

SCHEDULE 1

Regulation 15

New Schedule 23 to the 2010 Regulations

“SCHEDULE 23

Regulation 35(2)(q)

Radioactive substances activities

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*Status: This is the original version (as it was originally made).*

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## PART 1

### Application

#### **Application**

1. This Schedule applies in relation to every radioactive substances activity.

## PART 2

### Interpretation

#### **Interpretation**

- 1.—(1) In this Schedule—

“article” includes a part of an article;

“the Basic Safety Standards Directive” means Council Directive 96/29/EURATOM(1) laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation;

“Bq” means becquerels;

“contamination” occurs where a substance or article is so affected by—

- (a) absorption, admixture or adhesion of radioactive material or radioactive waste; or
- (b) the emission of neutrons or ionising radiation,

as to become radioactive or to possess increased radioactivity;

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(1) OJ No L 159, 29.6.1996, p 1.

“disposal” in relation to waste includes its removal, deposit, destruction, discharge (whether into water or into the air or into a sewer or drain or otherwise) or burial (whether underground or otherwise) and “dispose of” is to be construed accordingly;

“m”, where it appears after a radionuclide, means a radionuclide in a metastable state of radioactive decay in which gamma photons are emitted;

“mobile radioactive apparatus” means any apparatus, equipment, appliance or other thing which is radioactive material and—

- (a) is constructed or adapted for being transported from place to place; or
- (b) is portable and designed or intended to be used for releasing radioactive material into the environment or introducing it into organisms;

“nuclear site” means—

- (a) any site in respect of which a nuclear site licence is for the time being in force; or
- (b) any site in respect of which, after the revocation or surrender of a nuclear site licence, the period of responsibility of the licensee has not yet come to an end,

and “licensee”, when used in relation to a nuclear site, and “period of responsibility” have the same meaning as in the Nuclear Installations Act 1965(2);

“premises” includes any land, whether covered by buildings or not, including any place underground and any land covered by water;

“relevant liquid” means a liquid which—

- (a) is non-aqueous; or
- (b) is classified (or would be so classified in the absence of its radioactivity) under Council Regulation No. 1272/2008(3) as having any of the following hazard classes and hazard categories (as defined in that Regulation)—
  - (i) acute toxicity: categories 1, 2 or 3;
  - (ii) skin corrosion/irritation: category 1 corrosive, sub-categories: 1A, 1B or 1C; or
  - (iii) hazardous to the aquatic environment: acute category 1 or chronic categories 1 or 2;

“substance” means any natural or artificial substance, whether in solid or liquid form or in the form of a gas or vapour;

“Table 1”, “Table 2”, “Table 3” mean the tables with those numbers in Part 3 of this Schedule;

“undertaking” includes any trade, business or profession and—

- (a) in relation to a public or local authority, includes any of the powers or duties of that authority, and
- (b) in relation to any other body of persons (whether corporate or unincorporate), includes any of the activities of that body; and

“waste” should be construed in accordance with paragraph 3(2).

(2) In this Schedule, where any reference is made to a substance or article possessing a concentration or quantity of radioactivity which exceeds the value specified in a column in either of Tables 1 and 2, or either of Tables 5 and 7 in Part 7 of this Schedule, that value is exceeded if—

- (a) where only one radionuclide which is listed or described in the relevant table is present in the substance or article, the concentration or quantity of that radionuclide exceeds the concentration or quantity specified in the appropriate entry of that column in that table; or

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(2) 1965 c. 57. Section 5(3) was amended by S.I. 1974/2056, regulation 2 and Schedule 2, paragraph 1.

(3) OJ No. L 353, 31.12.2008, p.1.

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- (b) where more than one radionuclide which is listed or described in the relevant table is present, the sum of the quotient values of all such radionuclides in the substance or article, as determined by the summation rule following the table (as it applies to that column), is greater than one,

and any reference to a concentration or quantity of radioactivity not exceeding such a value shall be construed accordingly.

**Interpretation: NORM industrial activity**

2.—(1) Subject to sub-paragraph (2), in this Schedule—

“type 1 NORM industrial activity” means—

- (a) the production and use of thorium, or thorium compounds, and the production of products where thorium is deliberately added; or
- (b) the production and use of uranium or uranium compounds, and the production of products where uranium is deliberately added; and

“type 2 NORM industrial activity” means—

- (a) the extraction, production and use of rare earth elements and rare earth element alloys;
- (b) the mining and processing of ores other than uranium ore;
- (c) the production of oil and gas;
- (d) the removal and management of radioactive scales and precipitates from equipment associated with industrial activities;
- (e) any industrial activity utilising phosphate ore;
- (f) the manufacture of titanium dioxide pigments;
- (g) the extraction and refining of zircon and manufacture of zirconium compounds;
- (h) the production of tin, copper, aluminium, zinc, lead and iron and steel;
- (i) any activity related to coal mine de-watering plants;
- (j) china clay extraction;
- (k) water treatment associated with provision of drinking water; or
- (l) the remediation of contamination from any type 1 NORM industrial activity or any of the activities listed above.

(2) An activity which involves the processing of radionuclides of natural terrestrial or cosmic origin for their radioactive, fissile or fertile properties is not a type 1 NORM industrial activity or a type 2 NORM industrial activity.

**Interpretation: “radioactive material”, “radioactive waste” and “waste”**

3.—(1) In this Schedule, except as provided by paragraph 7, 8, 9 or 10—

“radioactive material” means a substance or article which is not waste, and which satisfies the requirements of paragraph 4, 5 or 6 as they apply to such a substance or article;

“radioactive waste” means a substance or article which is waste, and which satisfies the requirements of paragraph 4, 5 or 6.

(2) In this Schedule—

(a) “waste” includes—

- (i) any substance which constitutes scrap material or an effluent or other unwanted surplus substance arising from the application of any process, and

- (ii) any substance or article which requires to be disposed of as being broken, worn out, contaminated or otherwise spoilt;
- and
- (b) any substance or article which, in the course of carrying on any undertaking, is discharged, discarded or otherwise dealt with as if it were waste is presumed to be waste unless the contrary is proved.

#### **NORM industrial activities**

- 4.—(1) Sub-paragraph (2) applies to a substance or article which—
- (a) arises from or is used in a type 1 NORM industrial activity;
  - (b) is waste which arises from a type 2 NORM industrial activity; or
  - (c) is contaminated by a substance or article described in paragraph (a) or (b), including where such contamination occurs indirectly through another contaminated substance or article.
- (2) A substance or article to which this sub-paragraph applies is radioactive material or radioactive waste where it has a concentration of radioactivity which exceeds the following values in Table 1—
- (a) for a substance or article which is a solid or a substance which is a relevant liquid, the value specified in column 2;
  - (b) for a substance which is any other liquid, the value specified in column 3; or
  - (c) for a substance which is a gas, the value specified in column 4.

#### **Processed radionuclides of natural terrestrial or cosmic origin**

5. A substance or article is radioactive material or radioactive waste where—
- (a) the substance or article contains one or more of the radionuclides of natural terrestrial or cosmic origin which are listed in column 1 of Table 2;
  - (b) the substance or article—
    - (i) is processed or is intended to be processed for the radioactive, fissile or fertile properties of those radionuclides; or
    - (ii) is contaminated by a substance or article to which sub-paragraph (i) applies, including where such contamination occurs indirectly through another contaminated substance or article;
  - and
  - (c) the substance or article is—
    - (i) a solid or a relevant liquid and it has a concentration of radioactivity which exceeds the value specified in column 2 of Table 2; or
    - (ii) any other liquid or a gas.

#### **Radionuclides not of natural terrestrial or cosmic origin**

6. A substance or article which contains one or more radionuclides that are not of natural terrestrial or cosmic origin is radioactive material or radioactive waste where—
- (a) the substance or article is a solid or a relevant liquid and it has a concentration of radioactivity which exceeds the value specified in column 2 of Table 2; or
  - (b) the substance is any other liquid or a gas.

**Radionuclides with a short half-life**

7. A substance or article is not radioactive material or radioactive waste where none of the radionuclides which it contains or which it consists of has a half-life exceeding 100 seconds.

**Radionuclides not of natural terrestrial or cosmic origin in background radioactivity**

8.—(1) A substance or article is not radioactive material or radioactive waste where—

- (a) the substance or article is contaminated as a result of a climatic process, or a combination of such processes, by radionuclides which—
  - (i) are not of natural terrestrial or cosmic origin; and
  - (ii) are not present in the substance or article at a concentration that exceeds that found normally in such a substance or article in the United Kingdom;
- and
- (b) in the absence of such contamination, the substance or article would not otherwise be radioactive material or radioactive waste under this Schedule.

(2) In this paragraph, a “climatic process” includes wind, precipitation and the general circulation of the atmosphere and oceans.

**Contaminated substances or articles**

9.—(1) Subject to sub-paragraph (2), a substance or article is not radioactive material where—

- (a) the substance or article is contaminated, but has not been so contaminated with the intention of utilising its radioactive, fissile or fertile properties; and
- (b) in the absence of such contamination, the substance or article would not otherwise be radioactive material under this Schedule.

(2) Sub-paragraph (1) only applies while the substance or article is kept on the premises on which the contamination occurred.

**Substances or articles after disposal**

10.—(1) A substance or article is not radioactive material or radioactive waste during the excluded period where—

- (a) the substance or article has been disposed of lawfully, and at the time of the disposal no further act of disposal is intended in respect of it; or
- (b) the substance or article—
  - (i) is contaminated by a substance or article to which paragraph (a) applies, including where such contamination occurs indirectly through another contaminated substance or article;
  - (ii) in the absence of such contamination, would not otherwise be radioactive material or radioactive waste under this Schedule; and
  - (iii) is not contaminated with the intention of using its radioactive, fissile or fertile properties.

(2) In sub-paragraph (1), “the excluded period” means the period—

- (a) beginning at the relevant start time; and
- (b) ending at the time that there is an increase in the radiation exposure of the public or of any plant or animal which is caused by the substance or article being subject to a process after the relevant start time.



- (3) Sub-paragraph (4) applies to a substance or article which—
  - (a) is disposed of by burial (whether underground or otherwise) on premises in respect of which an environmental permit in respect of the radioactive substances activity in paragraph 11(2)(b) is held at the time of disposal;
  - (b) is disposed of in accordance with that permit; and
  - (c) is solid at the time of the disposal.
- (4) Where this sub-paragraph applies, the relevant start time is—
  - (a) where the environmental permit in sub-paragraph (3)(a) is surrendered, the time at which the surrender takes effect; or
  - (b) where that permit is revoked and—
    - (i) regulation 23 applies to that permit, the time at which the regulator issues the certificate described in paragraph (4) or (6) of that regulation; or
    - (ii) regulation 23 does not apply to that permit, the time at which the revocation takes effect.
- (5) Sub-paragraph (6) applies to a substance or article (“A”) described in sub-paragraph (1)(b), where the substance or article (“B”) which contaminates it (directly or indirectly) is described in sub-paragraph (3).
- (6) Where this sub-paragraph applies, the relevant start time for A is the later of—
  - (a) the time at which A becomes contaminated; and
  - (b) the relevant start time for B.
- (7) In respect of a substance or article (“C”) to which sub-paragraphs (4) and (6) do not apply, the relevant start time is—
  - (a) where sub-paragraph (1)(a) applies to C, the time at which C is disposed of; or
  - (b) where sub-paragraph (1)(b) applies to C, the time at which C becomes contaminated.

**Interpretation: radioactive substances activity**

**11.**—(1) Subject to paragraphs 12 and 13, “radioactive substances activity” means an activity described in sub-paragraph (2), (4), (5) or (6).

(2) A radioactive substances activity is carried on where a person uses premises for the purposes of an undertaking and that person—

- (a) except where sub-paragraph (5) applies, keeps or uses radioactive material on those premises;
- (b) disposes of radioactive waste on or from those premises; or
- (c) accumulates radioactive waste on those premises,

knowing or having reasonable grounds for believing the material or waste to be radioactive material or radioactive waste.

- (3) For the purposes of sub-paragraph (2)(c), where—
  - (a) radioactive material is produced, kept or used on any premises;
  - (b) any substance arising from the production, keeping or use of that material is accumulated in a part of the premises appropriated for the purpose; and
  - (c) that substance is retained there for a period of not less than 3 months,that substance, unless the contrary is proved, is presumed to be radioactive waste.

*Status: This is the original version (as it was originally made).*

(4) A radioactive substances activity is carried on where, in the course of a person carrying on an undertaking, that person—

- (a) receives radioactive waste for the purposes of disposing of that waste; and
- (b) knows or has reasonable grounds for believing the waste to be radioactive waste.

(5) A radioactive substances activity is carried on where a person keeps or uses mobile radioactive apparatus for—

- (a) testing, measuring or otherwise investigating any of the characteristics of substances or articles; or
- (b) releasing quantities of radioactive material into the environment or introducing such material into organisms.

(6) A radioactive substances activity is carried on where a person carries out intrusive investigation work or other excavation, construction or building work—

- (a) to determine the suitability of any premises; or
- (b) to enable the use of any premises,

as a place that may be used wholly or substantially for underground disposal.

(7) In sub-paragraph (6)—

“intrusive investigation work” means the drilling of boreholes into, or excavation of, sub-soil or rock to determine geological or hydrogeological conditions; and

“underground disposal” means—

- (a) the disposal of solid radioactive waste in an engineered facility, or in part of an engineered facility, which is beneath the surface of the ground, and
- (b) where the natural environment which surrounds the facility acts, in combination with any engineered measures, to inhibit the transit of radionuclides from the facility to the surface,

and does not include the disposal of radioactive waste in a facility which is beneath the surface of the ground only by virtue of the placing of rocks or soil above it.

### **Nuclear sites**

**12.—**(1) Paragraph 11(2)(a) does not apply to the activity carried on by a licensee of a nuclear site on any premises situated on that site at any time—

- (a) while a nuclear site licence is in force in respect of that site; and
- (b) after the revocation or surrender of such a licence but before the period of responsibility of the licensee has come to an end.

(2) In respect of any premises which—

- (a) are situated on a nuclear site; but
- (b) have ceased to be used for the purposes of an undertaking carried on by the licensee,

paragraph 11(2)(b) applies to those premises as if the premises were used for the purposes of an undertaking carried on by the licensee.

(3) Paragraph 11(2)(c) does not apply to the accumulation of radioactive waste on any premises situated on a nuclear site.

**Vehicles, vessels and aircraft**

13. In determining whether any radioactive material is kept or used on any premises, no account must be taken of any radioactive material kept or used in or on any railway vehicle, road vehicle, vessel or aircraft if—

- (a) the vehicle, vessel or aircraft is on the premises in the course of a journey; or
- (b) in the case of a vessel which is on those premises otherwise than in the normal course of a journey, the material is used in propelling the vessel or is kept in or on the vessel for use in propelling it.

**PART 3****Tables of radionuclides and summation rules****Table 1**

1. The Table 1 referred to in paragraph 4 (NORM industrial activities) of Part 2 is—

**Table 1****Concentration of radionuclides: NORM industrial activities**

<i>Radionuclide</i>	<i>Solid or relevant liquid concentration in becquerels per gram (Bq/g)</i>	<i>Any other liquid concentration in becquerels per litre (Bq/l)</i>	<i>Gaseous concentration in becquerels per cubic metre (Bq/m<sup>3</sup>)</i>
U-238sec(4)	0.5	0.1	0.001
U-238+	5	10	0.01
U-234	5	10	0.01
Th-230	10	10	0.001
Ra-226+	0.5	1	0.01
Pb-210+	5	0.1	0.01
Po-210	5	0.1	0.01
U-235sec	1	0.1	0.0001
U-235+	5	10	0.01
Pa-231	5	1	0.001
Ac-227+	1	0.1	0.001
Th-232sec	0.5	0.1	0.001
Th-232	5	10	0.001
Ra-228+	1	0.1	0.01
Th-228+	0.5	1	0.001

(4) For the meaning of 'sec' and '+' in this part see paragraph 5.

**Status:** This is the original version (as it was originally made).

2. The Table 1 summation rule in respect of column 2, 3 or 4 means the sum of the quotients A/B where—

- (a) “A” means the concentration of each radionuclide listed in column 1 of Table 1 that is present in the substance or article; and
- (b) “B” means the concentration of that radionuclide specified in column 2, 3 or 4 (as appropriate) of Table 1.

