



**Professional Service Industries, Inc.**  
Corporate Office

October 19, 1987

Ms. Pat Vacherlon  
U.S. Nuclear Regulatory Commission  
Region III  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

RE: License 12-16941-01

Dear Ms. Vacherlon:

Please find enclosed the latest revisions (1-7) to our nuclear program submitted for your approval.

If you have any questions, please do not hesitate to contact me.

Very truly yours,

PROFESSIONAL SERVICE INDUSTRIES, INC.

*James T. Stoutland*

James T. Stoutland  
Assistant Corporate Radiation  
Safety Officer

JTS/jch

Enclosure

Log *Oct 20 1987*  
Remitter  
Check No. *153512*  
Amount *\$60*  
Fee Category *3P*  
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Det. Completed *10/21/87*  
By: *[Signature]*  
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S.O.P. #F-98

PROFESSIONAL SERVICE INDUSTRIES, INC.

NUCLEAR MOISTURE/DENSITY GAUGE

ADMINISTRATIVE MANUAL

JANUARY 1987

(REVISION 0)

CONTROL NO. 84337

## PROFESSIONAL SERVICE INDUSTRIES, INC.

LIST OF REVISIONS  
(ADMINISTRATIVE MANUAL)

[illegible]

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#### F. RECORDS FOR TRANSFERRED GAUGES

When permanently transferring a gauge to another office, the sending office must retain its utilization logs for a period of one (1) year after shipping. The following should be shipped to the new office with the gauge:

- a) One copy of all leak test certificates.
- b) Information Pouch.
- c) All gauge accessories.

Also, a gauge being transferred to another office is assumed to be in good operating condition. If it is not, the receiving office will send the gauge in for repair. The shipping office will continue to be charged the monthly rate until that gauge is in the new location in working operation.

A gauge must also be in good repair in order to be put on the CRSO's waiting list to find it a new location.

#### X. BI-ANNUAL INSPECTION BY VICE PRESIDENTS II - FORM RA-X(1)

Bi-annual inspections will be performed in each office by their Vice President II. A copy of the Inspection Form, RA-X(1) may be found in the Master Copies Section, page 61. The Branch RSO will counter sign the Inspection Form with the Vice President II. The original shall be sent by normal mail to the CRSO. A copy should be kept in the local office.

#### XI. NUCLEAR DOCUMENTS ENVELOPE

All documents relating to radioactive materials sent to the Corporate Office shall be placed in the Nuclear Documents Envelope. (See page 44.) The Nuclear Documents Envelope shall then be placed in the envelope in which the regular mail is sent to the Corporate Office. Additional nuclear envelopes are available from the Corporate Office.

#### XII. GUIDELINE OF DISCIPLINARY ACTION

The following system of disciplinary action will be administered by the Corporate Office.

Each managers performance will be monitored. A copy of all disciplinary letters and monetary fines will be maintained in the employees personnel file which will be checked each time a letter or fine is entered. If more than five (5) entries are made during a three year period, the employee will be terminated.

The employee file will be audited every three years and if no entry has been made during the last one year, the employees record will be cleared.

All fines will be deducted from the employees payroll check by the Corporate Office Accounting Department.

NONCONFORMANCE ACTION

CORPORATE REACTION

Allowing non-certified personnel to use radioactive equipment in other than supervised training.

BRSO dismissed

Allowing gauges to be stored in an unrestricted-unsecured area.

BRSO - \$100.00 fine

Nonperformance of Leak Tests and not forwarding Form RA-IV to the CRSO within five (5) working days of the end of the test month.

A warning letter will be sent to the BRSO with copies to the Division Manager and Vice President II.

If after ten (10) working days from the date of above warning letter the RA-IV form is still not received by the CRSO.

BRSO - \$25.00 fine

The above fine is repeated each ten (10) days the RA-IV form is not received by the CRSO.

Not furnishing the Corporate Office with the proper PSI gauge transfer forms within 10 working days:

A warning letter will be sent to the BRSO with copies to the Division Manager and Vice President II.

By the Shipping and/or Receiving Office:

One month after shipping and/or receiving date...

