. NRC inspectors want to talk to you if you are worried about radiation safety or have other safety concerns about licensed activities, such as the quality of construction or operations at your facility. Your employer may not prevent you from talking with an inspector. The NRC will make all reasonable efforts to protect your identity where appropriate and possible.

MAY I REQUEST AN INSPECTION?

Yes. If you believe that your employer has not corrected violations involving radiological working conditions, you may request an inspection.

Your request should be addressed to the nearest NRC Regional Office and must describe the alleged violation in detail. It must be signed by you or your representative.

HOW DO I CONTACT THE NRC?

Talk to an NRC inspector on-site or call or write to the nearest NRC Regional Office in your geographic area (see map below). If you call the NRC's toll-free SAFETY HOTLINE during normal business hours, your call will automatically be directed to the NRC Regional Office for your geographical area. If you call after normal business hours, your call will be directed to the NRC's Headquarters Operations Center, which is manned 24 hours a day.

CAN I BE FIRED FOR RAISING A SAFETY CONCERN?

Federal law prohibits an employer from firing or otherwise discriminating against you for bringing safety concerns to the attention of your employer or the NRC. You may not be fired or discriminated against because you:

- ask the NRC to enforce its rules against your employer;
- refuse to engage in activities which violate NRC requirements;
- provide information or are about to provide information to the NRC or your employer about violations of requirements or safety concerns;
- are about to ask for, or testify, help, or take part in an NRC, Congressional, or any Federal or State proceeding.

WHAT FORMS OF DISCRIMINATION ARE PROHIBITED?

It is unlawful for an employer to fire you or discriminate against you with respect to pay, benefits, or working conditions because you help the NRC or raise a safety issue or otherwise discourage you from engaging in protected activities. Violations of Section 211 of the Energy Reorganization Act (ERA) of 1974 (42 U.S.C. 5851) include the harassment and intimidation by employers of (i) employees who bring safety concerns directly to their employers or to the NRC; (ii) employees who have refused to engage in an unlawful practice, provided that the employee has identified the illegality to the employer; (iii) employees who have testified or are about to testify before Congress or in any Federal or State proceeding regarding any provision (or proposed provision) of the ERA or the Atomic Energy Act (AEA) of 1954; (iv) employees who have commenced or caused to be commenced a proceeding for the administration or enforcement of any requirement imposed under the ERA or AEA or who have, or are about to, testify, assist, or participate in such a proceeding.

HOW DO I FILE A DISCRIMINATION COMPLAINT?

If you believe that you have been discriminated against for bringing violations or safety concerns to the NRC or your employer, you may file a

complaint with the U.S. Department of Labor (DOL) pursuant to Section 211 of the ERA. Your complaint must describe the firing or discrimination and must be filed within 180 days of the occurrence. Filing an allegation, complaint, or request for action with the NRC does not extend the requirement to file a complaint with the DOL within 180 days. You must file the complaint with the DOL. The NRC cannot file the complaint for you.

Send complaints to:

Office of the Administrator
Wage and Hour Division, Room 53502
Employment Standards Administration
U.S. Department of Labor
Constitution Avenue, NW
Washington, DC 20210

or any local office of the DOL, Wage and Hour Division. Check your telephone directory under U.S. Government listings.

WHAT CAN THE DEPARTMENT OF LABOR DO?

If your complaint involves a violation of Section 211 of the ERA by your employer, if it is the DOL, NOT THE NRC, that provides the process for obtaining a personal remedy. The DOL will notify your employer if the complaint has been filed and will investigate your complaint.

If the DOL finds that your employer has unlawfully discriminated against you, it may order that you be reinstated, receive back pay, or be compensated for any injury suffered as a result of the discrimination.

WHAT WILL THE NRC DO?

The NRC will evaluate each allegation of harassment, intimidation, or discrimination. Following this evaluation, an investigator from the NRC's Office of Investigations may interview you and review available documentation. Based on the evaluation, and, if applicable, the interview, the NRC will assign a priority and a decision will be made whether to pursue the matter further through an investigation. The assigned priority is based on the specifics of the case and its significance relative to other ongoing investigations. The NRC may not pursue an investigation to the point that a conclusion can be made whether the harassment, intimidation, or discrimination actually occurred. Even if NRC decides not to pursue an investigation, if you have filed a complaint with DOL, the NRC will monitor the results of the DOL investigation.

If the NRC or DOL finds that unlawful discrimination has occurred, the NRC may issue a Notice of Violation to your employer, impose a fine, or suspend, modify, or revoke your employer's NRC license.



▲ - Callaway Plant Site in Missouri and Grand Gulf Plant Site in Mississippi are under the purview of Region IV.

UNITED STATES NUCLEAR REGULATORY COMMISSION REGIONAL OFFICE LOCATIONS

A representative of the Nuclear Regulatory Commission can be contacted by employees who wish to register complaints or concerns about radiological working conditions or other matters regarding compliance with Commission rules and regulations at the following addresses and telephone numbers:

REGION	ADDRESS	TELEPHONE
I	U.S. Nuclear Regulatory Commission, Region I 475 Allendale Road King of Prussia, PA 19406-1415	(800) 432-1156
II	U.S. Nuclear Regulatory Commission, Region II 101 Marietta Street, N.W., Suite 2000 Atlanta, GA 30323-0199	(800) 577-8510
III	U.S. Nuclear Regulatory Commission, Region III 801 Warrenville Road Urbana, IL 60532-4351	(800) 522-3025
IV	U.S. Nuclear Regulatory Commission, Region IV 611 Ryan Plaza Drive, Suite 400 Arlington, TX 76011-8004	(800) 952-9677
WALNUT CREEK FIELD OFFICE	U.S. Nuclear Regulatory Commission 1450 Main Lane Walnut Creek, CA 94596-5366	(800) 882-4572

To report safety concerns or violations of NRC requirements by your employer, telephone:
NRC SAFETY HOTLINE
1-800-695-7403

To report incidents involving fraud, waste, or abuse by an NRC employee or NRC contractor, telephone:
OFFICE OF THE INSPECTOR GENERAL
HOTLINE
1-800-233-3497

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

Shipper Troxler International Ltd. Cornwallis Road Research Triangle Park, NC 27709 USA				Air Waybill No. Page of Pages Shipper's Reference Number (optional)	
Consignee John Doe Enterprises 9999 Anystreet Anywhere, Anystate 99999					
Two completed and signed copies of this Declaration must be handed to the operator				WARNING Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder or an IATA cargo agent.	
TRANSPORT DETAILS This shipment is within the limitations prescribed for: (delete non-applicable) <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;"> PASSENGER AIRCRAFT ONLY </div> <div style="border: 1px solid black; padding: 2px;"> CARGO AIRCRAFT ONLY </div> </div>				Airport of Departure: Airport of Destination:	
				Shipment type: (delete non-applicable) <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px;">NON-RADIOACTIVE</div> <div style="border: 1px solid black; padding: 2px;">RADIOACTIVE</div> </div>	
NATURE AND QUANTITY OF DANGEROUS GOODS					
Dangerous Goods Identification					
Proper Shipping Name	Class or Division	UN or ID No.	Subsidiary Risk	Quantity and type of packing	Packing Inst. Authorization
Radioactive Material Special Form, N.O.S.	7	UN2974		Cs-137/Am-241:Be Metal Solid 1 TYPE A PACKAGE X 0.008 C1*/0.040 C1	Yellow II Spec. Form Certificate GB/140/S GB/7/S DIM 35X47 X79 CM
Additional Handling Information NONE					
I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labelled, and are in all respects in the proper condition for transport by air according to the applicable International and National Government Regulations				Name/Title of Signatory Place and Date Signature (see marking above)	

Form 30-062

Printed and Sold by UIC & Co. Division of Scott Printing Corp. 180 Boulevard Avenue, Jersey City, N.J. 07308 — (201) 795-5400 Toll Free (800) 631-3088

 SHIPPER'S DECLARATION FOR DANGEROUS GOODS FORM (FACSIMILE)
 FIGURE 19

Bill of Lading—

Short Form

Original—Not Negotiable

It is hereby acknowledged that the undersigned is duly qualified to execute this Bill of Lading and is not responsible for the classification and tariffs in effect on the date of issue of this Original Bill of Lading.

Consigned to and destination:

"SHIP TO ADDRESS"



SHIPPER NO 003908

SHIPPER	
	Troxler Electronic Laboratories, Inc.
	Troxler International, Ltd.

Our Order No	Customer Order No	Date Shipped

ROUTE CARRIER)

Carrier No.

