TABLE 1.—NEUTRON FLUENCE RATES TO BE REGARDED AS EQUIVALENT TO A RADIATION LEVEL OF 0.01 MSV/H (1 MREM/H)<sup>1</sup>

Energy of neutron	Flux density equivalent to 0.01 mSv/h (1 mrem/h) neutrons per square centimeter per second (n/cm²/s)
Thermal (2.510E–8)MeV 1 keV 10 keV 100 keV 500 keV 1 MeV 5 MeV	272.0 272.0 281.0 47.0 11.0 7.5 6.4
10 MeV	6.7

<sup>1</sup> Flux densities equivalent for energies between those listed in this table may be obtained by linear interpolation.

*Radioactive contents* means a Class 7 (radioactive) material, together with any contaminated liquids or gases within the package.

Radioactive instrument and article means any manufactured instrument and article such as an instrument, clock, electronic tube or apparatus, or similar instrument and article having Class 7 (radioactive) material in gaseous or nondispersible solid form as a component part.

*Radioactive material* means any material having a specific activity greater than 70 Bq per gram (0.002 microcurie per gram) (see definition of "specific activity").

Special form Class 7 (radioactive) material means Class 7 (radioactive) material which satisfies the following conditions:

(1) It is either a single solid piece or is contained in a sealed capsule that can be opened only by destroying the capsule;

(2) The piece or capsule has at least one dimension not less than 5 millimeters (0.2 inch); and

(3) It satisfies the test requirements of §173.469. Special form encapsulations designed in accordance with the requirements of § 173.389(g) in effect on June 30, 1983 (see 49 CFR Part 173, revised as of October 1, 1982), and constructed prior to July 1, 1985 and special form encapsulations designed in accordance with the requirements of §173.403 in effect on March 31, 1996 (see 49 CFR Part 173, revised as of October 1, 1995), and constructed prior to April 1, 1997, may continue to be used. Any other special form encapsulation must meet the requirements of this paragraph.

Specific activity of a radionuclide means the activity of the radionuclide per unit mass of that nuclide. The specific activity of a material in which the radionuclide is essentially uniformly distributed is the activity per unit mass of the material.

Surface Contaminated Object (SCO) means a solid object which is not itself radioactive but which has Class 7 (radioactive) material distributed on any of its surfaces. SCO must be in one of two groups with surface activity not exceeding the following limits:

(1) SCO–I: A solid object on which: (i) The non-fixed contamination on the accessible surface averaged over 300  $cm^2$  (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed 4 Bq/cm<sup>2</sup> (10<sup>-4</sup> microcurie/cm<sup>2</sup>) for beta and gamma and low toxicity alpha emitters, or 0.4 Bq/cm<sup>2</sup> (10<sup>-5</sup> microcurie/cm<sup>2</sup>) for alpha emitters;

(ii) The fixed contamination on the accessible surface averaged over 300 cm<sup>2</sup> (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed  $4 \times 10^4$  Bq/cm<sup>2</sup> (1.0 microcurie/cm<sup>2</sup>) for beta and gamma and low toxicity alpha emitters, or  $4 \times 10^3$  Bq/cm<sup>2</sup> (0.1 microcurie/cm<sup>2</sup>) for all other alpha emitters; and

(iii) The non-fixed contamination plus the fixed contamination on the inaccessible surface averaged over 300 cm<sup>2</sup> (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed  $4 \times 10^4$ Bq/cm<sup>2</sup> (1 microcurie/cm<sup>2</sup>) for beta and gamma and low toxicity alpha emitters, or  $4 \times 10^3$  Bq/cm<sup>2</sup> (0.1 microcurie/cm<sup>2</sup>) for all other alpha emitters.

(2) SCO–II: A solid object on which the limits for SCO–I are exceeded and on which:

(i) The non-fixed contamination on the accessible surface averaged over 300  $cm^2$  (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed 400 Bq/  $cm^2$  (10<sup>-2</sup> microcurie/cm<sup>2</sup>) for beta and gamma and low toxicity alpha emitters or 40 Bq/cm<sup>2</sup> (10<sup>-3</sup> microcurie/cm<sup>2</sup>) for all other alpha emitters;

(ii) The fixed contamination on the accessible surface averaged over 300 cm<sup>2</sup> (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed  $8 \times 10^5$  Bq/cm<sup>2</sup> (20 microcurie/cm<sup>2</sup>) for beta and gamma and low toxicity alpha emitters, or  $8 \times 10^4$  Bq/cm<sup>2</sup> (2 microcuries/cm<sup>2</sup>) for all other alpha emitters; and

(iii) The non-fixed contamination plus the fixed contamination on the inaccessible surface averaged over 300 cm<sup>2</sup> (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed  $8 \times 10^5$ Bq/cm<sup>2</sup> (20 microcuries/cm<sup>2</sup>) for beta and gamma and low toxicity alpha emitters, or  $8 \times 10^4$  Bq/cm<sup>2</sup> (2 microcuries/cm<sup>2</sup>) for all other alpha emitters.

*Transport index (TI)* means the dimensionless number (rounded up to the next tenth) placed on the label of a package to designate the degree of control to be exercised by the carrier during transportation. The transport index is determined as follows:

(1) For nonfissile material packages, the number determined by multiplying the maximum radiation level in milliSievert(s) per hour at one meter (3.3 feet) from the external surface of the package by 100 (equivalent to the maximum radiation level in millirem per hour at one meter (3.3 feet)); or

(2) For fissile material packages, the number determined by multiplying the maximum radiation level in milliSievert per hour at one meter (3.3 feet) from any external surface of the package by 100 (equivalent to the maximum radiation level in millirem per hour at one meter (3.3 feet)) or, for criticality control purposes, the number obtained by dividing 50 by the allowable number of packages which may be transported together, whichever number is larger.

*Type A quantity* means a quantity of Class 7 (radioactive) material, the aggregate radioactivity which does not exceed  $A_1$  for special form Class 7 (radioactive) material or  $A_2$  for normal form Class 7 (radioactive) material, where  $A_1$  and  $A_2$  values are given in § 173.435 or are determined in accordance with § 173.433.

*Type B quantity* means a quantity of material greater than a Type A quantity.

Unilateral approval means approval of a package solely by the competent authority of the country of origin.

Unirradiated thorium means thorium containing not more than  $10^{-7}$  grams uranium-233 per gram of thorium-232.

Unirradiated uranium means uranium containing not more than  $10^{-6}$  grams plutonium per gram of uranium-235 and a fission product activity of not more than 9 MBq (0.24 millicuries) of fission products per gram of uranium-235.

Uranium—natural, depleted or enriched means the following:

(1) "Natural uranium" means uranium with the naturally occurring distribution of uranium isotopes (approximately 0.711 weight percent uranium-235, and the remainder essentially uranium-238).

(2) "Depleted uranium" means uranium containing less uranium-235 than the naturally occurring distribution of uranium isotopes.

(3) "Enriched uranium" means uranium containing more uranium-235 than the naturally occurring distribution of uranium isotopes.