BRSO - \$25.00 fine and letter to Division Manager

Two months after shipping and/or receiving date...

BRSO - \$50.00 fine  
Division Manager - \$25.00 fine  
& letter to Vice President II.

Three months after shipping and/or receiving date...

BRSO - \$100.00 fine  
Division Manager - \$50.00 fine  
Vice President II - \$25.00 fine

## NONCONFORMANCE ACTION

## CORPORATE REACTION

Non-submittal of Utilization Log Summary to CRSO within ten (10) days of cut-off date (which will be the 15th and last day of each month.

Warning letter sent to BRSO with copies sent to the Division Manager and Vice President II.

7

20 days after cut-off date...

BRSO - \$25.00 fine and letter to Division Manager

30 days after cut-off date...

BRSO - \$50.00 fine  
Division Manager - \$25.00 fine & letter to Vice President II.

7

40 days after cut-off date...

BRSO - \$100.00 fine  
Division Manager - \$50.00 fine  
Vice President II - \$25.00 fine

7

Non-response to Corporate Office correspondence (quarterly inventory, response to inspection nonconformities, etc.) by the date indicated on that correspondence.

BRSO - \$25.00 fine with letter copied to Division Manager and Vice President II.

7

Each ten (10) days after the original response date...

BRSO, Division Manager and Vice President II - \$50.00 fine

7

Non-submittal of film badges to processing company and packing slip to CRSO within ten (10) days of the appropriate interval.

Warning letter sent to BRSO with copies to Division Manager and Vice President II for first violation.

7

Each subsequent 10 days...

BRSO - \$25.00 fine for each ten (10) days.

PROFESSIONAL SERVICE INDUSTRIES, INC.

VICE PRESIDENT'S BI-ANNUAL INSPECTION FORM

Branch Moisture Density Gauges

Fill in the blanks. Check yes or no - if "no" is checked explain in detail on the reverse side of this Inspection Form. Make a copy of this completed form for your records, and send the original to the CRSO.

BRANCH INSPECTED: \_\_\_\_\_ DATE: \_\_\_\_\_

GAUGES

Serial Numbers of Gauges in possession: \_\_\_\_\_

	YES	NO
1) Gauges stored properly?	_____	_____
2) Gauge cases properly marked (Decals & Stenciled)?	_____	_____
3) Gauge Information Packets complete?	_____	_____
4) Gauge storage area locked and secured?	_____	_____

OFFICE RECORDS

5) Leak Test Log for each gauge up to date?	_____	_____
6) Utilization Log for each gauge up to date?	_____	_____
7) Qualified Personnel List up to date?	_____	_____
8) Monthly Film Badge Reports kept for 3 years?	_____	_____
9) Proper shipping forms in each gauge file?	_____	_____
10) Copy of state Rules & Regulations on file or appropriate posting alternative?	_____	_____

OFFICE POSTING REQUIREMENTS

11) Appropriate license posted?	_____	_____
12) Appropriate Regulatory Agency's "Notice to Employees" posted?	_____	_____
13) Radiation Training Certificates posted?	_____	_____
14) Latest Dosimetry Report posted?	_____	_____
15) Notices of noncompliance (if any) posted?	_____	_____
16) Radiation Warning Signs posted?	_____	_____

USERS OF GAUGES

17) All are certified?	_____	_____
18) All carry Certification Cards?	_____	_____
19) All are assigned film badges?	_____	_____
20) All carry info pouches & kept in proper place?	_____	_____

\_\_\_\_\_  
Branch RSO Signature

\_\_\_\_\_  
Vice President Signature

NOTE: For your convenience, upon request, plastic pouches will be provided by the Corporate Office in which to store all of the above documents.

- C. TRANSPORTING - PSI VEHICLES - While being transported to the project site, another office, or to a repair facility, all gauges must be securely fastened in their case, and chained to the rear of the vehicle. This not only limits movement, but also unauthorized removal. According to Code of Federal Regulation, Title 49-172.504, this qualifies the gauge as a "Yellow-II" material. No placard (sign) is necessary on the vehicle if this requirement is satisfied.