Delivering Carrier

FREIGHT CARRIERS NAME

NO. SHIPMENT CONT'S	NO.	KIND OF PACKAGING DESCRIPTION OF ARTICLES SPECIAL MARKS AND DESCRIPTIONS	WEIGHT (GROSS & NET)	RATE	CHARGES (FIVE COLUMNS AND MORE)
1	X	RADIOACTIVE MATERIALS, SPECIAL FORM, NOS UN2974			
		RADIOACTIVE YELLOW II LABELS. T.I.-0.1			
		1 TYPE A PACKAGE,			
		X .0080 C1 Cs137/.040 C1 Am241:Be	92 lbs		
		\$.40/lb Eval			

REMIT C O O



3006 Cornwallis Road • P.O. Box 12057
Research Triangle Park
North Carolina 27709 USA

COD AMT 5

COD FEE
PREPAID * PREPAID
COLLECT

TOTAL
CHANGE \$ 5.9

FREIGHT CHARGES ARE PREPAID
UNLESS MARKED COLLECT
CHECK BOX IF
CHARGES ARE COLLECT. ☐

YOUR NAME & TITLE

Summary

TROXLER WAYBILL (FACSIMILE)
FIGURE 21

ATTACHMENT 4

LICENSING

The following list contains the names, addresses, and telephone numbers of the licensing agencies for each state:

ALABAMA PH: (334) 613-5391
FX (334) 613-5387

Whatley Kirksey E, Director
Division of Radiation Control
State Department of Public Health
State Office Building
Montgomery, AL 36130-1701

ALASKA
USNRC REGION V,

ARIZONA PH: (602) 255-4845
FX: (602) 437-0705

Godwin Audrey V, Director
Arizona Radiation Regulatory Agency
4814 South 40th Street
Phoenix, AZ 85040

ARKANSAS PH: (501) 661-2301
FX: (501) 661-2468
Bevill Bernard R, Acting Director
Division of Radiation control & Emergency
Mgmt
Department of Health
4815 West Markham Street, Slot 30
Little Rock, AR 72205-3867

CALIFORNIA PH: (916) 322-3482
FX: (916) 324-3610
Bailey Edgar D., C.H.P., Chief
Radiologic Health Branch
Food, Drugs & Radiation Safety Division
State Department of Health Services
714-744 P Street
P.O. Box 942732
Sacramento, CA 94234-7320

COLORADO PH: (303) 692-3030
FX: (303) 782-5083

Quillin Robert M., Director
Radiation Control Division-(RCD-DO-B1)
Department of Public Health & Environment
4300 Cherry Creek Drive South
Denver, OC 80222-1530

CONNECTICUT
USNRC REGION I,

DELAWARE
USNRC REGION I,

DISTRICT OF COLUMBIA
USNRC REGION I,

FLORIDA PH: (904) 487-1004
FX: (904) 487-0435

Jerrett Lyle E., Chief
Office of Radiation Control
Department of Health & Rehabilitative
Services
1317 Winewood Boulevard
Tallahassee, FL 32399-0700

GEORGIA PH: (404) 362-2675
FX: (404) 362-2653

Hill, Thomas E., Manager
Radioactive Materials Program
Department of Natural Resources
4244 International Parkway, Suite 114
Atlanta, GA

HAWAII
USNRC REGION V,

IDAHO PH: (515) 281-3478
FX: (515) 242-6284

Flater Donald A., Chief
Bureau Of Radiological Health
Iowa Department of Public Health
Lucas State Office Building
Des Moines, IA 50319

ILLINOIS PH: (217) 785-9868
FX: (217) 524-4724

Thomas W. Ortoger, Director
Department of Nuclear Safety
1035 Outer Park Drive
Springfield, IL 62704

INDIANA
USNRC REGION III,

KANSAS PH: (913) 296-1562
FX: (913) 296-0984

Allen Gerald W., Chief
X-Ray & RAM control Section
Department of Health & Environment
Bureau of Air & Radiation
Forbes Field, Building 283
Topeka, KS 66620

KENTUCKY PH: (502) 564-3700
FX: (502) 564-6533

Volpe John A., Ph.D, Manager
Radiation Control Branch
Cabinet for Human Resources
275 East Main Street
Frankfort, KY 40621-0001

LOUISIANA PH: (504) 765 0160
FX: (504) 765-0220

Spell William H., Administrator
Radiation Protection Division
Office of Air quality & Radiation Protection
Department of Environmental Quality
7290 Bluebonnett Road
P.O. Box 82135
Baton Rouge, LA 70884-2135

MAINE PH: (207) 287-5698
FX: (207) 287-4172

Schell Robert J., Nuclear Engineering
Specialist
Division of Health Engineering
Radiation Control Program
State House, Station 10
Augusta, ME 04333

MARYLAND PH: (410) 631-3300
FX: (410) 631-3198

Roland G. Fletcher, Manager
Radiological Health Program
Air and Radiation Management
Administration
Maryland Department of the Environment
2500 Broening Highway
Baltimore, MD 21224

MASSACHUSETTS
USNRC REGION I,

MICHIGAN
USNRC REGION III,

MINNESOTA
USNRC REGION III,

MISSISSIPPI PH: (601) 354-6657
FX: (601) 354-6167

Fuente Eddie S., Director
Division of Radiological Health
State Department of Health
3150 Lawson Street
P.O. Box 1700
Jackson, Ms 39215-1700

MISSOURI
USNRC REGION III,

MONTANA
USNRC REGION IV,

NEBRASKA PH: (402) 471-2133
FX: (402) 471-0383
Mark B. Horton., M.D., M.S.P.H., Director
Nebraska Department of Health
P.O. Box 95007
Lincoln, NE 68509-5007

NEVADA PH: (702) 687-5394
FX: (702) 687-5751
Stanley R. Marshall, Supervisor
Radiological Health Section
Department of Human Resources
505 Est King Street
Carson City, NV 89710

NEW HAMPSHIRE PH: (603) 271-4588
FX: (603) 225-2325
Diane E. Tefft, Administrator
Radiological Health Bureau
Division of Public Health Services
6 Hazen Drive
Concord, NH 03301-6527

NEW JERSEY:
USNRC REGION I,

NEW MEXICO PH: (505) 827-1557
FX: (505) 827-1544

Garcia Benito, Chief
Bureau of Hazardous & Radioactive
Materials
Water and Waste Management Division
Department of Environment
P.O. Box 26110
Santa Fe, NM 87502

NEW YORK PH: (518) 457-1202
FX: (518) 457-5545
Aldrich Rita, Principal Radiophysicist
Radiological Health Unit
Division of Safety and Health
New York State Department of Labor
New York State Office Campus
Building 12, Room 457
Albany, NY 12240

NORTH CAROLINA PH: (919) 571-4141
FX: (919) 571-4148
Brown, Dayne H., Director
Division of Radiation Protection
Department of Environment, Health &
Natural Resources
3825 Barrett Drive
P.O. Box 27687
Raleigh, NC 27611-7687

NORTH DAKOTA PH: (701) 328-5188
FX: (701) 328-5200
Mount Dana k., Director
Division of Environmental Engineering
Department of Health
1200 Missouri Ave, Room 304
Bismarck, ND 58506-5520

OHIO
USNRC REGION III,

OKLAHOMA

USNRC REGION IV,

OREGON

PH: (503) 731-4014

FX: (503) 731-4081

Paris Ray D., Manager
Radiation Protection Services
State Health Division
Department of Human Resources
800 N.E. Oregon Street, No. 21
Portland, OR 97232

PENNSYLVANIA

USNRC REGION I,

RHODE ISLAND

PH: (401) 277-2438

FX: (401) 277-6953

Stoeckel Marie, Chief
Division of Occupation & Radiologic Health
Department of Health
206 Cannon Building
3 Capital Hill
Providence, RI 02908-5097

SOUTH CAROLINA PH: (803) 737-7400

FX: (803) 737-7412

Batavia Max K., P.E. Chief
Bureau of Radiological Health
Department of Health & Environmental
Control
2600 Bull Street
Columbia, SC 29201

SOUTH DAKOTA

USNRC REGION IV

TENNESSEE

PH: (615) 532-0360

FX: (615) 532-7938

Mobley Michael H., Director
Division of Radiological Health
Department of Environment and Conservation
L&C Annex, 3rd Floor
401 Church Street
Nashville, TN 37243-1532

TEXAS

PH: (512) 834-6688

FX: (512) 834-6708

Ratliff Richard A., P.E., Chief
Bureau of Radiation Control
Texas Department of Health
1100 West 49th Street
Austin, TX 78756-3189

UTAH

PH: ((801) 536-4250

FX: (801) 533-4097

Sinclair William J., Director
Division of Radiation Control
Department of Environmental Quality
168 North 1950 West
P.O. Box 144850
Salt Lake City, UT 84114-4850

VERMONT

USNRC REGION I

VIRGINIA

USNRC REGION II

WASHINGTON PH: (360) 586-8949

FX: (360) 753-1496

Strong Terry R., Director
Division of Radiation Protection
Department of Health
Agricultural Center Building #5
P.O. Box 47827
Olympia, WA 98504-7827

WEST VIRGINIA

USNRC REGION II

WISCONSIN

USNRC REGION III

WYOMING

USNRC REGION IV

WESTON

ATTACHMENT 5

APPENDIX C
DUTIES AND RESPONSIBILITIES OF THE RADIATION SAFETY OFFICER

The Radiation Safety Officer (RSO) is responsible for implementing the radiation safety program and ensuring that radiation safety activities are performed in accordance with approved procedures and regulatory requirements.

