

NRC Form 313 I (12-81) 10 CFR 30		U.S. NUCLEAR REGULATORY COMMISSION		1. APPLICATION FOR: <i>(Check and/or complete as appropriate)</i> <div style="text-align: right; font-size: 1.2em; margin-top: 10px;">L + L 23553</div>	
APPLICATION FOR BYPRODUCT MATERIAL LICENSE INDUSTRIAL				<input checked="" type="checkbox"/>	a. NEW LICENSE
See attached instructions for details. Completed applications are filed in duplicate with the Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety, and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555 or applications may be filed in person at the Commission's office at 1717 H Street, NW, Washington, D. C. or 7915 Eastern Avenue, Silver Spring, Maryland.				<input type="checkbox"/>	b. AMENDMENT TO: LICENSE NUMBER <div style="font-size: 1.2em; margin-top: 5px;">30-28880</div>
2. APPLICANT'S NAME <i>(Institution, firm, person, etc.)</i> STS D'Appolonia Ltd. (304) 255-0491 TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION				3. NAME AND TITLE OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION Charles B. Gillian, Area Manager TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION (304) 255-0491	
4. APPLICANT'S MAILING ADDRESS <i>(Include Zip Code)</i> <i>(Address to which NRC correspondence, notices, bulletins, etc., should be sent.)</i> 118 Harper Park Drive, Suite J Beckley, WV 25801				5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED <i>(Include Zip Code)</i> Address listed in Item #4 and at temporary jobsites anywhere the NRC maintains jurisdiction.	
(IF MORE SPACE IS NEEDED FOR ANY ITEM, USE ADDITIONAL PROPERLY KEYED PAGES.)					
6. INDIVIDUAL(S) WHO WILL USE OR DIRECTLY SUPERVISE THE USE OF LICENSED MATERIAL <i>(See Items 16 and 17 for required training and experience of each individual named below)</i>					
FULL NAME			TITLE		
a. Only those personnel who, as a minimum, have completed the manufacturer's training program or equivalent, demonstrated their knowledge in safe use of the equipment, b. and have been designated by the radiation protection officer will be allowed to operate the equipment. c.					
7. RADIATION PROTECTION OFFICER Charles B. Gillian			Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under Item 15.		
8. LICENSED MATERIAL					
LINE NO.	ELEMENT AND MASS NUMBER	CHEMICAL AND/OR PHYSICAL FORM	NAME OF MANUFACTURER AND MODEL NUMBER <i>(If Sealed Source)</i>	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTIVITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME	
(1)	Cs 137	Sealed Source	Troxler Electronics #A102112	9 mci (3400 series)	
(2)	AM 241:Be	Sealed Source	Troxler Electronics #A102451	44 mci (3400 series)	
(3)	Ra 226:Be	Sealed Source	Troxler Electronics #A100280	2 mci (2400 series)	
(4)					
DESCRIBE USE OF LICENSED MATERIAL E					
(1)	Used in Troxler 3400 series moisture-density gage				
(2)	Used in Troxler 3400 series moisture-density gage				
(3)	Used in Troxler 2400 series moisture density gage				
(4)					

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9. STORAGE OF SEALED SOURCES						
LINE NO.	CONTAINER AND/OR DEVICE IN WHICH EACH SEALED SOURCE WILL BE STORED OR USED. A.	NAME OF MANUFACTURER B.	MODEL NUMBER C.			
(1)	Moisture-Density Gage Source Housing	Troxler Electronics	3400 series &			
(2)			2400 series			
(3)						
(4)						

10. RADIATION DETECTION INSTRUMENTS						
LINE NO.	TYPE OF INSTRUMENT A.	MANUFACTURER'S NAME B.	MODEL NUMBER C.	NUMBER AVAILABLE D.	RADIATION DETECTED (alpha, beta, gamma, neutron) E.	SENSITIVITY RANGE (milliroentgens/hour or counts/minute) F.
(1)						
(2)			N/A			
(3)						
(4)						

