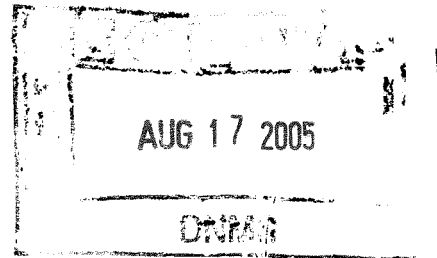




August 5, 2005

Christi Maier, Health Physicist  
US Nuclear Regulatory Commission  
Nuclear Materials Licensing Branch, Region IV  
611 Ryan Plaza Drive, Suite 400  
Arlington, TX 76011-8064



Re: Docket #030-35231  
License number: 46-27644-01

### Reply to Notice of Violation

During an NRC inspection conducted April 26 through June 1, 2005, a violation of NRC requirement was identified.

10CFR71.5(a) requires, in part, that a licensee who transports licensed material outside of the site of usage, as specified in the NRC license, or where transport is on public highways, comply with the applicable requirements of the regulations appropriate to the mode of transport of the Department of Transportation (DOT) in 49CFR parts 170 through 189.

In response to this violation, STI Northwest, Inc. employees have attended a CPN International Radiation Safety and Nuclear Gauge Training Course conducted by Hevly Technical Services on July 29, 2005. This class will be an annual class as per STI Northwest, Inc.

Attached is a copy of the quiz each employee took for the class.

Respectfully submitted,  
**STI Northwest, Inc.**

D Scott. Mills  
Radiation Safety Officer

Alan K. Bain  
Construction Services Manager

# Function Specific Quiz for Portable Nuclear Gauge Operators

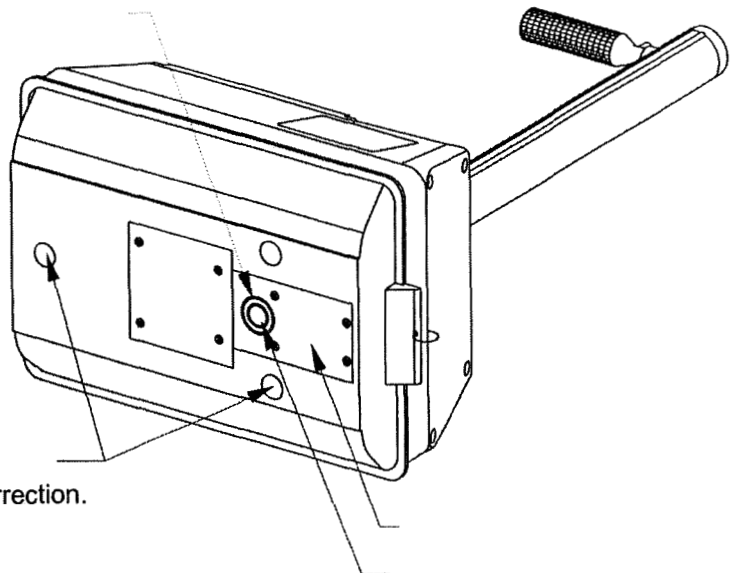
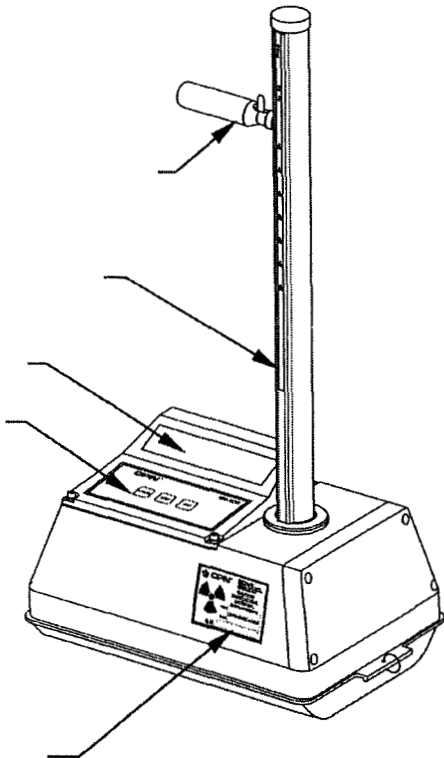
1. US DOT regulations require initial and recurrent (every three years) training for HAZMAT drivers. If you transport portable nuclear gauges these requirements apply to you. True or False
2. The LEAK TEST PROCEDURE can only be performed by the RSO: True or False
3. It is permitted to transport a gauge within a cracked shipping case as long as the required labels are in-place and the paperwork is in order. True or False
4. The federal agency that oversees the regulation of radioactive materials in the U.S.A. is: (circle one)
  - A. Environmental Protection Agency (EPA)
  - B. Nuclear Regulatory Commission (NRC)
  - C. Occupational Safety and Health Administration (OSHA)
  - D. Internal Revenue Service (IRS)
5. Which is NOT a proper location to wear your film badge (select all that apply)?
  - A. Shoe
  - B. Hat
  - C. Shirt Pocket
  - D. Belt
6. The gauge with SHIPPING PAPERS maybe transported to and from a project by another employee who is not an authorized gauge operator. True or False
7. A gauge may be transported in the open bed of a pickup truck on county roads. True or False
8. The gauge shall be within arms reach of the operator during transportation. True or False
9. The gauge may be transported to and from a project without using the shipping case if it is too heavy for the operator to carry them both from the storage area to the vehicle. True or False
10. A placard stating "CAUTION RADIOACTIVE MATERIALS" must be mounted on the rear-end and side panels of a vehicle transporting a gauge. True or False
11. Gauge operators must have a commercial rated driver's license to transport a gauge. True or False
12. The driver shall have a SHIPPING PAPER describing the radioactive material. True or False
13. The licensee shall use a "\_\_\_\_\_ level" method of security at all times when the gauge is not under the physical control of the operator. This method is very important while a gauge is away form a licensed location.
14. Additionally, if you leave the gauge unattended at the vehicle(select and circle all that apply from the following):
  - a. the source rod shall be locked in the safe position
  - b. the gauge shall be locked in the shipping case
  - c. shipping case shall be concealed
  - d. vehicle parking lights shall be blinking
15. Gauge owners must maintain on file the certificates of tests conducted on the transport (Type A) package and the sealed sources (Special Form and IAEA) contained in the gauges. True or False
16. Emergency Procedures with a call-down-list of telephone numbers shall be accessible and included with the SHIPPING PAPER during transport. True or False
17. After an event during which an operator's gauge was damaged, the operator should go to the nearest telephone and call the EPA. True or False
18. Sealed sources or source rods containing radioactive material may be opened or removed or detached from the nuclear gauge. True or False