The RSO's duties and responsibilities include:

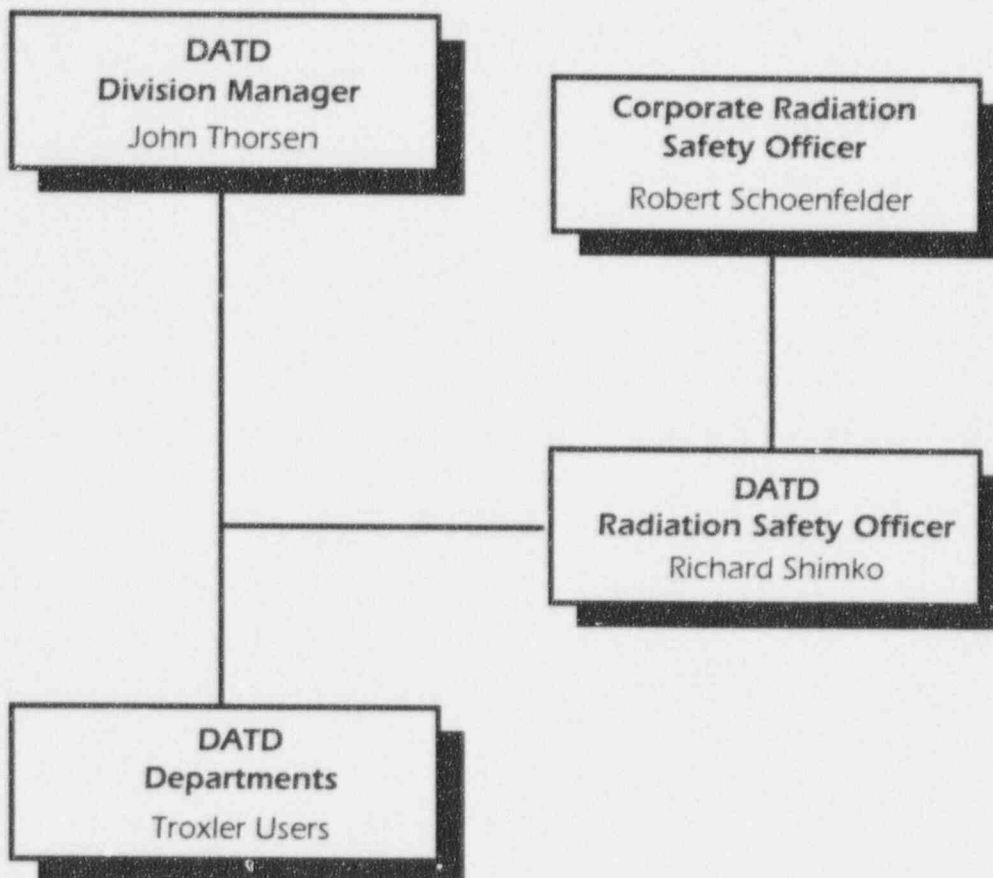
1. Ensure that licensed material possessed by the licensee is limited to the kinds (e.g., cesium-137 as a sealed source) and quantities of byproduct material listed on the license.
2. Ensure that individuals using gauges are properly trained; are designated by the RSO; receive refresher training at least annually, including participation in a "dry run" of emergency procedures and review of operating and emergency procedures and Department of Transportation (DOT) requirements; and are informed of all changes in regulatory requirements and deficiencies identified during annual audits.
3. Ensure that personnel monitoring devices are used as required and reports of personnel exposure are reviewed in a timely manner.
4. Ensure that gauges are properly secured against unauthorized removal at all times when gauges are not in use.
5. Ensure that proper authorities are notified in case of accident, damage to gauges, fire, or theft.
6. Ensure that audits are performed at least annually to ensure that (a) the licensee is abiding by NRC and DOT regulations and the terms and conditions of the license (e.g., periodic leak tests, inventories, use limited to trained, approved users), (b) the licensee's radiation protection program content and implementation achieve occupational doses and doses to members of the public that are ALARA (see 10 CFR 20.1101), and (c) the licensee maintains required records with all required information (e.g., records of

personnel exposure; receipt, transfer, and disposal of licensed material; gauge user training) sufficient to comply with NRC requirements.

7. Ensure that results of audits, identification of deficiencies, and recommendations for change are documented (and maintained for at least 3 years) and provided to management for review; ensure that prompt action is taken to correct deficiencies.
8. Ensure that audit results and corrective actions are communicated to all personnel who use licensed material (regardless of their location or the license under which they normally work).
9. Ensure that all incidents, accidents, and personnel exposure to radiation in excess of ALARA or Part 20 limits are investigated and reported to NRC and other authorities, as appropriate, within the required time limits.
10. Ensure that licensed material is transported in accordance with all applicable DOT requirements.
11. Ensure that licensed material is disposed of properly.
12. Ensure that he or she has up-to-date copies of NRC's regulations, reviews new or amended NRC regulations, and revises licensee procedures, as needed, to comply with NRC regulations.
13. Ensure that the license is amended whenever there are changes in licensed activities, responsible individuals, or information or commitments provided to NRC in the licensing process.



ATTACHMENT C
ORGANIZATION CHART



APR 12 1996

Docket No. 030-34098
Control No. 122985

Richard Shimko
Roy F. Weston, Inc. (DATD)
One Weston Way
West Chester, PA 19380

Dear Mr. Shimko:

This is in reference to your application dated February 20, 1996. In order to continue our review, we need the following additional information:

1. In your mailing address you indicate DATD. Please define DATD.
2. Please indicate whether sealed sources will be lowered into the ground more than 3 feet. If so, please provide emergency procedures should the source become stuck.
3. Please provide a copy of the Radiation Safety Officer (RSO) delegation of authority as provided by management. The delegation of authority should include a commitment that the RSO is authorized to stop unsafe operations and has sufficient time to perform radiation safety duties and responsibilities.
4. Provide the name and date of manufacturer training attended by the RSO and/or training and experience with gauging devices.
5. Submit a description of the duties and responsibilities of your Radiation Safety Officer. Appendix C to Draft Regulatory Guide DG-0008, "Applications for the Use of Sealed Sources in Portable Gauging Devices", may be used for guidance.
6. Please provide an organizational chart that shows the RSO's reporting path to management. This chart should demonstrate that the RSO has sufficient authority and direct communication with responsible management officials.
7. With regard to your training program, please confirm:
 - a. all users receive the manufacturer training provided prior to using the gauge.
 - b. each user will be designated in writing by the RSO.
 - c. annual refresher training includes review of DOT requirements, changes in applicable regulations or license conditions, and

OFFICIAL RECORD COPY

ML 10

deficiencies identified during the performance of annual audits of the radiation safety program.

- d. all training records including refresher training records are maintained.
 - e. individuals responsible for or having access to gauge storage area(s) are provided radiation safety training.
8. With regards to your facilities and equipment, please:
- a. indicate whether One Weston Way is also a use location.
 - b. describe how gauges will be secured while located in transport vehicles. For example, gauges will be locked in the trunk of a car, hidden from view while in a locked van, or secured by a lock and chain while in an open bed truck.
 - c. describe how gauges will be controlled by the constant surveillance of authorized users when not in storage and how they will be secured while in storage at temporary jobsites. For example, describe how gauges will be secured from damage or theft during periods of non-use (e.g., lunch time) and describe how the gauges will be secured during off-duty hours while located at temporary jobsites.
 - d. provide your justification for not returning the gauge to the permanent place of storage (One Weston Way) at the end of each work day. If you will be using gauges at local temporary jobsites, either (1) commit to returning the gauges to a permanent storage facility (One Weston Way) or (2) explain why the gauge is not returned at the end of each work day to a permanent storage location and describe the steps you will take to ensure that the gauge is secured from unauthorized removal and the area is posted in accordance with the requirements of 10 CFR 20.1903, and that members of the general public are not exposed to radiation in excess of 10 CFR 20.1301 limits. It is not acceptable for a device to be chained to a post or left lying unattended at the place of use.
 - e. confirm that each portable nuclear gauge will have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. The gauge or its container must be locked when in transport, storage or when not under the direct surveillance of an authorized user.
9. Please provide the name of the vendor and the NVLAP accreditation for your dosimetry processor.