1. SENDING LETTER (FORM RA-I) - A sending letter is required when shipping a gauge to another office. Notify the CRSO prior to shipping the gauge. Three (3) copies of the completed sending letter, Form RA-I (to be copied on sending office letterhead), should be made and distributed as follows (See page 20):

- a) The original should be kept for sending office records.
- b) One copy should be sent to the receiving office with the key to the gauge box and source rod.
- c) One copy should be placed inside the gauge case.
- d) One copy should be sent to the CRSO.\*

All of the above copies should be mailed, by regular mail, the same day the gauge is shipped.

\*NOTE: The full rental fee for the gauge will be charged to the assigned office until Form RA-I is received by the CRSO.

2. REPAIR LETTER (FORM RA-IA) - A repair letter is required when shipping a gauge to a repair facility. Notify the CRSO prior to shipping the gauge. Three (3) copies of the completed repair letter, Form RA-IA (to be copied on sending office letterhead), should be made and distributed as follows (See page 21):

- a) The original should be kept for sending office records.\*
- b) One copy should be sent to the repair facility with the key to the gauge and source rod.
- c) One copy should be placed inside the gauge case.
- d) One copy should be sent to the CRSO.

All of the above copies should be mailed, by regular mail, the same day the gauge is transported.

- b) Complete new Form **RA-III** (See page 24) to reflect the present office and insert it in the plastic pouch. Remove previous Form **RA-III**.
- c) Insert a copy of the office license in the plastic pouch.
- d) Insert an emergency procedures form entitled "IN EVENT OF AN ACCIDENT". (See Form **RA-IX**, page 60.)

If a new gauge is received, contact the Corporate Office and request a plastic pouch. Insert the items specified in paragraphs (a), (b), (c), and (d) above.

**D. TRANSPORTING - PERSONAL VEHICLE** - While being transported to the jobsite, another office, or to a repair facility, all gauges must be securely fastened in their case in the trunk of the vehicle. According to Code of Federal Regulation, Title 49-172.504, this qualifies the gauge as a "Yellow-II" material. No placard (sign) is necessary on the vehicle if this requirement is satisfied. If the personal vehicle is a pick-up truck, the procedures outlined in paragraph C. above, "Transporting - PSI Vehicles", will apply. If the personal vehicle does not have a trunk (A hatchback model automobile, for example), the gauge-in its case, shall be placed as far to the rear of the vehicle as possible and blocked to discourage movement while driving.

**1. SENDING LETTER (FORM RA-I)** - Required when shipping a gauge to another office. Notify the CRSO prior to shipping the gauge. Three (3) copies of the completed sending letter, Form **RA-I** (to be copied on sending office letterhead), should be made and distributed as follows (See page 20):

- a) The original should be kept for sending office records.
- b) One copy should be sent to the receiving office with the key to the gauge box and source rod.
- c) One copy should be placed inside the gauge case.
- d) One copy should be sent to the CRSO.\*

All of the above copies should be mailed, by regular mail, the same day the gauge is shipped.

**\*NOTE:** The full rental fee for the gauge will be charged to the assigned office until Form **RA-I** is received by the CRSO.

**2. REPAIR LETTER (FORM RA-Ia)** - Required when shipping a gauge to a repair facility. Notify the CRSO prior to shipping the gauge. Three (3) copies of the completed repair letter, Form **RA-Ia** (to be copied on sending office letterhead), should be made and distributed as follows (See page 21):

- a) The original should be kept for sending office records.\*
- b) One copy should be sent to the repair facility with the key to the gauge and source rod.
- c) One copy should be placed inside the gauge case.
- d) One copy should be sent to the CRSO.

3

All of the above copies should be mailed, by regular mail, the same day the gauge is shipped.

\*NOTE: Include on this form only the nature of the problem with the gauge. Do not request service to be done. Only recalibration may be requested and only if it has been approximately two (2) years from the last calibration.

If the gauge is to be shipped by the repair facility to another location, when the repairs are completed, contact the CRSO, and then place the address of that location in the appropriate space on Form RA-Ia. Then ship the gauge to one of the repair locations listed on page 42.

