Regulations 5(1), 6(2)and 14(3)

## Work not required to be notified under regulation 5

- 1. Work with ionising radiation is not required to be notified in accordance with regulation 5 when the only such work being carried out is in one or more of the following categories—
  - (a) where the concentration of activity per unit mass of a radioactive substance does not exceed the concentration specified in column 2 of Part 1 of Schedule 7 (for artificial radionuclides and naturally occurring radionuclides which are processed for their radioactive, fissile or fertile properties) or column 2 of Part 2 of Schedule 7 (for naturally occurring radionuclides which are not processed for their radioactive, fissile or fertile properties);
  - (b) where the quantity of radioactive substance involved does not exceed the quantity specified in column 3 of Part 1 of Schedule 7 (for artificial radionuclides and naturally occurring radionuclides which are processed for their radioactive, fissile or fertile properties) or column 3 of Part 2 of Schedule 7 (for naturally occurring radionuclides which are not processed for their radioactive, fissile or fertile properties);
  - (c) where the concentration of activity per unit mass or quantity of a radioactive substance does not exceed values which may be approved by the appropriate authority for specific types of work and where such work satisfies the exemption criteria set out in paragraphs 2 and 3 below:
  - (d) where apparatus contains radioactive substances in a quantity exceeding the values specified in sub-paragraphs (a) and (b) provided that—
    - (i) the apparatus is of a type approved by the Executive;
    - (ii) the apparatus is constructed in the form of a sealed source;
    - (iii) the apparatus does not under normal operating conditions cause a dose rate of more than 1 uSvh<sup>-1</sup> at a distance of 0.1 m from any accessible surface; and
    - (iv) conditions for the disposal of the apparatus have been specified by the relevant environmental body;
  - (e) the operation of any electrical apparatus to which these Regulations apply other than apparatus referred to in sub-paragraph (f) provided that—
    - (i) the apparatus is of a type approved by the Executive; and
    - (ii) the apparatus does not under normal operating conditions cause a dose rate of more than  $1 \mu Svh^{-1}$  at a distance of 0.1 m from any accessible surface;
  - (f) the operation of—
    - (i) any cathode ray tube intended for the display of visual images; or
    - (ii) any other electrical apparatus operating at a potential difference not exceeding 30kV, provided that the operation of the tube or apparatus does not under normal operating conditions cause a dose rate of more than 1  $\mu$ Svh<sup>-1</sup> at a distance of 0.1 m from any accessible surface; or
  - (g) where the work involves contaminated material resulting from authorised releases which the relevant environmental body has declared not to be subject to further control.
  - 2. The criteria for the exemption from notification of work with ionising radiation are as follows:
    - (a) the radiological risks to individuals caused by such work are sufficiently low as to be of no regulatory concern;
    - (b) work of such type has been found to be justified; and

- (c) such work is inherently safe.
- 3. Work with ionising radiation only meets the requirements of paragraph 2(a) if—
  - (a) in relation to an employee, the effective dose caused by such work does not exceed 1 mSv in a calendar year; and
  - (b) in relation to any other person, the following requirements are met in all circumstances where it is reasonably practicable to do so—
    - (i) the effective dose caused by such work from radionuclides which are not naturally occurring radionuclides does not exceed  $10~\mu Sv$  in a calendar year; and
    - (ii) the effective dose caused by such work from naturally occurring radionuclides does not exceed 1 mSv in a calendar year.
- **4.** In paragraph 2(b), "found to be justified" has the meaning given by regulation 4(4) of the Justification of Practices Involving Ionising Radiation Regulations 2004(1).
  - 5. In this Schedule—

"appropriate authority" means—

- (a) in relation to any activity carried out exclusively or primarily on premises which are or are on-
  - (i) an authorised defence site;
  - (ii) a new nuclear build site;
  - (iii) a nuclear warship site,

the ONR;

(b) otherwise, the Executive;

"relevant environmental body"—

- (a) in relation to England, means the Environment Agency;
- (b) in relation to Wales, means the Natural Resources Body for Wales;
- (c) in relation to Scotland, means the Scottish Environment Protection Agency.

### SCHEDULE 2

Regulation 7(3)

Consent to carry out a practice: indicative list of information

- 1. Responsibilities and organisational arrangements for protection and safety.
- 2. Staff competences, including information and training.
- **3.** Design features of the facility and of radiation sources.
- **4.** Anticipated occupational and public exposures in normal operation.
- 5. Safety assessment of the activities and the facility in order to—
  - (a) identify ways in which potential exposures or accidental and unintended medical exposures could occur;
  - (b) estimate, to the extent practicable, the probabilities and magnitude of potential exposures;
  - (c) assess the quality and extent of protection and safety provisions, including engineering features, as well as administrative procedures;

<sup>(1)</sup> S.I. 2004/1769, to which there are amendments not relevant to these Regulations.

- (d) define the operational limits and conditions of operation.
- **6.** Emergency procedures.
- 7. Maintenance, testing, inspection and servicing so as to ensure that the radiation source and the facility continue to meet the design requirements, operational limits and conditions of operation throughout their lifetime.
- **8.** Management of radioactive waste and arrangements for the disposal of such waste, in accordance with applicable regulatory requirements.
  - **9.** Management of disused sources.
  - 10. Quality assurance.

Regulations 2(1) and 12

Dose limits

## PART 1

Classes of persons to whom dose limits apply

## Employees and trainees of 18 years of age or above

- 1. For the purposes of regulation 12(1), the limit on effective dose for any employee or trainee, being of 18 years of age or above, is 20 mSv in any calendar year.
  - 2. Without prejudice to paragraph 1—
    - (a) the limit on equivalent dose for the lens of the eye is—
      - (i) 20 mSv in a calendar year; or
      - (ii) in accordance with conditions approved by the Executive from time to time, 100 mSv in any period of five consecutive calendar years subject to a maximum equivalent dose of 50 mSv in any single calendar year;
    - (b) the limit on equivalent dose for the skin is 500 mSv in a calendar year as applied to the dose averaged over any area of 1 cm<sup>2</sup> regardless of the area exposed;
    - (c) the limit on equivalent dose for the extremities is 500 mSv in a calendar year.

## Trainees aged under 18 years

- **3.** For the purposes of regulation 12(1), the limit on effective dose for any trainee under 18 years of age is 6 mSv in any calendar year.
  - 4. Without prejudice to paragraph 3—
    - (a) the limit on equivalent dose for the lens of the eye is 15 mSv in a calendar year;
    - (b) the limit on equivalent dose for the skin is 150 mSv in a calendar year as applied to the dose averaged over any area of 1 cm<sup>2</sup> regardless of the area exposed;
    - (c) the limit on equivalent dose for the extremities is 150 mSv in a calendar year.

#### Other persons

- **5.** Subject to paragraph 6, for the purposes of regulation 12(1) the limit on effective dose for any person other than an employee or trainee referred to in paragraph 1 or 3, including any person below the age of 16, is 1 mSv in any calendar year.
- **6.** Paragraph 5 does not apply in relation to any person (not being a carer and comforter) who may be exposed to ionising radiation resulting from the medical exposure of another and in such a case the limit on effective dose for any such person is 5 mSv in any period of 5 consecutive calendar years.
  - 7. Without prejudice to paragraphs 5 and 6—
    - (a) the limit on equivalent dose for the lens of the eye is 15 mSv in any calendar year;
    - (b) the limit on equivalent dose for the skin is 50 mSv in any calendar year averaged over any 1 cm<sup>2</sup> area regardless of the area exposed;
    - (c) the limit on equivalent dose for the extremities is 50 mSv in a calendar year.