**Table 2**

3. The Table 2 referred to in paragraphs 5 (processed radionuclides of natural terrestrial or cosmic origin) and 6 (radionuclides not of natural terrestrial or cosmic origin) of Part 2 is—

**Table 2**

**Concentration of radionuclides**

<i>Radionuclide</i>	<i>Concentration in becquerels per gram (Bq/g)</i>
H-3	10 <sup>2</sup>
Be-7	10
C-14	10
F-18	1
Na-22	0.1
Na-24	0.1
Si-31	10 <sup>2</sup>
P-32	10 <sup>2</sup>
P-33	10 <sup>2</sup>
S-35	10 <sup>2</sup>
Cl-36	1
Cl-38	1
K-42	10
K-43	1
Ca-45	10 <sup>2</sup>
Ca-47	1
Sc-46	0.1
Sc-47	10
Sc-48	0.1
V-48	0.1
Cr-51	10
Mn-51	1

<i>Radionuclide</i>	<i>Concentration in becquerels per gram (Bq/g)</i>
Mn-52	0.1
Mn-52m	1
Mn-53	10 <sup>3</sup>
Mn-54	0.1
Mn-56	1
Fe-52+	1
Fe-55	10 <sup>2</sup>
Fe-59	0.1
Co-55	1
Co-56	0.1
Co-57	1
Co-58	0.1
Co-58m	10 <sup>2</sup>
Co-60	0.1
Co-60m	10 <sup>3</sup>
Co-61	10 <sup>2</sup>
Co-62m	1
Ni-59	10 <sup>2</sup>
Ni-63	10 <sup>2</sup>
Ni-65	1
Cu-64	10
Zn-65	1
Zn-69	10 <sup>2</sup>
Zn-69m+	1
Ga-72	1
Ge-71	10 <sup>4</sup>
As-73	10 <sup>2</sup>
As-74	1
As-76	1
As-77	10 <sup>2</sup>
Se-75	1
Br-82	0.1

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<i>Radionuclide</i>	<i>Concentration in becquerels per gram (Bq/g)</i>
Rb-86	10
Sr-85	1
Sr-85m	10
Sr-87m	10
Sr-89	10
Sr-90+	1
Sr-91+	1
Sr-92	1
Y-90	10 <sup>2</sup>
Y-91	10
Y-91m	1
Y-92	10
Y-93	10
Zr-93	10
Zr-95+	0.1
Zr-97+	1
Nb-93m	10 <sup>2</sup>
Nb-94	0.1
Nb-95	1
Nb-97+	1
Nb-98	1
Mo-90	1
Mo-93	10
Mo-99+	1
Mo-101+	1
Tc-96	0.1
Tc-96m	10
Tc-97	10
Tc-97m	10
Tc-99	1
Tc-99m	10 <sup>2</sup>
Ru-97	1
Ru-103+	1

<i>Radionuclide</i>	<i>Concentration in becquerels per gram (Bq/g)</i>
Ru-105+	1
Ru-106+	1
Rh-103m	10 <sup>4</sup>
Rh-105	10
Pd-103+	10 <sup>3</sup>
Pd-109+	10 <sup>2</sup>
Ag-105	1
Ag-108m+	0.1
Ag-110m+	0.1
Ag-111	10
Cd-109+	10
Cd-115+	1
Cd-115m+	10
In-111	1
In-113m	10
In-114m+	1
In-115m	10
Sn-113+	1
Sn-125	1
Sb-122	1
Sb-124	0.1
Sb-125+	1
Te-123m	1
Te-125m	10 <sup>2</sup>
Te-127	10 <sup>2</sup>
Te-127m+	10
Te-129	10
Te-129m+	10
Te-131	10
Te-131m+	1
Te-132+	0.1
Te-133+	1
Te-133m+	1

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<i>Radionuclide</i>	<i>Concentration in becquerels per gram (Bq/g)</i>
Te-134	1
I-123	10
I-125	1
I-126	1
I-129	0.1
I-130	1
I-131+	1
I-132	1
I-133	1
I-134	1
I-135	1
Cs-129	1
Cs-131	10 <sup>3</sup>
Cs-132	1
Cs-134	0.1
Cs-134m	10 <sup>3</sup>
Cs-135	10
Cs-136	0.1
Cs-137+	1
Cs-138	1
Ba-131	1
Ba-140	0.1
La-140	0.1
Ce-139	1
Ce-141	10
Ce-143	1
Ce-144+	10
Pr-142	10
Pr-143	10 <sup>2</sup>
Nd-147	10
Nd-149	10
Pm-147	10 <sup>2</sup>
Pm-149	10 <sup>2</sup>



<i>Radionuclide</i>	<i>Concentration in becquerels per gram (Bq/g)</i>
Sm-151	10 <sup>2</sup>
Sm-153	10
Eu-152	0.1
Eu-152m	10
Eu-154	0.1
Eu-155	10
Gd-153	10
Gd-159	10
Tb-160	0.1
Dy-165	10 <sup>2</sup>
Dy-166	10
Ho-166	10
Er-169	10 <sup>2</sup>
Er-171	10
Tm-170	10
Tm-171	10 <sup>2</sup>
Yb-175	10
Lu-177	10
Hf-181	1
Ta-182	0.1
W-181	10
W-185	10 <sup>2</sup>
W-187	1
Re-186	10 <sup>2</sup>
Re-188	10
Os-185	1
Os-191	10
Os-191m	10 <sup>3</sup>
Os-193	10
Ir-190	0.1
Ir-192	0.1
Ir-194	10

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<i>Radionuclide</i>	<i>Concentration in becquerels per gram (Bq/g)</i>
Pt-191	1
Pt-193m	10 <sup>2</sup>
Pt-197	10 <sup>2</sup>
Pt-197m	10 <sup>2</sup>
Au-198	1
Au-199	10
Hg-197	10
Hg-197m	10
Hg-203	1
Tl-200	1
Tl-201	10
Tl-202	1
Tl-204	10
Pb-203	1
Pb-210+	0.01
Pb-212+	1
Bi-206	0.1
Bi-207	0.1
Bi-210	10
Bi-212+	1
Po-203	1
Po-205	1
Po-207	1
Po-210	0.01
At-211	10 <sup>2</sup>
Ra-223+	1
Ra-224+	1
Ra-225	1
Ra-226+	0.01
Ra-227	10
Ra-228+	0.01
Ac-227+	0.01
Ac-228	1

<i>Radionuclide</i>	<i>Concentration in becquerels per gram (Bq/g)</i>
Th-226+	10 <sup>2</sup>
Th-227	1
Th-228+	0.1
Th-229+	0.1
Th-230	0.1
Th-231	10 <sup>2</sup>
Th-232	0.01
Th-232+	0.01
Th-232sec	0.01
Th-234+	10
Pa-230	1
Pa-231	0.01
Pa-233	1
U-230+	1
U-231	10
U-232+	0.1
U-233	1
U-234	1
U-235+	1
U-235sec	0.01
U-236	1
U-237	10
U-238+	1
U-238sec	0.01
U-239	10 <sup>2</sup>
U-240+	10
Np-237+	0.1
Np-239	10
Np-240	1
Pu-234	10 <sup>2</sup>
Pu-235	10 <sup>2</sup>
Pu-236	0.1
Pu-237	10

**Status:** This is the original version (as it was originally made).

<i>Radionuclide</i>	<i>Concentration in becquerels per gram (Bq/g)</i>
Pu-238	0.1
Pu-239	0.1
Pu-240	0.1
Pu-241	1
Pu-242	0.1
Pu-243	10 <sup>2</sup>
Pu-244+	0.1
Am-241	0.1
Am-242	10 <sup>2</sup>
Am-242m+	0.1
Am-243+	0.1
Cm-242	1
Cm-243	0.1
Cm-244	0.1
Cm-245	0.1
Cm-246	0.1
Cm-247+	0.1
Cm-248	0.1
Bk-249	10
Cf-246	10
Cf-248	1
Cf-249	0.1
Cf-250	0.1
Cf-251	0.1
Cf-252	0.1
Cf-253	1
Cf-253+	1
Cf-254	0.1
Es-253	1
Es-254+	0.1
Es-254m+	1
Fm-254	10 <sup>2</sup>
Fm-255	10

<i>Radionuclide</i>	<i>Concentration in becquerels per gram (Bq/g)</i>
Any other solid or non-aqueous liquid radionuclide that is not of natural terrestrial or cosmic origin	0.01 or that concentration which gives rise to a dose to a member of the public of 10 microsieverts per year calculated by reference to guidance by Euratom in RP 122 part 1(5).

4. The Table 2 column 2 summation rule means the sum of the quotients A/B where—
- “A” means the concentration of each radionuclide listed in column 1 of Table 2 that is present in the substance or article, and
  - “B” means the concentration of that radionuclide specified in column 2 of Table 2.

#### References in Table 1 and Table 2 to + and sec

5. Where any radionuclide carries the suffix “+” or “sec” in Table 1 or Table 2—
- that radionuclide represents the parent radionuclide in secular equilibrium with the corresponding daughter radionuclides which are identified in column 2 of Table 3 in respect of that parent radionuclide; and
  - a concentration value given in a table in this Part in respect of such a parent radionuclide is the value for the parent radionuclide alone, but already takes into account the daughter radionuclides present.

#### Table 3

6. The Table 3 referred to in paragraph 5 is—

**Table 3**

#### Radionuclides in secular equilibrium

<i>Parent radionuclide</i>	<i>Daughter radionuclides</i>
Fe-52+	Mn-52m
Zn-69m+	Zn-69
Sr-90+	Y-90
Sr-91+	Y-91m
Zr-95+	Nb-95m
Zr-97+	Nb-97m, Nb-97
Nb-97+	Nb-97m
Mo-99+	Tc-99m
Mo-101+	Tc-101
Ru-103+	Rh-103m

(5) EC 2000. Radiation Protection 122: Practical use of the concepts of clearance and exemption, Part 1. Report RP122 Luxembourg. European Commission.

*Status: This is the original version (as it was originally made).*

<i>Parent radionuclide</i>	<i>Daughter radionuclides</i>
Ru-105+	Rh-105m
Ru-106+	Rh-106
Pd-103+	Rh-103m
Pd-109+	Ag-109m
Ag-108m+	Ag-108
Ag-110m+	Ag-110
Cd-109+	Ag-109m
Cd-115+	In-115m
Cd-115m+	In-115m
In-114m+	In-114
Sn-113+	In-113m
Sb-125+	Te-125m
Te-127m+	Te-127
Te-129m+	Te-129
Te-131m+	Te-131
Te-132+	I-132
Te-133+	I-133, Xe-133m, Xe-133
Te-133m+	Te-133, I-133, Xe-133m, Xe-133
I-131+	Xe-131m
Cs-137+	Ba-137m
Ce-144+	Pr-144, Pr-144m
Pb-210+	Bi-210, Po-210
Pb-212+	Bi-212, Tl-208
Bi-212+	Tl-208
Ra-223+	Rn-219, Po-215, Pb-211, Bi-211, Tl-207
Ra-224+	Rn-220, Po-216, Pb-212, Bi-212, Tl-208
Ra-226+	Rn-222, Po-218, Pb-214, Bi-214, Po-214
Ra-228+	Ac-228
Ac-227+	Th-227, Fr-223, Ra-223, Rn-219, Po-215, Pb-211, Bi-211, Tl-207, Po-211
Th-226+	Ra-222, Rn-218, Po-214
Th-228+	Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208
Th-229+	Ra-225, Ac-225, Fr-221, At-217, Bi-213, Tl-209, Pb-209
Th-232+	Ra-228, Ac-228, Th-228, Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208

<i>Parent radionuclide</i>	<i>Daughter radionuclides</i>
Th-232sec	Ra-228, Ac-228, Th-228, Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Po-212, Tl-208
Th-234+	Pa-234m, Pa-234
U-230+	Th-226, Ra-222, Rn-218, Po-214
U-232+	Th-228, Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208
U-235+	Th-231
U-235sec	Th-231, Pa-231, Ac-227, Th-227, Fr-223, Ra-223, Rn-219, Po-215, Pb-211, Bi-211, Tl-207, Po-211
U-238+	Th-234, Pa-234m, Pa-234
U-238sec	Th-234, Pa-234m, Pa-234, U-234, Th-230, Ra-226, Rn-222, Po-218, Pb-214, Bi-214, Po-214, Pb-210, Bi-210, Po-210
U-240+	Np-240m, Np-240
Np-237+	Pa-233
Pu-244+	U-240, Np-240m, Np-240
Am-242m+	Np-238
Am-243+	Np-239
Cm-247+	Pu-243
Cf-253+	Cm-249
Es-254+	Bk-250
Es-254m+	Fm-254

## PART 4

### The Basic Safety Standards Directive

#### SECTION 1

##### *Exposures and doses*

#### **Optimisation and dose limits**

1. In respect of a radioactive substances activity that relates to radioactive waste, the regulator must exercise its relevant functions to ensure that—

- (a) all exposures to ionising radiation of any member of the public and of the population as a whole resulting from the disposal of radioactive waste are kept as low as reasonably achievable, taking into account economic and social factors; and
- (b) the sum of the doses resulting from the exposure of any member of the public to ionising radiation does not exceed the dose limits set out in Article 13 of the Basic Safety Standards Directive subject to the exclusions set out in Article 6(4) of that Directive.

*Status: This is the original version (as it was originally made).*

### **Specific dose limits and calculation**

2.—(1) In exercising those relevant functions in relation to the planning stage of radiation protection, the regulator must have regard to the following maximum doses to individuals which may result from a defined source—

- (a) 0.3 millisieverts per year from any source from which radioactive discharges are first made on or after 13th May 2000; or
- (b) 0.5 millisieverts per year from the discharges from any single site.

(2) In exercising those relevant functions, the regulator must observe the requirements of the following provisions of the Basic Safety Standards Directive—

- (a) in estimating effective dose and equivalent dose, Articles 15 and 16;
- (b) in estimating population doses, Article 45; and
- (c) in relation to the responsibilities of undertakings, Article 47.

## *SECTION 2*

### *Interventions*

#### **Radioactive waste: power of the Secretary of State to provide facilities for disposal or accumulation**

3.—(1) If it appears to the Secretary of State that adequate facilities are not available for the safe disposal or accumulation of radioactive waste, the Secretary of State may—

- (a) provide such facilities; or
- (b) make arrangements for their provision by such persons as the Secretary of State may think fit.

(2) Before exercising the power under sub-paragraph (1), the Secretary of State must consult with—

- (a) any local authority in whose area the facilities would be situated; and
- (b) such other public or local authorities (if any) as appear to the Secretary of State to be proper to be consulted.

(3) Reasonable charges for the use of any facilities provided under sub-paragraph (1) may be made by—

- (a) the Secretary of State; or
- (b) the person providing such facilities, unless the arrangements made by the Secretary of State with that person provide to the contrary.

#### **Radioactive waste: power of disposal by the regulator**

4.—(1) Sub-paragraph (2) applies if there is radioactive waste on any premises and the regulator is satisfied that the waste ought to be disposed of but that it is unlikely that the waste will be lawfully disposed of—

- (a) because the premises are unoccupied;
- (b) because the occupier is absent or insolvent; or
- (c) for any other reason.

(2) The regulator may dispose of the waste and recover any expenses it reasonably incurs in that disposal from—



- (a) the occupier of the premises; or
  - (b) if the premises are unoccupied, the owner of the premises.
- (3) In sub-paragraph (2)—
- (a) “owner” has the same meaning as in section 343 of the Public Health Act 1936<sup>(6)</sup>; and
  - (b) the provisions of section 294 of that Act (which limits the liability of owners who are only agents or trustees) apply but as if reference in that section to a council recovering expenses under that Act were to the regulator recovering expenses under sub-paragraph (2).

## PART 5

### The HASS Directive

#### SECTION 1

##### *Security of sources*

#### **Interpretation**

**1.** In this Part—

“the HASS Directive” means Council Directive 2003/122/EURATOM<sup>(7)</sup> on the control of high-activity sealed radioactive sources and orphan sources;

“high-activity or similar source” means—

- (a) a high-activity source; or
- (b) such other sealed source which, in the opinion of the regulator, is of a similar level of potential hazard to a high-activity source;

“high-activity source” has the same meaning as in the HASS Directive but excluding any such source once its activity level has fallen below the exemption levels specified in column 2 of Table A to Annex I to the Basic Safety Standards Directive;

“orphan source” has the same meaning as in the HASS Directive; and

“sealed source” has the same meaning as in the HASS Directive.

