



Professional Service Industries, Inc.
Corporate Office

December 27, 1985

Ms. Colleen Casey
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

RE: License 12-16941-01

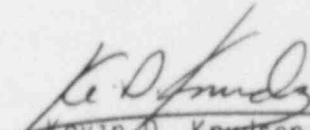
Dear Ms. Casey:

Pursuant to our meeting on December 20, 1985 find attached copies of the statements of the Division Manager and the technician in regard to the vehicular accident.

If you need further information please contact me.

Sincerely,

PROFESSIONAL SERVICE INDUSTRIES, INC.


KEVIN D. KNUDSEN
Corporate Radiation Safety Officer

KDK/jch

enclosure

8601240213 860121
REG3 LIC30
12-16941-01 PDR

DEC 30 1985



Professional Service Industries, Inc.
Michigan Testing Engineers Division

December 20, 1985

Mr. Kevin D. Knudsen
Professional Service Industries, Inc.
1000 Jorie Boulevard
Suite 34
Oak Brook, Illinois 60521

Re: Vehicle Accident
November 15, 1985
13 Mile & Telegraph

Dear Kevin:

As requested, I am writing this letter to outline the events that took place on the evening of November 15, 1985 concerning the vehicle accident involving our company pickup.

Attached are copies of the police report, The Michigan Department of Public Health report, a statement written by Cliff Andrews who was the driver of the truck, the leak test report and the utilization log.

At about 6:00 p.m. that evening a police dispatcher called our office. The phone call was answered by Matt DeBeliso, a PSI employee. The police dispatcher informed Matt that one of our trucks had been in an accident at 13 Mile and Telegraph and that we needed to send a tow truck. The police dispatcher made no comment about a nuclear instrument or about Telegraph being shut down. Matt informed me of the accident so I called our local towing company and had them send a tow truck and I sent another technician in a PSI truck to pick up Cliff and any equipment that was in the truck.

At about 6:30 p.m. Cliff Andrews called me and told me that the local police had closed down Telegraph Road and that they were concerned about the nuclear densometer. Cliff said that he had taken the densometer out of its case and checked it out and that there was no damage. I put Cliff on hold and called the Franklin Police Department and explained what the instrument was. They told me that the instrument could not be moved until the State checked it out. I told the police and Cliff that I would come to the accident site.

Page Two

I took a survey meter and left the office at about 7:00 p.m. I arrived at the site at about 8:15 p.m. and talked to Cliff and Detective David of the Franklin Police Department. I explained to Detective David what the device was and he said that he could not release it until the State checked it out. I told Detective David that there was no need to have Telegraph Road closed down but he decided to keep the road closed.

At about 8:30 p.m. the representative from The Michigan Department of Health arrived on the site. I explained to him what the device was and he was aware that the police had over reacted.

It took The Michigan Department of Health representative about 15 minutes to check out the device. He asked for our shipping documents which we could not produce.

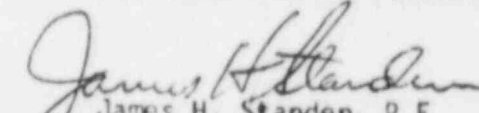
He released the nuclear densometer to me. I put the device in my truck and returned to the lab.

The device was put in our storage room and a leak test performed on November 19, 1985.

If you have any questions or need additional information, please call me.

Very truly yours,

PROFESSIONAL SERVICE INDUSTRIES, INC.
MICHIGAN TESTING ENGINEERS DIVISION


James H. Standen, P.E.
Vice President

JHS/dgd



Professional Service Industries, Inc.
Michigan Testing Engineers Division

December 19, 1985

To Whom It May Concern:

Re: The November 15, 1985
Accident on Telegraph
and 13 Mile Road

On November 15, 1985 I was heading south bound on U.S. 24 at about 5:15 p.m. I was hit in the rear by a car driven by Lorri Jo Ortwein and pushed into the rear of William Pichan's car. I got out of the truck and made sure both Miss Ortwein and Mr. Pichan were alright. I then opened the nuclear density case to inspect the device and it seemed to be undamaged.

The police and fire department arrived at around 5:25 p.m., the police then took Mr. Pichan's statement and the Fire Department took care of Ms. Ortwein. One of the firemen asked "what was in the box?", I responded a nuclear density device and it's use in the construction industry. The fireman reported this to the police officer and he called me over. He then asked what it was and I explained a nuclear density device and it's use. He radioed his station. I also told him that I had checked the device and it appeared to be alright. He then asked how far a safe distance from the device would be, which I replied 15'. The officer then radioed the station requesting the shut down of U.S. 24 and 13 Mile. I asked them to call my office and inform them of the situation.