## PART 2

- **8.** For the purposes of regulation 12(2), the limit on effective dose for employees or trainees of 18 years or above is 100 mSv in any period of five consecutive calendar years subject to a maximum effective dose of 50 mSv in any single calendar year.
  - 9. Without prejudice to paragraph 8—
    - (a) the limit on equivalent dose for the lens of the eye is—
      - (i) 20 mSv in a calendar year; or
      - (ii) in accordance with conditions approved by the Executive from time to time, 100 mSv in any period of five consecutive calendar years subject to a maximum equivalent dose of 50 mSv in any single calendar year;
    - (b) the limit on equivalent dose for the skin is 500 mSv in a calendar year as applied to the dose averaged over any area of 1 cm<sup>2</sup> regardless of the area exposed;
    - (c) the limit on equivalent dose for the extremities is 500 mSv in a calendar year.
- 10. The employer must ensure that any employee in respect of whom regulation 12(2) applies is not exposed to ionising radiation to an extent that any dose limit specified in paragraphs 8 or 9 is exceeded.
- 11. An employer must not put into effect a system of dose limitation pursuant to regulation 12(2) unless—
  - (a) the radiation protection adviser and any employees who are affected have been consulted;
  - (b) any employees affected and the approved dosimetry service have been informed in writing of the decision and of the reasons for that decision; and
  - (c) notice has been given to the appropriate authority at least 28 days (or such shorter period as the appropriate authority may allow) before the decision is put into effect giving the reasons for the decision.
- 12. Where there is reasonable cause to believe that any employee has been exposed to an effective dose greater than 20 mSv in any calendar year, the employer must, as soon as is practicable—
  - (a) undertake an investigation into the circumstances of the exposure for the purpose of determining whether the dose limit referred to in paragraph 8 is likely to be complied with; and
  - (b) notify the appropriate authority of that suspected exposure.

- 13. An employer must review the decision to put into effect a system of dose limitation pursuant to regulation 12(2) at appropriate intervals and in any event not less than once every five years.
- 14. Where as a result of a review undertaken pursuant to paragraph 13 an employer proposes to revert to a system of annual dose limitation pursuant to regulation 12(1), the provisions of paragraph 11 apply as if the reference in that paragraph to regulation 12(2) was a reference to regulation 12(1).
- 15. Where an employer puts into effect a system of dose limitation in pursuance of regulation 12(2), the employer must record the reasons for that decision and must ensure that the record is preserved until any person subject to the system of dose limitation under regulation 12(2) has or would have attained the age of 75 years but in any event for at least 30 years from the making of the record.
  - **16.** In any case where—
    - (a) the dose limits specified in paragraph 8 are being applied by an employer in respect of an employee; and
    - (b) the appropriate authority is not satisfied that it is impracticable for that employee to be subject to the dose limit specified in paragraph 1 of Part 1 of this Schedule,

the appropriate authority may require the employer to apply the dose limit specified in paragraph 1 of Part 1 with effect from such time as the appropriate authority may consider appropriate having regard to the interests of the employee concerned.

- 17. In any case where, as a result of a review undertaken pursuant to paragraph 13, an employer proposes to revert to an annual dose limitation in accordance with regulation 12(1), the appropriate authority may require the employer to defer the implementation of that decision to such time as the appropriate authority may consider appropriate having regard to the interests of the employee concerned.
- **18.** Any person who is aggrieved by the decision of the appropriate authority taken pursuant to paragraphs 16 or 17 may appeal to the Secretary of State.
- **19.** Sub-sections (2) to (6) of section 44 of the 1974 Act apply for the purposes of paragraph 18 as they apply to an appeal under section 44(1) of that Act.
- **20.** The Health and Safety Licensing Appeals (Hearings Procedure) Rules 1974(**2**), as respects England and Wales, and the Health and Safety Licensing Appeals (Hearings Procedure) (Scotland) Rules 1974(**3**), as respects Scotland, apply to an appeal under paragraph 18 as they apply to an appeal under section 44(1) of the 1974 Act, but with the modification that references to a licensing authority are to be read as references to the appropriate authority.
  - 21. In this Part, "appropriate authority" means—
    - (a) in connection with the application of this Part in relation to, or in relation to any activity carried out on, any nuclear premises, the ONR;
    - (b) otherwise, the Executive.

## SCHEDULE 4

Regulation 14(1)

Matters in respect of which a radiation protection adviser must be consulted

1. The implementation of requirements as to controlled and supervised areas.

<sup>(2)</sup> S.I. 1974/2040.

<sup>(3)</sup> S.I. 1974/2068.

- 2. The prior examination of plans for installations and the acceptance into service of new or modified sources of ionising radiation in relation to any engineering controls, design features, safety features and warning devices provided to restrict exposure to ionising radiation.
- **3.** The regular calibration of equipment provided for monitoring levels of ionising radiation and the regular checking that such equipment is serviceable and correctly used.
- **4.** The periodic examination and testing of engineering controls, design features, safety features and warning devices and regular checking of systems of work provided to restrict exposure to ionising radiation.

Regulation 22(5)

#### Particulars to be entered in the radiation passbook

- 1. Individual serial number of the passbook.
- **2.** A statement that the passbook has been approved by the Executive for the purpose of these Regulations.
  - **3.** Date of issue of the passbook by the approved dosimetry service.
- **4.** The name, telephone number and mark of endorsement of the issuing approved dosimetry service.
  - **5.** The name, address, telephone number and e-mail address of the employer.
- **6.** Full name (surname, forenames), date of birth, gender and national insurance number of the classified outside worker to whom the passbook has been issued.
- 7. Date of the last medical review of the classified outside worker and the relevant classification in the health record maintained under regulation 25 as fit, fit subject to conditions (which must be specified) or unfit.
- **8.** The relevant dose limits applicable to the classified outside worker to whom the passbook has been issued.
- **9.** The cumulative dose assessment in mSv for the year to date for the classified outside worker, external (whole body, organ or tissue) and/or internal as appropriate and the date of the end of the last assessment period.
  - 10. In respect of services performed by the classified outside worker—
    - (a) the name and address of the employer responsible for the controlled area;
    - (b) the period covered by the performance of the services;
    - (c) the following estimated dose information, as appropriate—
      - (i) an estimate of any whole body effective dose in mSv received by the classified outside worker;
      - (ii) in the event of non-uniform exposure, an estimate of the equivalent dose in mSv to organs and tissues as appropriate; and
      - (iii) in the event of internal contamination, an estimate of the activity taken in or the committed dose.

Regulation 25(2)(b)

#### Particulars to be contained in a health record

The following particulars must be contained in a health record made for the purposes of regulation 25(2)(b)—

- (a) the employee's—
  - (i) full name;
  - (ii) sex;
  - (iii) date of birth;
  - (iv) permanent address; and
  - (v) National Insurance number;
- (b) the date of the employee's commencement as a classified person in present employment;
- (c) the nature of the employee's employment;
- (d) the date and type of the last medical examination or health review carried out in respect of the employee;
- (e) a statement by the relevant doctor made as a result of the last medical examination or health review carried out in respect of the employee classifying the employee as fit, fit subject to conditions (which should be specified) or unfit;
- (f) in relation to each medical examination and health review, the name and signature of the relevant doctor;
- (g) the name and address of the approved dosimetry service with whom arrangements have been made for maintaining the dose record in accordance with regulation 22.