3. **RECEIVING LETTER (FORM RA-II)** - A receiving letter is required from the office that receives a gauge (to be copied on receiving office letterhead), Form RA-II (See page 22). Address it to either the shipping office, repair facility, or manufacturer (if a new gauge), and distribute two (2) copies as follows:

- a) The original should be kept for receiving office records.
- b) One copy should be sent to the shipping office or manufacturer. When a gauge is received directly from a repair facility, if the PSI shipping office is known forward a copy to them. If the PSI shipping office is not known, proceed to step (c).
- c) One copy should be sent to the CRSO.

The above forms should be mailed, by regular mail, the same day the gauge is received.

Also, when a gauge is received from a PSI office or a repair facility, the following must be performed as soon as the gauge is received but prior to use:

- a) Check the plastic pouch inside the gauge case for:
  - 1) Copy of Radioactive Source Certificate (Troxler model gauges only). (See page 34.)

- 2) Copy of latest Leak Test Certificate. (See page 43.)
- 3) Copy of Type A Packaging (case) Certification. (See page 40. Both forms, pages 40 and 41, must be included.)

If any of items 1, 2, or 3 are not in the gauge case, immediately contact the PSI office who previously had the gauge and request appropriate copies. If unavailable, contact the CRSO.

- b) Complete new Form **RA-III** (See page 24) to reflect the present office, and insert it in the plastic pouch. Remove previous Form **RA-III**.
- c) Insert a copy of the office license in the plastic pouch.
- d) Insert an emergency procedures form entitled "IN EVENT OF AN ACCIDENT". (See Form **RA-IX**, page 60.)

If a new gauge is received, contact the Corporate Office and request a plastic pouch. Insert the items specified in paragraphs (a), (b), (c), and (d) above in pouch.

#### E. TRANSPORTING - PUBLIC CARRIER

1. TRUCK - All gauges should be shipped prepaid if transported by commercial truck carrier. The shipping cost will be paid by the Corporate Office. **DO NOT SHIP COLLECT!!** The transporting company should invoice the Corporate Office direct or the sending office. If the sending office is invoiced, they should forward the invoice immediately to the Corporate Office. The invoice should not be coded for payment.

- a) Sending Letter (Form RA-I) - Required when shipping by truck. Distribute as shown under C.1., page 3.

- 1) Complete the sending letter, Form **RA-I**. (See page 20.)

- 2) Complete the Bill of Lading. (See page 23.)

a] Form should be supplied by the trucking firm.

b] Match the following numbered steps to the handwritten numbers on page 23, to complete the Bill of Lading.

- 1] Enter the complete name and address of the receiver.

- 2] Enter the complete name and address of the PSI shipping office.
- 3] Enter the number of gauges to be transported.
- 4] Enter an "X".
- 5] Enter "Radioactive Material  
Special Form, N.O.S.  
Type A Package, T.I.-1.0  
Yellow-II  
UN-2974"

and either

Ra226:Be or Cs137/Am241:Be  
(Contact BRSO or CRSO if unknown.)

- 6] If it is a Troxler gauge in a wood case, enter 90 lbs. If it is a Campbell or Troxler Gauge in a plastic case, enter 60 lbs.
- 7] Sign.
- 8] If transportation charges depend on the declared value of the gauge, state the value as \$1,000.00 each. This may not be required on all forms.

- b) Receiving Letter (Form RA-II) - The procedure to be followed is the same as in Paragraph (C)(3), page 4 of this S.O.P.

2. AIRPLANE - Gauges should be shipped by air only when absolutely necessary. If necessary, specify second day air (which is the same as standard air), rather than overnight air. In most cases, the gauge will travel overnight anyway because the transportation company does not want the nuclear gauge in their facility.

- a) Sending Letter (Form RA-I) or Repair Letter (Form RA-Ia) - Required when shipping gauge by air. Complete sending letter, Form RA-I (See page 20). Distribute as shown under C.1., page 3.
- b) Air Waybill - This should be supplied by the air carrier and is similar to the Bill of Lading form.
- c) Form RA-III - (See page 24). Date the form, list the air waybill number, and complete the consignee name and address. Make three (3) copies and distribute as follows:
  - 1) The original should be kept in the sending office file.

