RADCALC SOFTWARE ADVISORY

Fissile Material Exceptions and International Shipments

Radcalc 4.1 software was designed as a tool to help evaluate domestic radioactive material shipments by ground. This software was **not** designed or tested to evaluate international requirements by any mode. Two important cases where the differences between domestic and International requirement are highlighted below:

1. Radcalc 4.1 is **not** an appropriate tool to make fissile exception determinations for International shipment by any mode or for domestic shipment by air, which is offered to International Air Transport Association (IATA) carriers. Users must recognize that the fissile exceptions as authorized in 49 CFR 173.453 and evaluated in Radcalc are not the same as those required by:

   - IATA *Dangerous Goods Regulations*.
   - International Atomic Energy Agency (IAEA) *Regulations for the Safety Transport of Radioactive Material*
   - International Civil Aviation Organization (ICAO) *Technical Instructions for the Safe Transport of Dangerous Goods*
   - International Maritime Organization (IMO) *International Maritime Dangerous Goods (IMDG) Code*
   - Transport Canada *Transportation of Dangerous Goods Regulations* and the Canadian Nuclear Safety Commission *Packaging and Transport of Nuclear Substances Regulations*

2. Radcalc 4.1 is **not** an appropriate tool to make International shipments involving Cf-252 and Mo-99. The A_1 and A_2 values assigned to Cf-252 and the A_2 value assigned to Mo-99 are different for domestic and International shipments. Radcalc only evaluates A values using the domestic criteria.

DOE is considering whether to incorporate International fissile exceptions and A_1/A_2 values in the next version of Radcalc. User input and recommendations are welcome.

Need more information?

If you need additional information, please contact Ashok Kapoor, EM-33 at 202-586-8307 or via e-mail at ashok.kapoor@hq.doe.gov or the Radcalc Helpdesk at 509-375-9526 or via e-mail at: dnewton@bgs-llc.com