## SCHEDULE 7

Quantities and concentrations of radionuclides

Regulations 2(4), 6(2), 31(1), 31(3) and Schedule 1

PART 1

Table of artificial radionuclides and naturally occurring radionuclides (which are processed for their radioactive, fissile or fertile properties)

1	2	3	4	5	6
Radionuclide name, symbol, isotope	Concentration for: Notification (any amount of radioactive material); Registration (amounts of radioactive material that exceed 1,000kg) Regulation 5(1) and Schedule 1, paragraph 1(a);regulation(f)	Quantity for Notification  Regulation 5(1) and Schedule 1, paragraph 1(b)	Concentration for Registration (amounts of radioactive material that do not exceed 1,000kg)  Regulation 6(2)(e)	Quantity for notification of occurrences  Regulation 31(1)	Quantity for notification of occurrences  Regulation 31(3)
	(Bq/g)	(Bq)	(Bq/g)	(Bq)	(Bq)
Hydrogen				T	T.
H-3 (tritiated compounds)	$10^2$	109	10 <sup>6</sup>	10 <sup>12</sup>	10 <sup>10</sup>
Beryllium					
Be-7	10	10 <sup>7</sup>	10 <sup>3</sup>	10 <sup>12</sup>	108
Carbon				ı	1
C-11	0.01	$10^{6}$	10	10 <sup>13</sup>	10 <sup>7</sup>
C-11 (monoxide)	0.01	109	10	10 <sup>12</sup>	10 <sup>10</sup>
C-11 (dioxide)	0.01	10 <sup>9</sup>	10	10 <sup>12</sup>	10 <sup>10</sup>
C-14	1	10 <sup>7</sup>	10 <sup>4</sup>	10 <sup>11</sup>	108
Oxygen		<u> </u>		1	J
O-15	0.01	10 <sup>9</sup>	$10^{2}$	10 <sup>10</sup>	
Fluorine					
F-18	10	10 <sup>6</sup>	10	10 <sup>13</sup>	107
Sodium					
Na-22	0.1	$10^{6}$	10	10 <sup>10</sup>	107

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

1	2	3	4	5	6
Radionuclide name, symbol, isotope	Concentration for: Notification (any amount of radioactive material); Registration (amounts of radioactive material that exceed 1,000kg) Regulation 5(1) and Schedule 1, paragraph 1(a);regulation(f)	Quantity for Notification  Regulation 5(1) and Schedule 1, paragraph 1(b)	Concentration for Registration (amounts of radioactive material that do not exceed 1,000kg)  Regulation 6(2)(e)	Quantity for notification of occurrences  Regulation 31(1)	Quantity for notification of occurrences  Regulation 31(3)
	(Bq/g)	(Bq)	(Bq/g)	(Bq)	(Bq)
Na-24	0.1	10 <sup>5</sup>	10	10 <sup>11</sup>	10 <sup>6</sup>
Silicon					1
Si-31	$10^3$	$10^{6}$	$10^3$	$10^{13}$	107
Phosphorus					1
P-32	$10^3$	10 <sup>5</sup>	$10^3$	$10^{10}$	10 <sup>6</sup>
P-33	$10^3$	10 <sup>8</sup>	10 <sup>5</sup>	10 <sup>11</sup>	109
Sulphur					_
S-35	$10^2$	10 <sup>8</sup>	10 <sup>5</sup>	10 <sup>11</sup>	109
Chlorine					
Cl-36	1	$10^{6}$	$10^4$	$10^{10}$	107
Cl-38	10	10 <sup>5</sup>	10	10 <sup>13</sup>	10 <sup>6</sup>
Argon					
Ar-37	0.01	10 <sup>8</sup>	$10^{6}$	10 <sup>13</sup>	
Ar-41	0.01	10 <sup>9</sup>	10 <sup>2</sup>	10 <sup>9</sup>	
Potassium					
K-40 <sup>(1)</sup>	1	10 <sup>6</sup>	$10^2$	10 <sup>10</sup>	107
K-42	10 <sup>2</sup>	10 <sup>6</sup>	$10^2$	10 <sup>12</sup>	10 <sup>7</sup>
K-43	10	10 <sup>6</sup>	10	10 <sup>11</sup>	10 <sup>7</sup>
Calcium		<u> </u>	I	I	
Ca-45	$10^{2}$	107	10 <sup>4</sup>	10 <sup>10</sup>	108

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

1	2	3	4	5	6
Radionuclide name, symbol, isotope	Concentration for: Notification (any amount of radioactive material); Registration (amounts of radioactive material that exceed 1,000kg) Regulation 5(1) and Schedule 1, paragraph 1(a); regulation(f)	Quantity for Notification S(1) and Schedule 1, paragraph 1(b)	Concentration for Registration (amounts of radioactive material that do not exceed 1,000kg)  Regulation 6(2)(e)	Quantity for notification of occurrences  Regulation 31(1)	Quantity for notification of occurrences  Regulation 31(3)
Ca-47	(Bq/g)	(Bq)	( <b>Bq/g</b> )	(Bq)	(Bq)
Scandium	10	10 <sup>6</sup>	10	10 <sup>11</sup>	107
Sc-46	0.1	106	10	10 <sup>10</sup>	107
		10 <sup>6</sup>		-	107
Sc-47	$10^2$	10 <sup>6</sup>	$10^{2}$	10 <sup>11</sup>	10 <sup>7</sup>
Sc-48	1	10 <sup>5</sup>	10	10 <sup>11</sup>	10 <sup>6</sup>
Vanadium					1
V-48	1	10 <sup>5</sup>	10	$10^{10}$	10 <sup>6</sup>
Chromium					1
Cr-51	$10^2$	10 <sup>7</sup>	$10^3$	10 <sup>12</sup>	108
Manganese			I	T	1
Mn-51	10	10 <sup>5</sup>	10	10 <sup>13</sup>	10 <sup>6</sup>
Mn-52	1	10 <sup>5</sup>	10	10 <sup>10</sup>	10 <sup>6</sup>
Mn-52m	10	10 <sup>5</sup>	10	10 <sup>13</sup>	10 <sup>6</sup>
Mn-53	10 <sup>2</sup>	10 <sup>9</sup>	10 <sup>4</sup>	10 <sup>12</sup>	10 <sup>10</sup>
Mn-54	0.1	10 <sup>6</sup>	10	10 <sup>11</sup>	10 <sup>7</sup>
Mn-56	10	10 <sup>5</sup>	10	10 <sup>12</sup>	10 <sup>6</sup>
Iron	I.	I	I.	I	J
Fe-52+	10	10 <sup>6</sup>	10	10 <sup>12</sup>	10 <sup>7</sup>
Fe-55	10 <sup>3</sup>	10 <sup>6</sup>	10 <sup>4</sup>	10 <sup>11</sup>	10 <sup>7</sup>