11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10	
<input checked="" type="checkbox"/> a. CALIBRATED BY SERVICE COMPANY NAME, ADDRESS, AND FREQUENCY Troxler Electronic Laboratories, Inc. P.O. Box 12057 Research Triangle Park, NC 27709	<input type="checkbox"/> b. CALIBRATED BY APPLICANT Attach a separate sheet describing method, frequency and standards used for calibrating instruments. N/A

12. PERSONNEL MONITORING DEVICES		
TYPE (Check and/or complete as appropriate.) A.	SUPPLIER (Service Company) B.	EXCHANGE FREQUENCY C.
<input checked="" type="checkbox"/> (1) FILM BADGE <input type="checkbox"/> (2) THERMOLUMINESCENCE DOSIMETER (TLD) <input type="checkbox"/> (3) OTHER (Specify): _____ _____ _____	R.S. Landauer, Jr. and Company Division of Tech/Ops, Inc. 2 Science Road Glenwood, IL 60425-1586	<input checked="" type="checkbox"/> MONTHLY <input type="checkbox"/> QUARTERLY <input type="checkbox"/> OTHER (Specify): _____ _____ _____

13. FACILITIES AND EQUIPMENT (Check were appropriate and attach annotated sketch(es) and description(s).)
<input checked="" type="checkbox"/> a. LABORATORY FACILITIES, PLANT FACILITIES, FUME HOODS (Include filtration, if any), ETC. <input type="checkbox"/> b. STORAGE FACILITIES, CONTAINERS, SPECIAL SHIELDING (fixed and/or temporary), ETC. <input type="checkbox"/> c. REMOTE HANDLING TOOLS OR EQUIPMENT, ETC. <input type="checkbox"/> d. RESPIRATORY PROTECTIVE EQUIPMENT, ETC.

14. WASTE DISPOSAL
a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED N/A
b. IF COMMERCIAL WASTE DISPOSAL SERVICE IS NOT EMPLOYED, SUBMIT A DETAILED DESCRIPTION OF METHODS WHICH WILL BE USED FOR DISPOSING OF RADIOACTIVE WASTES AND ESTIMATES OF THE TYPE AND AMOUNT OF ACTIVITY INVOLVED. IF THE APPLICATION IS FOR SEALED SOURCES AND DEVICES AND THEY WILL BE RETURNED TO THE MANUFACTURER, SO STATE. Sealed sources will be returned to the manufacturer.

INFORMATION REQUIRED FOR ITEMS 15, 16 AND 17

Describe in detail the information required for Items 15, 16 and 17. Begin each item on a separate page and key to the application as follows:

15. **RADIATION PROTECTION PROGRAM.** Describe the radiation protection program as appropriate for the material to be used including the duties and responsibilities of the Radiation Protection Officer, control measures, bioassay procedures *(if needed)*, day-to-day general safety instruction to be followed, etc. If the application is for sealed source's also submit leak testing procedures, or if leak testing will be performed using a leak test kit, specify manufacturer and model number of the leak test kit.

16. **FORMAL TRAINING IN RADIATION SAFETY.** Attach a resume for each individual named in Items 6 and 7. Describe individual's formal training in the following areas where applicable. Include the name of person or institution providing the training, duration of training, when training was received, etc.
 - a. Principles and practices of radiation protection. Troxler Electronic Labs., Inc. two day training.
 - b. Radioactivity measurement standardization and monitoring techniques and instruments.
 - c. Mathematics and calculations basic to the use and measurement of radioactivity.
 - d. Biological effects of radiation.

17. **EXPERIENCE.** Attach a resume for each individual named in Items 6 and 7. Describe individual's work experience with radiation, including where experience was obtained. Work experience or on-the-job training should be commensurate with the proposed use. Include list of radioisotopes and maximum activity of each used.