#### **Site security: inspection**

**2.—(1)** In exercising relevant functions in relation to a radioactive substances activity, the regulator must comply with sub-paragraph (3) where a high-activity or similar source is, or will be, kept, used, disposed of or accumulated on any premises.

(2) Sub-paragraph (1) does not apply where the premises are, or are part of, a nuclear site.

(3) In considering if the measures taken, or to be taken, by the operator ensure the adequate security of any premises, the regulator must where appropriate inspect those premises.

(4) Where the regulator inspects any premises under sub-paragraph (3), it may be accompanied by such other persons as are appropriate to assist it in assessing the measures.

(5) An operator must permit the regulator (and any person accompanying it) reasonable access to any premises the regulator wishes to inspect under sub-paragraph (3).

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<sup>(6)</sup> 1936 c. 49.

<sup>(7)</sup> OJ No L 346, 31.12.2003, p 57.

(6) If the operator fails to comply with sub-paragraph (5), the regulator may refuse the application or revoke the permit insofar as it relates to the sources referred to in sub-paragraph (1).

**Site security: security measures and advice**

3.—(1) In exercising relevant functions in relation to a radioactive substances activity, the regulator must comply with sub-paragraph (2) where a high-activity or similar source is, or will be, kept, used, disposed of or accumulated on any premises.

(2) The regulator—

- (a) must satisfy itself that there are in place measures concerning site security, including the security measures in sub-paragraph (3), as are appropriate to the source and premises in question;
- (b) where it considers it appropriate to do so, must consult the police, security services or other appropriate persons on site security;
- (c) must have regard to any advice given by them, if it is issued within such time as the regulator believes is reasonable before it exercises a relevant function; and
- (d) must impose appropriate environmental permit conditions concerning site security.

(3) The security measures referred to in sub-paragraph (2)(a) are—

- (a) measures to ensure the physical security of the premises, including the installation of alarm and detection systems, and the retaining of documentary evidence of those measures;
- (b) measures, which are evidenced in writing—
  - (i) to prevent unauthorised access to, or loss or theft of, a high-activity or similar source;
  - (ii) to detect such matters; and
  - (iii) to review and enhance the physical security of the premises in response to any increased risk of unauthorised access, loss or theft;
- (c) written procedures to ensure that before a person is authorised to have access to a high-activity or similar source—
  - (i) that person has passed checks to verify their identity, and
  - (ii) satisfactory written references have been obtained which confirm, as far as reasonably practicable, that there is no information to indicate that the person presents any security risk to the sources; and
- (d) measures to keep secure, and prevent unauthorised access to, information relating to—
  - (i) a high-activity or similar source, and
  - (ii) the measures referred to in paragraphs (a), (b) and (c).

*SECTION 2*

*Advice and assistance in relation to orphan sources*

**Advice and assistance in respect of orphan sources**

4.—(1) The relevant person must ensure that specialised technical advice and assistance is promptly made available to persons who—

- (a) are not normally involved in operations subject to radiation protection requirements, and
- (b) suspect the presence of an orphan source.

(2) The relevant person must ensure that the primary aim of such advice and assistance is—

- (a) the safety of the source; and
  - (b) protecting the public and workers from radiation.
- (3) The relevant person means—
- (a) in relation to the protection of workers, the Secretary of State;
  - (b) in relation to the protection of the public (other than workers)—
    - (i) in England, the Secretary of State,
    - (ii) in Wales, the Welsh Ministers.

### SECTION 3

#### *Exercise of relevant functions and matters in relation to orphan sources*

##### **General**

5.—(1) In exercising relevant functions in relation to a radioactive substances activity, the regulator must comply with the following provisions of the HASS Directive—

- (a) Article 3(2) and (3);
- (b) Article 4;
- (c) Article 5(1) and (2);
- (d) Article 6;
- (e) subject to sub-paragraph (2), Article 7(1) and (2).

(2) In relation to a high-activity source placed on the market before 31st December 2005, sub-paragraph (1)(e) has effect as if it referred to the provisions contained in Article 16(1)(b) of the HASS Directive.

##### **Records and inspections**

6. In relation to a high-activity source, the regulator must—

- (a) keep records of those matters—
  - (i) required by Article 5(3) and (4) of the HASS Directive; and
  - (ii) notified to it under Article 6 of that Directive;and
- (b) establish or maintain a system of inspections to enforce the following provisions of the HASS Directive—
  - (i) Articles 3 to 6;
  - (ii) as appropriate, Article 7(1) and (2) or Article 16(1)(b).

##### **Training and information**

7.—(1) In relation to a high-activity source, the appropriate training and adequate information required by the Ionising Radiations Regulations 1999<sup>(8)</sup> must include—

- (a) specific requirements for the safe management of such a source;
- (b) particular emphasis on the necessary safety requirements in relation to such a source; and

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(8) [S.I. 1999/3232](#).

- (c) specific information on possible consequences of the loss of adequate control of such a source.

(2) The training and information on the matters in sub-paragraph (1) must be repeated at regular intervals and documented, with a view to preparing the employees and other persons referred to in those Regulations for such matters.

### **Orphan sources**

**8.**—(1) The regulator must—

- (a) be prepared, or have made provision (including the assignment of responsibilities), to recover any orphan source; and
- (b) have drawn up appropriate response plans and measures.

(2) The regulator may recover any expenses reasonably incurred by it in the recovery and disposal of an orphan source from—

- (a) the person carrying on the radioactive substances activity involving that source; or
- (b) the occupier or owner of the premises where the source is located.

(3) In relation to sub-paragraph (2)—

- (a) “owner” has the same meaning as in section 343 of the Public Health Act 1936(9); and
- (b) the provisions of section 294 of that Act (which limits the liability of owners who are only agents or trustees) apply but as if reference in that section to a council recovering expenses under that Act were to the regulator recovering expenses under sub-paragraph (2).

## **PART 6**

### **Conditions in environmental permits**

#### **Posting on premises of environmental permits**

**1.**—(1) Subject to sub-paragraph (3), the regulator must impose environmental permit display conditions on an environmental permit granted under these Regulations if the permit—

- (a) relates to a radioactive substances activity described in paragraph 11(2) of Part 2 of this Schedule; and
- (b) does not relate to a sealed source.

(2) Where an existing radioactive substances permit—

- (a) becomes an environmental permit by virtue of regulation 69(a); and
- (b) does not relate to a sealed source,

the environmental permit has effect subject to environmental permit display conditions in addition to any conditions that apply to it by virtue of regulation 69(b).

(3) The regulator, if required to do so on the grounds of national security by any direction issued to it under these Regulations or under any other enactment—

- (a) must vary or revoke environmental permit display conditions or any similar environmental permit conditions that applied to an existing radioactive substances permit at the relevant time; or
- (b) must not impose such conditions.

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(9) 1936 c. 49.

(4) In this paragraph—

“environmental permit display conditions” means a requirement that the operator—

- (a) keep copies of the permit posted on the premises, and
- (b) post the permit in such characters and positions as to be conveniently read by persons who have duties on the premises which are or could be affected by the matters set out in the permit; and

“existing radioactive substances permit” means—

- (a) an authorisation under section 13 or 14 of the 1993 Act, or
- (b) a registration under section 7 of the 1993 Act.

## PART 7

### Radioactive substances activity exemptions

#### SECTION 1

##### General

#### Interpretation

1. In this Part—

“Ba-137m eluting source” means a source which consists of Cs-137 in a sealed container which is designed and constructed to allow the elution of Ba-137m, and which is radioactive material or radioactive waste solely because of that Cs-137;

“Class A gaseous tritium light device” means a gaseous tritium light device where the activity of the device does not exceed  $2 \times 10^{10}$  Bq of tritium;

“Class B gaseous tritium light device” means a gaseous tritium light device which is installed or intended to be installed on premises and where the activity—

- (a) in each sealed container in the device does not exceed  $8 \times 10^{10}$  Bq of tritium; and
- (b) of the device does not exceed  $1 \times 10^{12}$  Bq of tritium;

“Class C gaseous tritium light device” means a gaseous tritium light device installed or intended to be installed—

- (a) in a vessel or aircraft; or
- (b) in a vehicle or other equipment used or intended to be used by the armed forces of the Crown;

“disposal permit” means—

- (a) an environmental permit to carry on the radioactive substances activity described in paragraph 11(2)(b) of Part 2 of this Schedule; or
- (b) an authorisation under the 1993 Act to dispose of radioactive waste held in respect of premises situated in Northern Ireland or Scotland;

“electrodeposited source” means an article where radionuclides are electrodeposited onto a metal substrate and which is radioactive material or radioactive waste solely because it contains Ni-63 or Fe-55;

“gaseous tritium light device” means a sealed source in a device which is an illuminant, instrument, sign or indicator which—

*Status: This is the original version (as it was originally made).*

(a) incorporates tritium in one or more sealed containers constructed to prevent dispersion of that tritium in normal use; and

(b) is radioactive material solely because it contains that tritium;

“luminised article” means an article which is made wholly or partly from a luminescent substance in the form of a film or a paint and which—

(a) is radioactive material or radioactive waste solely because it contains Pm-147 or H-3; and

(b) is not a sealed source;

“management”, in respect of waste, means—

(a) the preparation by checking, cleaning or repairing that waste for its re-use without further processing;

(b) the recovery of that waste;

(c) the disposal of that waste; or

(d) the application of any treatment process to that waste which is preparatory to the recovery or disposal of it,

and cognate expressions shall be construed accordingly;

“relevant river” means a river or a part of a river which—

(a) is not a part of the sea; and

(b) at the place and time of any disposal into it of aqueous radioactive waste from a sewage disposal works or directly from premises, has a flow-rate which is not less than  $1\text{m}^3\text{s}^{-1}$ ;

“relevant sewer” means—

(a) a public sewer; or

(b) a disposal main which leads to a sewage disposal works that—

(i) has the capacity to handle a minimum of  $100\text{m}^3$  of effluent per day; and

(ii) discharges treated effluent only to the sea or to a relevant river,

and “public sewer”, “disposal main”, “sewage disposal works” and “effluent” have the same meaning as in the Water Industry Act 1991(10);

“relevant standard conditions” has the meaning given in paragraph 10;

“sea” includes any area submerged at mean high water springs and also includes, so far as the tide flows at mean high water springs, an estuary or arm of the sea and the waters of any channel, creek, bay or river;

“sealed source” means a radioactive source containing radioactive material where the structure is designed to prevent, under normal use, any dispersion of radioactive substances, excluding such a source where it is an electrodeposited source or a tritium foil source;

“stored in transit” means the storage in the course of transit of radioactive material or radioactive waste but does not include any storage of such material or waste where it is removed from its container;

“Table 4”, “Table 5”, “Table 6”, “Table 7” or “Table 8” means the table with that number in this Part;

“a tritium foil source” means an article which—

(a) has a mechanically tough surface into which tritium is incorporated; and

(b) is radioactive material or radioactive waste solely because of that tritium;

(10) 1991 c. 56; the definition of public sewer was amended by the Water Act 2003 (c. 37).

“uranium or thorium compound” means a substance or article which is radioactive material or radioactive waste solely because it is or contains metallic uranium or thorium or prepared compounds of uranium or thorium, and in respect of which metal or compound the proportion of—

- (a) U-235 in the uranium it contains is no more than 0.72% by mass; and
- (b) any isotope of thorium it contains is present in the isotopic proportions found in nature;

“waste permitted person” means, in relation to the radioactive waste where the term appears, a person who holds—

- (a) an environmental permit to carry on the radioactive substances activity described in paragraph 11(2)(b) or (c) of Part 2 of this Schedule; or
- (b) in respect of premises in Scotland or Northern Ireland, an authorisation under section 13 or 14 of the 1993 Act;

“week” means any period of seven consecutive days; and

“year” means a calendar year.

### **Interpretation: NORM**

2.—(1) In this Part, “NORM waste” means a substance or article which is solid radioactive waste under—

- (a) paragraph 4 of Part 2 of this Schedule; or
- (b) except where sub-paragraph (2) applies, paragraph 5 of that Part where the waste arises from the remediation of land.

(2) Land is not contaminated under sub-paragraph (1)(b) where the land is on a site in respect of which a nuclear site licence is or has been in force and the contamination occurred—

- (a) when that licence was in force; or
- (b) before that licence was granted, when the site was used for the purpose of installing or operating an installation described in subsection (1) of section 1 of the Nuclear Installations Act 1965<sup>(11)</sup> (restriction of certain nuclear installations to licensed sites) or in regulations made under that subsection.

(3) In these Regulations, “NORM waste concentration” means, in respect of radionuclides contained in NORM waste, the sum of the concentrations of the single radionuclide with the highest concentration in each of the natural decay chains beginning with—

- (a) U-238;
- (b) U-235; and
- (c) Th-232.

## *SECTION 2*

### *Exemption for keeping and using radioactive material and accumulating radioactive waste*

#### **Exemption for keeping and using radioactive material**

3.—(1) A person (“A”) is exempt from the requirement for an environmental permit to carry on the radioactive substances activity described in paragraph 11(2)(a) of Part 2 of this Schedule in respect of—

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(11) 1965 c.57, as relevantly amended by S.I. 1974/2056 and 1990/1918, Schedule 1, paragraph 1.

*Status: This is the original version (as it was originally made).*

- (a) subject to sub-paragraph (2), the radioactive material described in paragraph 5, where A complies with the relevant standard conditions and—
    - (i) in respect of radioactive material described in paragraph 5(1)(a), the condition in paragraph 6(1); and
    - (ii) in respect of radioactive material described in paragraph 5(1)(b), the condition in paragraph 6(2);
  - or
  - (b) radioactive material stored in transit.
- (2) A is not exempt from the requirement for an environmental permit under sub-paragraph (1) (a) in respect of a high activity source where A takes possession of it.

#### **Exemption for accumulating radioactive waste**

- 4.—(1) This paragraph applies to the following radioactive substances activities—
- (a) the activity described in paragraph 11(2)(c) of Part 2 of this Schedule (“Activity A”); and
  - (b) the activity described in paragraph 11(4) of Part 2 of this Schedule (“Activity B”).
- (2) In this paragraph, “paragraph 5 waste” means radioactive waste described in paragraph 5.
- (3) A person (“A”) is exempt from the requirement for an environmental permit to carry on Activity A or B, in respect of radioactive waste which is stored in transit.
- (4) Subject to sub-paragraph (5), a person (“B”) is exempt from the requirement for an environmental permit to carry on Activity A or B in respect of paragraph 5 waste where—
- (a) B receives that waste for accumulation on premises (with a view to its subsequent management by B on those premises);
  - (b) in respect of those premises B manages substantial quantities of waste which is not radioactive waste; and
  - (c) the management of the radioactive waste will be completed by B as soon as is reasonably practicable, with the radioactive waste dispersed in non-radioactive waste.
- (5) B is not exempt under sub-paragraph (4) from the requirement for an environmental permit to carry on Activity B where the waste received by B is or contains a high-activity source.
- (6) A person (“C”) is exempt from the requirement for an environmental permit to carry on Activity A in respect of paragraph 5 waste, where C complies with the relevant standard conditions and—
- (a) in respect of radioactive waste described in paragraph 5(1)(a), the condition in paragraph 6(1); and
  - (b) in respect of radioactive waste described in paragraph 5(1)(b), the condition in paragraph 6(2).
- (7) A person (“D”) is exempt from the requirement for an environmental permit to carry on Activity A in respect of radioactive waste which is a sealed source, an electrodeposited source or a tritium foil source which—
- (a) contains a quantity of radionuclides which exceeds the value specified in column 2 of Table 4 in respect of the relevant type of source;
  - (b) immediately before it became radioactive waste, was radioactive material in the form of a sealed source, an electrodeposited source or a tritium foil source (as appropriate); and
  - (c) has not been received by D for the purpose of D disposing of it,
- where D complies with the relevant standard conditions.