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

1	2	3	4	5	6
Radionuclide name, symbol, isotope	Concentration for: Notification (any amount of radioactive material); Registration (amounts of radioactive material that exceed 1,000kg) Regulation 5(1) and Schedule 1, paragraph 1(a); regulation	Quantity for Notification  Regulation 5(1) and Schedule 1, paragraph 1(b)	Concentration for Registration (amounts of radioactive material that do not exceed 1,000kg)  Regulation 6(2)(e)	Quantity for notification of occurrences  Regulation 31(1)	Quantity for notification of occurrences  Regulation 31(3)
	(f) (Bq/g)	<i>(Bq)</i>	(Bq/g)	(Bq)	(Bq)
Fe-59	1	10 <sup>6</sup>	10	10 <sup>10</sup>	10 <sup>7</sup>
Cobalt					
Co-55	10	$10^{6}$	10	10 <sup>11</sup>	107
Co-56	0.1	10 <sup>5</sup>	10	10 <sup>10</sup>	10 <sup>6</sup>
Co-57	1	10 <sup>6</sup>	$10^{2}$	10 <sup>11</sup>	10 <sup>7</sup>
Co-58	1	10 <sup>6</sup>	10	10 <sup>10</sup>	10 <sup>7</sup>
Co-58m	10 <sup>4</sup>	10 <sup>7</sup>	10 <sup>4</sup>	10 <sup>13</sup>	108
Co-60	0.1	10 <sup>5</sup>	10	10 <sup>10</sup>	10 <sup>6</sup>
Co-60m	10 <sup>3</sup>	10 <sup>6</sup>	10 <sup>3</sup>	10 <sup>16</sup>	10 <sup>7</sup>
Co-61	10 <sup>2</sup>	10 <sup>6</sup>	10 <sup>2</sup>	10 <sup>13</sup>	107
Co-62m	10	10 <sup>5</sup>	10	10 <sup>13</sup>	10 <sup>6</sup>
Nickel					
Ni-59	$10^2$	10 <sup>8</sup>	10 <sup>4</sup>	10 <sup>11</sup>	109
Ni-63	10 <sup>2</sup>	10 <sup>8</sup>	10 <sup>5</sup>	10 <sup>11</sup>	10 <sup>9</sup>
Ni-65	10	10 <sup>6</sup>	10	10 <sup>13</sup>	10 <sup>7</sup>
Copper		I	ı	I	J
Cu-64	$10^2$	10 <sup>6</sup>	$10^2$	10 <sup>12</sup>	10 <sup>7</sup>
Zinc					
Zn-65	0.1	10 <sup>6</sup>	10	10 <sup>10</sup>	10 <sup>7</sup>

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

1	2	3	4	5	6
Radionuclide		Quantity	Concentration	Quantity for	Quantity
name,	for:	for	for	notification	for
symbol, isotope	Notification (any amount	Notification	Registration (amounts of	of occurrences	notification
isotope	of radioactive		(amounts of radioactive	occurrences	of occurrences
	material);		material that		occurrences
	Registration		do not exceed		
	(amounts of		1,000kg)		
	radioactive				
	material that				
	exceed 1,000kg)				
	Regulation	Regulation	Regulation	Regulation	Regulation
	5(1) and	5(1) and	6(2)(e)	31(1)	31(3)
	Schedule 1,	Schedule 1,	0(2)(0)		
	paragraph	paragraph			
	1(a);regul <b>&amp;(2)</b> n	1(b)			
	(f) (B) (a)	(B)	( <b>B</b> - /-)	(B)	(B)
Zn-69	(Bq/g)	(Bq)	(Bq/g)	( <b>Bq</b> )	(Bq)
	$10^3$	10 <sup>6</sup>	104	-	10 <sup>7</sup>
Zn-69m+	10	$10^{6}$	$10^2$	10 <sup>12</sup>	107
Gallium				T	1
Ga-68	0.01	10 <sup>5</sup>	10	$10^{13}$	106
Ga-72	10	10 <sup>5</sup>	10	10 <sup>11</sup>	$10^6$
Germanium					1
Ge-68+	0.01	10 <sup>5</sup>	10	10 <sup>10</sup>	10 <sup>6</sup>
Ge-71	104	10 <sup>8</sup>	104	10 <sup>13</sup>	109
Arsenic					
As-73	$10^3$	10 <sup>7</sup>	$10^3$	10 <sup>11</sup>	108
As-74	10	10 <sup>6</sup>	10	10 <sup>11</sup>	10 <sup>7</sup>
As-76	10	10 <sup>5</sup>	$10^2$	10 <sup>11</sup>	10 <sup>6</sup>
As-77	$10^3$	10 <sup>6</sup>	$10^3$	10 <sup>12</sup>	10 <sup>7</sup>
Selenium					
Se-75	1	10 <sup>6</sup>	$10^2$	10 <sup>11</sup>	10 <sup>7</sup>
Bromine					
Br-82	1	10 <sup>6</sup>	10	10 <sup>11</sup>	10 <sup>7</sup>
Krypton					
Kr-74	0.01	10 <sup>9</sup>	10 <sup>2</sup>	10 <sup>9</sup>	
Kr-76	0.01	10 <sup>9</sup>	$10^2$	10 <sup>10</sup>	

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

1	2	3	4	5	6
Radionuclide name, symbol, isotope	Concentration for: Notification (any amount of radioactive material); Registration (amounts of radioactive material that exceed 1,000kg) Regulation 5(1) and Schedule 1, paragraph 1(a);regulation(f)	Quantity for Notification  Regulation 5(1) and Schedule 1, paragraph 1(b)	Concentration for Registration (amounts of radioactive material that do not exceed 1,000kg)  Regulation 6(2)(e)	Quantity for notification of occurrences  Regulation 31(1)	Quantity for notification of occurrences  Regulation 31(3)
	(Bq/g)	(Bq)	(Bq/g)	(Bq)	(Bq)
Kr-77	0.01	10 <sup>9</sup>	$10^2$	10 <sup>9</sup>	
Kr-79	0.01	10 <sup>5</sup>	10 <sup>3</sup>	10 <sup>10</sup>	
Kr-81	0.01	10 <sup>7</sup>	10 <sup>4</sup>	10 <sup>11</sup>	
Kr-83m	0.01	10 <sup>12</sup>	10 <sup>5</sup>	10 <sup>12</sup>	
Kr-85	0.01	10 <sup>4</sup>	10 <sup>5</sup>	10 <sup>12</sup>	
Kr-85m	0.01	10 <sup>10</sup>	10 <sup>3</sup>	10 <sup>10</sup>	
Kr-87	0.01	10 <sup>9</sup>	10 <sup>2</sup>	10 <sup>9</sup>	
Kr-88	0.01	10 <sup>9</sup>	10 <sup>2</sup>	10 <sup>9</sup>	
Rubidium					1
Rb-86	$10^2$	10 <sup>5</sup>	10 <sup>2</sup>	10 <sup>11</sup>	10 <sup>6</sup>
Strontium				l	_
Sr-85	1	10 <sup>6</sup>	10 <sup>2</sup>	10 <sup>11</sup>	107
Sr-85m	10 <sup>2</sup>	10 <sup>7</sup>	10 <sup>2</sup>	10 <sup>13</sup>	108
Sr-87m	10 <sup>2</sup>	10 <sup>6</sup>	10 <sup>2</sup>	10 <sup>13</sup>	10 <sup>7</sup>
Sr-89	10 <sup>3</sup>	10 <sup>6</sup>	10 <sup>3</sup>	10 <sup>10</sup>	10 <sup>7</sup>
Sr-90+	1	10 <sup>4</sup>	10 <sup>2</sup>	10 <sup>9</sup>	10 <sup>5</sup>
Sr-91+	10	10 <sup>5</sup>	10	10 <sup>12</sup>	10 <sup>6</sup>
Sr-92	10	10 <sup>6</sup>	10	10 <sup>12</sup>	10 <sup>7</sup>