18. CERTIFICATE

(This item must be completed by applicant)

Sept-2-II

Applicant.....	
Check No. <i>288</i>	
Amount/Fee Category <i>\$230</i>	<i>3P</i>
Type of Fee <i>APP</i>	
Date <i>9/16/85</i>	
Received By <i>Jacques</i>	

The applicant and any official executing this certificate on behalf of the applicant named in Item 2, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 30, and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

WARNING.—18 U.S.C., Section 1001; Act of June 25, 1948; 62 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.

a. LICENSE FEE REQUIRED: <i>(See Section 170.31, 10 CFR 170)</i>	b. CERTIFYING OFFICIAL <i>(Signature)</i> <i>Charles B. Gillian</i>
\$230.00	c. NAME <i>(Type or print)</i> Charles B. Gillian
(1) LICENSE FEE CATEGORY: <i>3P</i>	d. TITLE Area Manager
(2) LICENSE FEE ENCLOSED: \$ 230.00	e. DATE 4/15/85

APPLICATION FOR BYPRODUCT MATERIAL LICENSE
SUPPLEMENTAL INFORMATION

7. Resume of radiation protection officer's training and experience to also include any individuals who have completed the manufacturer's training course and have been instructed in our operating and emergency procedures.

Formal training in Radiation Safety

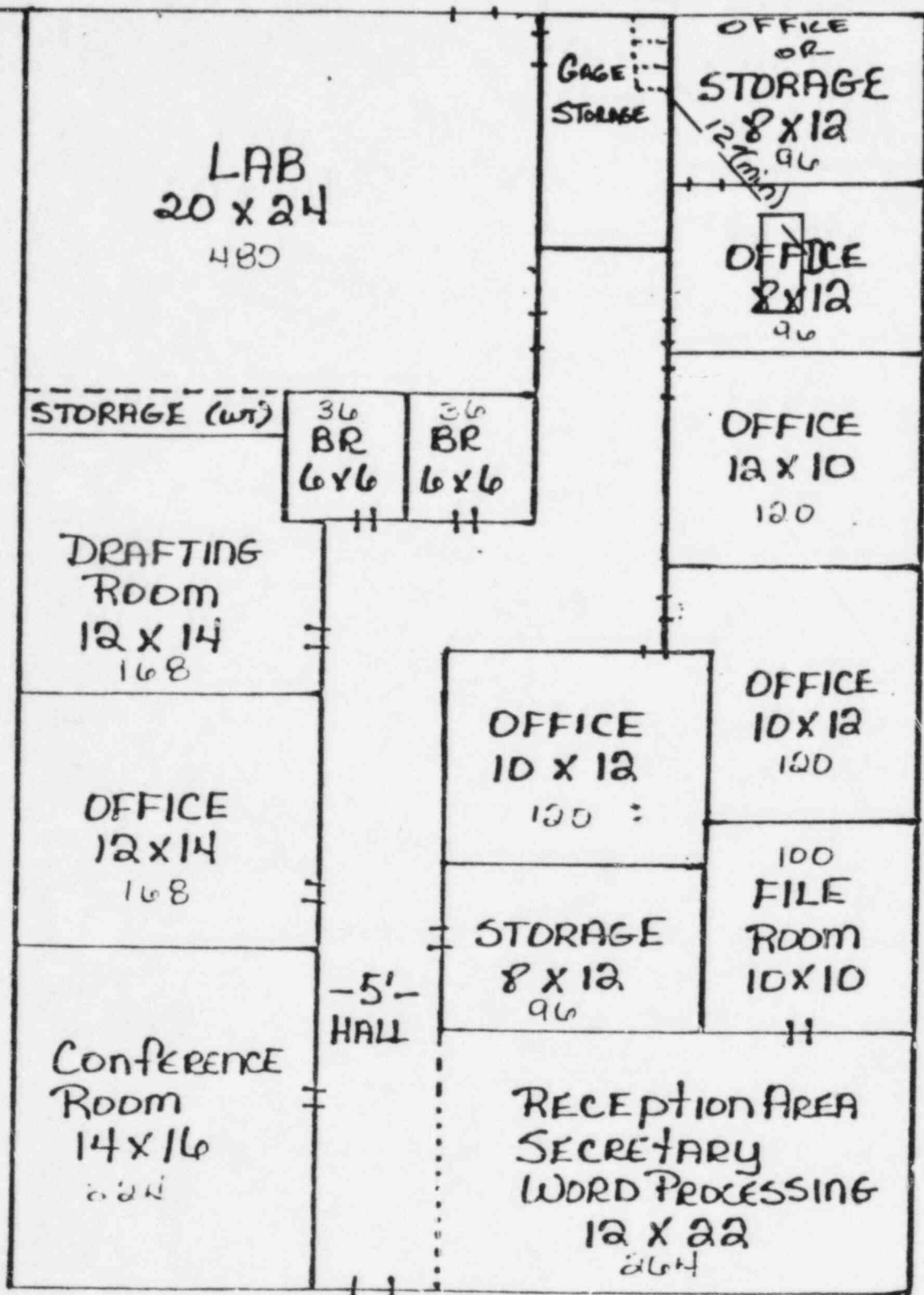
Trainer: Troxler Electronics Laboratories, Inc.
- Two day training course in 1977