10. In compliance with 10 CFR 20.1501(a) and (b), please provide either:

- a. a commitment to have at least one appropriate, calibrated survey meter at each jobsite for timely evaluation of source integrity following an incident. This commitment should list the type and ranges of survey instruments you will have available, the frequency of calibration, the calibration process, and the procedure for determining if the instrument is working properly.

OR

- b. an explanation of how you will have access to an appropriate survey meter for timely evaluation of source integrity following an incident at any jobsite.

11. With regards to your leak test procedure, please provide:

- a. the name, address, and license number of the kit supplier.
- b. the kit model number.
- c. information on the supplier's procedures for analyzing samples collected using its kit and providing timely reports of the results to you.

12. With regards to your operating and emergency procedures, please review the requirements and prohibitions outlined in Appendix H to Draft Regulatory Guide DG-0008 and incorporate the items as appropriate. Also, confirm that a copy of your operating and emergency procedures will be maintained at each jobsite.

13. 10 CFR 20.1101 requires, in part, that each licensee (1) develop, document, and implement a radiation protection program commensurate with the scope and extent of license activities and sufficient to ensure compliance with the regulations, and (2) review, at least annually, the content and implementation of their radiation programs. An example of an audit program is provided in Appendix I to Draft Regulatory Guide DG-0008. With regards to this audit, please submit:

- a. the name and radiation safety qualifications of the individual who will conduct audits.
- b. a description of the scope and extent of the audits.
- c. a commitment to conduct audits at intervals not to exceed 12 months and to maintain records of the audits for at least 3 years after the record is made.
- d. management's commitment to review the documented results of the audit.

R. Shimko
Roy F. Weston, Inc.

-4-

- e. a commitment to take prompt action to correct deficiencies identified during audits and to inform all personnel of the deficiencies and the actions management expects its personnel to take to avoid similar deficiencies.
14. In accordance with 49 CFR 172.201, please confirm that shipping papers contain an emergency response telephone number. Also, an updated copy of NRC Form 3 is enclosed for your use.

We will continue our review upon receipt of this information. Please reply in duplicate to my attention at the Region I office and refer to Mail Control No. 122985. If you have any technical questions regarding this deficiency letter, please call me at (610) 337-5169.

If we do not receive a reply from you within 30 calendar days from the date of this letter, we shall assume that you do not wish to pursue your application.

Sincerely,
ORIGINAL SIGNED BY:
PENNY A. LANZISERA

Penny Lanzisera
Division of Nuclear Materials Safety

Docket No. 030-34098
Control No. 122985

- Enclosures:
1. Draft Regulatory Guide DG-0008
 2. NRC Form 3

DOCUMENT NAME: R:\WPS\DLTR\L3034098

To receive a copy of this document, indicate in the box: "C" = Copy w/o attach/encl "E" = Copy w/ attach/encl "N" = No copy

OFFICE	DNMS/RI	N	DNMS/RI				
NAME	Lanzisera PL						
DATE	04/10/96	04/	/96	04/	/96	04/	/96

OFFICIAL RECORD COPY

(10-84)
10 CFR 30, 32, 33
34, 35, 36, 39 and 40

APPLICATION FOR MATERIAL LICENSE

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 9 HOURS. SUBMITTAL OF THE APPLICATION IS NECESSARY TO DETERMINE THAT THE APPLICANT IS QUALIFIED AND THAT ADEQUATE PROCEDURES EXIST TO PROTECT THE PUBLIC HEALTH AND SAFETY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-8 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0071, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0120), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND,
MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA,
RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

LICENSING ASSISTANT SECTION
NUCLEAR MATERIALS SAFETY BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO
RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA,
SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION II
101 MARIETTA STREET, NW, SUITE 2900
ATLANTA, GA 30323-0199

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN,
SEND APPLICATIONS TO:

MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
801 WARRENVILLE RD.
LISLE, IL 60532-4351

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS,
LOUISIANA, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA,
OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH,
WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
811 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TX 76011-8084

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

1. THIS IS AN APPLICATION FOR (Check appropriate item)



A. NEW LICENSE



B. AMENDMENT TO LICENSE NUMBER _____



C. RENEWAL OF LICENSE NUMBER _____

2. NAME AND MAILING ADDRESS OF APPLICANT (Include Zip code)

Roy F. Weston, Inc. (DATD)
One Weston Way
West Chester, PA 19380

3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

One Weston Way, West Chester, PA and temporary jobsites
in the United States where the NRC maintains jurisdiction
for the use of radioactive material.

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Richard Shimko

TELEPHONE NUMBER

(610) 701-3107

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL

a. Element and mass number; b. chemical and/or physical form; and c. maximum amount
which will be possessed at any one time.

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS

9. FACILITIES AND EQUIPMENT

10. RADIATION SAFETY PROGRAM

11. WASTE MANAGEMENT

12. LICENSEE FEES (See 10 CFR 170 and Section 170.31)

FEE CATEGORY 3P

AMOUNT

ENCLOSED \$ 530

13. CERTIFICATION (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39 AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 82 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

CERTIFYING OFFICER - TYPED/PRINTED NAME AND TITLE

John W. Thorsen, Vice President, DATD

SIGNATURE

DATE

2/20/96

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			\$		
APPROVED BY				DATE	

122985

ATTACHMENT

Item 5 - Material to be possessed

	Radionuclide	Source Manufacturer and Model	Radioactivity
A	Cesium-137	Troxler Drwg A-102112	Not to exceed 9 millicuries per source and 90 millicuries total
B	Americium-241	Troxler Drwg A-102451	Not to exceed 44 millicuries per source and 440 millicuries total

These radionuclides are used in Troxler Model 3400 series surface moisture density gauges.

Item 6 - Purpose for which licensed material will be used.

For measuring moisture and density of construction material.

Item 7 - Individuals responsible for radiation safety program - their training and experience.

Richard Shimko, the Radiation Safety Officer, has a B.E.S. in Physics, a M.S. in Nuclear Engineering, and is currently a Certified Health Physicist, certified by the American Board of Health Physics.

Item 8 - Training provided to other users.

Each user will take the one-day training program offered by Troxler on safe use of the device. Ancillary personnel (security, janitorial, and maintenance) are not permitted access to the materials.

Item 9 - Facilities and Equipment

The gauges will be stored in a locked enclosure or be under physical surveillance by authorized users at WESTON's facilities at One Weston Way, West Chester or at temporary job sites anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction. A figure showing the layout of the storage area is attached.

Item 10 - Radiation Safety Program

10.1 Personnel Monitoring Equipment

All gauge users will wear a thermoluminescent dosimeter (TLD), which will be changed every 3 months.

10.2 Radiation Detection Instruments

Not required.

10.3 Leak-testing

Leak-test samples will be collected every 6 months by the RSO for analysis by Troxler Instruments, Incorporated (License number 32-000-1).

10.4 Maintenance

Any maintenance that will be performed by gauge users will be done with the radioactive source in the safe shielded position. The sealed source will not be removed from the gauge, and will not be extended from the safe shielded position except when inserted into material to conduct measurements.

10.5 Transportation of Devices to Field Locations

Packaging and transport of the gauges will be carried out in accordance with applicable DOT regulations, and in accordance with the manufacturer's instructions.

10.6 Operating and Emergency Procedures

Nuclear Moisture/Density Gauge Safety Procedures have been developed and are provided to each person who uses the gauges. In addition, the procedure is reviewed annually with each user. The topics covered in the procedures are:

- Role of the Radiation Safety Officer
- Certification requirements for gauge users
- Personnel monitoring
- Requirements during field use
- Storage requirements
- Posting requirements
- Shipping and transportation requirements
- Gauge maintenance, including requirement for leak test

- Accident/Incident Response
- Reporting, notification and recordkeeping
- Disposal

A copy of the safety procedure is attached to this document. Minor revision may be made to this document that do not affect gauge safety or security without notifying the NRC or amending the license.