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

name, for symbol, isotope (an of more and more a	totification any amount f radioactive taterial); tegistration amounts of adioactive taterial that acceed begulation	Quantity for Notification	Concentration for Registration (amounts of radioactive material that do not exceed 1,000kg)	Quantity for notification of occurrences	Quantity for notification of occurrences
Symbol,   Isotope   (all of isotope   (all of mother isotope   (all of mother isotope   (all of isot	totification any amount f radioactive taterial); tegistration amounts of adioactive taterial that acceed begulation		Registration (amounts of radioactive material that do not exceed	of	notification of
isotope (an of more rear more rear 1,0 Sec par 1(an of feet) (B)  Y-90 10 <sup>3</sup>	any amount f radioactive f radioactive f radioactive f radioactive f radioactive f raterial that f raced f rac	Notification	(amounts of radioactive material that do not exceed	_	of
of mo Re (au rai mo ex 1,0 Sc pa 1(0 (f) (B) Y-90 10 <sup>3</sup>	f radioactive aterial); egistration umounts of adioactive aterial that sceed 000kg) egulation		radioactive material that do not exceed	occurrences	
Me   Re   (a)   ra   me   ex   1,0     Re   5 (   Sc   pa   1 (   (f) (   E   F   F   F   F   F   F   F   F   F	aterial); egistration umounts of adioactive eaterial that exceed 000kg) egulation		material that do not exceed		occurrences
Re (an rame of the rame)   Re (an	egistration amounts of adioactive aterial that acced 000kg) egulation		do not exceed		
(a) ra mo ex 1,0 Re 5( Sc pa 1( (f) (B) Y-90 10 <sup>3</sup>	amounts of adioactive caterial that exceed 000kg) egulation				
Y-90 10 <sup>3</sup>	adioactive aterial that sceed 000kg) egulation		1,000kg)		
ma   ex   1,0   Re   5(   Se   pa   1(   (f)   (B   Y-90   10 <sup>3</sup>	aterial that xceed 000kg) egulation				I
ex   1,0   Re   5(   Sc   pa   1(0   (f)   (B   Y-90   10 <sup>3</sup>	xceed 000kg) egulation				
1,0 Re 5( Sc pa 1( (f) (B) Y-90 10 <sup>3</sup>	000kg) egulation		í.		
Y-90 10 <sup>3</sup>	egulation				
5 (See part 1) (George Part 1)	_	Dagulation	Regulation	Regulation	Regulation
Y-90 10 <sup>3</sup>	iii and	Regulation 5(1) and	6(2)(e)	31(1)	31(3)
Y-90 10 <sup>3</sup>	(1)	Schedule 1,	0(2)(6)	31(1)	31(3)
Y-90 10 <sup>3</sup>	aragraph	paragraph			
Y-90 10 <sup>3</sup>	(a);regul <b>&amp;(2)</b> n	1(b)			
Y-90 (B)	' / ' '	-(-)			
10	<i>Bq/g)</i>	<i>(Bq)</i>	(Bq/g)	(Bq)	(Bq)
Y-91 10 <sup>2</sup>	3	10 <sup>5</sup>	$10^3$	10 <sup>11</sup>	10 <sup>6</sup>
	2	$10^{6}$	10 <sup>3</sup>	10 <sup>10</sup>	10 <sup>7</sup>
Y-91m 10 <sup>2</sup>	2	10 <sup>6</sup>	10 <sup>2</sup>	10 <sup>13</sup>	10 <sup>7</sup>
Y-92 $10^2$	2	10 <sup>5</sup>	$10^2$	10 <sup>12</sup>	10 <sup>6</sup>
Y-93 $10^2$	2	10 <sup>5</sup>	$10^2$	10 <sup>12</sup>	10 <sup>6</sup>
Zirconium					1
Zr-93+ 10		10 <sup>7</sup>	$10^3$	10 <sup>9</sup>	108
Zr-95+ 1		$10^{6}$	10	10 <sup>10</sup>	107
Zr-97+ 10		10 <sup>5</sup>	10	10 <sup>11</sup>	10 <sup>6</sup>
Niobium					1
Nb-93m 10		10 <sup>7</sup>	104	10 <sup>11</sup>	108
Nb-94 0.1	l	10 <sup>6</sup>	10	109	10 <sup>7</sup>
Nb-95 1		10 <sup>6</sup>	10	10 <sup>11</sup>	10 <sup>7</sup>
Nb-97+ 10		10 <sup>6</sup>	10	10 <sup>13</sup>	10 <sup>7</sup>
Nb-98 10		10 <sup>5</sup>	10	10 <sup>13</sup>	10 <sup>6</sup>
Molybdenum					
Mo-90 10	Т	6	10	l	1.07
Mo-93 10		$10^{6}$	10	10 <sup>12</sup>	107
Mo-99+ 10		10 <sup>6</sup> 10 <sup>8</sup>	10 10 <sup>3</sup>	10 <sup>12</sup> 10 <sup>11</sup>	10'

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

1	2	3	4	5	6
Radionuclide name, symbol, isotope	Concentration for: Notification (any amount of radioactive material); Registration (amounts of radioactive material that exceed 1,000kg) Regulation 5(1) and Schedule 1, paragraph 1(a); regulation (f)	Quantity for Notification S(1) and Schedule 1, paragraph 1(b)	Concentration for Registration (amounts of radioactive material that do not exceed 1,000kg)  Regulation 6(2)(e)	Quantity for notification of occurrences  Regulation 31(1)	Quantity for notification of occurrences  Regulation 31(3)
M. 101	(Bq/g)	(Bq)	(Bq/g)	(Bq)	(Bq)
Mo-101+	10	10 <sup>6</sup>	10	10 <sup>13</sup>	107
Technetium Tc-96	1	1.06	10	4.011	1.07
		10 <sup>6</sup>		10 <sup>11</sup>	107
Tc-96m	10 <sup>3</sup>	10 <sup>7</sup>	10 <sup>3</sup>	10 <sup>14</sup>	108
Tc-97	10	10 <sup>8</sup>	$10^3$	10 <sup>12</sup>	109
Tc-97m	$10^2$	10 <sup>7</sup>	$10^3$	10 <sup>10</sup>	108
Tc-99	1	10 <sup>7</sup>	10 <sup>4</sup>	10 <sup>10</sup>	108
Tc-99m	$10^2$	10 <sup>7</sup>	$10^{2}$	10 <sup>13</sup>	108
Ruthenium					
Ru-97	10	10 <sup>7</sup>	$10^2$	10 <sup>12</sup>	108
Ru-103+	1	10 <sup>6</sup>	10 <sup>2</sup>	10 <sup>10</sup>	10 <sup>7</sup>
Ru-105+	10	10 <sup>6</sup>	10	10 <sup>12</sup>	10 <sup>7</sup>
Ru-106+	0.1	10 <sup>5</sup>	10 <sup>2</sup>	10 <sup>9</sup>	10 <sup>6</sup>
Rhodium					,
Rh-103m	10 <sup>4</sup>	10 <sup>8</sup>	104	10 <sup>15</sup>	109
Rh-105	10 <sup>2</sup>	10 <sup>7</sup>	10 <sup>2</sup>	10 <sup>12</sup>	10 <sup>8</sup>
Palladium					,
Pd-103+	$10^3$	10 <sup>8</sup>	$10^3$	10 <sup>11</sup>	109
Pd-109+	10 <sup>2</sup>	10 <sup>6</sup>	10 <sup>3</sup>	10 <sup>12</sup>	10 <sup>7</sup>