#### **Radioactive substances exempted under paragraphs 3 and 4**

- 5.—(1) Subject to sub-paragraph (2), paragraphs 3(1)(a) and 4(4) and (6) apply to—
- (a) a substance or article described in an entry in column 1 of Table 4 which contains a quantity of radionuclides that does not exceed the value specified in column 2 of Table 4 in respect of that substance or article; or
  - (b) any substance or article which is not described in an entry in column 1 of Table 4.
- (2) Sub-paragraph (1) does not apply to NORM waste with a NORM waste concentration which is less than or equal to 10 Bq/g.

#### **Conditions in respect of the total quantity or concentration of radioactive substances on any premises**

- 6.—(1) The condition referred to in paragraphs 3(1)(a)(i) and 4(6)(a) is that, in respect of the total amount of a substance or article described in paragraph 5(1)(a) (including any mobile radioactive apparatus) on the premises, the quantity of radionuclides must not exceed the value specified for that substance or article in column 3 of Table 4.
- (2) The condition referred to in paragraphs 3(1)(a)(ii) and 4(6)(b) in respect of a substance or article described in paragraph 5(1)(b) is that—
- (a) in respect of the total amount of such substances and articles on the premises, the quantity of radioactivity does not exceed the value specified in column 2 of Table 5; or
  - (b) no such substance or article on the premises contains a concentration of radioactivity that exceeds the value specified in column 3 of Table 5.

#### **Exemption for accumulating NORM waste**

- 7.—(1) This paragraph applies—
- (a) to the following radioactive substances activities—
    - (i) the activity described in paragraph 11(2)(c) of Part 2 of this Schedule (“Activity A”);
    - (ii) the activity described in paragraph 11(4) of Part 2 of this Schedule (“Activity B”);and
  - (b) where Activity A or B is carried on in respect of NORM waste with a NORM waste concentration that does not exceed 10 Bq/g (“Qualifying NORM Waste”).
- (2) Subject to sub-paragraph (5) where it applies, a person (“A”) is exempt from the requirement for an environmental permit to carry on Activity A or Activity B in respect of Qualifying NORM Waste, where another person (“B”) transfers that waste to A—
- (a) in accordance with—
    - (i) a disposal permit held by B; or
    - (ii) an exemption from holding such a permit that applied to B in respect of the transfer to A;and
  - (b) for the purpose of its accumulation by A with a view to its subsequent management by A on the premises on which it is received by A.
- (3) Subject to sub-paragraph (5) where it applies, a person (“C”) is exempt from the requirement for an environmental permit to carry on Activity A in respect of Qualifying NORM Waste where C complies with the relevant standard conditions.

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(4) Sub-paragraph (5) applies to a person (“D”) who holds an environmental permit to carry on Activity A on premises (“the relevant premises”) in respect of NORM waste with a NORM waste concentration which is more than 10 Bq/g.

(5) The exemptions in sub-paragraphs (2) and (3) do not apply to D in respect of Qualifying NORM waste—

- (a) with a NORM waste concentration which exceeds 5 Bq/g; and
- (b) which is accumulated on the relevant premises.

### SECTION 3

#### *Exemption for keeping or using mobile radioactive apparatus*

##### **Exemption for keeping or using mobile radioactive apparatus**

**8.—**(1) A person (“A”) is exempt from the requirement for an environmental permit to carry on the radioactive substances activity described in paragraph 11(5) of Part 2 of this Schedule in respect of—

- (a) a mobile radioactive apparatus described in an entry in column 1 of Table 4 where—
    - (i) that apparatus contains a quantity of radionuclides that does not exceed the value specified in column 2 of Table 4 in respect of an apparatus of that description; and
    - (ii) A complies with the conditions in sub-paragraph (2);
  - or
  - (b) mobile radioactive apparatus stored in transit.
- (2) The conditions in this sub-paragraph are that A must—
- (a) ensure that in relation to the total amount of all such mobile radioactive apparatus that A holds, the quantity of radionuclides does not exceed the value specified, in respect of an apparatus of that description, in column 3 of Table 4; and
  - (b) comply with the relevant standard conditions.

### SECTION 4

#### *Relevant standard conditions*

##### **Interpretation of this section**

**9.** In this section, “radioactive substances” means radioactive material, mobile radioactive apparatus and radioactive waste, and “exempt radioactive substances” means radioactive substances in respect of which an exemption in section 2 or 3 of this Part applies.

##### **Relevant standard conditions**

**10.—**(1) Reference to the relevant standard conditions in sections 1 to 3 of this Part, means in respect of the exemption provided for in—

- (a) paragraph 3(1)(a), the conditions in paragraphs 11 and 12;
- (b) paragraph 4(6), 4(7) or 7(3), the conditions in paragraphs 11, 12 and 14;
- (c) paragraph 8(1)(a), the conditions in paragraphs 11 (except paragraph 11(e)(ii) and 11(f)) and 13.

(2) A condition in paragraph 11, 12 or 13 does not apply in respect of an exemption in section 2 or 3 of this Part unless that condition is a relevant condition in respect of that exemption.

### **General conditions**

- 11.** A person (“A”) to whom the conditions in this paragraph apply must—
- (a) keep an adequate record of any exempt radioactive substances which A holds, and—
    - (i) in respect of exempt radioactive substances which are mobile radioactive apparatus, the locations at which they are kept or used;
    - (ii) in respect of other exempt radioactive substances, the location within the premises where A holds them;
  - (b) ensure that where reasonably practicable exempt radioactive substances or the containers of such radioactive substances, are marked or labelled as radioactive;
  - (c) in respect of exempt radioactive substances which are sealed sources, electrodeposited sources or tritium foil sources, not modify or mutilate those sources or cause a loss of containment such that radioactive material or radioactive waste may be released outside the source;
  - (d) allow the regulator access to such records or such premises as the regulator may request in order to determine that all of the conditions in respect of the relevant exemption are complied with;
  - (e) hold the exempt radioactive substances safely and securely to prevent, so far as reasonably practicable—
    - (i) accidental removal, loss or theft from the premises where they are held; or
    - (ii) loss of containment;and
  - (f) in respect of exempt radioactive substances in a container—
    - (i) not modify or mutilate that container; and
    - (ii) prevent any uncontrolled or unintended release of radioactive material or radioactive waste from the container.

### **Loss or theft conditions**

**12.**—(1) Subject to sub-paragraph (2), in the event of an incident of loss or theft (or suspected loss or theft) of exempt radioactive substances (except mobile radioactive apparatus) from the premises where they are held, a person to whom the condition in this paragraph applies must—

- (a) notify the incident to the regulator as soon as reasonably practicable; and
- (b) include in that notification the details of any other incidents of loss or theft (or suspected loss or theft) of any radioactive substances from those premises over the 12 months preceding the incident being notified.

(2) In respect of an incident described in sub-paragraph (1), a notification to the regulator is not required where in respect of the aggregated total amount of exempt radioactive substances (excluding mobile radioactive apparatus) lost or stolen (or suspected to have been lost or stolen) from the premises in the incident and in all other such incidents in the 12 months preceding it, the total quantity of radioactivity does not exceed the value that is ten times the value in column 2 of Table 5.

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### **Loss or theft conditions: mobile radioactive apparatus**

**13.**—(1) Subject to sub-paragraph (2), in the event of an incident of loss or theft (or suspected loss or theft) of mobile radioactive apparatus from a person (“A”) to whom the condition in this paragraph applies, A must—

- (a) notify the incident to the regulator as soon as reasonably practicable; and
- (b) include in that notification the details of any other incidents of loss or theft (or suspected loss or theft) of any mobile radioactive apparatus from A over the 12 months preceding the incident being notified.

(2) In respect of an incident described in sub-paragraph (1), a notification to the regulator is not required where in respect of the aggregated total amount of mobile radioactive apparatus lost or stolen (or suspected to have been lost or stolen) from A in the incident and in all other such incidents in the 12 months preceding it, the total quantity of radioactivity does not exceed the value that is ten times the value in column 2 of Table 5.

### **Condition to dispose of accumulated waste**

**14.** A person to whom the condition in this paragraph applies must dispose of the radioactive waste which is the subject of the exemption to which this condition applies—

- (a) as soon as reasonably practicable after it has become waste; and
- (b) in the case of such waste where it is a sealed source, a tritium foil source or an electrodeposited source, in any event within 26 weeks after it has become waste unless the regulator advises in writing that a longer period of accumulation is allowed.

## *SECTION 5*

### *Exemption for disposing of solid radioactive waste*

#### **Exemption for receiving and disposing of solid radioactive waste**

**15.**—(1) This paragraph applies to the following radioactive substances activities—

- (a) the activity described in paragraph 11(2)(b) of Part 2 of this Schedule (“Activity A”);
- (b) the activity described in paragraph 11(4) of Part 2 of this Schedule (“Activity B”).

(2) A person (“A”) is exempt from the requirement for an environmental permit to carry on Activity A or Activity B in respect of solid radioactive waste described in paragraph 16(1)(a) where—

- (a) A receives the waste on premises for the purpose of it being managed by A on those premises;
- (b) in respect of those premises A manages substantial quantities of waste which is not radioactive waste; and
- (c) the radioactive waste will be disposed of by A as soon as is reasonably practicable with the radioactive waste dispersed in non-radioactive waste.

(3) A person (“B”) is exempt from the requirement for an environmental permit to carry on Activity A in respect of solid radioactive waste described in paragraph 16(1) where—

- (a) in respect of a sealed source, an electrodeposited source or a tritium foil source, B complies with the conditions in paragraph 17(2); and
- (b) in respect of any other waste described in paragraph 16(1)(a), B complies with the conditions in paragraph 17(1) and (2).

### **Solid radioactive waste**

- 16.—(1) Solid radioactive waste referred to in paragraph 15 means—
- (a) subject to sub-paragraph (2), solid radioactive waste described in an entry in column 1 of Table 6 which does not contain a concentration of radionuclides that exceeds the value specified in column 2 of that table in respect of that kind of waste; or
  - (b) a sealed source, an electrodeposited source or a tritium foil source which is not described in paragraph (a).
- (2) Sub-paragraph (1)(a) does not apply to waste—
- (a) where, prior to the disposal of that waste, a person has diluted it with the intention of ensuring that sub-paragraph (1)(a) is met; or
  - (b) which is NORM waste with a NORM waste concentration which is less than or equal to 10 Bq/g.

### **Conditions in respect of solid radioactive waste**

17.—(1) The condition referred to in paragraph 15(3)(b) is that B must ensure that, in respect of the total amount of a waste to which this condition applies that is disposed of on or from the premises, the quantity of radioactivity which that waste contains must not exceed the value specified in column 3 of Table 6 in respect of that waste during the period stated in that column.

- (2) The conditions referred to in paragraph 15(3)(a) and (b) are that B must—
- (a) keep an adequate record of the solid radioactive waste which B disposes of on or from any premises under that paragraph;
  - (b) dispose of the waste by any of the routes described in sub-paragraph (3);
  - (c) where the disposal route in sub-paragraph (3)(a) is used, ensure that where reasonably practicable any marking or labelling of the waste or its container is removed before the person disposes of that waste;
  - (d) where the waste is or was a high-activity source, notify the details of the disposal to the regulator within 14 days of the disposal (including the information required by Annex II of the HASS Directive), in such form as may be required by the regulator; and
  - (e) allow the regulator access to such records or such premises as the regulator may request in order to determine that all of the conditions that apply in respect of the relevant exemption in paragraph 15(3) are complied with.
- (3) The routes referred to in sub-paragraph (2)(b) are that the waste is transferred to—
- (a) subject to sub-paragraph (4), a person who manages substantial quantities of non-radioactive waste and where the radioactive waste will be so managed with the radioactive waste dispersed in non-radioactive waste;
  - (b) a waste permitted person; or
  - (c) where the waste is a sealed source, an electrodeposited source or a tritium foil source, to a licensee of a nuclear site or to a person who is situated in another country and who is lawfully entitled to receive such waste.
- (4) The route in sub-paragraph (3)(a) does not apply in respect of waste—
- (a) described in paragraph 16(1)(b); or
  - (b) which is described in paragraph 16(1)(a) and which is a sealed source, an electrodeposited source or a tritium foil source, where in respect of the total amount of such a source which is disposed of on or from the premises under paragraph 15(3), the quantity of radioactivity

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which that waste contains exceeds the value specified in column 3 of Table 6 in respect of that source during the period stated in that column.

## *SECTION 6*

### *Exemption for disposing of NORM waste*

#### **Exemption for receiving and disposing of NORM waste**

**18.**—(1) This paragraph applies—

(a) to the following radioactive substances activities—

(i) the activity described in paragraph 11(2)(b) of Part 2 of this Schedule (“Activity A”);

(ii) the activity described in paragraph 11(4) of Part 2 of this Schedule (“Activity B”);

and

(b) where Activity A or B is carried on in respect of NORM waste—

(i) with a NORM waste concentration that does not exceed 5 Bq/g (“type 1 NORM Waste”); or

(ii) with a NORM waste concentration that exceeds 5 Bq/g but does not exceed 10 Bq/g (“type 2 NORM waste”).

(2) Subject to sub-paragraph (6), a person (“A”) is exempt from the requirement for an environmental permit to carry on Activity A or Activity B in respect of type 1 NORM waste or type 2 NORM waste where another person (“B”) transfers that waste to A—

(a) in accordance with—

(i) a disposal permit held by B; or

(ii) an exemption from holding such a permit that applied to B in respect of the transfer to A;

and

(b) for the purpose of its disposal by A on the premises on which A receives it.

(3) Where a person (“C”) disposes of—

(a) type 1 NORM waste on or from premises, sub-paragraph (4) applies to C; or

(b) type 2 NORM waste on or from premises, sub-paragraph (5) applies to C.

(4) C is exempt from the requirement for an environmental permit to carry on Activity A in respect of type 1 NORM waste where in relation to the total amount of such waste disposed of on or from the premises by C per year—

(a) the quantity of radionuclides does not exceed  $5 \times 10^{10}$  Bq, and C complies with the conditions in paragraph 19(1); or

(b) subject to sub-paragraph (6), the quantity of radionuclides exceeds  $5 \times 10^{10}$  Bq, and C complies with—

(i) the conditions in paragraph 19(1); and

(ii) where C intends to dispose of the waste by one of the methods in paragraph 19(2) (a), the conditions in paragraph 19(3).

(5) Subject to sub-paragraph (6), C is exempt from the requirement for an environmental permit to carry on Activity A in respect of type 2 NORM waste where C complies with the conditions in paragraph 19(1) and (3).

(6) Sub-paragraph (7) applies to a person (“E”) where E holds an environmental permit to carry on Activity A for the disposal on or from premises (“the relevant premises”) of NORM waste with a NORM waste concentration which exceeds 10 Bq/g.

(7) The following exemptions do not apply to E—

- (a) the exemptions in sub-paragraph (2) in respect of type 2 NORM waste;
- (b) the exemption in sub-paragraph (4)(b); and
- (c) the exemption in sub-paragraph (5).

#### **Conditions in respect of NORM waste**

**19.**—(1) The conditions referred to in the exemptions in paragraph 18(4)(a) and (b)(i) and (5) are that C must—

- (a) keep an adequate record of the NORM waste which C disposes of under those exemptions;
- (b) dispose of the waste by any of the methods described in sub-paragraph (2);
- (c) where the disposal method in sub-paragraph (2)(a) or (b) is used, ensure that where reasonably practicable any marking or labelling of the waste or its container is removed before C disposes of that waste; and
- (d) allow the regulator access to such records or such premises as the regulator may request in order to determine that all of the conditions that apply to C in respect of the relevant exemption in that paragraph are complied with.

(2) The methods referred to in sub-paragraph (1)(b) are that the waste is disposed of—

- (a) subject to sub-paragraph (3) where it applies, by burial in landfill or by the transfer of the waste to a person for the purpose of—
  - (i) the burial in landfill of the waste; or
  - (ii) the application of a treatment process to the waste which is preparatory to the burial in landfill of that waste;
- (b) by incineration (or transfer to a person for such incineration or treatment which is preparatory to the incineration of the waste), but not in respect of—
  - (i) type 1 NORM waste, where in respect of the total amount of that waste that is incinerated (or transferred to a person for preparation or incineration) per year the quantity of radionuclides in the total amount of that waste exceeds  $1 \times 10^8$  Bq; or
  - (ii) type 2 NORM waste;

or

- (c) by transfer to a waste permitted person.