10.7 Posting

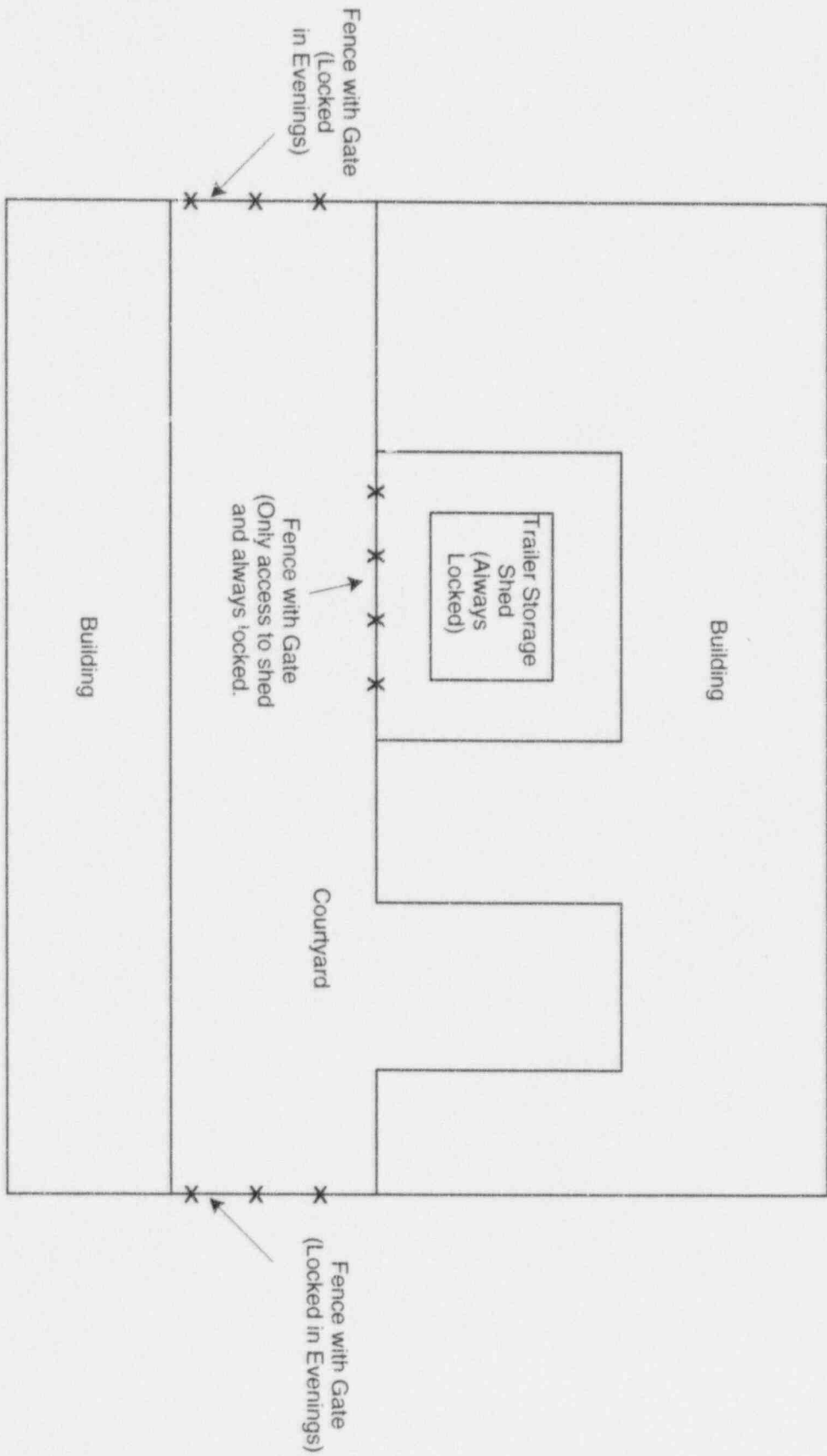
The permanent storage facility and temporary field storage areas will be posted in accordance with 10 CFR 19 and 10 CFR 20.

10.8 Inventory

The RSO will perform a gauge inventory every 6 months. The RSO will visually inspect each gauge in storage or if a gauge is at a job site, may designate someone else to inspect the gauge. The serial number, location, and name of person doing the inspection will be recorded in an inventory log by the RSO.

Item 11 - Waste Management

Disposal of a gauge will be by transfer of the gauge to a licensee specifically authorized to possess it, or by return to the manufacturer. Any other form of disposal will be with express written concurrence by the US NRC.



TROXLER STORAGE ON WESTON CAMPUS

DATD NUCLEAR MOISTURE/DENSITY GAUGE SAFETY PROCEDURE

1.0 Purpose

This procedure provides the storage, transport, and handling requirements for the use of Troxler nuclear moisture/density gauges by qualified personnel in the DAT Division. Training, certification, and monitoring requirements for gauge users and guidelines for incident response and recordkeeping are also included.

2.0 Policy

It is the policy of ROY F. WESTON, INC. (WESTON) to provide a safe working environment for its employees. To implement this policy, WESTON provides training for its employees that work with potentially hazardous materials and maintains employee monitoring programs, as necessary. In addition, WESTON maintains radiation exposures to its employees and the general public at levels that are as low as reasonably achievable.

3.0 Roles and Responsibilities of the Regional Radiation Safety Officer

The Regional Radiation Safety Officer (RRSO) in DATD ensures compliance with WESTON's radioactive source material license as it applies to the Troxler gauges. The RRSO conducts and documents the routine tasks required by the license such as leak tests, annual retraining of gauge users, gauge cleaning and personnel monitoring.

The RRSO may request and receive technical guidance for the completion of his duties from the Corporate Radiation Safety Officer (CRSO). The RRSO must provide copies of records regarding gauge maintenance and personnel monitoring to the CRSO.

The RRSO serves as WESTON's point of contact for the U.S. Nuclear Regulatory Commission (NRC) for issues concerning the Troxler gauges. The RRSO provides information to the NRC inspector during an on-site inspection and responds to violations, if any are noted.

4.0 Certification Requirements for Gauge Users

WESTON employees who may use the gauge have complied with the following requirements.

- o They have successfully completed the 8-hour Troxler training course.
- o Within the past year, they have completed a refresher training course conducted by WESTON or have repeated the 8-hour Troxler course.

- o Copies of these training certificates are on file with the RRSO and the CRSO.

5.0 Radiological Monitoring

Users of the gauges are included in WESTON's thermoluminescent dosimeter (TLD) program. Whole body TLD badges are exchanged quarterly and results are provided by the dosimetry service subcontractor to WESTON's CRSO and to the DATD dosimetry coordinator. An annual summary of occupational radiation exposure is provided confidentially to each badged employee after the end of the calendar year. Abnormal readings or results that exceed 50 mrem in one quarter are noted by the CRSO and discussed with the appropriate employee when the quarterly report is received. Data are maintained on the radiation exposure tracking system (RETS). Employees will wear their badges while using the gauge, and will store them in a background radiation area when not using the gauge.

6.0 Requirements During Field Use

Proper handling, storage, and posting are as important when the gauge is at remote field locations as when it is stored in West Chester. Storage and posting requirements provided in Section 7.0 of this document will be followed as applicable.

At temporary job sites, where a secure storage location cannot be provided at the site, a certified gauge user will be responsible for storing the gauge off-site, in a project vehicle or hotel room. When left in a vehicle the gauge will be secured against theft by stowing it out of sight and locking the vehicle. The vehicle should not be parked near an area that may be occupied.

It is preferred that the gauge not be stored in a hotel room or other living quarters. However, if no other storage location is available the following precautions will be followed.

1. The gauge will be stowed as far away as possible and not less than 10 feet from the normally occupied area of the room.
2. The gauge will be stowed away from walls that are common to other occupied rooms.
3. The gauge will not be left in the room during the work day.

7.0 Storage Requirements

The following requirements are necessary to maintain compliance with WESTON's radioactive materials license.

7.1 Storage

Routine storage of the gauge will be in such a manner as to minimize exposure to WESTON employees and members of the general public. The gauge will always be contained in its transport case when it is not in use. The gauge will be stored no closer than 15 feet from the nearest full-time work location or frequently occupied area. The gauge will be stored at least 15 ft. from any area that may be occupied under normal conditions by a member of the general public.

A double lock system will be employed to ensure against potential theft and to enforce restricted access to the gauge. The double lock system employs a lock on the building and a separate lock on the storage area. If a separate storage area is not available, the gauge can be chained and locked to a stationary object. Keys that are required to remove the gauge from the storage area are provided only to personnel who are certified users or are responsible for the storage area.

7.2 Posting

The storage area door will be posted with a radiation caution sign as shown in Attachment 1. In addition, a copy of the US NRC instruction form, Attachment 2, will be posted.