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

1	2	3	4	5	6
Radionuclide name, symbol, isotope	Concentration for: Notification (any amount of radioactive material); Registration (amounts of radioactive material that exceed 1,000kg) Regulation 5(1) and Schedule 1, paragraph 1(a); regulation	Quantity for Notification S(1) and Schedule 1, paragraph 1(b)	Concentration for Registration (amounts of radioactive material that do not exceed 1,000kg)  Regulation 6(2)(e)	Quantity for notification of occurrences  Regulation 31(1)	Quantity for notification of occurrences  Regulation 31(3)
	(f) (Bq/g)	(Bq)	(Bq/g)	<i>(Bq)</i>	(Bq)
Silver				T	1
Ag-105	1	10 <sup>6</sup>	$10^2$	10 <sup>11</sup>	107
Ag-108m+	0.1	$10^{6}$	10	10 <sup>10</sup>	10 <sup>7</sup>
Ag-110m+	0.1	10 <sup>6</sup>	10	10 <sup>10</sup>	107
Ag-111	10 <sup>2</sup>	10 <sup>6</sup>	10 <sup>3</sup>	10 <sup>11</sup>	10 <sup>7</sup>
Cadmium					
Cd-109+	1	$10^{6}$	$10^4$	10 <sup>10</sup>	10 <sup>7</sup>
Cd-115+	10	10 <sup>6</sup>	10 <sup>2</sup>	10 <sup>11</sup>	10 <sup>7</sup>
Cd-115m+	10 <sup>2</sup>	10 <sup>6</sup>	10 <sup>3</sup>	10 <sup>10</sup>	10 <sup>7</sup>
Indium					_
In-111	10	10 <sup>6</sup>	$10^2$	10 <sup>11</sup>	10 <sup>7</sup>
In-113m	10 <sup>2</sup>	10 <sup>6</sup>	10 <sup>2</sup>	10 <sup>13</sup>	10 <sup>7</sup>
In-114m+	10	10 <sup>6</sup>	10 <sup>2</sup>	10 <sup>10</sup>	10 <sup>7</sup>
In-115m	10 <sup>2</sup>	10 <sup>6</sup>	10 <sup>2</sup>	10 <sup>13</sup>	10 <sup>7</sup>
Tin	•	1.	1		J
Sn-113+	1	10 <sup>7</sup>	10 <sup>3</sup>	10 <sup>11</sup>	108
Sn-125	10	10 <sup>5</sup>	10 <sup>2</sup>	10 <sup>10</sup>	10 <sup>6</sup>
Antimony		1	1		J
Sb-122	10	10 <sup>4</sup>	$10^2$	10 <sup>11</sup>	10 <sup>5</sup>

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

1	2	3	4	5	6
Radionuclide name, symbol, isotope	for: Notification (any amount of radioactive material); Registration (amounts of radioactive material that exceed 1,000kg) Regulation 5(1) and Schedule 1, paragraph 1(a);regulat(2)n (f)	Quantity for Notification S(1) and Schedule 1, paragraph 1(b)	Concentration for Registration (amounts of radioactive material that do not exceed 1,000kg)  Regulation 6(2)(e)	Quantity for notification of occurrences  Regulation 31(1)	Quantity for notification of occurrences  Regulation 31(3)
Cl. 124	(Bq/g)	(Bq)	(Bq/g)	(Bq)	(Bq)
Sb-124	1	106	10	10 <sup>10</sup>	107
Sb-125+	0.1	10 <sup>6</sup>	10 <sup>2</sup>	10 <sup>10</sup>	107
Tellurium	1	7	2	10	9
Te-123m		10 <sup>7</sup>	10 <sup>2</sup>	10 <sup>10</sup>	108
Te-125m	10 <sup>3</sup>	10 <sup>7</sup>	$10^3$	10 <sup>10</sup>	108
Te-127	$10^3$	10 <sup>6</sup>	$10^3$	10 <sup>12</sup>	10 <sup>7</sup>
Te-127m+	10	10 <sup>7</sup>	$10^3$	10 <sup>10</sup>	108
Te-129	$10^{2}$	10 <sup>6</sup>	$10^{2}$	10 <sup>14</sup>	10 <sup>7</sup>
Te-129m+	10	10 <sup>6</sup>	10 <sup>3</sup>	10 <sup>10</sup>	10 <sup>7</sup>
Te-131	$10^2$	10 <sup>5</sup>	10 <sup>2</sup>	10 <sup>14</sup>	10 <sup>6</sup>
Te-131m+	10	10 <sup>6</sup>	10	10 <sup>11</sup>	10 <sup>7</sup>
Te-132+	1	10 <sup>7</sup>	10 <sup>2</sup>	10 <sup>11</sup>	108
Te-133	10	10 <sup>5</sup>	10	10 <sup>14</sup>	10 <sup>6</sup>
Te-133m	10	10 <sup>5</sup>	10	10 <sup>13</sup>	10 <sup>6</sup>
Te-134	10	10 <sup>6</sup>	10	10 <sup>13</sup>	10 <sup>7</sup>
Iodine		<u> </u>		<u> </u>	
I-123	$10^2$	10 <sup>7</sup>	10 <sup>2</sup>	10 <sup>12</sup>	108
I-125	10 <sup>2</sup>	10 <sup>6</sup>	10 <sup>3</sup>	10 <sup>10</sup>	10 <sup>7</sup>

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

1	2	3	4	5	6
Radionuclide name, symbol, isotope	Concentration for: Notification (any amount of radioactive material); Registration (amounts of radioactive material that exceed 1,000kg) Regulation 5(1) and Schedule 1, paragraph 1(a); regulation (f)	Quantity for Notification S(1) and Schedule 1, paragraph 1(b)	Concentration for Registration (amounts of radioactive material that do not exceed 1,000kg)  Regulation 6(2)(e)	Quantity for notification of occurrences  Regulation 31(1)	Quantity for notification of occurrences  Regulation 31(3)
T 106	(Bq/g)	(Bq)	(Bq/g)	(Bq)	(Bq)
I-126	10	10 <sup>6</sup>	10 <sup>2</sup>	10 <sup>10</sup>	107
I-129	0.01	10 <sup>5</sup>	$10^2$	109	10 <sup>6</sup>
I-130	10	$10^{6}$	10	10 <sup>11</sup>	10 <sup>7</sup>
I-131	10	$10^{6}$	$10^2$	10 <sup>10</sup>	10 <sup>7</sup>
I-132	10	10 <sup>5</sup>	10	10 <sup>12</sup>	10 <sup>6</sup>
I-133	10	10 <sup>6</sup>	10	10 <sup>11</sup>	10 <sup>7</sup>
I-134	10	10 <sup>5</sup>	10	10 <sup>13</sup>	10 <sup>6</sup>
I-135	10	10 <sup>6</sup>	10	10 <sup>12</sup>	10 <sup>7</sup>
Xenon					]
Xe-131m	0.01	10 <sup>4</sup>	104	10 <sup>11</sup>	
Xe-133	0.01	10 <sup>4</sup>	10 <sup>3</sup>	10 <sup>11</sup>	
Xe-135	0.01	10 <sup>10</sup>	10 <sup>3</sup>	10 <sup>10</sup>	
Caesium					1
Cs-129	10	10 <sup>5</sup>	$10^2$	10 <sup>12</sup>	10 <sup>6</sup>
Cs-131	10 <sup>3</sup>	10 <sup>6</sup>	10 <sup>3</sup>	10 <sup>12</sup>	10 <sup>7</sup>
Cs-132	10	10 <sup>5</sup>	10	10 <sup>11</sup>	10 <sup>6</sup>
Cs-134	0.1	10 <sup>4</sup>	10	10 <sup>10</sup>	10 <sup>5</sup>
Cs-134m	10 <sup>3</sup>	10 <sup>5</sup>	10 <sup>3</sup>	10 <sup>14</sup>	10 <sup>6</sup>