- 2) Two (2) copies should be included with the air waybill.
- 3) One (1) copy should be kept in the gauge case.
- d) Receiving Letter (Form RA-II) - The procedures to be followed are the same as for the receiving forms for shipment by PSI vehicle, Paragraph (C)(3), page 4, of this S.O.P.

F. PACKAGING - CASES - All gauge cases must have the proper labeling affixed. New labels are available from the Corporate Office. (See page 27.)

1. The "Danger" and "Radioactive Yellow-II" labels must be affixed to the case as a set, side by side each other.

Radioactive Yellow-II Label:

1) Troxler Gauges

- a] Contents - This is the type of Isotope used in the gauge. It is obtained from the Radioactive Source Certificate for each gauge. For example, see page 34. "Contents" for Troxler gauge model 2401, serial number 3062, would be Cs/Am:Be.
- b] Activity - This is obtained from the Radioactive Source Certificate for each gauge. Using the same example as in paragraph a] above, the "Activity" would be 7.5/50mCi.
- c] Transport Index - This means the number placed on a package to designate the degree of control to be exercised by the carrier during transportation. For all nuclear gauges, use 0.5 for the Transport Index.

2) Campbell Gauges

- a] Contents - Use Cs/Am:Be.
- b] Activity - Use 10/50mCi.
- c] Transport Index - Use 0.5.

3) Seaman Gauges

- a] Contents - Use Cs/Am:Be.
- b] Activity - Use 8/40mCi.
- c] Transport Index - Use 0.5.

C. A film badge shall be assigned to and worn at all times by every person involved in the use of or transportation of nuclear moisture/density gauges after successful completion of the PSI Radiation Safety Training Program or equivalent.

D. **If a badge is lost or damaged**, an estimated dosage, if any, must be assigned to the badge for that period. It is based upon the individual's use of a nuclear gauge during that period when compared to previous periods of similar usage. Write "lost" or "damaged" next to the badge on the Service Change Order (packing list). Send a letter to the CRSO indicating the estimated dosage (millirems) for the badge participant number and period in question. Keep a copy of the letter for your files.

E. The working procedure for film badges is as follows:

- 1) Each month, the film badge company will send each office new assigned film badges, plus a control and one or more spare film badges.
- 2) As soon as new badges are received, the Branch Radiation Safety Officer shall take all the film badges off the "storage" board and remove the film packets from their holders.

NOTE: It is imperative that badges be changed as soon as the new ones are available. After two (2) weeks, the "exposed" film becomes too vague for the densometer to analyze, thus yielding inconclusive dosages.

- 3) The Branch Radiation Safety Officer shall then place all the new film packets in the holders (except control badges - these are not to be put in holders) by inserting the thicker film portion into the slot. The information flap shall then be folded down and the holder lid closed. If done correctly, the name and information of the assigned badge will be visible.
- 4) All the film packets from the prior month (whether used or not) shall be placed in an envelope and addressed with the label provided with each new shipment. Each badge being sent to the film badge company for processing should be checked off the packing list originally supplied with the used badges to ensure accountability for all badges. Changes can also be made on this list. Note: A transfer is not treated the same as a termination. For a transfer, pencil in the location transferred to, under "change series". The original of the final packing list, which has the same date as the used badges, should then be sent to the CRSO each month, with a copy maintained in the office. The new packing list should be kept until it is time to send in the new badges.

- 5) The processing company will analyze each film packet and send a dosimetry report directly to the office, with a duplicate sent to the CRSO. (See page 38.)

- 6) The BRSO and CRSO will check the results. It is the responsibility of the BRSO to notify the CRSO in writing of any dosage received by an individual while using a spare badge. In case of an overdose, the office will be contacted by telephone.
  - 7) When the film results are received, post them on the storage board.
  - 8) The previous month's report shall be maintained in a file with all other previous dosimetry reports. At least the last three (3) years dosimetry reports must be maintained in the branch office.
  - 9) All unused badges should be held and returned with the used badges.
- F. If an employee is terminated or transferred, the following steps are to be taken.