8.0 Shipping and Transportation Requirements

United States Department of Transportation (DOT) regulations will be followed when the gauge is transported or shipped. Regulatory requirements include proper packaging, marking, labeling and completing shipping papers.

8.1 Packaging, Marking and Labeling

The Troxler transport case is constructed and labeled as a DOT Type A package, and the instrument must be secured in the case whenever it is moved from the storage area or a project site. No other packaging is required.

Required markings and labels have been permanently affixed to the transport case.

8.2 Shipping Documentation

Shipping papers include the Waybill or Bill of Lading, and the Shippers Declaration for Hazardous

Goods. Shipping papers must be completed according to DOT requirements for "Radioactive Material, Special Form, n.o.s." as shown in the examples in Attachment 3. It is important to note that the source activities listed on the papers are different for each gauge, and the appropriate value must be provided on the shipping papers for the gauge being shipped.

8.3 Transportation by Private (WESTON) Vehicle

Transportation of the gauge in a vehicle own or rented by WESTON or an employee of WESTON requires compliance with DOT requirements for an exclusive use vehicle. The gauge must be contained in the transport case, and shipping documents should be kept with the gauge.

The gauge must be transported in the trunk or cargo area of the vehicle, not in the passenger area, and must be secured against loss or theft.

8.4 Regulatory Agency

WESTON is licensed to use the Troxler gauge in the State of Pennsylvania. Agencies in other states will recognize the NRC license maintained by WESTON, but may require three-day advance written notification if the gauge is to be used at a site in their state. A list of state agencies and NRC status is provided in Attachment 4. The agency may request a copy of WESTON's license. The CRSO can assist in providing a copy of the license.

9.0 Gauge Maintenance

The Troxler gauge is maintained according to guidance provided in the Troxler Safety Training Manual. Maintenance activities to be conducted by WESTON employees include cleaning the exterior surfaces of the gauge with the source retracted, and performing leak tests on the gauge. Other maintenance activities that require removing the sources from the gauge are performed by the Troxler Service Department. Gauges that are not functioning correctly and damaged gauges are also returned to the Troxler Service Department.

Leak tests are performed at intervals not exceeding six months using the Troxler Leak Test Kit or suitable substitute. WESTON employees must wear their dosimeters when conducting leak tests, as they must for any other activity using the gauge. Instruction for performing the leak test are provided in the leak test kit. Precautions to minimize potential radiation exposures must be followed. Employees must not touch the sources with their hands or

fingers, and the source rod will not be extended out of the shielded housing during the test.

Results of the leak tests will be retained by the RRSO for review by NRC inspectors during a review of WESTON's license. A copy of results will be sent by the RRSO to the CRSO.

10.0 Accident/Incident Response

The response to an accident or incident involving the gauge is conducted in accordance with the requirements of the NRC, appropriate local and state authorities, and applicable radiation safety practices. Accidents and incidents may involve damage to the gauge or the loss or theft of the gauge or its sources.

10.1 Damaged Gauge

When in use at construction sites, measures will be taken to minimize potential accidents that would damage the gauge. The gauge will not be left unattended in a construction area. The gauge will not be left in the path of vehicles and heavy equipment. The gauge will not be placed near a parked vehicle or equipment that may cause damage when started.

Occasionally, a gauge may be damaged at a project site. In case of an accident it is assumed that the shielding around the source is affected and elevated exposure rates are probable. The following steps must be followed.

1. The gauge must not be moved or left unattended.
2. If the health and safety of an individual is at risk, measures shall be taken to protect him or her. Medical attention will be provided as necessary.
3. If a vehicle or heavy equipment is involved, it may not be moved until an instrument survey has been conducted to ensure that it is not contaminated.
4. The area, within 15 feet of the gauge will be partitioned off, and access to the area will be restricted to personnel who must work on the instrument.
5. The certified gauge user at the site must contact the RRSO to report the incident and request guidance for additional response efforts. The user will relay details of the incident to the

RRSO including the location and time of the incident, names and status of individuals involved, details of the occurrence, status of the gauge, position of its sources, and integrity of the shielding in the case, and actions taken to that point in response to the incident.

6. The RRSO provides guidance as necessary to the gauge user and arranges for supplemental response, as necessary. Additional response efforts may include sending radiation detection equipment to the user, arranging to have a health physicist at the site, and contacting the Troxler Service Department to request assistance.
7. The RRSO must contact the CRSO and then, in the case of accidents that resulted in damage to the gauge, he will contact the appropriate regulatory agencies. At a minimum, agencies requiring notification include the license granting agency (NRC Region 1, King of Prussia, PA) and the local agency responsible for radiological controls in the state where the accident occurred.
8. If the shielding was not seriously damaged, the gauge may be packaged and transported according to the normal shipping procedure to the Troxler Service Department for repair and check-out. If the shielding or source were damaged and elevated levels of exposure or contamination are measured, it will be conducted under the direction of the CRSO and under review by the regulatory agencies.
9. The RRSO will develop and submit to the CRSO a report of the accident, its causes and results, and the response efforts that were enacted. The RRSO is also responsible for completing and submitting reports required by the regulatory agencies.

10.2 Theft and Misplacement

Theft should be prevented by following procedures for storage, transport, and use. In case of loss or theft the certified user or the individual that discovers the gauge missing must contact the RRSO. The RRSO will conduct the following activities.

1. Notify the license-granting agency and appropriate agencies in the state where the gauge was last seen.
2. Notify the Troxler Electronic Laboratories, Inc.
3. Notify the CRSO.
4. Notify other agencies as directed by the regulatory agency personnel.
5. Complete and submit a report to the CRSO and regulatory agency personnel, as necessary.

11.0 Reporting, Notification and Recordkeeping

It is the responsibility of the RRSO in the DAT Division to ensure that the appropriate reporting, notification, and recordkeeping procedures are implemented. Those requirements are summarized below.

11.1 Notification and Reporting to the CRSO

The RRSO ensures that the CRSO is informed of activities that may affect the condition of the gauge or the status of WESTON's radioactive material license. The RRSO notifies the CRSO immediately of accidents and incidents or NRC inspections that involve the Troxler. The RRSO obtains the signatures of the Corporate Secretary and the Corporate Radiation Safety Officer on all correspondence with the NRC regarding the license and inspections of the Troxler gauges. Approval of the CRSO is also obtained on requisitions for the purchase of new gauges.

The RRSO provides copies of all records and documents associated with the maintenance and use of the Troxler gauge, in a timely manner, to the CRSO. The following reports are included.

- o leak test results every six months
- o employee training certificates (initial and annual retraining)
- o accident and incident reports
- o regulatory agency reports and WESTON responses
- o employee monitoring data.

11.2 Notification and Reporting to the NRC

The RRSO immediately notifies the Region 1 NRC at King of Prussia, Pennsylvania of accidents or incidents involving the gauge. The NRC is also notified immediately if the gauge is stolen or if the gauge or its sources are lost. Notification is followed by the

timely submittal of a written report that explains the circumstances of the incident, actions taken in response, and actions taken to prevent recurrence.

11.3 RRSO Records

The RRSO maintains organized, current files of the following records.

- o Source certificates from Troxler Electronic Laboratories, Inc.
- o Records of gauge maintenance and repair
- o Records of semi-annual leak tests
- o Copies of applicable regulations
- o Advance written notification to the other state agencies
- o Training certificates for gauge users
- o Employee monitoring data
- o Records of inventory, transfer and gauge location
- o A copy of the Troxler Type A package certification for the transport case
- o A copy of the notice to employees (attachment 2).
- o Telephone numbers and addresses of emergency contacts.

12.0 Disposal

When a gauge is no longer operable or no longer needed, it is disposed of by transfer to another licensed user or returned to the manufacturer for final disposal. Disposition of the gauge is documented in the files of the RRSO.

ATTACHMENT 1

CAUTION



RADIOACTIVE MATERIALS

99-537

PRINTED IN U.S.A.

STORAGE AREA PLACARD (FACSIMILE)
FIGURE 24

UNITED STATES NUCLEAR REGULATORY COMMISSION
Washington, D. C. 20555

NOTICE TO EMPLOYEES

STANDARD FOR PROTECTION AGAINST RADIATION (PART 20) NOTICE INSTRUCTIONS AND
REPORTS TO WORKERS, INSPECTIONS (PART 18) EMPLOYEE PROTECTION



WHAT IS THE NUCLEAR REGULATORY COMMISSION?
The Nuclear Regulatory Commission is an independent Federal regulatory agency, established by Congress in 1954, to regulate the use of nuclear energy and other sources of radiation for peaceful purposes.