19. ALARA is an acronym for:  
 A. All leaking sources are radiation accidents  
 B. As loud as reasonably achievable  
 C. As low as reasonable achievable  
 D. After leaving a site Always Return with the Authorities
20. The Annual Dose Limits for Radiation Workers (authorized gauge operators) to the whole body from external exposure is 5 rems. True or False.
21. The three ways to reduce the exposure to radiation sources: a. \_\_\_\_\_ b. \_\_\_\_\_  
 c. \_\_\_\_\_.
22. Cs-137 is the gamma source for density measurement, has a half-life of 30.6 years. True or False
23. Am-241:Be is the neutron source and can be shielded with water or plastic. True or False
24. TLD badges must be worn at all times except when sleeping. True or False
25. TLD badges protect the wearer from radiation exposure. True or False
26. It is recommended that you wear your TLD badge during medical and dental x-rays. True or False
27. Only certified operators shall use, or supervise the use of, portable nuclear gauges. True or False
28. Gauges shall be transported in authorized Type \_\_\_\_\_ shipping package.
29. The term describing the activity (size) of a radioactive source:  
 curie or millicurie       roentgen       mrem       mrem/hr
30. The effective dose rate on mankind of a radiation field is measured in:  
 mrems       mrem/hr       rads       flux
31. The effective depth of moisture measurement in soil is:  
 approximately 6 inches       1 inch       1 foot       2 feet
32. The Cesium-137 sealed source emits:  
 gamma rays       neutrons       X-rays       protons
33. Due to using the gauge, an operator receives a reported dose of 10 mrem for the month. Can he transmit it to others by personal contact? Yes or No
34. Gauge operators are required to:  
 have a physical exam       wear a TLD badge       bench press 100 lbs.       all of these
35. Disconnecting the battery turns off the radioactive sources? True or False
36. Correct use of the moisture/density gauge will result in a dose mostly to:  
 chest       ankles       eyes       wallet
37. The dose rate for an unshielded 10 mCi Cs-137 source is 3.3 mrem/hr at 1 meter. True or False
38. To cut the exposure of the gamma rays to 25% of the above dose the new distance from the source would be:  
 .25 meters       1 meter       2 meters       4 meters
39. NRC is the N \_\_\_\_\_ R \_\_\_\_\_ C \_\_\_\_\_

40. Idaho is an  Agreement or  NRC State?
41. Your employer must advise you annually of your exposure to radiation. True or False
42. Never directly touch the source holder of the Double Encapsulation Source Assembly. True or False
43. The portable nuclear moisture/density gauge contains low level radioactive material. True or False
44. Neutron sources are used to: (circle one)
- |                                       |                                 |
|---------------------------------------|---------------------------------|
| A. Measure ultraviolet rays           | C. Measure moisture content     |
| B. Neutralize soil that is too acidic | D. Fuel the starship Enterprise |
45. Homeland Security suggests that licensees: (circle one)
- Maintain control and constant visual surveillance of nuclear gauges.
  - Reduce the visibility of the gauge.
  - Require gauges to be locked inside closed or covered vehicle compartments or lock boxes.
  - All of the above
46. Proper posting of a storage site requires posting of a sign that reads: (circle one)
- Danger: Radiation Area
  - Caution: Radioactive Material
  - Caution: High Radiation Area
  - Stay away – real bad stuff-in-side!
47. After a long day of taking readings with the portable nuclear gauge you will: (circle one)
- Be contaminated
  - Make your family members radioactive when you go home
  - Fell a warm glow for a few hours
  - Be tired, but normal

48. Label the following parts with a letter:

- Digital Screen Display
- Handle
- Touch/Key pad
- Guide Tube
- Bottom pan dimples
- Clean out Plate
- Brass Scraper Ring
- Aperture



Please, keep the quiz at hand for group review and correction.