

Chapter 4 – Transport and Storage

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Chapter 4

TRANSPORT AND STORAGE

4.1 PURPOSE AND SCOPE

This chapter describes how the Department's radiation safety program implements state and federal requirements for gauge transport, storage and security. It provides instructions on safe transport and storage of nuclear surface moisture/density gauges (gauges).

4.2 SIGNS, FORMS, AND LABELS

State and federal regulations require the Department to use certain types of signs, labels, notices and forms in its radiation safety program. They are listed below, with samples provided in the Appendix.

Signs –

Caution - Radioactive Materials – Posted at entrances to gauge storage areas (App. A-1).

DOH Notice to Employees – Posted at gauge storage locations; provides information on radiation protection standards and employee/employer rights and responsibilities (App. A-9).

Emergency Notification – Posted at gauge storage locations; lists radiological emergency notification numbers (App. A-10).

Forms

Bill of Lading – Kept in the passenger compartment of vehicles transporting gauges; identifies the type and activity of the radioactive material being transported. The form also list the gauge serial number and shipment dates (App. A-18).

Emergency Response Information – Provides first responders with information needed to take appropriate action in the event of an emergency (App. A-19).

Emergency Procedure Checklist – Instructions to be posted at gauge storage locations and carried in vehicles when transporting gauges. The checklist is used when a gauge incident occurs (App. A-20).

Leak Test Kit – Completed when leak testing a gauge. Lists the necessary information for processing the leak test sample (App. A-11).

Labels –

Radioactive Yellow II Label – Used on gauge transport/storage containers; two labels required; one on each long side of the container. Must list the contents (radioactive materials), source activities, and transport index (App. A-3).

ID Label – Used on gauge transport/storage containers, describes the contents and package type (App. A-4).

Empty Label – Used on empty gauge transport/storage containers. Two labels are used to cover up the two Radioactive Yellow II labels, indicating the container is empty (App. A-7)

Gauge Warning/ID Label – Affixed to gauges in close proximity to the sealed source(s). Lists the source type, activity, serial number, and measurement date, along with the warning “Caution – Radioactive Material – Notify Civil Authorities If Found” (App. A-5).

Emergency Phone Nos. Label – Affixed to the dashboard of FDOT vehicles used to transport gauges. Lists telephone numbers for notification of a gauge-related incident (App. A-6).

4.3 SECURITY OF RADIOACTIVE MATERIAL

Gauge security measures are described below. The requirements apply to storage areas and vehicles used to transport/store gauges

- (1) Unless under direct surveillance, gauges must be kept locked and have two locks between the gauge and the public. The locks must provide two independent physical controls preventing removal of the gauge. A lock on the transport/storage case does not count as an independent control if the case can be removed with the gauge inside it.

- (2) Try to maintain visual contact with parked vehicles containing gauges.
- (3) When available, park vehicles containing gauges in fenced lots. Otherwise, inform security or local law enforcement of the stored gauge.
- (4) Gauges cannot be left in vehicles taken to a maintenance or repair shop.

4.4 TRANSPORTATION OF GAUGES

The below requirements apply to any vehicle used to transport density gauges, whether Department-owned or rented, or a personal vehicle.

4.4.1 Shipping Papers

Vehicles transporting gauges must have the shipping papers listed below (should be kept in a transparent document protector) that are available to authorities in the event of an accident or inspection, and kept within the driver's immediate reach while restrained by the lap belt. The papers must be readily visible to a person entering the driver's compartment, or in a holder mounted to the inside of the door on the driver's side of the vehicle.

- Bill of Lading (listing gauge serial number and shipment dates)
- Emergency Response Information
- Emergency Procedures Checklist

4.4.2 Vehicle Requirements

- 4.4.2.1 The Emergency Phone Nos. label must be attached to the dashboard of the transport vehicle.
- 4.4.2.2 Gauges must be transported in their manufacturer case or the FDOT transport/storage container. Transport containers must have all required U.S. DOT- markings and labels, and they must be legible.
- 4.4.2.3 Gauges cannot be transported in passenger compartments, should be placed as far from occupied areas as possible, must be blocked and braced to prevent movement, and double-locked to provide two independent physical controls.