Subjects covered in course - see attached certificate

APPLICATION FOR BYPRODUCT MATERIAL LICENSE
SUPPLEMENTARY INFORMATION

13. (a) Permanent storage area for gauges including means of preventing unauthorized removal from designated storage area training and experience.
 1. See attached sketch
 2. Doors leading to the storage rooms remain locked to unauthorized personnel.

REAR ENTRANCE



FRONT ENTRANCE

N.T.S.

STS D'APPOLONIA BECKLEY OFFICE FLOORPLAN

TITLE

JOB NO.

SHOWING NUCLEAR GAGE STORAGE

DATE

DRAWN BY

APPROVED BY

SCALE



STS D'Appolonia Ltd.
FIGURE SHEET

APPLICATION FOR BYPRODUCT MATERIAL LICENSE
SUPPLEMENTARY INFORMATION

15.a. STS D'APPOLONIA LTD. GROUP RADIATION PROTECTION PROGRAM

The following instructions and procedures shall be implemented by all personnel to insure the safe use of the nuclear gauging devices.

A. Handling Procedures

1. Do not operate or attempt to operate the instrument unless you have been authorized to do so.
2. Keep the source position in the "SAFE" or stored position when not in use.
3. Wear a Film Badge or other dose measurement device when using or transporting the instrument.
4. While exposure dose levels are well within limits for radiation workers, never expose yourself to the bare source without sufficient reason for justification of the additional dose.
5. Keep all unauthorized persons out of the immediate operating area. The general public must not be unnecessarily exposed to radiation.
6. Maintain security of the instrument at all times. The source lock shall be in place when not in use and the instrument should be kept in a locked vehicle when transported. When stored, the area shall be locked. Not only is it an expensive piece of equipment but, if stolen, could be abandoned under conditions which could be hazardous to the general public.
7. Follow all standard operating procedures, and report any you feel are unsafe.
8. Insure that the gauge has had leak test measurements at the proper intervals (less than 6 months) as required by your Radioactive Materials License.
9. If you have any doubts about use of the instrument, ASK. Our Radiological Safety Officer either has the answer or can obtain one.

B. Security

Locks shall be maintained on radiographic equipment to prevent

accidental exposure of a sealed source when not under the direct supervision of approved personnel. Storage containers shall be physically secured (locked room, trailer, or vehicle) to prevent tampering or removal by unauthorized personnel. When not secured (during usage), the user shall not leave the gauges unattended.

C. Personnel Monitoring

The licensee shall not permit any person to use this equipment unless at all times the user is in the possession of a film badge dosimeter or pocket chamber.

D. Records and Reports

1. A biannual inventory to account for all sealed sources received and possessed under the license shall be performed. The record shall be maintained for inspection.
2. All sealed sources shall be tested at the interval required by the license. When transferred, in the absence of a certificate, the source shall not be put into use until tested.
3. Reports from film badge services shall be maintained for inspection.
4. When an individual terminates employment, a record of his total received dose shall be made available to the employee.

E. Incidents

1. Immediate telephone notification must be made to the following in the event of loss of sealed source, whether accidental or due to theft.
 - A. Company Radiological Safety Officer
 - B. U.S. NRC Regional Office, if applicable.
 - C. State Health Department
 - Radiological Protection Division if applicable.
 - D. Local Authorities
 - Fire Dept., Sheriff, Police, State Highway Patrol if necessary
 - E. Troxler Electronic Laboratories, if necessary.