By either mailing the Service Change Order (packing slip) or by telephone:

- 1) Notify the CRSO of transfer or termination by supplying the following information:
  - a) Employee name.
  - b) Employee Participant ID Number. (First column of Radiation Dosimetry Report, page 38.)
  - c) Location transferred to, if applicable.
  - d) Effective date of transfer or termination.
- 2) If transferred, the employee's film badge should be mailed to him at his new location so he can use his badge until it is transferred by the processing company.
- 3) If the transferred employees' new film badge arrives again at his previous office, mail it to the employee's new office and inform the CRSO.

V. PROCEDURE TO FOLLOW IN CASE OF ACCIDENT - In the event of an accident, the following procedures shall be followed:

- A. Isolate the area.
- B. Do not leave the area unattended.
- C. Notify the BRSO and CRSO.
- D. If you suspect damage to the sealed source and if you cannot contact the CRSO, contact the appropriate regulatory agency (Nuclear Regulatory Agency or state agency depending upon which license you have) by telephone and telegram. Follow-up in writing the next day. See the "IN EVENT OF AN ACCIDENT" form (Form RA-IX, page 60) for appropriate telephone number.
- E. If the source rod does not appear to have been breached, return the gauge to the office. Do a leak test wipe. Isolate the gauge. On confirmation of a non-leaking source, pack and ship the gauge for repair.

PROFESSIONAL SERVICE INDUSTRIES, INC.  
AUTHORIZED NUCLEAR GAUGE REPAIR CENTERS

Campbell Pacific Nuclear Corp. (CPN gauges only)

2830 Howe Road  
Martinez, California 94553

415/228-9770

6185 "D" Shamrock Court  
Dublin, Ohio 43017

614/766-1276

PTL - Inspectorate, Inc. (Troxler only)

850 Poplar Street  
Pittsburgh, Pennsylvania  
Attn: Radiation Records

412/922-4000

2

Nuclear Measurement Services (CPN's)

2750 Northaven, Suite 202  
Dallas, Texas 75229

214/247-0986

NUCLEAR DENSITY GAUGE - UTILIZATION LOG

Form RA-VI

# IN EVENT OF AN ACCIDENT

Page 11 of 12

## ACTIONS TO BE TAKEN BY GAUGE OPERATOR

1. Evacuate and isolate area of accident. Keep all people a minimum of 15 feet away from the entire area of accident.
2. Do not move gauge or other equipment involved with accident.
3. Do not leave area (but stay 15 feet away). Send someone else to call your supervisor to report incident. If you cannot reach your supervisor, contact the Corporate RSO. If you cannot reach the Corporate RSO, report the accident to the phone number in item #7.

## ACTIONS TO BE TAKEN BY BRANCH RSO

4. When report of accident is received by telephone call, confirm that the above actions have been taken. Notify CRSO.
5. Go to site and determine if there is a possibility of damage to source rod. Check:
  - a) Is rod deformed?
  - b) Are there any cracks?
  - c) Can source rod be retracted to shielded position?

### DO NOT TOUCH ROD ITSELF

Notify CRSO at 1-800-323-7205 or 312/990-7972

6. If rod is undamaged, retract to shielded position, pack in case and ship for repair.
7. If rod is suspected to be damaged LEAVE IT ALONE!
  - a) Notify State Police at phone # \_\_\_\_\_\*.
  - b) Notify CRSO at 1-800-323-7205 or 312/990-7972. If you cannot reach the Corporate Radiation Safety Officer, notify the licensing body that governs your area. Find below appropriate phone numbers.

