



U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
CENTRAL DIRECT FEDERAL DIVISION  
555 ZANG ST., P.O. BOX 25246  
DENVER, COLORADO 80225

0496

June 19, 1984

IN REPLY REFER TO:

HFM-16 (Held)

Your Mail Control 16943

- United States Nuclear Regulatory Commission  
Division of Fuel Cycle and Materials Safety  
Materials Licensing Branch, Mail Control 16943  
Washington, DC 20553

Attention: I. Meyers

Gentlemen:

Reference is made to our application to renew our Radioactive By-Products License No. 05-13016-01 as submitted February 3, 1984, and the recent telephone conversation between I. Meyers and A. Held of our Materials Branch concerning in-house training of personnel.

In-house training of personnel is as outlined in our "Procedures for Safe Use, Handling, and Storage of Nuclear Moisture/Density Gauges," and our submittal dated October 20, 1978 for the last update of our license. Providing training for our personnel was incorporated as part of our license requirements. A copy of the portion pertaining to "in-house training" is attached.

We have a core of trained project engineers or technicians who have been certified to give training to temporary personnel at our construction sites. This is a necessary function because our territory encompasses 14 western states. A copy of this list is enclosed. Each of these core personnel has had at least 12 hours of formal training by the Radiation Safety Officer and has used, stored, transported and been responsible for the safe use and handling of the gauges for at least three years. Project personnel authorized to give training must be re-certified every three years to maintain their status as trainers.

Sincerely yours,

*Joseph A. Budwig*  
J. L. Budwig  
Division Engineer

Enclosures

FEE EXEMPT

### III. PERSONNEL

#### A. Exposure Badges

All personnel will be issued radiation exposure badges before they begin operating any nuclear gauge, including training. Badges can be obtained by calling the RSO. To receive a badge Forms NRC-4 and NRC-5 (Appendix Items 7 and 8) must be filled out by each person to receive a badge. These badges are issued on a quarterly basis by the RSO (3 months). All licensed personnel shall make every effort to return all badges to the RSO promptly at the end of each quarter. The beginning dates for the quarters are 01/15, 04/15, 07/15, and 10/15 and these are the dates printed on each badge. Failure to return these badges will result in suspension or loss of the operator's license.

The badge measures the amount of gamma radiation the badge receives. Because this system is not completely accurate, there are a few precautions that should be taken. Do not store the badges anywhere near the storage area being utilized for the nuclear gauge. Placing the badge in direct sunlight or near a color television will also give an unusually high count when the badge is checked. For the count to be as accurate as possible for the exposure rate of the operator, the badge should be kept in the operator's possession as much as possible.

In the event a badge is checked and found to have an unusually high exposure rate, the operator and/or the Project Engineer will be contacted by the RSO for an explanation. License suspension will result if answers are not satisfactory and/or if exposure is over 800 MREM. The rate of exposure received from the nuclear gauges is minimal.

B. Training

Training of personnel in the operation and safety precautions of the nuclear gauges is the direct responsibility of the RSO. All project personnel will receive training in the following areas before they are allowed to operate the nuclear gauges:

1. Radiological Safety

- a. Principles and practices of Radiation Protection
- b. Leak testing procedures
- c. Biological effects of radiation
- d. Monitory techniques and instruments
- e. Accident and incident procedures
- f. Procedures for nuclear gauge storage and transportation
- g. General safety precautions

2. Gauge Operations

- a. Operation procedures
- b. Maintenance
- c. Field use
- d. Gauge calibration principles
- e. Gauge idiosyncrasies

C. Special Notice to Female Personnel

The information on the memorandum noted in the Appendix (Item 4) should be provided to any female personnel prior to their being trained to operate the nuclear gauges. If, after being provided this information, the employee elects not to operate the gauge, let that decision stand.



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

# Memorandum

0496

Subject Training/Operator for Nuclear M/D Gauges

Date March 19, 1984

From Radiation Safety Officer

Reply to HFM-16  
Attn of:

Thru: Materials Engineer

To Mr. Charles Houser  
Construction Engineer

HFB-16 Denver, CO

The purpose of this memo is to keep all construction personnel informed of the current status of "Training/Operators."

Training/Operator will be so designated when an individual has shown through training received and operating techniques that the person is qualified to train operators. To maintain the status, a 4-hour refresher course must be completed every third year. Below is a list of the personnel designated "Training/Operator," for Nuclear M/D gauges and the year of their most recent validation.

<u>Year Certified</u>	<u>Personnel</u>
1984	E. Callister
"	J. Germain (3)
"	A. Held (1)
"	J. Martinez (2)
"	R. Sowder
"	D. Taylor
"	B. Williams (2)
1983	E. Banuelos
"	M. Burke
"	J. Carver

<u>Year Certified</u>	<u>Personnel</u>
1983	D. Coleman
"	J. Frederiksen
"	R. Greer
"	E. Hansen
"	O.V. Lee
"	T. Laidlaw
"	S. Montoya
1982	D. Estrada
"	F. Atencio

*Alan M. Held*  
Alan M. Held

- (1) Radiation Administrative Officer
- (2) Nuclear Gauge Repair and Calibration Personnel
- (3) Former Radiation Safety Officer and Current Materials Training Technician

*Never  
Submitted*



US Department  
of Transportation  
Federal Highway  
Administration

# Memorandum

0496

Subject

Training of Personnel in the Safe Use  
and Handling of Nuclear Moisture/Density  
Gauges

Date

From

Project Engineer

Reply to  
Attn. of:

To

HFM-16

Radiation Safety Officer  
Materials  
Central Direct Federal Division  
Denver, Colorado 80225

*In-house*  
This is to certify that on \_\_\_\_\_, 198\_\_\_\_,  
has received an 8 hour course on radiological monitoring, safe use  
and handling of nuclear gauges covering the following criteria:

- a. Principles and practices of radiation protection
- b. Leak testing procedures
- c. Biological effects of radiation
- d. Monitoring techniques and instruments
- e. Accident and incident procedures
- f. Procedures for nuclear gauge storage and transportation
- g. General safety precautions

*OST*  
This is to certify that on \_\_\_\_\_, 198\_\_\_\_,  
has received 4-8 hours of On the Job  
Training covering the following criteria:

- a. Operation procedures
- b. Maintenance
- c. Field use
- d. Gauge calibration principles
- e. Gauge idiosyncrasies

This training was provided by \_\_\_\_\_ in accordance with our  
NRC Lincense number 05-13016-01.

Failure to comply with these rules and regulations can be cause for disciplinary  
action and/or the revoking of our personal permit.

*new  
submitted*  
\_\_\_\_\_  
Project Engineer