(3) The conditions referred to in paragraph 18(4)(b)(ii) and (5) are that C must—

- (a) make a written radiological assessment of the reasonably foreseeable pathways for the exposure of the public and workers to radiation in respect of—
  - (i) the application of any treatment process to the waste which is preparatory to its burial in landfill, at the place of that treatment; and
  - (ii) the burial in landfill of that waste, at the place of disposal;
- (b) be satisfied that the assessment demonstrates that radiation doses are not expected to exceed—
  - (i) 1 millisievert per year to any worker at the place of treatment or disposal; and
  - (ii) 300 microsievert per year to any member of the public;

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- (c) provide that assessment to the regulator at least 28 days before the first disposal is made; and
- (d) not dispose of that waste (or continue to do so) if the regulator objects in writing to that assessment.

## SECTION 7

### *Exemption for disposing of aqueous radioactive waste*

#### **Exemption for disposing of aqueous radioactive waste in Table 6**

**20.**—(1) Subject to sub-paragraph (2), a person (“A”) is exempt from the requirement for an environmental permit to carry on the radioactive substances activity described in paragraph 11(2)(b) of Part 2 of this Schedule in respect of aqueous radioactive waste described in an entry in column 1 of Table 6, where A complies with the conditions in sub-paragraph (3).

(2) A is not exempt under sub-paragraph (1) where the person who generated that waste did not minimise the quantity of radionuclides generated as waste to the extent reasonably practicable.

(3) The conditions referred to in sub-paragraph (1) are that, in respect of the waste described in that sub-paragraph, A must—

- (a) ensure that in respect of the total amount of that waste that is disposed of on or from the premises in a year, the quantity of radioactivity which that waste contains does not exceed the value specified in column 3 of Table 6 in respect of that waste;
- (b) dispose of that waste to a relevant sewer or to a waste permitted person;
- (c) keep an adequate record of that waste which A disposes of on or from the premises; and
- (d) allow the regulator access to such records or such premises as the regulator may request in order to determine that the preceding conditions in this sub-paragraph are complied with.

#### **Exemption for disposing of other aqueous radioactive waste**

**21.**—(1) Subject to sub-paragraph (2), a person (“A”) is exempt from the requirement for an environmental permit to carry on the radioactive substances activity described in paragraph 11(2)(b) of Part 2 of this Schedule in respect of aqueous radioactive waste described in sub-paragraph (3) where A disposes of that waste in accordance with the conditions in paragraph 22(1).

(2) A is not exempt under sub-paragraph (1) in respect of premises, where A holds an environmental permit to carry on the radioactive substances activity described in paragraph 11(2)(b) of Part 2 of this Schedule for the disposal of aqueous radioactive waste on or from those premises.

(3) Subject to sub-paragraph (4), the waste referred to in sub-paragraph (1) is aqueous radioactive waste—

- (a) which is not described in an entry in column 1 of Table 6; and
- (b) with a total concentration of radioactivity which does not exceed 100 Bq/ml.

(4) Sub-paragraph (3) does not apply to aqueous radioactive waste—

- (a) which a person has diluted with the intention that—
  - (i) the waste has a concentration of radioactivity which is below the value in sub-paragraph (3)(b); or
  - (ii) the condition in paragraph 22(3)(a) or (4)(b) is complied with in respect of that waste;

or



- (b) where the person who generated that waste did not minimise the quantity of radionuclides generated as waste to the extent reasonably practicable.

**Conditions in respect of aqueous radioactive waste in paragraph 21**

- 22.**—(1) The conditions referred to in paragraph 21(1) are that A must—
- (a) subject to sub-paragraph (2), dispose of the waste to which that paragraph applies—
    - (i) directly into a relevant river or the sea;
    - (ii) to a relevant sewer; or
    - (iii) to a waste permitted person.
  - (b) keep an adequate record of the waste which A disposes of from the premises under that paragraph;
  - (c) in respect of the disposal of aqueous non-table 6 waste, comply with sub-paragraph (3) or (4) as appropriate; and
  - (d) allow the regulator access to such records or such premises as the regulator may request in order to determine that all of the preceding conditions are complied with.
- (2) In respect of aqueous non-Table 6 waste disposed of from the premises, A must not use both of the disposal routes described in sub-paragraph (1)(a)(i) and (ii) in a year and where—
- (a) A uses the route in sub-paragraph (1)(a)(i), the conditions in sub-paragraph (3) apply to A; or
  - (b) A uses the route in sub-paragraph (1)(a)(ii), or A does not use the route in either sub-paragraph (1)(a)(i) or (ii), the conditions in sub-paragraph (4) apply to A.
- (3) Where this sub-paragraph applies and A disposes of the aqueous non-table 6 waste directly into a relevant river or the sea, A must—
- (a) in respect of any aqueous non-Table 6 waste which A disposes of, ensure that the concentration of radioactivity does not exceed the value specified in column 2 of Table 7; and
  - (b) in respect of the total amount of aqueous non-Table 6 waste which A disposes of from the premises in a year, ensure that the quantity of radioactivity does not exceed the value specified in column 4 of Table 7.
- (4) Where this sub-paragraph applies and A disposes of the aqueous non-table 6 waste to a relevant sewer (or only to a waste permitted person), A must ensure that, in respect of the total amount of aqueous non-Table 6 waste which is disposed of from those premises in a year, the total quantity of radioactivity does not exceed—
- (a) where any of that waste has a concentration of radioactivity which exceeds the value specified in column 2 of Table 7, the value in sub-paragraph (5); or
  - (b) where none of that waste has a concentration of radioactivity which exceeds the value specified in column 2 of Table 7, the value in sub-paragraph (5) or (6).
- (5) The value referred to in sub-paragraph (4)(a) and (b) is—
- (a)  $1 \times 10^8$  Bq for the sum of the following radionuclides: H-3, C-11, C-14, F-18, P-32, P-33, S-35, Ca-45, Cr-51, Fe-55, Ga-67, Sr-89, Y-90, Tc-99m, In-111, I-123, I-125, I-131, Sm-153, Tl-201; and
  - (b)  $1 \times 10^6$  Bq for the sum of all other radionuclides.
- (6) The value referred to in sub-paragraph (4)(b) is the value specified in column 3 of Table 7.
- (7) In this paragraph, “aqueous non-Table 6 waste” means aqueous radioactive waste which is not described in an entry in column 1 of Table 6.

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## SECTION 8

### *Exemption for disposal of gaseous radioactive waste*

#### **Exemption for disposal of gaseous radioactive waste**

**23.**—(1) Subject to sub-paragraph (2), a person (“A”) is exempt from the requirement for an environmental permit to carry on the radioactive substances activity described in paragraph 11(2)(b) of Part 2 of this Schedule in respect of gaseous radioactive waste where—

(a) the only radionuclide contained in that waste is Kr-85 and A—

(i) ensures that in respect of the total amount of such waste which is disposed of from the premises in a year, the total quantity of radioactivity does not exceed  $10^{11}$  Bq; and

(ii) complies with the conditions in paragraph 24(1);

or

(b) subject to sub-paragraph (3), that waste—

(i) is released from within a container at the time that the container is opened; and

(ii) is emitted by solid or liquid radioactive material within the container,

and A complies with the conditions in paragraph 24(1).

(2) Sub-paragraph (1) does not apply to waste where the person who generated that waste did not minimise the quantity of radionuclides generated as waste to the extent reasonably practicable.

(3) Sub-paragraph (1)(b) does not apply in respect of any gas which arises as a result of a process applied by a person to the contained radioactive material.

#### **Conditions in respect of gaseous radioactive waste**

**24.**—(1) The conditions referred to in paragraph 23(1) are that A must—

(a) to the extent that is reasonably practicable—

(i) in respect of relevant gaseous waste which arises in a building, cause the waste to be disposed of by an extraction system which removes the waste from the area where it arose and which vents the waste into the atmosphere; and

(ii) prevent the entry or, where sub-paragraph (i) applies, the re-entry, of relevant gaseous waste into a building;

and

(b) allow the regulator access to such records or such premises as the regulator may request in order to determine that all of the conditions that apply to A in respect of the relevant exemption in that paragraph are complied with.

(2) In this paragraph “relevant gaseous waste” means waste which is described in paragraph 23(1) and disposed of under the exemption in that paragraph.

## SECTION 9

### *Tables and summation rules in this Part*

#### **Table 4**

**25.** The Table 4 referred to in sections 2 and 3 of this Part—

**Table 4****Radioactive material and accumulated radioactive waste: values of maximum quantities**

<i>Substance or article</i>	<i>Maximum quantity of radionuclides for each substance or article</i>	<i>Maximum quantity of radionuclides:</i>  <i>(a) on any premises in items which satisfy the limit in column 2; or</i>  <i>(b) in mobile radioactive apparatus held by a person</i>
A sealed source of a type not described in any other row of this table.	$4 \times 10^6$ Bq	$2 \times 10^8$ Bq
A Class A gaseous tritium light device.	$2 \times 10^{10}$ Bq	$5 \times 10^{12}$ Bq
A Class B gaseous tritium light device.	$1 \times 10^{12}$ Bq	$3 \times 10^{13}$ Bq
A Class C gaseous tritium light device.	$1 \times 10^{12}$ Bq	No limit.
Any sealed source which is solely radioactive material or radioactive waste because it contains tritium.	$2 \times 10^{10}$ Bq	$5 \times 10^{12}$ Bq
A tritium foil source.	$2 \times 10^{10}$ Bq	$5 \times 10^{12}$ Bq
A smoke detector affixed to premises.	$4 \times 10^6$ Bq	No limit.
An electrodeposited source.	$6 \times 10^8$ Bq Ni-63 or $2 \times 10^8$ Bq Fe-55	$6 \times 10^{11}$ Bq
A luminised article.	$8 \times 10^7$ Bq Pm-147 or $4 \times 10^9$ Bq H-3	$4 \times 10^{10}$ Bq Pm-147 or $2 \times 10^{11}$ Bq H-3
A Ba-137m eluting source.	$4 \times 10^4$ Bq Cs-137+	$4 \times 10^5$ Bq Cs-137+
A substance or article which is or contains magnesium alloy or thoriated tungsten in which the thorium concentration does not exceed 4% by mass.	No limit.	No limit.
A uranium or thorium compound.	Up to a total of 5 kg of uranium and thorium.	Up to a total of 5 kg of uranium and thorium.

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<i>Substance or article</i>	<i>Maximum quantity of radionuclides for each substance or article</i>	<i>Maximum quantity of radionuclides:</i>  <i>(a) on any premises in items which satisfy the limit in column 2; or</i>  <i>(b) in mobile radioactive apparatus held by a person</i>
A substance or article (other than a sealed source) which is intended for use for medical or veterinary diagnosis or treatment or clinical or veterinary trials.	1 x 10 <sup>9</sup> Bq Tc-99m and in respect of the total for all other radionuclides— (i) 1 x 10 <sup>8</sup> Bq if the substance or article is radioactive material; or (ii) 2 x 10 <sup>8</sup> Bq if the substance or article is radioactive waste.	1 x 10 <sup>9</sup> Bq Tc-99m and  2 x 10 <sup>8</sup> Bq of all other radionuclides, (no more than 1 x 10 <sup>8</sup> Bq of which is contained in radioactive material).

**Table 5**

26. The Table 5 referred to in sections 2 and 4 of this Part is—

**Table 5**

**Radionuclides: values of quantities and concentrations**

<i>Radionuclides</i>	<i>Maximum quantity of radioactivity (Bq) on any premises</i>	<i>Maximum concentration (Bq/g)</i>
H-3	10 <sup>9</sup>	10 <sup>6</sup>
Be-7	10 <sup>7</sup>	10 <sup>3</sup>
C-14	10 <sup>7</sup>	10 <sup>4</sup>
O-15	10 <sup>9</sup>	10 <sup>2</sup>
F-18	10 <sup>6</sup>	10
Na-22	10 <sup>6</sup>	10
Na-24	10 <sup>5</sup>	10
Si-31	10 <sup>6</sup>	10 <sup>3</sup>
P-32	10 <sup>5</sup>	10 <sup>3</sup>
P-33	10 <sup>8</sup>	10 <sup>5</sup>
S-35	10 <sup>8</sup>	10 <sup>5</sup>

**Status:** This is the original version (as it was originally made).

<i>Radionuclides</i>	<i>Maximum quantity of radioactivity (Bq) on any premises</i>	<i>Maximum concentration (Bq/g)</i>
Cl-36	10 <sup>6</sup>	10 <sup>4</sup>
Cl-38	10 <sup>5</sup>	10
Ar-37	10 <sup>8</sup>	10 <sup>6</sup>
Ar-41	10 <sup>9</sup>	10 <sup>2</sup>
K-42	10 <sup>6</sup>	10 <sup>2</sup>
K-43	10 <sup>6</sup>	10
Ca-45	10 <sup>7</sup>	10 <sup>4</sup>
Ca-47	10 <sup>6</sup>	10
Sc-46	10 <sup>6</sup>	10
Sc-47	10 <sup>6</sup>	10 <sup>2</sup>
Sc-48	10 <sup>5</sup>	10
V-48	10 <sup>5</sup>	10
Cr-51	10 <sup>7</sup>	10 <sup>3</sup>
Mn-51	10 <sup>5</sup>	10
Mn-52	10 <sup>5</sup>	10
Mn-52m	10 <sup>5</sup>	10
Mn-53	10 <sup>9</sup>	10 <sup>4</sup>
Mn-54	10 <sup>6</sup>	10
Mn-56	10 <sup>5</sup>	10
Fe-52	10 <sup>6</sup>	10
Fe-55	10 <sup>6</sup>	10 <sup>4</sup>
Fe-59	10 <sup>6</sup>	10
Co-55	10 <sup>6</sup>	10
Co-56	10 <sup>5</sup>	10
Co-57	10 <sup>6</sup>	10 <sup>2</sup>
Co-58	10 <sup>6</sup>	10
Co-58m	10 <sup>7</sup>	10 <sup>4</sup>
Co-60	10 <sup>5</sup>	10

**Status:** This is the original version (as it was originally made).

<i>Radionuclides</i>	<i>Maximum quantity of radioactivity (Bq) on any premises</i>	<i>Maximum concentration (Bq/g)</i>
Co-60m	$10^6$	$10^3$
Co-61	$10^6$	$10^2$
Co-62m	$10^5$	10
Ni-59	$10^8$	$10^4$
Ni-63	$10^8$	$10^5$
Ni-65	$10^6$	10
Cu-64	$10^6$	$10^2$
Zn-65	$10^6$	10
Zn-69	$10^6$	$10^4$
Zn-69m	$10^6$	$10^2$
Ga-72	$10^5$	10
Ge-71	$10^8$	$10^4$
As-73	$10^7$	$10^3$
As-74	$10^6$	10
As-76	$10^5$	$10^2$
As-77	$10^6$	$10^3$
Se-75	$10^6$	$10^2$
Br-82	$10^6$	10
Kr-74	$10^9$	$10^2$
Kr-76	$10^9$	$10^2$
Kr-77	$10^9$	$10^2$
Kr-79	$10^5$	$10^3$
Kr-81	$10^7$	$10^4$
Kr-83m	$10^{12}$	$10^5$
Kr-85	$10^4$	$10^5$
Kr-85m	$10^{10}$	$10^3$
Kr-87	$10^9$	$10^2$
Kr-88	$10^9$	$10^2$

**Status:** This is the original version (as it was originally made).

<i>Radionuclides</i>	<i>Maximum quantity of radioactivity (Bq) on any premises</i>	<i>Maximum concentration (Bq/g)</i>
Rb-86	10 <sup>5</sup>	10 <sup>2</sup>
Sr-85	10 <sup>6</sup>	10 <sup>2</sup>
Sr-85m	10 <sup>7</sup>	10 <sup>2</sup>
Sr-87m	10 <sup>6</sup>	10 <sup>2</sup>
Sr-89	10 <sup>6</sup>	10 <sup>3</sup>
Sr-90+(12)	10 <sup>4</sup>	10 <sup>2</sup>
Sr-91	10 <sup>5</sup>	10
Sr-92	10 <sup>6</sup>	10
Y-90	10 <sup>5</sup>	10 <sup>3</sup>
Y-91	10 <sup>6</sup>	10 <sup>3</sup>
Y-91m	10 <sup>6</sup>	10 <sup>2</sup>
Y-92	10 <sup>5</sup>	10 <sup>2</sup>
Y-93	10 <sup>5</sup>	10 <sup>2</sup>
Zr-93+	10 <sup>7</sup>	10 <sup>3</sup>
Zr-95	10 <sup>6</sup>	10
Zr-97+	10 <sup>5</sup>	10
Nb-93m	10 <sup>7</sup>	10 <sup>4</sup>
Nb-94	10 <sup>6</sup>	10
Nb-95	10 <sup>6</sup>	10
Nb-97	10 <sup>6</sup>	10
Nb-98	10 <sup>5</sup>	10
Mo-90	10 <sup>6</sup>	10
Mo-93	10 <sup>8</sup>	10 <sup>3</sup>
Mo-99	10 <sup>6</sup>	10 <sup>2</sup>
Mo-101	10 <sup>6</sup>	10
Tc-96	10 <sup>6</sup>	10
Tc-96m	10 <sup>7</sup>	10 <sup>3</sup>

(12) For the meaning of “+” and “sec” in this Part see paragraph 34.