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

1	2	3	4	5	6
Radionuclide name, symbol, isotope	Concentration for: Notification (any amount of radioactive material); Registration (amounts of radioactive material that exceed 1,000kg) Regulation 5(1) and Schedule 1, paragraph 1(a);regulation (f)	Quantity for Notification  Regulation 5(1) and Schedule 1, paragraph 1(b)	Concentration for Registration (amounts of radioactive material that do not exceed 1,000kg)  Regulation 6(2)(e)	Quantity for notification of occurrences  Regulation 31(1)	Quantity for notification of occurrences  Regulation 31(3)
	(Bq/g)	(Bq)	(Bq/g)	(Bq)	(Bq)
Cs-135	$10^2$	10 <sup>7</sup>	104	10 <sup>11</sup>	108
Cs-136	1	10 <sup>5</sup>	10	10 <sup>10</sup>	10 <sup>6</sup>
Cs-137+	0.1	10 <sup>4</sup>	10	10 <sup>10</sup>	10 <sup>5</sup>
Cs-138	10	10 <sup>4</sup>	10	10 <sup>13</sup>	10 <sup>5</sup>
Barium		<u> </u>			J
Ba-131	10	10 <sup>6</sup>	10 <sup>2</sup>	10 <sup>11</sup>	107
Ba-140+	1	10 <sup>5</sup>	10	10 <sup>11</sup>	10 <sup>6</sup>
Lanthanum		l			J
La-140	1	10 <sup>5</sup>	10	10 <sup>11</sup>	10 <sup>6</sup>
Cerium					1
Ce-139	1	10 <sup>6</sup>	$10^2$	10 <sup>11</sup>	10 <sup>7</sup>
Ce-141	10 <sup>2</sup>	10 <sup>7</sup>	10 <sup>2</sup>	10 <sup>10</sup>	108
Ce-143	10	10 <sup>6</sup>	10 <sup>2</sup>	10 <sup>11</sup>	10 <sup>7</sup>
Ce-144+	10	10 <sup>5</sup>	10 <sup>2</sup>	10 <sup>9</sup>	10 <sup>6</sup>
Praseodymiu	m				
Pr-142	$10^2$	10 <sup>5</sup>	$10^2$	10 <sup>12</sup>	10 <sup>6</sup>
Pr-143	10 <sup>3</sup>	10 <sup>6</sup>	10 <sup>4</sup>	10 <sup>11</sup>	10 <sup>7</sup>
Neodymium					
Nd-147	$10^{2}$	10 <sup>6</sup>	$10^{2}$	10 <sup>11</sup>	10 <sup>7</sup>

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

1	2	3	4	5	6
Radionuclide name, symbol, isotope	Concentration for: Notification (any amount of radioactive material); Registration (amounts of radioactive material that exceed 1,000kg) Regulation 5(1) and Schedule 1, paragraph 1(a);regulation(f)	Quantity for Notification S(1) and Schedule 1, paragraph 1(b)	Concentration for Registration (amounts of radioactive material that do not exceed 1,000kg)  Regulation 6(2)(e)	Quantity for notification of occurrences  Regulation 31(1)	Quantity for notification of occurrences  Regulation 31(3)
	(Bq/g)	(Bq)	(Bq/g)	(Bq)	(Bq)
Nd-149	$10^2$	$10^{6}$	$10^2$	10 <sup>13</sup>	10 <sup>7</sup>
Promethium				T	1
Pm-147	10 <sup>3</sup>	10 <sup>7</sup>	104	10 <sup>10</sup>	108
Pm-149	$10^3$	10 <sup>6</sup>	$10^3$	10 <sup>11</sup>	10 <sup>7</sup>
Samarium					1
Sm-151	$10^3$	10 <sup>8</sup>	104	10 <sup>10</sup>	109
Sm-153	$10^2$	$10^{6}$	$10^2$	10 <sup>11</sup>	107
Europium					1
Eu-152	0.1	10 <sup>6</sup>	10	109	107
Eu-152m	$10^2$	$10^{6}$	$10^2$	10 <sup>12</sup>	107
Eu-154	0.1	10 <sup>6</sup>	10	10 <sup>9</sup>	10 <sup>7</sup>
Eu-155	1	10 <sup>7</sup>	10 <sup>2</sup>	10 <sup>10</sup>	108
Gadolinium					
Gd-153	10	10 <sup>7</sup>	$10^2$	10 <sup>10</sup>	108
Gd-159	10 <sup>2</sup>	10 <sup>6</sup>	10 <sup>3</sup>	10 <sup>12</sup>	10 <sup>7</sup>
Terbium					,
Tb-160	1	10 <sup>6</sup>	1	10 <sup>10</sup>	10 <sup>7</sup>
Dysprosium					1
Dy-165	10 <sup>3</sup>	10 <sup>6</sup>	$10^3$	10 <sup>13</sup>	10 <sup>7</sup>
Dy-166	$10^2$	10 <sup>6</sup>	$10^3$	10 <sup>11</sup>	107

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

1	2	3	4	5	6
Radionuclide name, symbol, isotope	Concentration for: Notification (any amount of radioactive material); Registration (amounts of radioactive material that exceed 1,000kg) Regulation 5(1) and Schedule 1, paragraph 1(a);regulation(f)	Quantity for Notification S(1) and Schedule 1, paragraph 1(b)	Concentration for Registration (amounts of radioactive material that do not exceed 1,000kg)  Regulation 6(2)(e)	Quantity for notification of occurrences  Regulation 31(1)	Quantity for notification of occurrences  Regulation 31(3)
	(Bq/g)	(Bq)	(Bq/g)	(Bq)	(Bq)
Holmium	2		2	11	
Ho-166	$10^{2}$	10 <sup>5</sup>	$10^{3}$	10 <sup>11</sup>	106
Erbium	ſ		I	T	1
Er-169	$10^{3}$	$10^{7}$	$10^4$	10 <sup>11</sup>	108
Er-171	$10^2$	$10^{6}$	$10^2$	10 <sup>12</sup>	107
Thulium					
Tm-170	$10^{2}$	$10^{6}$	$10^3$	10 <sup>10</sup>	10 <sup>7</sup>
Tm-171	10 <sup>3</sup>	10 <sup>8</sup>	10 <sup>4</sup>	10 <sup>11</sup>	10 <sup>9</sup>
Ytterbium		l		I	J
Yb-175	$10^2$	10 <sup>7</sup>	10 <sup>3</sup>	10 <sup>11</sup>	108
Lutetium					
Lu-177	$10^2$	10 <sup>7</sup>	$10^3$	10 <sup>11</sup>	108
Hafnium					1
Hf-181	1	10 <sup>6</sup>	10	10 <sup>10</sup>	10 <sup>7</sup>
Tantalum					1
Ta-182	0.1	10 <sup>4</sup>	10	10 <sup>10</sup>	10 <sup>5</sup>
Tungsten					
W-181	10	10 <sup>7</sup>	$10^3$	10 <sup>12</sup>	108
W-185	10 <sup>3</sup>	10 <sup>7</sup>	10 <sup>4</sup>	10 <sup>11</sup>	108
W-187	10	10 <sup>6</sup>	10 <sup>2</sup>	10 <sup>12</sup>	107
Rhenium		ı	1		J