WHAT DOES THE NRC DO?
The NRC's primary responsibility is to ensure that nuclear energy is used safely, securely, and in the public interest. The NRC is responsible for licensing, inspecting, and regulating the use of nuclear energy and other sources of radiation for peaceful purposes.

WHAT RESPONSIBILITY DOES MY EMPLOYER HAVE?
Any company that conducts activities regulated by the NRC must comply with the NRC's requirements. It is the employer's responsibility to ensure that all employees are properly trained and supervised, and that all safety and health requirements are strictly followed.

WHAT IS MY RESPONSIBILITY?
For your own protection and the protection of others, you must follow all safety and health instructions given by your employer. You must also report any violations of NRC regulations to your employer or to the NRC.

HOW DO I REPORT VIOLATIONS?
If you believe that your employer is violating NRC regulations, you should report this to your employer first. If you are not satisfied with the results, you may report the violation directly to the NRC. You may do this by mail, by phone, or by visiting the NRC's regional offices.

WHAT IF I WORK IN A RADIATION AREA?
If you work with radioactive materials or in a radiation area, you must follow all safety and health instructions given by your employer. You must also wear the proper protective clothing and equipment, and you must be monitored for radiation exposure.

WHAT IS THE NRC'S REGIONAL OFFICE?
The NRC has regional offices in each of the 50 States, the District of Columbia, and Puerto Rico. These offices are responsible for enforcing NRC regulations and providing technical assistance to employers and employees.

WHAT FORMS OF DISCRIMINATION ARE PROHIBITED?
No employer may discriminate against any employee who reports a violation of NRC regulations. This includes discrimination based on race, color, sex, religion, or national origin.

HOW DO I CONTACT THE NRC?
You may contact the NRC by mail, by phone, or by visiting the NRC's regional offices. The NRC's toll-free number is 1-800-368-7632.

CAN I BE FIRED FOR TALKING TO THE NRC?
No. Federal law prohibits an employer from firing or punishing an employee for reporting a violation of NRC regulations. If you are fired or punished for reporting a violation, you may file a complaint with the NRC.

MAY I TALK WITH AN NRC INSPECTOR?
Yes. Your employer must allow you to talk with an NRC inspector and to provide any information requested. You may also request that your identity remain confidential.

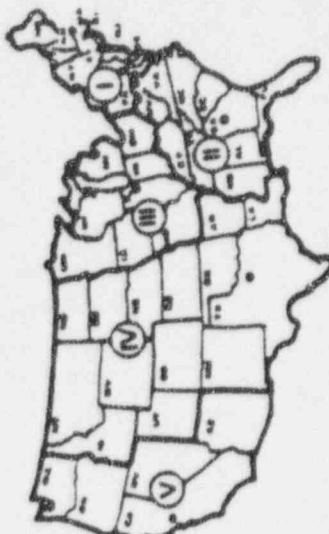
MAY I REQUEST AN INSPECTION?
If you believe that your employer has violated NRC regulations, you may request an inspection. The NRC will conduct an inspection if it has sufficient information to believe that a violation has occurred.

WHAT CAN THE LABOR DEPARTMENT DO?
The Department of Labor may take action against an employer who discriminates against an employee who reports a violation of NRC regulations. This includes ordering the employer to hire the employee back and to pay back wages.

WHAT WILL THE NRC DO?
The NRC may take action against an employer who discriminates against an employee who reports a violation of NRC regulations. This includes ordering the employer to hire the employee back and to pay back wages.

UNITED STATES NUCLEAR REGULATORY COMMISSION REGIONAL OFFICE LOCATIONS

A representative of the Nuclear Regulatory Commission can be contacted at the following addresses and telephone numbers. The Regional Office will accept written communications with Commission rules and regulations.




Registered Offices

REGION	ADDRESS	TELEPHONE
I	U.S. Nuclear Regulatory Commission Region I 811 Park Avenue New York, New York 10022	212 307 8000
II	U.S. Nuclear Regulatory Commission Region II 181 Riverside Drive New York, New York 10027	212 779 6000
III	U.S. Nuclear Regulatory Commission Region III 181 Riverside Drive New York, New York 10027	212 779 6000
IV	U.S. Nuclear Regulatory Commission Region IV 181 Riverside Drive New York, New York 10027	212 779 6000
V	U.S. Nuclear Regulatory Commission Region V 181 Riverside Drive New York, New York 10027	212 779 6000

NOTICE TO EMPLOYEES (U.S.N.R.C.) - FACSIMILE
FIGURE 25

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

Shipper Troxler International Ltd. Cornwallis Road Research Triangle Park, NC 27709 USA				Air Waybill No. Page of Pages Shipper's Reference Number <small>(optional)</small>			
Consignee John Doe Enterprises 9999 Anystreet Anywhere, Anystate 99999				<div style="border: 1px solid black; height: 100px; width: 100%;"></div>			
<small>Two completed and signed copies of this Declaration must be handed to the operator</small>				WARNING Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder or an IATA cargo agent.			
TRANSPORT DETAILS This shipment is within the limitations prescribed for <small>(delete non-applicable)</small>				Airport of Departure:			
<div style="border: 1px solid black; padding: 2px;">  </div>		CARGO AIRCRAFT ONLY		Airport of Destination:			
Shipment type: <small>(delete non-applicable)</small>				<div style="border: 1px solid black; display: inline-block; padding: 2px;">NON-RADIOACTIVE</div> <div style="border: 1px solid black; display: inline-block; padding: 2px; margin-left: 10px;">RADIOACTIVE</div>			
NATURE AND QUANTITY OF DANGEROUS GOODS							
Largesse Goods Identification							
Proper Shipping Name	Class or Division	UN or ID No.	Subsidiary Risk	Quantity and type of packing	Packing instructions	Authorization	
Radioactive Material Special Form, N.O.S.	7	UN2974		Cs-137/Am-241:Be Metal Solid 1 TYPE A PACKAGE X 0.008 Ci*/0.040 Ci	Yellow II II-0.5 DIM 35X47 X79 CM	Spec. Form Certificate GB/140/S GB/7/S	
Additional Handling Information NONE							
I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labelled, and are in all respects in the proper condition for transport by air according to the applicable international and National Government Regulations.						Name/Title of Signatory Place and Date Signature <small>(see warning above)</small>	

Form 30-082

Printed and Sold by Lint & Co. Division of Scott Printing Corp. 190 Backtown Avenue, Jersey City, NJ 07310 — (201) 795-5400, Toll Free: (800) 631-1000

SHIPPER'S DECLARATION FOR DANGEROUS GOODS FORM (FACSIMILE)
FIGURE 19

ATTACHMENT 2

Bill of Lading—

Short Form

Original—Not Negotiable

It is hereby understood that the
classification and rating in effect on
the date of issue of this Original Bill of
Lading

Consigned to and destination

"SHIP TO ADDRESS"



SHIPPER NO 008908

SHIPPER
Troxler Electronic Laboratories, Inc.
Troxler International, Ltd.

Our Order No	Customer Order No	Date Shipped

Route (CARRIER)

Carrier No

Delivering Carrier

FREIGHT CARRIERS NAME

NO	QUANTITY	UNIT	TYPE OF PACKAGING DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	WEIGHT (TARE NET)	RATE	CHARGES
1	X		RADIOACTIVE MATERIALS, SPECIAL FORM, NOS UN2974			
			RADIOACTIVE YELLOW II LABELS, T.I.-0.1			
			1 TYPE A PACKAGE,			
			X .0080 C1 Ce137/.040 C1 Am241:Be	82 lbs		
			\$.40/lb Eval			

REMIT TO



3008 Cornwallis Road • P.O. Box 12057
Research Triangle Park
North Carolina 27709 USA

COD AMT \$

COD FEE
PREPAID \$ PREPAID
COLLECT \$
TOTAL
CHARGES \$

FREIGHT CHARGES ARE PREPAID
UNLESS MARKED COLLECT
CHECK THIS IF
CHARGES ARE COLLECT

YOUR NAME & TITLE

TROXLER WAYBILL (FACSIMILE)
FIGURE 21
OFFICIAL RECORD COPY ML 10

122985

LICENSING

The following list contains the names, addresses, and telephone numbers of the licensing agencies for each state:

ALABAMA 205/261-5313

Aubrey Godwin, Director
Alabama Department of Public Health
Division of Radiation Health
State Office Building
Montgomery, AL 36104

ALASKA

SEE USNRC REGION V, PAGE 4

ARIZONA 602/255-4845

William Wright
Arizona Radiation Regulatory Agency
4814 S. 40th St.
Phoenix, AZ 85040

ARKANSAS 501/661-2302

Frank Wilson
Arkansas Department of Health
Division of Radiological Health
4815 West Markam Street
Little Rock, AR 72201