**Status:** This is the original version (as it was originally made).

<i>Radionuclides</i>	<i>Maximum quantity of radioactivity (Bq) on any premises</i>	<i>Maximum concentration (Bq/g)</i>
Tc-97	$10^8$	$10^3$
Tc-97m	$10^7$	$10^3$
Tc-99	$10^7$	$10^4$
Tc-99m	$10^7$	$10^2$
Ru-97	$10^7$	$10^2$
Ru-103	$10^6$	$10^2$
Ru-105	$10^6$	10
Ru-106+	$10^5$	$10^2$
Rh-103m	$10^8$	$10^4$
Rh-105	$10^7$	$10^2$
Pd-103	$10^8$	$10^3$
Pd-109	$10^6$	$10^3$
Ag-105	$10^6$	$10^2$
Ag-108m+	$10^6$	10
Ag-110m	$10^6$	10
Ag-111	$10^6$	$10^3$
Cd-109	$10^6$	$10^4$
Cd-115	$10^6$	$10^2$
Cd-115m	$10^6$	$10^3$
In-111	$10^6$	$10^2$
In-113m	$10^6$	$10^2$
In-114m	$10^6$	$10^2$
In-115m	$10^6$	$10^2$
Sn-113	$10^7$	$10^3$
Sn-125	$10^5$	$10^2$
Sb-122	$10^4$	$10^2$
Sb-124	$10^6$	10
Sb-125	$10^6$	$10^2$



**Status:** This is the original version (as it was originally made).

<i>Radionuclides</i>	<i>Maximum quantity of radioactivity (Bq) on any premises</i>	<i>Maximum concentration (Bq/g)</i>
Te-123m	$10^7$	$10^2$
Te-125m	$10^7$	$10^3$
Te-127	$10^6$	$10^3$
Te-127m	$10^7$	$10^3$
Te-129	$10^6$	$10^2$
Te-129m	$10^6$	$10^3$
Te-131	$10^5$	$10^2$
Te-131m	$10^6$	10
Te-132	$10^7$	$10^2$
Te-133	$10^5$	10
Te-133m	$10^5$	10
Te-134	$10^6$	10
I-123	$10^7$	$10^2$
I-125	$10^6$	$10^3$
I-126	$10^6$	$10^2$
I-129	$10^5$	$10^2$
I-130	$10^6$	10
I-131	$10^6$	$10^2$
I-132	$10^5$	10
I-133	$10^6$	10
I-134	$10^5$	10
I-135	$10^6$	10
Xe-131m	$10^4$	$10^4$
Xe-133	$10^4$	$10^3$
Xe-135	$10^{10}$	$10^3$
Cs-129	$10^5$	$10^2$
Cs-131	$10^6$	$10^3$
Cs-132	$10^5$	10

**Status:** This is the original version (as it was originally made).

<i>Radionuclides</i>	<i>Maximum quantity of radioactivity (Bq) on any premises</i>	<i>Maximum concentration (Bq/g)</i>
Cs-134m	$10^5$	$10^3$
Cs-134	$10^4$	10
Cs-135	$10^7$	$10^4$
Cs-136	$10^5$	10
Cs-137+	$10^4$	10
Cs-138	$10^4$	10
Ba-131	$10^6$	$10^2$
Ba-140+	$10^5$	10
La-140	$10^5$	10
Ce-139	$10^6$	$10^2$
Ce-141	$10^7$	$10^2$
Ce-143	$10^6$	$10^2$
Ce-144+	$10^5$	$10^2$
Pr-142	$10^5$	$10^2$
Pr-143	$10^6$	$10^4$
Nd-147	$10^6$	$10^2$
Nd-149	$10^6$	$10^2$
Pm-147	$10^7$	$10^4$
Pm-149	$10^6$	$10^3$
Sm-151	$10^8$	$10^4$
Sm-153	$10^6$	$10^2$
Eu-152	$10^6$	10
Eu-152m	$10^6$	$10^2$
Eu-154	$10^6$	10
Eu-155	$10^7$	$10^2$
Gd-153	$10^7$	$10^2$
Gd-159	$10^6$	$10^3$
Tb-160	$10^6$	10

**Status:** This is the original version (as it was originally made).

<i>Radionuclides</i>	<i>Maximum quantity of radioactivity (Bq) on any premises</i>	<i>Maximum concentration (Bq/g)</i>
Dy-165	10 <sup>6</sup>	10 <sup>3</sup>
Dy-166	10 <sup>6</sup>	10 <sup>3</sup>
Ho-166	10 <sup>5</sup>	10 <sup>3</sup>
Er-169	10 <sup>7</sup>	10 <sup>4</sup>
Er-171	10 <sup>6</sup>	10 <sup>2</sup>
Tm-170	10 <sup>6</sup>	10 <sup>3</sup>
Tm-171	10 <sup>8</sup>	10 <sup>4</sup>
Yb-175	10 <sup>7</sup>	10 <sup>3</sup>
Lu-177	10 <sup>7</sup>	10 <sup>3</sup>
Hf-181	10 <sup>6</sup>	10
Ta-182	10 <sup>4</sup>	10
W-181	10 <sup>7</sup>	10 <sup>3</sup>
W-185	10 <sup>7</sup>	10 <sup>4</sup>
W-187	10 <sup>6</sup>	10 <sup>2</sup>
Re-186	10 <sup>6</sup>	10 <sup>3</sup>
Re-188	10 <sup>5</sup>	10 <sup>2</sup>
Os-185	10 <sup>6</sup>	10
Os-191	10 <sup>7</sup>	10 <sup>2</sup>
Os-191m	10 <sup>7</sup>	10 <sup>3</sup>
Os-193	10 <sup>6</sup>	10 <sup>2</sup>
Ir-190	10 <sup>6</sup>	10
Ir-192	10 <sup>4</sup>	10
Ir-194	10 <sup>5</sup>	10 <sup>2</sup>
Pt-191	10 <sup>6</sup>	10 <sup>2</sup>
Pt-193m	10 <sup>7</sup>	10 <sup>3</sup>
Pt-197	10 <sup>6</sup>	10 <sup>3</sup>
Pt-197m	10 <sup>6</sup>	10 <sup>2</sup>
Au-198	10 <sup>6</sup>	10 <sup>2</sup>

**Status:** This is the original version (as it was originally made).

<i>Radionuclides</i>	<i>Maximum quantity of radioactivity (Bq) on any premises</i>	<i>Maximum concentration (Bq/g)</i>
Au-199	$10^6$	$10^2$
Hg-197	$10^7$	$10^2$
Hg-197m	$10^6$	$10^2$
Hg-203	$10^5$	$10^2$
Tl-200	$10^6$	10
Tl-201	$10^6$	$10^2$
Tl-202	$10^6$	$10^2$
Tl-204	$10^4$	$10^4$
Pb-203	$10^6$	$10^2$
Pb-210+	$10^4$	10
Pb-212+	$10^5$	10
Bi-206	$10^5$	10
Bi-207	$10^6$	10
Bi-210	$10^6$	$10^3$
Bi-212+	$10^5$	10
Po-203	$10^6$	10
Po-205	$10^6$	10
Po-207	$10^6$	10
Po-210	$10^4$	10
At-211	$10^7$	$10^3$
Rn-220+	$10^7$	$10^4$
Rn-222+	$10^8$	10
Ra-223+	$10^5$	$10^2$
Ra-224+	$10^5$	10
Ra-225	$10^5$	$10^2$
Ra-226+	$10^4$	10
Ra-227	$10^6$	$10^2$
Ra-228+	$10^5$	10

**Status:** This is the original version (as it was originally made).

<i>Radionuclides</i>	<i>Maximum quantity of radioactivity (Bq) on any premises</i>	<i>Maximum concentration (Bq/g)</i>
Ac-228	10 <sup>6</sup>	10
Th-226+	10 <sup>7</sup>	10 <sup>3</sup>
Th-227	10 <sup>4</sup>	10
Th-228+	10 <sup>4</sup>	1
Th-229+	10 <sup>3</sup>	1
Th-230	10 <sup>4</sup>	1
Th-231	10 <sup>7</sup>	10 <sup>3</sup>
Th-232 sec	10 <sup>3</sup>	1
Th-234+	10 <sup>5</sup>	10 <sup>3</sup>
Pa-230	10 <sup>6</sup>	10
Pa-231	10 <sup>3</sup>	1
Pa-233	10 <sup>7</sup>	10 <sup>2</sup>
U-230+	10 <sup>5</sup>	10
U-231	10 <sup>7</sup>	10 <sup>2</sup>
U-232+	10 <sup>3</sup>	1
U-233	10 <sup>4</sup>	10
U-234	10 <sup>4</sup>	10
U-235+	10 <sup>4</sup>	10
U-236	10 <sup>4</sup>	10
U-237	10 <sup>6</sup>	10 <sup>2</sup>
U-238+	10 <sup>4</sup>	10
U-238 sec	10 <sup>3</sup>	1
U-239	10 <sup>6</sup>	10 <sup>2</sup>
U-240	10 <sup>7</sup>	10 <sup>3</sup>
U-240+	10 <sup>6</sup>	10
Np-237+	10 <sup>3</sup>	1
Np-239	10 <sup>7</sup>	10 <sup>2</sup>
Np-240	10 <sup>6</sup>	10

**Status:** This is the original version (as it was originally made).

<i>Radionuclides</i>	<i>Maximum quantity of radioactivity (Bq) on any premises</i>	<i>Maximum concentration (Bq/g)</i>
Pu-234	$10^7$	$10^2$
Pu-235	$10^7$	$10^2$
Pu-236	$10^4$	10
Pu-237	$10^7$	$10^3$
Pu-238	$10^4$	1
Pu-239	$10^4$	1
Pu-240	$10^3$	1
Pu-241	$10^5$	$10^2$
Pu-242	$10^4$	1
Pu-243	$10^7$	$10^3$
Pu-244	$10^4$	1
Am-241	$10^4$	1
Am-242	$10^6$	$10^3$
Am-242m+	$10^4$	1
Am-243+	$10^3$	1
Cm-242	$10^5$	$10^2$
Cm-243	$10^4$	1
Cm-244	$10^4$	10
Cm-245	$10^3$	1
Cm-246	$10^3$	1
Cm-247	$10^4$	1
Cm-248	$10^3$	1
Bk-249	$10^6$	$10^3$
Cf-246	$10^6$	$10^3$
Cf-248	$10^4$	10
Cf-249	$10^3$	1
Cf-250	$10^4$	10
Cf-251	$10^3$	1

<i>Radionuclides</i>	<i>Maximum quantity of radioactivity (Bq) on any premises</i>	<i>Maximum concentration (Bq/g)</i>
Cf-252	10 <sup>4</sup>	10
Cf-253	10 <sup>5</sup>	10 <sup>2</sup>
Cf-254	10 <sup>3</sup>	1
Es-253	10 <sup>5</sup>	10 <sup>2</sup>
Es-254	10 <sup>4</sup>	10
Es-254m	10 <sup>6</sup>	10 <sup>2</sup>
Fm-254	10 <sup>7</sup>	10 <sup>4</sup>
Fm-255	10 <sup>6</sup>	10 <sup>3</sup>
Any other radionuclide that is: (a) not of natural terrestrial or cosmic origin; or (b) listed in Table 2 in this Schedule.	10 <sup>3</sup> , or the quantity given in respect of that radionuclide in the Health Protection Agency's publication <i>'Exempt Concentrations and Quantities for Radionuclides not Included in the European Basic Safety Standards Directive'</i> (13).	1, or the concentration given in respect of that radionuclide in the publication referenced in column 2.

27. The summation rule in respect of column 2 of Table 5 is the sum of the quotients A/B where—

- (a) "A" means the quantity of each radionuclide listed in column 1 of Table 5 that is present in the material and waste; and
- (b) "B" means the quantity of that radionuclide specified in column 2 of Table 5.

28. The summation rule in respect of column 3 of Table 5 is the sum of the quotients C/D where—

- (a) "C" means the concentration of each radionuclide listed in column 1 of Table 5 that is present in the material and waste; and
- (b) "D" means the concentration of that radionuclide specified in column 3 of Table 5.

#### **Table 6**

29. The Table 6 referred to in sections 5 and 7 of this Part is—

(13) NRPB- R306 - Exempt Concentrations and Quantities for Radionuclides not Included in the European Basic Safety Standards Directive (April 1999), ISBN 0-85951-429-3.

*Status: This is the original version (as it was originally made).*

**Table 6**

**Radioactive waste: values of quantities and concentrations**

<i>Radioactive waste</i>	<i>Maximum concentration of radionuclides</i>	<i>Maximum quantity of radioactivity to be disposed of in the period stated</i>
Solid radioactive waste, with no single item $> 4 \times 10^4$ Bq.	$4 \times 10^5$ Bq for the sum of all radionuclides per $0.1\text{m}^3$ .	$2 \times 10^8$ Bq/year.
Solid radioactive waste containing tritium and C-14 only, with no single item $> 4 \times 10^5$ Bq.	$4 \times 10^6$ Bq of tritium and C-14 per $0.1\text{m}^3$ .	$2 \times 10^9$ Bq/year.
Individual sealed sources.	$2 \times 10^5$ Bq for the sum of all radionuclides per $0.1\text{m}^3$ .	$1 \times 10^7$ Bq/year.
Individual sealed sources which are solely radioactive waste because they contain tritium.	$2 \times 10^{10}$ Bq of tritium per $0.1\text{m}^3$ .	$1 \times 10^{13}$ Bq/year.
Luminised articles with no single item containing $> 8 \times 10^7$ Bq of Pm-147 or $> 4 \times 10^9$ of tritium.	$8 \times 10^7$ Bq per $0.1\text{m}^3$ of Pm-147 or $4 \times 10^9$ Bq per $0.1\text{m}^3$ for tritium.	$2 \times 10^9$ Bq/year of Pm-147 or $1 \times 10^{11}$ Bq/year of tritium.
Solid radioactive waste which consists of magnesium alloy, thoriated tungsten or dross from hardener alloy in which the thorium concentration does not exceed 4% by mass.	No limit.	No limit.
Solid uranium or thorium compound.	No limit.	0.5 kg of uranium or thorium per week.
Aqueous liquid uranium or thorium compound.	No limit.	0.5 kg of uranium or thorium per year.
Aqueous liquid human excreta.	No limit.	$1 \times 10^{10}$ Bq/year of Tc-99m and $5 \times 10^9$ Bq/year for the sum of all other radionuclides.