Within 30 days after the loss, a written report must be filed giving detailed description of the source, circumstances of the loss, statement of disposition, possible radiation exposures or hazard, actions taken to recover the source, and procedures which will be implemented to prevent a recurrence of the loss or theft.

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2. Any overexposure of operators which exceeds the limits given in 10 CRF part 20, shall be reported detailing circumstances of the exposure and possible injury.

F. Emergency Procedures

1. In the event of physical damage to gauge, a fifteen (15) feet radius exclusion area should be maintained until the extent of source damager (if any) is determined. If a vehicle is involved, it must be stopped and remain stopped until the extent of contamination hazard (if any) is determined. If visual examination of the instrument indicates damage to the source, including fracture of the weld, the appropriate authorities and Troxler Electronic Lab should be notified of the source prior to shipment to the factory.
2. Provision should be made to have the site surveyed for possible contamination after the instrument is removed. Disposition by the factory, as covered in Item 15 of the license may be arranged after a leak test has been performed to determine the integrity of the source prior to shipment to the factory.

G. Transport by Private Motor Vehicle

The equipment, in its container, may be transported by motor vehicle under the "YELLOW II" label without placarding the vehicle as required by 40 CRF 177.823.

The source rod lock must be in place and the container placed in a portion of the vehicle which can be locked. When not in transit the equipment should be stored in a secured area.

Since the container has a Transport Index of 0.1 or greater it may not be stored less than 30 centimeters from passengers per 49 CRF 174.586. It also can not be stored for more than 8 hours at less than 1 meter from undeveloped film.

H. Leak Test Kit

The leak test kit may be used by any employee who has completed the Troxler two day training course or equivalent. The Troxler type 3880 Leak Test Kit (part number 102868) or similar kit shall be used. The 3880 kit contains an instruction manual, pair of metal tongs, wood dowel, solvent, and five leak test packets. Each packet contains: 1) pre-addressed envelope, 2) leak test form, 3) plastic bag, 4) self-adhesive label, and 5) 55mm filter paper. The instruction manual should be read prior to use of the kit.

Using a ball point pen, write the gauge type, serial number and source serial numbers around the edge of the filter paper. Since

this instrument contains two sealed sources, both areas must be wiped with the same piece of filter paper.

Remove the electronic module. Wet the filter paper with solvent. Looking into the gauge cavity, a yellow and magenta label will be seen just forward of the printed circuit board assembly. Using the tongs and dowell wipe this label with the filter paper. After wiping the first source, the filter must not be touched with any part of the hands.

With the gauge on its side and base away from the operator, position the handle in the 4 inch direct transmission position. Using the tongs and wood dowel for pressure, wipe the weld area above the source rod tip with the filter paper. Retract the source and sit the gauge in an upright position.

Lay the filter paper on a paper towel and allow it to air dry in a flat position before sealing in the plastic envelope. While drying is taking place, complete all requested information on both the plastic bag label and the leak test analysis form. Please type or print legibly to insure that all information is readable. When dry, place the filter paper in the plastic bag using the tongs and press the seal to close. Attach the completed plastic bag label to the bag. Retain the middle copy of the form as your record of having made the leak test. Place the plastic bag and the two remaining copies of the form in the pre-addressed envelope provided, put your return address on the outside, seal, stamp, and mail to:

Troxler Electronic Laboratories, Inc.
Attn: Radiation Safety Department
P.O. Box 12057
Research Triangle Park, NC 27709

or for overnight shipping

Troxler Electronic Laboratories, Inc.
Attn: Radiation Safety Department
Cornwallis Road and Alexander Drive
Research Triangle Park, NC 27709

I. Maintenance On Gages

All maintenance on gauges involving dismantling, removal of source holder(s), etc. must not be performed by STS D'Appolonia Ltd. and must only be performed by the gauge manufacturer.