Alabama - 205/261-4378	Kentucky - 502/564-7815	New York - 518/457-2200
Alaska - 202/951-0550	Louisiana - 504/925-4518	N. Carolina- 919/733-3861
Arizona - 602/255-4845	Maryland - 301/243-8700	Ohio - 202/951-0550
Arkansas - 501/661-2136	Massachusetts- 202/951-0550	Oklahoma - 202/951-0550
California- 916/796-3083	Michigan - 202/951-0550	Oregon - 503/229-5797
Colorado(DAY)-303/331-8480	Minnesota - 202/951-0550	Pennsylvania-202/951-0550
" (NIGHT)-303/370-9395	Mississippi(DAY)- 601/354-6657	S. Carolina- 803/253-6488
Florida - 305/297-2095	" (NIGHT)- 601/352-9100	Tennessee - 800-262-3300
Georgia(DAY)-404/656-6905	Missouri - 202/951-0550	Texas - 512/458-7460
" (NIGHT)-404/289-7255	Nebraska(DAY)- 402/471-2168	Utah - 801/538-6333
Idaho - 208/334-5879	" (NIGHT)- 402/471-4545	Virginia - 202/951-0550
Illinois - 217/782-6111	Nevada - 702/295-3343	Washington- 206/682-5327
Indiana - 202/951-0550	New Hampshire- 603/271-3636	W. Virginia- 202/951-0550
Iowa - 515/281-3561	New Jersey - 202/951-0550	Wisconsin - 202/951-0550
Kansas - 913/478-9221	New Mexico - 505/827-9329	

The above agencies will then guide PSI.

\*To be furnished by local office.

PROFESSIONAL SERVICE INDUSTRIES, INC.

LIST OF REVISIONS  
(TRAINING MANUAL)

[illegible]

Course Outline  
Radiation Safety Training Program  
For  
Nuclear Density Gauges

<u>Topic</u>	<u>Alloted Time</u>
I. Gauge Operation	
a. theory	1/2 hr.
b. operation	3/4 hr.
c. maintenance	1/4 hr.
d. field use	
1. soil	1/2 hr.
2. asphalt	1/2 hr.
II. Radiation Safety	
a. principles of radiation safety and general safety	1 hr.
b. shipping and storage	1/4 hr.
c. detection and measurement	1/2 hr.
d. biological effects	1/2 hr.
e. emergency procedures	1/2 hr.
III. Exam	1 hr.

# IN EVENT OF AN ACCIDENT

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## ACTIONS TO BE TAKEN BY GAUGE OPERATOR

1. Evacuate and isolate area of accident. Keep all people a minimum of 15 feet away from the entire area of accident.
2. Do not move gauge or other equipment involved with accident.
3. Do not leave area (but stay 15 feet away). Send someone else to call your supervisor to report incident. If you cannot reach your supervisor, contact the Corporate RSO. If you cannot reach the Corporate RSO, report the accident to the phone number in item #7.

## ACTIONS TO BE TAKEN BY BRANCH RSO

4. When report of accident is received by telephone call, confirm that the above actions have been taken. Notify CRSO.
5. Go to site and determine if there is a possibility of damage to source rod. Check:
  - a) Is rod deformed?
  - b) Are there any cracks?
  - c) Can source rod be retracted to shielded position?

**DO NOT TOUCH ROD ITSELF**

Notify CRSO at 1-800-323-7205 or 312/990-7972
6. If rod is undamaged, retract to shielded position, pack in case and ship for repair.
7. If rod is suspected to be damaged LEAVE IT ALONE!
  - a) Notify State Police at phone # \_\_\_\_\_\*.
  - b) Notify CRSO at 1-800-323-7205 or 312/990-7972. If you cannot reach the Corporate Radiation Safety Officer, notify the licensing body that governs your area. Find below appropriate phone numbers.

Alabama - 205/261-4378	Kentucky - 502/564-7815	New York - 518/457-2200
Alaska - 202/951-0550	Louisiana - 504/925-4518	N. Carolina- 919/733-3861
Arizona - 602/255-4845	Maryland - 301/243-8700	Ohio - 202/951-0550
Arkansas - 501/661-2136	Massachusetts- 202/951-0550	Oklahoma - 202/951-0550
California- 916/796-3083	Michigan - 202/951-0550	Oregon - 503/229-5797
Colorado(DAY)-303/321-8480	Minnesota - 202/951-0550	Pennsylvania-202/951-0550
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CONTROL NO. 84337