

## **Chapter 8 – Training**

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## **Chapter 8**

### **Training**

#### **8.1 PURPOSE AND SCOPE**

This chapter addresses training requirements for personnel permitted to operate, transport, or handle portable nuclear moisture/density gauges (gauges). The chapter describes the Florida Department of Transportation (FDOT) radiation safety training program and gauge operator certification process.

#### **8.2 TRAINING REQUIREMENTS**

Only personnel who have received proper training are permitted to operate, transport, or handle equipment containing radioactive materials. Evidence of required training is a Certificate of Qualification. When handling, operating, or transporting gauges, FDOT personnel must provide evidence of proper training by showing their Certificate of Qualification, a reproduction, or the wallet card issued with the Certificate.

#### **8.3 AUTHORIZATION TO CONDUCT TRAINING**

The Florida Department of Health (DOH) has authorized FDOT to conduct its own training classes and issue training certificates. The training is accepted by DOH as equivalent to gauge manufacturer or other approved training required for operators of portable gauges containing sealed sources of radioactive materials.

#### **8.4 OBTAINING TRAINING AND A CERTIFICATE OF QUALIFICATION**

##### **8.4.1 Providing Training**

The Radiation Safety Officer (RSO) or Dist. RSO (DRSO) will schedule training classes as needed. Supervisory personnel are to contact the DRSO or authorized designee regarding an applicant's request for training. DRSOs should announce class scheduling in sufficient time for candidates to attend. Training is provided by the RSO, DRSO or a qualified designee. Minimum training requirements for instructors are:

- (A) Completion of FDOT gauge radiation safety training,
- (B) Completion of RSO training,
- (C) Experience working with gauges, and
- (D) Completion of presentation skills training.
- (E) Other individuals may present the course in the presence of a qualified trainer when approved by the DRSO.

#### **8.4.2 Certificate of Qualification**

A certificate with the DRSO or RSO signature issued by the authorized district representative to Department personnel who have attended FDOT training and passed a written exam on radiation safety. A wallet card will also be issued, which will be carried by operators at all times while handling gauges. The wallet card is valid for three years from the date of issuance (date of passing exam). A new wallet card is issued upon passing the refresher training exam, reflecting the new qualification date. Non-Department employees may audit a training class with the permission of the instructor, but are not permitted to take the written exam nor are certificates issued to them.

8.4.2.1 Effective Date of Certification – An employee is certified on the date the written exam is passed.

8.4.2.2 Duration of the Certification – Certificates remain valid from the date of issuance until the end of employment with FDOT.

#### **8.4.3 Practical Training**

Personnel will receive supervised practical training in proper use of density gauges before operating a gauge alone. On-the-job training as an apprentice operator is provided as part of Earthworks Construction Inspection (ECI) Level 1 qualification.

## **8.5 TRAINING CLASS**

### **8.5.1 Approach to Training**

Training consists of a one-day classroom course and one month of supervised on-the-job training (OJT). Successful completion of the training class results in issuance of a certificate, with a three-year renewal on the anniversary date. The following procedure will be followed unless modified by an instructor in special instances.

- (A) The names of candidates are submitted to the DRSO or RSO by supervisory personnel.
- (B) The DRSO will maintain sufficient copies of the RSM on hand for class purposes only. Candidates will be responsible for obtaining a personal copy by downloading it from the FDOT Publication website.
- (C) Candidates should be familiar with the contents of the RSM and radiation safety practices before attending class. See section I.4 of the RSM for requirements for apprentice operators.
- (D) First time (or new certification) candidates will attend class and take the examination with a passing score of 70.
- (E) Refresher training may be accomplished by attending classroom training or through self-administered computer based-training, followed by an exam administered by the DRSO, with a passing score of 70.

### **8.5.2 Training Class Agenda**

A minimum of six hours of formal radiation safety training is provided, in accordance with 64E-5.1312(1), Florida Administrative Code (FAC).. The training includes a review of the RSM, which covers the topics described in 64E-5.1307(1)(a) – (e) and (g), FAC]. A passing grade for the closed-book exam covering all training topics is required. Practical experience with use of gauges is provided during supervised OJT.

### **8.5.3 Guidelines for Instructors**

The format of the RSM was designed to serve as an instructor's outline. In addition to their own experience, instructor should be thoroughly familiar with the contents of the RSM and remember that attendees are supposed to have studied the RSM, so the class should be a review.

Follow the outline of headings in each section and read or present the gist of the paragraph(s) in your own words. Expand on the headings and subheadings using your own knowledge. Emphasize those items that may be encountered in actual practice.

### **8.5.4 RSM Layout and Classroom Presentation**

8.5.4.1 RSM Layout – Chapter 1 address regulatory agencies, regulations, and licensing of owners and users of equipment containing radioactive materials. Chapters 2 – 6 contain important information regarding safety, operation and handling and storage practices. Chapter 7 is a basic overview of radiation theory. Chapter 8 addresses training requirements. Chapter 9 addresses relevant consultant responsibilities while on FDOT construction projects

8.5.4.2 Classroom Presentation – Presentation should cover all the topics described in the RSM. The intent is to convey the information in an understandable manner. Individual differences in class presentation are expected.

### **8.5.5 Examination**

The exam consists of fifty multiple-choice questions with each correct answer counting two points. A passing grade is seventy. For a failed exam, the instructor should immediately notify the person and his/her supervisor. The person will need to receive additional instruction and take a different exam. Two exam failures require attending a complete training class before taking another exam.