APPLICATION FOR BYPRODUCT MATERIAL LICENSE
SUPPLEMENTARY INFORMATION

15.b. RADIATION PROTECTION OFFICER

Charles B. Gillian

Area Manager

Duties and Responsibilities as Radiation Protection Officer

1. Coordinating the safe use of the nuclear gauging devices including:
2. Compliance with title 10 CFR parts 19, 20, 30, 71 and all applicable Department of Transportation Regulations.
3. Assuring that the byproduct materials possessed under the license conform to the materials listed under the license.
4. Assuring that the use of the gauge(s) (particularly in the field) is only by individuals authorized by the license or persons having completed acceptable training.
5. Assuring that all users wear personnel monitoring equipment when using the gauge(s).
6. Assuring that the gauge(s) are properly secured against unauthorized removal at all times.
7. To serve as point of contact and give assistance in case of emergency (gauge damage in the field, fire, theft, etc.) to insure all proper authorities (NRC, local police, state personnel, etc.) are notified promptly in case of accident or damage to gauge(s).
8. Assuring that the terms and conditions of the license are met, such as:
 - a. Periodic leak tests are performed.
 - b. All required records are kept and reviewed periodically for compliance with regulations including source certificate, leak test records, personnel exposure records, and transfer of radioactive materials.

TROXLER ELECTRONIC LABORATORIES, INC.

HEREBY CERTIFIES THAT

CHARLES GILLIAN

of

D'APPOLONIA CONSULTING ENGINEERS

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

Gauge Operation

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

Harvey Dunbar
INSTRUCTOR

2/3-4/77
DATE

William F. Troxler
PRESIDENT

TROXLER ELECTRONIC LABORATORIES, INC.

HEREBY CERTIFIES THAT

MIKE SLOAN

of

D'APPOLONIA CONSULTING ENGINEERS, INC.

HAS SUCCESSFULLY COMPLETED THE TROXLER ELECTRONIC LABORATORIES, INC.
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Gauge Operation

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| 3. Maintenance | |

Alan L. Eckard
INSTRUCTOR

3/13-14/80
DATE

WILLIAM F. TROXLER
PRESIDENT

TROXLER ELECTRONIC LABORATORIES, INC.

HEREBY CERTIFIES THAT

FRED VASS

of

D'APPOLONIA CONSULTING ENGINEERS

HAS SUCCESSFULLY COMPLETED THE TROXLER ELECTRONIC LABORATORIES, INC.
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Gauge Operation

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

Harvey Dismery
INSTRUCTOR

1/29-30/79
DATE

WILLIAM F. TROXLER
PRESIDENT

TROXLER ELECTRONIC LABORATORIES, INC.

HEREBY CERTIFIES THAT

RANDALL FORMICA

of

D'APPOLONIA CONSULTING ENGINEERS

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

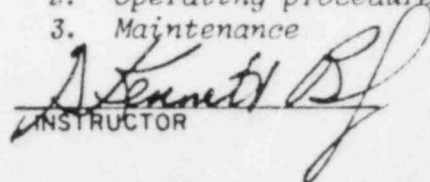
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Gauge Operation

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| 1. Instrument theory | 4. Field application |
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| 3. Maintenance | |


INSTRUCTOR

8/26-27/81
DATE

W. F. TROXLER
PRESIDENT

TROXLER ELECTRONIC LABORATORIES, INC.

HEREBY CERTIFIES THAT

MICHAEL WOOLDRIDGE

of

DE' APPOLONIA

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

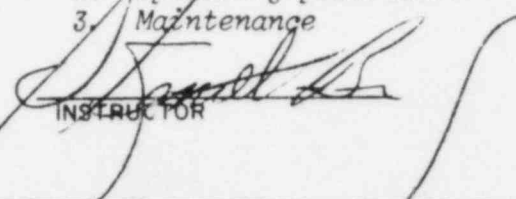
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Gauge Operation

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| 2. Operating procedures | 5. Gauge calibration |
| 3. Maintenance | |


INSTRUCTOR

6/7/84

DATE

W. F. TROXLER

PRESIDENT

No 7296