

**4731.0412 EXTERNAL RADIATION STANDARDS FOR ALL PACKAGES.**

Subpart 1. **Radiation level limit.** Except as provided in subpart 2, a package of radioactive material offered for transportation must be designed and prepared for shipment so that under conditions normally incident to transportation, the radiation level does not exceed 200 millirems per hour (2 mSv/hr) at any point on the external surface of the package and the transport index does not exceed ten.

Subp. 2. **Packages in excess of limit.** A package that exceeds the radiation level limits under subpart 1 must be transported by exclusive use shipment only and the radiation levels for such shipment must not exceed the following during transportation:

A. 200 millirems per hour (2 mSv/hr) on the external surface of the package, unless the following conditions are met, in which case the limit is 1,000 millirems per hour (10 mSv/hr):

- (1) the shipment is made in a closed transport vehicle;
- (2) the package is secured within the vehicle so that its position remains fixed during transportation; and
- (3) there are no loading or unloading operations between the beginning and end of transportation;

B. 200 millirems per hour (2 mSv/hr) at any point on the outer surface of the vehicle, including the top and underside of the vehicle; or in the case of a flat-bed style vehicle, at any point on the vertical planes projected from the outer edges of the vehicle, on the upper surface of the load or enclosure, if used, and on the lower external surface of the vehicle;

C. ten millirems per hour (0.1 mSv/hr) at any point 80 inches (2 meters) from the outer lateral surfaces of the vehicle, excluding the top and underside of the vehicle; or in the case of a flat-bed style vehicle, at any point 6.6 feet (2 meters) from the vertical planes projected by the outer edges of the vehicle, excluding the top and underside of the vehicle; and

D. two millirems per hour (0.02 mSv/hr) in any normally occupied space, except that this item does not apply to private carriers, if exposed personnel under their control wear radiation dosimetry devices according to part 4731.2210.

Subp. 3. **Written instructions.**

A. For shipments made under subpart 2, the shipper must provide specific written instructions to the carrier for maintenance of the exclusive use shipment controls. The instructions must be included with the shipping paper information.

B. The written instructions required for exclusive use shipments must be sufficient so that, when followed, they will cause the carrier to avoid actions that will unnecessarily delay delivery or unnecessarily result in increased radiation levels or radiation exposures to transport workers or members of the general public.

**Statutory Authority:** *MS s 144.1202; 144.1203*

**History:** *29 SR 755*

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