Detective David of the Franklin Police Department arrived on the scene and asked me if I could and would move the truck to somewhere else. I replied yes. He decided to leave the truck where the accident occurred. He told me to get in his car and took me south of 13 mile on U.S. 24 at a turn around, I told Detective David that as soon as my boss arrived he could test the device and clear up everything. At about 6:30 p.m. Ismat Saleh (an employee of PSI) showed up to pick me up. I then asked Detective David if I could go to a pay phone and call my office, which I did. I got Jim Standen on the phone, (the same time the police did), he told me to wait there and he would be there. I then returned to Detective David and told him that my boss was on his way.

December 19, 1985

Page Two

At about 7:00 p.m. Detective David called me to a police car to talk to The Michigan Department of Health. The gentlemen on the other end of the line asked me what the device was, if I thought it was damaged, and what it was used for. I replied that it was a nuclear density device, it is used in construction for testing compaction of soil and that I did not think the gauge was damaged because it was in it's shipping case and the case was not damaged. The case was chained to the bed of the truck. I also told him that I had opened the case to inspect the device and everything looked alright. He then talked to Detective David and he was told that someone was on the way to test for leaks.

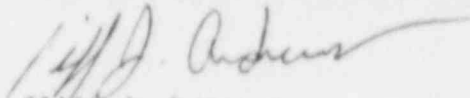
At about 8:20 p.m. Jim Standen of Professional Service Industries arrived and informed Detective David that he was there to check the device for leaks. I asked Jim Standen if he wanted me to go with him and he replied yes. We went down to the truck and checked to see if the device was damaged. We returned to Detective David and informed him there were no signs of radioactive leaks, he replied he could not release the device until The State of Michigan man tested it.

At about 8:40 the man from the State of Michigan showed up. Jim Standen told him we had checked it, he replied he would have to check it also. He asked what it was and Jim Standen replied a nuclear density device. Jim Standen, the government man and I went down to the truck where he tested the gauge and said it was alright. He then asked me for the shipping records which I thought were in the glove box, but they were not there. I had left them in the truck I used the day before.

At that point the truck was released and the density gauge was returned by Jim Standen. Later a leak test was performed on the gauge and the results indicated there were no leaks.

Sincerely,

PROFESSIONAL SERVICE INDUSTRIES, INC.
MICHIGAN TESTING ENGINEERS DIVISION



Cliff J. Andrews

CJA/dgd



Professional Service Industries, Inc.
Corporate Office

September 5, 1984

Mr. Cliff J. Andrews
Professional Service Industries, Inc.
Michigan Testing Engineers Division
24355 Capitol Avenue
Detroit, Michigan 48239

Re: Radiation Safety Training Program
for Nuclear Density Gauges

Dear Cliff:

This letter is written to inform you that you have successfully completed the Radiation Safety Training Program for Nuclear Density Gauges with a score of 149/150 on the examination.

Enclosed you will find a certificate suitable for display in your office along with a certification card to keep with you whenever you are operating a gauge. Additionally, you will find enclosed a copy of your graded examination indicating the incorrect responses, if any. Please note them for future reference.

Very truly yours,

PROFESSIONAL SERVICE INDUSTRIES, INC.

Kevin D. Knudsen
Corporate Radiation Safety Officer

KDK/alk

Enclosures

RADIATION SAFETY TRAINING PROGRAM FOR DENSITY GAUGES

THIS IS TO CERTIFY THAT

CLIFF J. ANDREWS

OF

Professional Service Industries, Inc.

Has Successfully Completed the Radiation Safety Training Program for Nuclear Density Gauges.

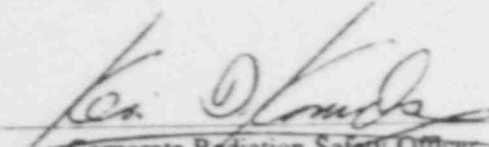
Subjects included in the course were as follows:

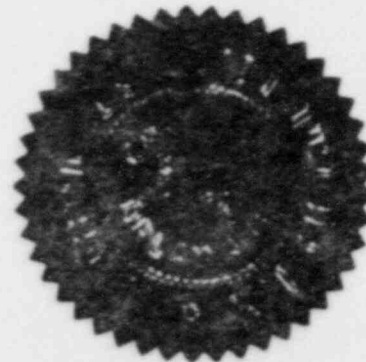
Gauge Operation

1. Instrument Theory
2. Operating Procedures
3. Maintenance
4. Field Use

Radiation Safety

1. Principles of Radiation Safety
2. Shipping and Storage
3. Radiation dosage calculations
4. Radiation detection and measurement
5. Biological effects
6. Emergency Procedures