**Table 7**

**30.** The Table 7 referred to in section 7 of this Part is—



**Table 7****Aqueous radioactive waste values**

<i>Radionuclide</i>	<i>Concentration in Bq/ litre</i>	<i>Maximum annual quantity of radionuclides to a relevant sewer (Bq/ year)</i>	<i>Maximum annual quantity of radionuclides directly into a relevant river or the sea (Bq/ year)</i>
H-3	10 <sup>3</sup>	10 <sup>10</sup>	10 <sup>10</sup>
Be-7	1	10 <sup>7</sup>	10 <sup>7</sup>
C-14	0.1	10 <sup>6</sup>	10 <sup>6</sup>
F-18	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Na-22	1	10 <sup>6</sup>	10 <sup>7</sup>
Na-24	1	10 <sup>7</sup>	10 <sup>7</sup>
Si-31	10	10 <sup>8</sup>	10 <sup>8</sup>
P-32	0.001	10 <sup>4</sup>	10 <sup>4</sup>
P-33	0.001	10 <sup>4</sup>	10 <sup>4</sup>
S-35	10	3 x 10 <sup>7</sup>	10 <sup>8</sup>
Cl-36	10	10 <sup>7</sup>	10 <sup>8</sup>
Cl-38	0.1	10 <sup>6</sup>	10 <sup>6</sup>
K-42	0.01	10 <sup>5</sup>	10 <sup>5</sup>
K-43	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Ca-45	1	10 <sup>7</sup>	10 <sup>7</sup>
Ca-47	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Sc-46	0.001	10 <sup>4</sup>	10 <sup>4</sup>
Sc-47	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Sc-48	0.001	10 <sup>4</sup>	10 <sup>4</sup>
V-48	1	10 <sup>7</sup>	10 <sup>7</sup>
Cr-51	10	10 <sup>8</sup>	10 <sup>8</sup>
Mn-51	0.001	10 <sup>4</sup>	10 <sup>4</sup>
Mn-52	0.001	10 <sup>4</sup>	10 <sup>4</sup>
Mn-52m	0.001	10 <sup>4</sup>	10 <sup>4</sup>

**Status:** This is the original version (as it was originally made).

<i>Radionuclide</i>	<i>Concentration in Bq/ litre</i>	<i>Maximum annual quantity of radionuclides to a relevant sewer (Bq/ year)</i>	<i>Maximum annual quantity of radionuclides directly into a relevant river or the sea (Bq/ year)</i>
Mn-53	1	10 <sup>7</sup>	10 <sup>7</sup>
Mn-54	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Mn-56	0.001	10 <sup>4</sup>	10 <sup>4</sup>
Fe-52	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Fe-55	1	10 <sup>7</sup>	10 <sup>7</sup>
Fe-59	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Co-55	0.001	10 <sup>4</sup>	10 <sup>4</sup>
Co-56	0.001	10 <sup>4</sup>	10 <sup>4</sup>
Co-57	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Co-58	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Co-58m	1	10 <sup>7</sup>	10 <sup>7</sup>
Co-60	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Co-60m	1	10 <sup>7</sup>	10 <sup>7</sup>
Co-61	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Co-62m	0.001	10 <sup>4</sup>	10 <sup>4</sup>
Ni-59	1	10 <sup>7</sup>	10 <sup>7</sup>
Ni-63	10 <sup>2</sup>	10 <sup>9</sup>	10 <sup>9</sup>
Ni-65	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Cu-64	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Zn-65	0.1	3 x 10 <sup>5</sup>	10 <sup>6</sup>
Zn-69	10	10 <sup>8</sup>	10 <sup>8</sup>
Zn-69m	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Ga-67	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Ga-72	0.001	10 <sup>4</sup>	10 <sup>4</sup>
Ge-71	1	10 <sup>7</sup>	10 <sup>7</sup>
As-73	10	10 <sup>8</sup>	10 <sup>8</sup>

<i>Radionuclide</i>	<i>Concentration in Bq/ litre</i>	<i>Maximum annual quantity of radionuclides to a relevant sewer (Bq/ year)</i>	<i>Maximum annual quantity of radionuclides directly into a relevant river or the sea (Bq/ year)</i>
As-74	1	10 <sup>7</sup>	10 <sup>7</sup>
As-76	1	10 <sup>7</sup>	10 <sup>7</sup>
As-77	1	10 <sup>7</sup>	10 <sup>7</sup>
Se-75	0.1	3 x 10 <sup>5</sup>	10 <sup>6</sup>
Br-82	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Rb-86	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Sr-85	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Sr-85m	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Sr-87m	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Sr-89	1	10 <sup>7</sup>	10 <sup>7</sup>
Sr-90+	0.1	3 x 10 <sup>5</sup>	10 <sup>6</sup>
Sr-91	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Sr-92	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Y-90	1	10 <sup>7</sup>	10 <sup>7</sup>
Y-91	1	10 <sup>7</sup>	10 <sup>7</sup>
Y-91m	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Y-92	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Y-93	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Zr-93	10	10 <sup>8</sup>	10 <sup>8</sup>
Zr-95+	0.001	10 <sup>4</sup>	10 <sup>4</sup>
Zr-97	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Nb-93m	10	10 <sup>8</sup>	10 <sup>8</sup>
Nb-94	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Nb-95	1	10 <sup>7</sup>	10 <sup>7</sup>
Nb-97	1	10 <sup>7</sup>	10 <sup>7</sup>
Nb-98	0.1	10 <sup>6</sup>	10 <sup>6</sup>

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<i>Radionuclide</i>	<i>Concentration in Bq/ litre</i>	<i>Maximum annual quantity of radionuclides to a relevant sewer (Bq/ year)</i>	<i>Maximum annual quantity of radionuclides directly into a relevant river or the sea (Bq/ year)</i>
Mo-90	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Mo-93	1	10 <sup>7</sup>	10 <sup>7</sup>
Mo-99	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Mo-101	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Tc-96	1	10 <sup>7</sup>	10 <sup>7</sup>
Tc-96m	10 <sup>2</sup>	10 <sup>9</sup>	10 <sup>9</sup>
Tc-97	10 <sup>2</sup>	10 <sup>9</sup>	10 <sup>9</sup>
Tc-97m	10	10 <sup>8</sup>	10 <sup>8</sup>
Tc-99	10	10 <sup>7</sup>	10 <sup>8</sup>
Tc-99m	10	3 x 10 <sup>7</sup>	10 <sup>8</sup>
Ru-97	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Ru-103	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Ru-105	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Ru-106+	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Rh-103m	10	10 <sup>8</sup>	10 <sup>8</sup>
Rh-105	1	10 <sup>7</sup>	10 <sup>7</sup>
Pd-103	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Pd-109	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Ag-105	1	10 <sup>7</sup>	10 <sup>7</sup>
Ag-108m	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Ag-110m	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Ag-111	10	10 <sup>8</sup>	10 <sup>8</sup>
Cd-109	1	10 <sup>7</sup>	10 <sup>7</sup>
Cd-115	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Cd-115m	1	10 <sup>7</sup>	10 <sup>7</sup>
In-111	0.01	10 <sup>5</sup>	10 <sup>5</sup>

<i>Radionuclide</i>	<i>Concentration in Bq/ litre</i>	<i>Maximum annual quantity of radionuclides to a relevant sewer (Bq/ year)</i>	<i>Maximum annual quantity of radionuclides directly into a relevant river or the sea (Bq/ year)</i>
In-113m	0.01	10 <sup>5</sup>	10 <sup>5</sup>
In-114m	0.01	10 <sup>5</sup>	10 <sup>5</sup>
In-115m	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Sn-113	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Sn-125	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Sb-122	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Sb-124	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Sb-125	1	10 <sup>7</sup>	10 <sup>7</sup>
Te-123m	1	10 <sup>7</sup>	10 <sup>7</sup>
Te-125m	1	10 <sup>7</sup>	10 <sup>7</sup>
Te-127	10	10 <sup>8</sup>	10 <sup>8</sup>
Te-127m	1	10 <sup>7</sup>	10 <sup>7</sup>
Te-129	10	10 <sup>8</sup>	10 <sup>8</sup>
Te-129m	1	10 <sup>7</sup>	10 <sup>7</sup>
Te-131	1	10 <sup>7</sup>	10 <sup>7</sup>
Te-131m	1	10 <sup>7</sup>	10 <sup>7</sup>
Te-132	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Te-133	1	10 <sup>7</sup>	10 <sup>7</sup>
Te-133m	1	10 <sup>7</sup>	10 <sup>7</sup>
Te-134	1	10 <sup>7</sup>	10 <sup>7</sup>
I-123	1	10 <sup>7</sup>	10 <sup>7</sup>
I-125	1	10 <sup>7</sup>	10 <sup>7</sup>
I-126	0.1	10 <sup>6</sup>	10 <sup>6</sup>
I-129	0.1	10 <sup>6</sup>	10 <sup>6</sup>
I-130	0.1	10 <sup>6</sup>	10 <sup>6</sup>
I-131	0.1	10 <sup>6</sup>	10 <sup>6</sup>

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<i>Radionuclide</i>	<i>Concentration in Bq/ litre</i>	<i>Maximum annual quantity of radionuclides to a relevant sewer (Bq/ year)</i>	<i>Maximum annual quantity of radionuclides directly into a relevant river or the sea (Bq/ year)</i>
I-132	0.1	10 <sup>6</sup>	10 <sup>6</sup>
I-133	0.1	10 <sup>6</sup>	10 <sup>6</sup>
I-134	0.1	10 <sup>6</sup>	10 <sup>6</sup>
I-135	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Cs-129	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Cs-131	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Cs-132	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Cs-134	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Cs-134m	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Cs-135	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Cs-136	0.001	10 <sup>4</sup>	10 <sup>4</sup>
Cs-137+	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Cs-138	0.001	10 <sup>4</sup>	10 <sup>4</sup>
Ba-131	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Ba-140	0.1	10 <sup>6</sup>	10 <sup>6</sup>
La-140	0.001	10 <sup>4</sup>	10 <sup>4</sup>
Ce-139	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Ce-141	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Ce-143	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Ce-144	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Pr-142	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Pr-143	10	10 <sup>8</sup>	10 <sup>8</sup>
Nd-147	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Nd-149	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Pm-147	10	10 <sup>8</sup>	10 <sup>8</sup>
Pm-149	1	10 <sup>7</sup>	10 <sup>7</sup>

<i>Radionuclide</i>	<i>Concentration in Bq/ litre</i>	<i>Maximum annual quantity of radionuclides to a relevant sewer (Bq/ year)</i>	<i>Maximum annual quantity of radionuclides directly into a relevant river or the sea (Bq/ year)</i>
Sm-151	10 <sup>2</sup>	10 <sup>9</sup>	10 <sup>9</sup>
Sm-153	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Eu-152	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Eu-152m	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Eu-154	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Eu-155	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Gd-153	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Gd-159	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Tb-160	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Dy-165	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Dy-166	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Ho-166	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Er-169	10	10 <sup>8</sup>	10 <sup>8</sup>
Er-171	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Tm-170	1	10 <sup>7</sup>	10 <sup>7</sup>
Tm-171	10	10 <sup>8</sup>	10 <sup>8</sup>
Yb-175	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Lu-177	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Hf-181	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Ta-182	0.001	10 <sup>4</sup>	10 <sup>4</sup>
W-181	0.1	10 <sup>6</sup>	10 <sup>6</sup>
W-185	1	10 <sup>7</sup>	10 <sup>7</sup>
W-187	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Re-186	1	10 <sup>7</sup>	10 <sup>7</sup>
Re-188	1	10 <sup>7</sup>	10 <sup>7</sup>
Os-185	0.01	10 <sup>5</sup>	10 <sup>5</sup>

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<i>Radionuclide</i>	<i>Concentration in Bq/ litre</i>	<i>Maximum annual quantity of radionuclides to a relevant sewer (Bq/ year)</i>	<i>Maximum annual quantity of radionuclides directly into a relevant river or the sea (Bq/ year)</i>
Os-191	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Os-191m	1	10 <sup>7</sup>	10 <sup>7</sup>
Os-193	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Ir-190	0.001	10 <sup>4</sup>	10 <sup>4</sup>
Ir-192	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Ir-194	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Pt-191	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Pt-193m	1	10 <sup>7</sup>	10 <sup>7</sup>
Pt-197	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Pt-197m	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Au-198	1	10 <sup>7</sup>	10 <sup>7</sup>
Au-199	1	10 <sup>7</sup>	10 <sup>7</sup>
Hg-197	1	10 <sup>7</sup>	10 <sup>7</sup>
Hg-197m	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Hg-203	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Tl-200	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Tl-201	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Tl-202	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Tl-204	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Pb-203	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Pb-210	0.001	10 <sup>4</sup>	10 <sup>4</sup>
Pb-212	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Bi-206	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Bi-207	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Bi-210	10	10 <sup>8</sup>	10 <sup>8</sup>
Bi-212	1	10 <sup>7</sup>	10 <sup>7</sup>



<i>Radionuclide</i>	<i>Concentration in Bq/ litre</i>	<i>Maximum annual quantity of radionuclides to a relevant sewer (Bq/ year)</i>	<i>Maximum annual quantity of radionuclides directly into a relevant river or the sea (Bq/ year)</i>
Po-203	0.001	10 <sup>4</sup>	10 <sup>4</sup>
Po-205	0.001	10 <sup>4</sup>	10 <sup>4</sup>
Po-207	0.001	10 <sup>4</sup>	10 <sup>4</sup>
Po-210	0.001	10 <sup>4</sup>	10 <sup>4</sup>
At-211	1	10 <sup>7</sup>	10 <sup>7</sup>
Ra-223	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Ra-224+	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Ra-225	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Ra-226+	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Ra-227	1	10 <sup>7</sup>	10 <sup>7</sup>
Ra-228	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Ac-227	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Ac-228	0.001	10 <sup>4</sup>	10 <sup>4</sup>
Th-226	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Th-227	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Th-228	1	10 <sup>7</sup>	10 <sup>7</sup>
Th-229	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Th-230	1	10 <sup>7</sup>	10 <sup>7</sup>
Th-231	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Th-232	1	10 <sup>6</sup>	10 <sup>7</sup>
Th-234	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Pa-230	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Pa-231	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Pa-233	0.1	10 <sup>6</sup>	10 <sup>6</sup>
U-230	0.1	10 <sup>6</sup>	10 <sup>6</sup>
U-231	10	10 <sup>8</sup>	10 <sup>8</sup>

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<i>Radionuclide</i>	<i>Concentration in Bq/ litre</i>	<i>Maximum annual quantity of radionuclides to a relevant sewer (Bq/ year)</i>	<i>Maximum annual quantity of radionuclides directly into a relevant river or the sea (Bq/ year)</i>
U-232	0.1	10 <sup>6</sup>	10 <sup>6</sup>
U-233	0.1	10 <sup>6</sup>	10 <sup>6</sup>
U-234	0.1	10 <sup>6</sup>	10 <sup>6</sup>
U-235+	0.1	10 <sup>6</sup>	10 <sup>6</sup>
U-236	0.1	10 <sup>6</sup>	10 <sup>6</sup>
U-237	10	10 <sup>8</sup>	10 <sup>8</sup>
U-238+	0.1	10 <sup>6</sup>	10 <sup>6</sup>
U-239	10	10 <sup>8</sup>	10 <sup>8</sup>
U-240	10	10 <sup>8</sup>	10 <sup>8</sup>
Np-237	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Np-239	1	10 <sup>7</sup>	10 <sup>7</sup>
Np-240	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Pu-234	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Pu-235	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Pu-236	1	10 <sup>7</sup>	10 <sup>7</sup>
Pu-237	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Pu-238	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Pu-239	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Pu-240	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Pu-241	10	10 <sup>8</sup>	10 <sup>8</sup>
Pu-242	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Pu-243	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Pu-244	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Am-241	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Am-242	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Am-242m	0.1	10 <sup>6</sup>	10 <sup>6</sup>

<i>Radionuclide</i>	<i>Concentration in Bq/litre</i>	<i>Maximum annual quantity of radionuclides to a relevant sewer (Bq/year)</i>	<i>Maximum annual quantity of radionuclides directly into a relevant river or the sea (Bq/year)</i>
Am-243	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Cm-242	1	10 <sup>7</sup>	10 <sup>7</sup>
Cm-243	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Cm-244	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Cm-245	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Cm-246	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Cm-247	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Cm-248	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Bk-249	10 <sup>2</sup>	10 <sup>9</sup>	10 <sup>9</sup>
Cf-246	1	10 <sup>7</sup>	10 <sup>7</sup>
Cf-248	1	10 <sup>7</sup>	10 <sup>7</sup>
Cf-249	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Cf-250	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Cf-251	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Cf-252	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Cf-253	10	10 <sup>8</sup>	10 <sup>8</sup>
Cf-254	0.0001	10 <sup>3</sup>	10 <sup>3</sup>
Es-253	1	10 <sup>7</sup>	10 <sup>7</sup>
Es-254	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Es-254m	0.01	10 <sup>5</sup>	10 <sup>5</sup>
Fm-254	1	10 <sup>7</sup>	10 <sup>7</sup>
Fm-255	0.1	10 <sup>6</sup>	10 <sup>6</sup>
Any other radionuclide that is not of natural terrestrial or cosmic origin	0.0001 or that concentration which gives rise to a dose to a member of the public of 10 microsieverts per year calculated in	10 <sup>3</sup> or that quantity which corresponds to 3000m <sup>3</sup> of aqueous radioactive waste up to the appropriate concentration	10 <sup>3</sup> or that quantity which corresponds to 10000m <sup>3</sup> of aqueous radioactive waste up to the appropriate concentration

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<i>Radionuclide</i>	<i>Concentration in Bq/ litre</i>	<i>Maximum annual quantity of radionuclides to a relevant sewer (Bq/ year)</i>	<i>Maximum annual quantity of radionuclides directly into a relevant river or the sea (Bq/ year)</i>
	accordance with the methodology used to calculate other concentrations in this table(14).	as calculated in accordance with column 2.	as calculated in accordance with column 2.