CALIFORNIA 916/445-0931

Gerard Wong, Phd.
California Department of Health
Radiological Health Section
714/744 P Street
Sacramento, CA 95814

COLORADO 303/331-8492

Albert J. Hazle
Colorado Department of Health
Division of Occ. & Radiation Health
4210 East 11th Avenue
Denver, CO 80220

CONNECTICUT

SEE USNRC REGION I, PAGE 4

DELAWARE

SEE USNRC REGION I, PAGE 4

DISTRICT OF COLUMBIA

SEE USNRC REGION I, PAGE 4

FLORIDA 904/487-2437

J. Daniel Nash
Florida Department of Health and
Rehabilitation Services
1317 Winewood Blvd.
Tallahassee, FL 32301

GEORGIA 404/894-5795

Tom Hill
Georgia Department of Human Resources
Radiological Health Services
878 Peachtree Street, Suite 600
Atlanta, GA 30309

HAWAII

SEE USNRC REGION V, PAGE 4

IDAHO 208/334-5879

Robert D. Funderburg
Idaho Department of Health
Radiation Control Section
Statehouse
Boise, ID 83720

ILLINOIS 217/785-9947

Paul Eastvold, Manager
Office of Radiation Safety
Illinois Department of Nuclear Safety
1035 Outer Park Drive
Springfield, IL 62704

INDIANA

SEE USNRC REGION III, PAGE 4

IOWA 515/281-4928

John A. Eure, Director
Environmental Health Section
Iowa Department of Health
Lucas State Office Building
Des Moines, Iowa 50319

KANSAS 913/862-9360

Gerald Allen, Director
Kansas Department of Health
Bureau of Radiation Control
State Office Building
Topeka, KS 66603

KENTUCKY 502/564-3700

Donald R. Hughes
Department of Human Resources
Radiation Control Branch
275 East Main Street
Frankfort, KY 40601

LOUISIANA 504/925-4518

William H. Spell
Louisiana Board of Nuclear Control
Division of Radiation Control
P. O. Box 14690
Baton Rouge, LA 70898

MAINE

SEE USNRC REGION I, PAGE 4

MARYLAND 301/333-3130

Roland G. Fletcher, Director
Maryland Department of Health &
Mental Hygiene
Division of Radiation Control
Attn: 7th Floor Mail Room
201 W. Preston Street
Baltimore, MD 21201

MASSACHUSETTS

SEE USNRC REGION I, PAGE 4

MICHIGAN

SEE USNRC REGION III, PAGE 4

MINNESOTA

SEE USNRC REGION III, PAGE 4

MISSISSIPPI 601/354-6657

Eddie S. Fuente, Supervisor
Mississippi State Board of Health
Radiological Health Unit
P. O. Box 1700
Jackson, MS 39205

MISSOURI

SEE USNRC REGION III, PAGE 4

MONTANA

SEE USNRC REGION IV, PAGE 4

NEBRASKA 402/471-2168

H. Ellis Simmon, Director
Nebraska Department of Health
Division of Radiological Health
Lincoln Bldg.
1003 'O' Street
Lincoln, NE 68509

NEVADA 702/885-5394

Stan R. Marshall
Nevada State Health Division
Bureau of Consumer Health
505 E. King Street, Room 202
Carson City, NV 89701

NEW HAMPSHIRE 603/271-4588

John R. Stanton, Director
Radiation Control Agency
State Laboratory Bldg.
Hazen Drive
Concord, NH 03301

NEW JERSEY

SEE USNRC REGION I, PAGE 4

NEW MEXICO 505/827-2948

Michael Brown, Acting Chief
New Mexico Radiation Protection
Environmental Improvement Division
P. O. Box 968
Santa Fe, NM 87504-0968

NEW YORK - 718/797-7642

Francis J. Bradley, Phd.
New York Department of Labor
Division of Safety and Health
1 Main Street, Room 813
Brooklyn, New York 11201

NORTH CAROLINA 919/733-4283

Dayne H. Brown, Director
Division of Facility Services
Radiation Protection Section
701 Barbour Drive
Raleigh, NC 27605

NORTH DAKOTA 701/224-2374

Gene Christensen
North Dakota Department of Health
Division of Environmental Engineering
1200 Missouri Avenue
Bismark, ND 58502

OHIO

SEE USNRC REGION III, PAGE 4

OKLAHOMA

SEE USNRC REGION IV, PAGE 4

OREGON 503/229-5797

Mr. Ray Paris
Oregon State Board of Health
Radiological Health Section
1400 SW Fifth Avenue
Portland, OR 97201

PENNSYLVANIA

SEE USNRC REGION I, PAGE 4

RHODE ISLAND 401/277-2438

James E. Hickey, Chief
Rhode Island Department of Health/
Division of Occupational Health &
Radiation
Cannon Bldg., 75 Davis Street
Providence, RI 02908

SOUTH CAROLINA 803/734-4700

Virgil Autry
South Carolina Dept. of Health
and Environmental Control
Bureau of Radiological Health
2600 Bull Street
Columbia, SC 29201

SOUTH DAKOTA

SEE USNRC REGION IV, PAGE 4

TENNESSEE 615/741-7812

Johnny Graves
Tennessee Dept. of Public Health
Division of Radiation Health
Cordell Hull Building
Nashville, TN 37219

TEXAS 512/835-7000

Joe Klinger
Department of Health
Bureau of Radiation Control
1100 W. 49th Street
Austin, TX 78756

UTAH 801/538-6734

Larry Anderson, Director
State Dept. of Health
Bureau of Radiation Control
P. O. Box 16700
Salt Lake City, UT 84116-0700

VERMONT

SEE USNRC REGION I, PAGE 4

VIRGINIA

SEE USNRC REGION II, PAGE 4

WASHINGTON 206/753-3469

Terry Strong, Head
Department of Social & Health Service
Radiation Control Program
Mail Stop LD-11
Olympia, WA 98504

WEST VIRGINIA

SEE USNRC REGION II, PAGE 4

WISCONSIN

SEE USNRC REGION III, PAGE 4

WYOMING

SEE USNRC REGION IV, PAGE 4

REGION I 215/337-5000

John Glenn
Materials Licensing Section
631 Park Ave.
King of Prussia, PA 19406

REGION II 404/331-7438

Earl Wright
Material Radiation Protection SC
101 Marietta St., Suite 2900
Atlanta, GA 30303

REGION III 312/790-2500

Mike McCann
Materials Licensing Section
799 Roosevelt Road
Glen Ellyn, IL 60137

REGION IV 817/860-8120

Jack Whitten/Joy Marshall
Material Licensing Section
611 Ryan Plaza Dr. Suite 1000
Arlington, TX 76011

REGION V 415/943-3700

Beth Reidlinger
Materials Licensing Section
1450 Maria Lane, Suite 210
Walnut Creek, CA 94596

USNRC WASHINGTON, DC 301/427-4093

John Hickey
U. S. Nuclear Regulatory Commission
Division of Fuel Cycle and Material Safety
Office of Nuclear Material Safety
and Safeguards
Washington, DC 20555

Revised 10/21/87

BETWEEN:

LICENSE FEE MANAGEMENT BRANCH, ARM
AND
REGIONAL LICENSING SECTIONS

(FOR LFMS USE)
INFORMATION FROM LTS

PROGRAM CODE: 03121
STATUS CODE: 3
FEE CATEGORY: _____
EXP. DATE: 0
FEE COMMENTS: _____
DECOM FIN ASSUR REQD: _____
.....

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED
APPLICANT/LICENSEE: ROY F. WESTON, INC. (DATD)
RECEIVED DATE: 960311
DOCKET NO: 3034098
CONTROL NO.: 122985
LICENSE NO.:
ACTION TYPE: NEW LICENSEE

2. FEE ATTACHED
AMOUNT: \$530.00
CHECK NO.: 444911

3. COMMENTS

SIGNED M. A. Perkins
DATE 3/25/96

B. LICENSE FEE MANAGEMENT BRANCH (CHECK WHEN MILESTONE 03 IS ENTERED 1)

1. FEE CATEGORY AND AMOUNT: 3P \$530

2. CORRECT FEE PAID. APPLICATION MAY BE PROCESSED FOR:
AMENDMENT _____
RENEWAL _____
LICENSE ✓

3. OTHER _____

SIGNED Bundy
DATE 4/3/96

Log	<u>Apr 1</u>
Remitter	
Check No.	<u>444911</u>
Amount	<u>\$530</u>
Fee Category	<u>3P</u>
Type of Fee	<u>APP</u>
Check Rec'd	<u>4/3/96</u>
Completed	<u>6/3/96</u>