Corporate Radiation Safety Officer



SOCIAL SECURITY NO. 369-70-3573

DATE OF BIRTH 1/18/60

OFFICE Detroit C.S. 06-401

RADIATION SAFETY TEST FOR
NUCLEAR DENSITY GAUGE OPERATORS

149/150

FULL NAME Cliff Joseph Andrews DATE 8/13/97

Please answer the following questions. Be specific and give as much detail as possible. Please show all calculations for problems which require such.

1. What item is required to be worn by all personnel working with a Nuclear Density Gauge?

Lead apron

2. What are the most common soil gauge sources?

Cesium-137, Americium-241

3. Who is the Corporate Radiation Safety Officer?

Kevin Snudsen

4. What are the three (3) basic ways to reduce radiation exposure?

A. Less time near the source

B. Greater distance from the source

C. Behind shielding from source

5. How often are sealed sources leak tested?

Annually

6. What is "Half-Life"?

When half the atoms would be

7. At what distance from the gauge should all unauthorized persons be kept?

15 feet

8. What is a "Rem"?

Measure of the effectiveness of a body's absorbing

radiation.

9. What is a "Curie"?

the quantity of any radioactive material giving 3.7×10^{10} disintegrations per second

10. Define "Milli" (in regards to milliCurie and milliRem).

one millicurie is one-thousandth of a Curie, or 3.7×10^7 d.p.s.
one millirem is one-thousandth of a rem

11. What types of radiation are emitted from Density Gauge Sources?

Alpha, gamma, x-rays, neutrons

12. What is the half-life of the following materials?

Radium 226 1620 years

Cesium 137 30 years

13. How often should the sliding shield on a nuclear density gauge be cleaned and lubricated?

weekly or more if extensively used in wet sand or clayey

14. What is the suggested whole body exposure limit for one quarter in mRem? Soil
(as set by the Atomic Energy Commission) 1250

Please circle the correct answer(s) for each of the following questions.

15. What age must a person be before he/she can operate a nuclear density gauge?

- a. 16 years
- ☒ b. 18 years
- c. 21 years
- d. 65 years

16. A film badge measures:

- a. dosage rate
- ☒ b. accumulated dose
- both a and b

17. A survey meter measures:

- ☒ a. dosage rate
- b. accumulated dose
- c. both a and b

18. Which of the following is not required with the use of Nuclear Density Gauges?

- a. film badge
- b. leak test on gauges
- c. locked storage area
- d. approved protective clothing

19. Which of the following documents are you required to have with you at all times when using or transporting a gauge?

- a. copy of last leak test certificate
- b. copy of license
- c. bill of lading
- d. instruction manual
- e. certification card
- f. shippers declaration of dangerous goods

20. Which of the following actions contribute to false readings of a film badge?

- a. heat
- b. direct sunlight
- c. cold
- d. television radiation or microwaves
- e. getting badge wet
- f. storing badge with or near the nuclear density gauge

21. Which of the following areas of the body are especially sensitive to the effects of radiation?

- a. bone and other blood forming organs
- b. reproductive organs
- c. feet and hands
- d. eyes

If the following statements are true, please write TRUE in the blank space.

If the statement is false, please write FALSE in the blank space.

22. True Always transport a gauge in its storage container, chained to the back wall of the truck or in the trunk of a car.

23. False You can take the gauge home overnight.

24. False The source emits radiation only when the gauge is turned on and the probe is exposed.

25. False Man can detect radiation with his senses.
26. False If the encapsulated source should come in direct contact with your hand or the ground, you will have radioactive contamination on that area.
27. True Never remove the scaler module of a nuclear density gauge in the field.

Answer the following questions in detail.

28. Explain in detail what should be done in case of an accident involving a radioactive source.

Move people out of area
Contact supervisor
Stay at distance until police
arrive

29. Explain how to dry out a nuclear density gauge if moisture builds up internally.

Remove the Scaler module during the re-charge cycle at the end of the day. The process of recharging will produce heat which will dry the interior if the scaler module is removed.