31. The summation rule in respect of column 2 of Table 7 is the sum of the quotients A/B where—
- (a) “A” means the concentration in Bq/ litre of each radionuclide listed in column 1 of Table 7 that is present in aqueous waste which is not described in a row in column 1 of Table 6; and
  - (b) “B” means the concentration of that radionuclide specified in column 2 of Table 7.
32. The summation rule in respect of column 3 of Table 7 is the sum of the quotients C/D where—
- (a) “C” means the quantity in Bq of each radionuclide listed in column 1 of Table 7 that is present in the aqueous waste which is not described in a row in column 1 of Table 6 which is disposed of in the year; and
  - (b) “D” means the quantity of that radionuclide specified in column 3 of Table 7.
33. The summation rule in respect of column 4 of Table 7 is the sum of the quotients C/E where—
- (a) “C” means the quantity in Bq of each radionuclide listed in column 1 of Table 7 that is present in the aqueous waste which is not described in a row in column 1 of Table 6 which is disposed of in the year; and
  - (b) “E” means the quantity of that radionuclide specified in column 4 of Table 7.

**Interpretation of this section**

34. In this section, where any radionuclide carries the suffix “+” or “sec”—
- (a) that radionuclide represents the parent radionuclide in secular equilibrium with the corresponding daughter radionuclides which are identified in column 2 of Table 8 adjacent to that parent radionuclide; and
  - (b) a concentration or activity value given in respect of such a parent radionuclide is the value for the parent radionuclide alone, but already takes into account the daughter radionuclides in column 2 that are present.

**Table 8**

35. The Table 8 referred to in paragraph 34 is—

(14) The concentrations in this table were calculated using methods adopted by the Health Protection Agency in their document HPA-CRCE-005 - Derivation of Liquid Exclusion or Exemption Levels to Support the RSA93 Exemption Order Review, published in August 2010 (ISBN 0-978-85951-673-0).

**Table 8**  
**Radionuclides in secular equilibrium**

<i>Parent radionuclide</i>	<i>Daughter radionuclides</i>
Sr-90+	Y-90
Zr-93+	Nb-93m
Zr-95+	Nb-95
Zr-97+	Nb-97
Ru-106+	Rh-106
Ag-108m+	Ag-108
Cs-137+	Ba-137m
Ba-140+	La-140
Ce-144+	Pr-144
Pb-210+	Bi-210, Po-210
Pb-212+	Bi-212, Tl-208, Po-212
Bi-212+	Tl-208, Po-212
Rn-220+	Po-216
Rn-222+	Po-218, Pb-214, Bi-214, Po-214
Ra-223+	Rn-219, Po-215, Pb-211, Bi-211, Tl-207
Ra-224+	Where Ra-224+ is referred to in Table 5: Rn-220, Po-216, Pb-212, Bi-212, Tl-208, Po-212  Where Ra-224+ is referred to in Table 7: Pb-212
Ra-226+	Where Ra-226+ is referred to in Table 5: Rn-222, Po-218, Pb-214, Bi-214, Pb-210, Bi-210, Po-210, Po-214  Where Ra-226+ is referred to in Table 7: Rn-222, Po-218, Pb-214, Bi-214, Po-214
Ra-228+	Ac-228
Th-226+	Ra-222, Rn-218, Po-214
Th-228+	Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Po-212, Tl-208
Th-229+	Ra-225, Ac-225, Fr-221, At-217, Bi-213, Po-213, Pb-209
Th-232 sec	Ra-228, Ac-228, Th-228, Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Po-212, Tl-208
Th-234+	Pa-234m
U-230+	Th-226, Ra-222, Rn-218, Po-214
U-232+	Th-228, Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208, Po-212
U-235+	Th-231

*Status: This is the original version (as it was originally made).*

<i>Parent radionuclide</i>	<i>Daughter radionuclides</i>
U-238+	Th-234, Pa-234m, Pa-234
U-238 sec	Th-234, Pa-234m, U-234, Th-230, Ra-226, Rn-222, Po-218, Pb-214, Bi-214, Pb-210, Bi-210, Po-210, Po-214
U-240+	Np-240
Np-237+	Pa-233
Am-242m+	Am-242
Am-243+	Np-239

## PART 8

### Radioactivity to be disregarded

#### SECTION 1

##### Provisions

#### Interpretation

1.—(1) For the purposes of the matters referred to in sub-paragraph (2), no account is to be taken of any radioactivity possessed by a substance or article or by a part of any premises.

(2) The matters are—

- (a) the operation of a provision to which this Part applies;
- (b) the exercise of a power conferred by, or for the enforcement of, a provision to which this Part applies; and
- (c) the performance of a duty imposed by, or for the enforcement of, a provision to which this Part applies.

2.—(1) This Part applies to a provision—

- (a) specified in paragraph 3;
- (b) contained in an instrument made under a provision so specified;
- (c) which has effect by virtue of a provision so specified; or
- (d) which extends or applies a provision so specified.

(2) This Part also applies to a provision of a local enactment (whenever passed or made and however expressed) in so far as it—

- (a) prohibits or restricts—
  - (i) the disposal or accumulation of waste;
  - (ii) the disposal or accumulation of a substance which is or causes a nuisance; or
  - (iii) a disposal or accumulation which causes pollution; or
- (b) confers a power, or imposes a duty, on a public authority or an officer of a public authority to take action to prevent, restrict or abate a disposal or accumulation of a description given in paragraph (a).

(3) In sub-paragraph (2)—

- (a) a reference to “disposal” in relation to a provision to which this Part applies, means—
- (i) the discharge or deposit of a substance; or
  - (ii) the allowing of a substance to escape or to enter a stream or other place, as may be mentioned in that provision; and
- (b) “local enactment” means—
- (i) a local or private Act;
  - (ii) an order confirmed by Parliament or brought into operation in accordance with special parliamentary procedure; or
  - (iii) an order confirmed by the National Assembly for Wales or brought into operation in accordance with special procedure in the Assembly.

### Provisions of enactments

3.—(1) The provisions referred to in paragraph 2(1) are those listed in table 9 below.

(2) References to provisions of the Water Resources Act 1991<sup>(15)</sup> have effect subject to the power conferred by section 98 of that Act.

**Table 9**

### Statutory provisions in respect of which radioactivity is to be disregarded

<i>Act</i>	<i>Provisions</i>
Public Health Act 1936 (c. 49)	Sections 48, 79, 81, 82, 141, 259 and 261.
Water Act 1945 (c. 42)	Section 18 so far as it continues to have effect by virtue of Schedule 2 to the Water Consolidation (Consequential Provisions) Act 1991 <sup>(16)</sup> or by virtue of provisions of the Control of Pollution Act 1974 not having been brought into force.
Salmon and Freshwater Fisheries Act 1975 (c. 51)	Section 4.
Building Act 1984 (c. 55)	Section 59.
The Planning (Hazardous Substances) Act 1990 (c. 10)	The whole Act.
Environmental Protection Act 1990 (c. 43)	Part III (subject to regulation 47(3) of the Waste (England and Wales) Regulations 2011) <sup>(17)</sup> .
Water Industry Act 1991 (c. 56)	Sections 72, 111, and 113(6);  In Part IV, Chapter III;  In Schedule 8, paragraphs 2 to 4 so far as they re-enact provisions of sections 43 and 44 of the Control of Pollution Act 1974 <sup>(18)</sup> .

<sup>(15)</sup> 1991 c. 57.

<sup>(16)</sup> 1991 c. 60.

<sup>(17)</sup> S.I. 2011/988.

<sup>(18)</sup> 1974 c. 40.

**Status:** This is the original version (as it was originally made).

<i>Act</i>	<i>Provisions</i>
Water Resources Act 1991 (c. 57)	Sections 82, 84, 92, 93, 161-161D, 190, 202, and 203;  In Schedule 25, paragraph 6.
Clean Air Act 1993 (c. 11)	Section 16.
Marine and Coastal Access Act 2009 (c. 23)	Section 155.”

## SCHEDULE 2

Regulation 16

### Consequential amendments

## PART 1

### Public General Acts

#### **Continental Shelf Act 1964**

1. In section 7 of the Continental Shelf Act 1964(19)(radioactive substances), omit—
  - (a) “for the purposes of the Radioactive Substances Act 1993 (and any orders and regulations made thereunder), or”, and
  - (b) “of that Act or”.

#### **Control of Pollution Act 1974**

2. In section 30(5)(b) of the Control of Pollution Act 1974 (power to apply Part 1 of that Act to radioactive waste)(20) omit “the Radioactive Substances Act 1993,”.

## PART 2

### Subordinate legislation

#### **The Civil Jurisdiction (Offshore Activities) Order 1987**

1. In article 4 of the Civil Jurisdiction (Offshore Activities) Order 1987(21), (the title to which article becomes “Application of the Wireless Telegraphy Act 1949 and the Environmental Permitting (England and Wales) Regulations 2010”), omit the words “the Radioactive Substances Act 1993, any regulations or orders under either of those Acts (subject, however, in the case of such regulations or orders made hereafter, to any contrary intention appearing therein) and”.

(19) 1964 c. 29; section 7 amended by the Radioactive Substances Act 1993 (c. 12), the Petroleum Act 1998 (c. 17) and S.I. 2010/675.

(20) 1974 c. 40. Section 30 was prospectively repealed by the Environmental Protection Act 1990 (c. 43), section 162 and Schedule 16, Part 2, on a date to be appointed, and amended by S.I. 2010/675.

(21) S.I. 1987/2197, amended by S.I. 2010/675.



### **The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999**

2. In Schedule 2 to the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999<sup>(22)</sup>, in paragraph 3(g) of the table, in column 2, for “paragraph 5(2)(b)” substitute “paragraph 11(2)(b)”.

### **The Hazardous Waste (England and Wales) Regulations 2005**

3.—(1) The Hazardous Waste (England and Wales) Regulations 2005<sup>(23)</sup> are amended as follows.

(2) In regulation 5(1), insert the following definition after the definition of “radioactive substances activity”—

““radioactive substances exemption” has the meaning given in regulation 2(1) of the Environmental Permitting Regulations;”.

(3) In regulation 15(1)(a), for “section 15 of the Radioactive Substances Act 1993”, substitute “a radioactive substances exemption”.

### **The Hazardous Waste (Wales) Regulations 2005**

4. The Hazardous Waste (Wales) Regulations 2005<sup>(24)</sup> are amended as follows

(a) in regulation 5(1) (general interpretation), insert the following definition after the definition of “radioactive substances activity”—

““radioactive substances exemption” has the meaning given in regulation 2(1) of the Environmental Permitting Regulations;”; and

(b) in regulation 15(1)(a) (radioactive waste), for “section 15 of the Radioactive Substances Act 1993”, substitute “a radioactive substances exemption”.

### **The Offshore Marine Conservation (Natural Habitats, &c) Regulations 2007**

5. Regulation 6(2)(h) of the Offshore Marine Conservation (Natural Habitats, &c) Regulations 2007<sup>(25)</sup> (duty of competent authorities) is omitted.

### **The Waste (England and Wales) Regulations 2011**

6.—(1) Regulation 47 of the Waste (England and Wales) Regulations 2011<sup>(26)</sup> (radioactive waste) is amended as follows.

(2) For paragraph (1), substitute—

“(1) This regulation applies to radioactive waste—

(a) which is a specified waste; and

(b) in respect of which a person—

(i) is carrying on a radioactive substances activity described in paragraph 11(2) (b) or (c) or (4) of Part 2 of Schedule 23 to the Environmental Permitting (England and Wales) Regulations 2010; and

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(22) [S.I. 1999/293](#).

(23) [S.I. 2005/894](#); regulations 5(1) and 15(1) were amended by [S.I. 2010/675](#).

(24) [S.I. 2005/1806 \(W 138\)](#); regulations 5(1) and 15(1) were amended by [S.I. 2010/675](#).

(25) [S.I. 2007/1842](#).

(26) [S.I. 2011/988](#).

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(ii) is exempt from the requirement for an environmental permit under regulation 12(3) of those Regulations for that activity.”.

(3) In paragraph (4)—

(a) in the definition of ““radioactive waste” and “radioactive substances activity”” for “paragraphs 4 and 5” substitute “paragraphs 3 and 11”;

(b) omit the definition of “specified order”;

(c) insert the following definitions in the appropriate place alphabetically—

““radioactive substances exemption” means an exemption under Part 7 of Schedule 23 to the Environmental Permitting (England and Wales) Regulations 2010 from the requirement for an environmental permit under regulation 12 of those regulations in respect of a radioactive substances activity;”

““specified waste” means—

(a) NORM waste (as that term is defined in Part 7 of Schedule 23 to the Environmental Permitting (England and Wales) Regulations 2010; or

(b) the waste described in the first, second or sixth row of column 1 of table 6 in Part 7 of Schedule 23 to the Environmental Permitting (England and Wales) Regulations 2010.”.

## SCHEDULE 3

Regulation 18

### Exemption orders

<i>Statutory Instrument Number</i>	<i>Citation</i>
S.I. 1962/2645	The Radioactive Substances (Exhibitions) Exemption Order 1962
S.I. 1962/2646	The Radioactive Substances (Storage in Transit) Exemption Order 1962
S.I. 1962/2648	The Radioactive Substances (Phosphatic Substances, Rare Earths etc) Exemption Order 1962
S.I. 1962/2649	The Radioactive Substances (Lead) Exemption Order 1962
S.I. 1962/2710	The Radioactive Substances (Uranium and Thorium) Exemption Order 1962
S.I. 1962/2711	The Radioactive Substances (Prepared Uranium and Thorium Compounds) Exemption Order 1962
S.I. 1962/2712	The Radioactive Substances (Geological Specimens) Exemption Order 1962
S.I. 1963/1831	The Radioactive Substances (Waste Closed Sources) Exemption Order 1963
S.I. 1963/1832	The Radioactive Substances (Schools etc) Exemption Order 1963
S.I. 1963/1836	The Radioactive Substances (Precipitated Phosphate) Exemption Order 1963
S.I. 1967/1797	The Radioactive Substances (Electronic Valves) Exemption Order 1967

<i>Statutory Instrument Number</i>	<i>Citation</i>
S.I. 1980/953	The Radioactive Substances (Smoke Detectors) Exemption Order 1980
S.I. 1985/1047	The Radioactive Substances (Gaseous Tritium Light Devices) Exemption Order 1985
S.I. 1985/1048	The Radioactive Substances (Luminous Articles) Exemption Order 1985
S.I. 1986/1002	The Radioactive Substances (Substances of Low Activity) Exemption Order 1986
S.I. 1990/2512	The Radioactive Substances (Hospitals) Exemption Order 1990
S.I. 1991/477	The Radioactive Substances (Smoke Detectors) Exemption (Amendment) Order 1991
S.I. 1992/647	The Radioactive Substances (Substances of Low Activity) Exemption (Amendment) Order 1992
S.I. 1995/2395	The Radioactive Substances (Hospitals) Exemption (Amendment) Order 1995
S.I. 2002/1177	The Radioactive Substances (Natural Gas) Exemption Order 2002
S.I. 2006/1500	The Radioactive Substances (Testing Instruments) Exemption (England and Wales) Order 2006