4.4.3 Storage of Gauges in Vehicles

Density gauges may be stored in the vehicle transporting it under the following conditions:

- 4.4.3.1 All requirements of section 4.4.2 are met.
- 4.4.3.2 Inclement Weather – The gauge operator will transfer gauges from the vehicle to an approved storage area during inclement weather; e.g., a hurricane, tropical storm, etc.
- 4.4.3.3 Private Residence – Gauges shall not be taken into a private residence for any reason.
- 4.4.3.4 Open-Bed Pickup Truck – Gauges must be kept inside an approved transport/storage container. The gauge, container, and cab must be locked, and there must be a minimum of two independent physical controls in place to prevent access to gauges.
- 4.4.3.5 All Vehicles – No density gauge shall be left in a vehicle taken to a maintenance or private repair shop

4.5 GAUGE STORAGE IN DISTRICT OFFICES

4.5.1 License Requirements

The Department's radioactive materials license lists each Radioactive Material Storage Area (RMSA) at the district offices and the State Materials Office (SMO). Descriptions of each RMSA have been incorporated into the license by reference. Prior to use, a new RMSA must be approved by FDOH with issuance of a license amendment to add it. A new RMSA requires the information listed below to be submitted to FDOH.

- (A) Location and street address, including building number
- (B) Site layout showing the location of the RSMA and surrounding buildings, parking lots, etc., with a description of their uses

- (C) Floor plan of entire building containing the RSMA
- (D) Description of RMSA design and construction, and its security features
- (E) Study demonstrating compliance with public dose limits

4.5.2 Storage Area Requirements

- 4.5.2.1 The storage area (room) must have a lockable door, with two locks that provide two independent physical controls. Lock keys must be controlled by authorized personnel.
- 4.5.2.2 Posting Requirements. Storage areas must be posted with the signs and documents listed below, which must be legible.
 - Caution – Radioactive Materials sign
 - FDOH Notice to Employees poster
 - Emergency notification poster
 - Emergency Procedures
- 4.5.2.3 Radiation levels cannot exceed 2 millirem/hour at 30 cm (1 ft) from the storage area's exteriors. The storage location should minimize the potential for exposures to people in the vicinity.
- 4.5.2.4 The storage area must be able to protect gauges from water damage. Operators must move gauges stored in vehicles to approved storage rooms during inclement weather (e.g., hurricane, tropical storm).
- 4.5.2.5 Local Authorities Notifications. Law enforcement and fire departments should be notified of all locations where gauges are routinely stored. The Notification to Local Authorities form (App. A-22) should be used to document notifications.

4.6 GAUGE STORAGE IN CONSTRUCTION OFFICES

4.6.1 When to Store

Except with DRSO approval, gauges shall only be stored in construction offices when offices are not occupied as is generally the case for nights, weekends and holidays. If stored in an office during normal work hours the storage area must be established as prescribed in section 4.5.

4.6.2 Securing Storage Area

Density gauges should be stored behind locked door(s) to prevent removal by unauthorized persons. There must be a minimum of two locks between the density gauge and the public when the density gauge is being stored or transported.

4.6.3 Signs and Notices

The door to the storage area should be posted with the same signs and notices listed in 4.5.2.2. All postings should be latest issue and replaced if they become obsolete or illegible. No additional signs are required.

4.6.4 Notifications

Local law enforcement and fire departments should be notified of all construction office locations where gauges are routinely stored. The Notification to Local Authorities form (App. A-22) may be used to document notifications.

4.7 GAUGE STORAGE IN FIELD OFFICES

The Department may allow non-departmental personnel to store their gauges at field offices occupied by them if the following requirements are met:

- (A) The DRSO approves the storage.
- (B) The storage area is not identified as a Department gauge storage area.
- (C) Written authorization has been added to their license.
- (D) They meet all the storage area requirements of their license and applicable requirements of the Department's RSM during the storage.

4.8 PART IX POSTING REQUIREMENTS

4.8.1 Required Postings

Part IX of Chapter 64E-5, F.A.C. requires legible copies of the documents listed below to be conspicuously posted where they can be examined by workers on the way to and from work.

- DOH "Notice to Employees" form
- Emergency Procedures Checklist
- X-ray machine registration certificate (posted at SMO)
- DOH notices or orders, and responses to notices/orders

Note: Violation notices and orders must be posted within five working days after receipt, and replies must be posted within five working days after dispatch. They must remain posted for at least five working days or until corrective actions have been completed, whichever is later.

4.8.2 Additional Postings

FDOH regulations also require the documents listed below to be posted, but because it is not physically practical, the rules allow posting of a notice describing the documents and stating where they may be examined. DOT uses Notice To Employees poster to used to list where the documents are kept on file for examination by workers.

- Parts III and IX of Chapter 64E-5, F.A.C.
- Radioactive materials license and amendments
- Gauge operating procedures