PROFESSIONAL SERVICE INDUSTRIES, INC.
REGION MANAGER'S BI-ANNUAL INSPECTION FORM
Branch Moisture Density Gauges

ATTACHMENT E

Fill in the blanks, check yes or no - if "no" is checked explain in detail on the reverse side of this Inspection Form. Return completed Inspection Form to the Corporate Radiation Safety Officer.

BRANCH INSPECTED: Detroit C.S.

GAUGES

Serial Numbers of Gauges in possession: M 15056143, M 10083396,
M 10073369, M 14065498, ; 4264-Troxler

- | | YES | NO |
|--|-------------------------------------|-------------------------------------|
| 1) Gauges stored properly? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2) Gauges transported properly? <i>Need chain hook-up in pickups</i> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3) Gauge cases properly marked? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4) Gauge Information Packets complete? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 5) Gauge storage area locked and secured? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

OFFICE RECORDS

- | | | |
|---|-------------------------------------|-----------------------------|
| 6) Leak Test Log for each gauge up to date? | <input checked="" type="checkbox"/> | <i>May not returned yet</i> |
| 7) Utilization Log for each gauge up to date? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 8) Qualified Personnel List up to date? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 9) Monthly Film Badge Reports kept for 3 years? | <input checked="" type="checkbox"/> | <i>need copy on board</i> |
| 10) Proper shipping forms in each gauge file? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 11) Copy of state Rules & Regulations on file or appropriate posting alternative? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

OFFICE POSTING REQUIREMENTS

- | | | |
|---|--|--|
| 12) Appropriate license posted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 13) Appropriate Regulatory Agency's "Notice to Employees" posted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 14) Radiation Training Certificates posted? | <i>in files - need posting</i> | <input checked="" type="checkbox"/> |
| 15) Latest Dosimetry Report posted? | <i>Need April 25th report</i> | <i>Combined NDE & C.S. in May report</i> |
| 16) Notices of noncompliance (if any) posted? | <i>N.A.</i> | <input type="checkbox"/> |
| 17) Radiation Warning Signs posted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

USERS OF GAUGES

- | | | |
|------------------------------------|---|-------------------------------------|
| 18) All are certified? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 19) All carry Certification Cards? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 20) All are assigned film badges? | <i>Hockham has film badges</i> | <input checked="" type="checkbox"/> |
| | <i>will all be under Stadnick as of 6/17/85</i> | |

Date: 6-14-85 Branch Manager's Signature: John B. Stadnick
Date: 6-14-85 Region Manager's Signature: James B. Thuman

PROFESSIONAL SERVICE INDUSTRIES, INC
REGION MANAGER'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. Return completed Inspection Form to the Corporate Radiation Safety Officer.

BRANCH INSPECTED: DETROIT C.S.

GAUGES

Serial Numbers of Gauges in possession: 4264 2226 3577
2912 (All Troxlers) M-14065495 M-10083396 (Campbells)

- | | YES | NO |
|---|-------------------------------------|-------------------------------------|
| 1) Gauges stored properly? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2) Gauges transported properly? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3) Gauge cases properly marked? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4) Gauge Information Packets complete? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 5) Gauge storage area locked and secured? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

OFFICE RECORDS

- | | | |
|---|-------------------------------------|--------------------------|
| 6) Leak Test Log for each gauge up to date? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 7) Utilization Log for each gauge up to date? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 8) Qualified Personnel List up to date? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 9) Monthly Film Badge Reports kept for 3 years? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 10) Proper shipping forms in each gauge file? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 11) Copy of state Rules & Regulations on file or appropriate posting alternative? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

OFFICE POSTING REQUIREMENTS

- | | | |
|---|-------------------------------------|-------------------------------------|
| 12) Appropriate license posted? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 13) Appropriate Regulatory Agency's "Notice to Employees" posted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 14) Radiation Training Certificates posted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 15) Latest Dosimetry Report posted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 16) Notices of noncompliance (if any) posted? | <u>N.A.</u> | <input type="checkbox"/> |
| 17) Radiation Warning Signs posted? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

USERS OF GAUGES

- | | | |
|------------------------------------|-------------------------------------|-------------------------------------|
| 18) All are certified? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 19) All carry Certification Cards? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 20) All are assigned film badges? | <input type="checkbox"/> | <input type="checkbox"/> |

Date: 8/28/84 Branch Manager's Signature: [Signature]

Date: 8-28 84 Region Manager's Signature: [Signature]

(3) One box w/o orange sticker - see Kevin

(12) In files - will copy & post

(19) Cards posted on bulletin^{board} for two near qualified techs -
will pick up by Aug. 30, 1984.