

## APPENDIX M

### TRANSPORTATION OF PORTABLE GAUGES

U.S. DOT requirements for highway shipments via common carrier are similar to requirements for transporting a gauge to a temporary job site. Operators are responsible for ensuring that their gauges are properly packaged, marked, labeled, secured, blocked and braced, and that proper documentation accompanies the devices.

The following discussion serves as basic guidance only. The U.S. DOT regulations should be consulted prior to packaging and transporting radioactive material.

#### A. General

Markings and labels on gauge transport containers must be durable, legible, in English, and printed on or affixed to the package surface (e.g., a label, tag or sign).

Required **markings** include:

- ◆ Shipping name (ex.: radioactive material, special form, n.o.s., Class 7)
- ◆ RQ (for gauges with an Am-241:Be source  $\geq 10$  mCi); add to shipping name
- ◆ Identification number (ex.: UN 3332)
- ◆ Package type (ex.: TYPE A)

#### B. Markings and labels

Required **labels** include:

- ◆ “Cargo Aircraft Only” label (required for shipments by air)
- ◆ Two DOT warning labels (gauges typically require RADIOACTIVE YELLOW II labels; see table) applied to opposite sides of the package, listing the package contents and activity in SI and customary units, and the package’s Transport Index (TI), the dimensionless number indicating the package’s

radiation level at 1 meter (manufacturers provide the TI for their gauges).

*Package Labeling Criteria*

Warning Label	Max. Rad. Level at Package Surface (mR/hr)	Max. Rad. Level at 1 m (TI)
RADIOACTIVE WHITE I	0.5	none
RADIOACTIVE YELLOW II	50	1
RADIOACTIVE YELLOW III	200	10

**C. Shipping papers**

The information required on shipping papers depends on the type of shipment being made. Transporting gauges to and from temporary job sites in company vehicles (without any transfers) can be exclusive use shipments, which require minimal information on the shipping paper (commonly known as a “bill of lading”). Gauges shipped by common carrier to the manufacturer or another recipient require additional information. Gauges shipped by air or internationally require still more information.

- 1. Exclusive use shipments** (shipments to and from job sites) require a bill of lading with the information listed below. The shipping paper must be immediately accessible to the driver during transport.
  - ◆ Description of shipment [proper shipping name, RQ (if applicable), identification number, hazard class, type of package, name and activity of each nuclide, category of labeling and Transport Index)
  - ◆ Emergency response telephone number (24-hour monitored number of a person knowledgeable about the hazards associated with portable gauges)
- 2. Common carrier shipments** (shipments offered to third parties for transport) require a bill of lading with the information listed below, if the shipment is made by highway. If shipped by air, the carrier will provide a “Dangerous Goods Airbill” that will describe the required information:

- ◆ Name and address of shipper [can be the *consignee* (company offering the package for shipment) or the *consignor* (company shipping the package)]
  - ◆ Description of shipment (same as for exclusive use shipments)
  - ◆ Emergency response telephone number (24-hour monitored number of a person knowledgeable about the hazards associated with portable gauges)
  - ◆ Shipper's certification (statement certifying that the package has been properly classified, described, packaged, marked and labeled, and is in proper condition for transportation)
  - ◆ Signature of shipper (commits the signor to certification of the shipment)
3. **Emergency response information (ERI)** will be provided with the bill of lading and will be immediately accessible to the driver during shipment.
4. **Accessibility.** Shipping papers and ERI will be immediately accessible to the driver during transport of gauges.

**D. Inspection**

Prior to shipment, inspect transport containers to ensure proper packaging and unimpaired physical condition of the container and its closure devices. Promptly report any defects to the RSO prior to shipment or use. The RSO will label and remove from use any gauge or package found to be defective and ensure their repair or replacement.

**E. Blocking and Bracing**

Block and brace gauge transport containers to prevent shifting during normal transportation conditions. Gauges cannot be transported in a vehicle's passenger compartment.

**F. Excepted instruments/articles**

Portable devices classified as excepted instruments/articles (e.g., XRF analyzers) are exempt from marking, labeling and shipping paper requirements, but must have a notice included with the package that lists the company's name and provides the following statement: "This package conforms to the conditions and limitations specified in 49 CFR 173.424 for radioactive material, excepted package--instruments or articles, UN2910."