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

1	2	3	4	5	6
Radionuclide name, symbol, isotope	for: Notification (any amount of radioactive material); Registration (amounts of radioactive material that exceed 1,000kg) Regulation 5(1) and Schedule 1, paragraph 1(a);regulatto)n (f)	Quantity for Notification S(1) and Schedule 1, paragraph 1(b)	Concentration for Registration (amounts of radioactive material that do not exceed 1,000kg)  Regulation 6(2)(e)	Quantity for notification of occurrences  Regulation 31(1)	Quantity for notification of occurrences  Regulation 31(3)
Re-186	$\frac{(Bq/g)}{10^3}$	( <b>Bq</b> )	$\frac{(Bq/g)}{10^3}$	( <b>Bq</b> )	$(Bq)$ $10^7$
Re-188	$10^2$	10 <sup>5</sup>	$10^2$	10 <sup>12</sup>	10 <sup>6</sup>
Osmium	10	10	10	10	10
Os-185	1	10 <sup>6</sup>	10	10 <sup>11</sup>	10 <sup>7</sup>
Os-191	10 <sup>2</sup>	10 <sup>7</sup>	$10^{2}$	10 <sup>11</sup>	108
Os-191m	10 <sup>3</sup>	10 <sup>7</sup>	10 <sup>3</sup>	10 <sup>12</sup>	108
Os-193	10 <sup>2</sup>	10 <sup>6</sup>	10 <sup>2</sup>	10 <sup>11</sup>	10 <sup>7</sup>
Iridium			I		
Ir-190	1	10 <sup>6</sup>	10	10 <sup>10</sup>	107
Ir-192	1	10 <sup>4</sup>	10	10 <sup>10</sup>	10 <sup>5</sup>
Ir-194	10 <sup>2</sup>	10 <sup>5</sup>	10 <sup>2</sup>	10 <sup>11</sup>	10 <sup>6</sup>
Platinum			1		
Pt-191	10	10 <sup>6</sup>	$10^2$	10 <sup>11</sup>	107
Pt-193m	10 <sup>3</sup>	10 <sup>7</sup>	10 <sup>3</sup>	10 <sup>12</sup>	108
Pt-197	10	10 <sup>6</sup>	10 <sup>3</sup>	10 <sup>12</sup>	10 <sup>7</sup>
Pt-197m	10 <sup>2</sup>	10 <sup>6</sup>	10 <sup>2</sup>	10 <sup>14</sup>	10 <sup>7</sup>
Gold					
Au-198	10	10 <sup>6</sup>	$10^2$	10 <sup>11</sup>	107
Au-199	$10^{2}$	10 <sup>6</sup>	10 <sup>2</sup>	10 <sup>11</sup>	10 <sup>7</sup>

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

1	2	3	4	5	6
Radionuclide name, symbol, isotope	Concentration for: Notification (any amount of radioactive material); Registration (amounts of radioactive material that exceed 1,000kg) Regulation 5(1) and Schedule 1, paragraph 1(a);regulation(f)	Quantity for Notification  Regulation 5(1) and Schedule 1, paragraph 1(b)	Concentration for Registration (amounts of radioactive material that do not exceed 1,000kg)  Regulation 6(2)(e)	Quantity for notification of occurrences  Regulation 31(1)	Quantity for notification of occurrences  Regulation 31(3)
Mananan	(Bq/g)	(Bq)	(Bq/g)	(Вq)	(Bq)
Mercury Hg-197	102	107	102	1012	108
_	10 <sup>2</sup>	10 <sup>7</sup>	10 <sup>2</sup>	10 <sup>12</sup>	108
Hg-197m	$10^{2}$	10 <sup>6</sup>	$10^2$	10 <sup>12</sup>	10 <sup>7</sup>
Hg-203	10	10 <sup>5</sup>	$10^2$	10 <sup>11</sup>	10 <sup>6</sup>
Thallium					
T1-200	10	$10^{6}$	10	10 <sup>11</sup>	107
T1-201	10 <sup>2</sup>	10 <sup>6</sup>	10 <sup>2</sup>	10 <sup>12</sup>	10 <sup>7</sup>
T1-202	10	10 <sup>6</sup>	$10^{2}$	10 <sup>11</sup>	10 <sup>7</sup>
T1-204	1	10 <sup>4</sup>	10 <sup>4</sup>	10 <sup>11</sup>	10 <sup>5</sup>
Lead		I	1	I	J
Pb-203	10	10 <sup>6</sup>	$10^2$	10 <sup>12</sup>	10 <sup>7</sup>
Pb-210+	0.01	10 <sup>4</sup>	10	10 <sup>8</sup>	10 <sup>5</sup>
Pb-212+	1	10 <sup>5</sup>	10	10 <sup>10</sup>	10 <sup>6</sup>
Bismuth					
Bi-206	1	10 <sup>5</sup>	10	10 <sup>10</sup>	10 <sup>6</sup>
Bi-207	0.1	10 <sup>6</sup>	10	10 <sup>10</sup>	10 <sup>7</sup>
Bi-210	10	10 <sup>6</sup>	10 <sup>3</sup>	10 <sup>9</sup>	10 <sup>7</sup>
Bi-212+	1	10 <sup>5</sup>	10	10 <sup>11</sup>	10 <sup>6</sup>
Polonium	I	1	1	ı	J

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

1	2	3	4	5	6
Radionuclide name, symbol, isotope	Concentration for: Notification (any amount of radioactive material); Registration (amounts of radioactive material that exceed 1,000kg) Regulation 5(1) and Schedule 1, paragraph 1(a);regulation(f)	Quantity for Notification S(1) and Schedule 1, paragraph 1(b)	Concentration for Registration (amounts of radioactive material that do not exceed 1,000kg)  Regulation 6(2)(e)	Quantity for notification of occurrences  Regulation 31(1)	Quantity for notification of occurrences  Regulation 31(3)
	(Bq/g)	(Bq)	(Bq/g)	(Bq)	(Bq)
Po-203	10	10 <sup>6</sup>	10	10 <sup>13</sup>	10 <sup>7</sup>
Po-205	10	10 <sup>6</sup>	10	10 <sup>12</sup>	107
Po-207	10	$10^{6}$	10	10 <sup>12</sup>	107
Po-210	0.01	10 <sup>4</sup>	10	10 <sup>7</sup>	10 <sup>5</sup>
Astatine					1
At-211	$10^3$	10 <sup>7</sup>	$10^3$	10 <sup>10</sup>	108
Radon					,
Rn-220+	0.01	10 <sup>7</sup>	$10^4$	108	108
Rn-222+	0.01	108	10	10 <sup>9</sup>	10 <sup>9</sup>
Radium					
Ra-223+	1	10 <sup>5</sup>	$10^2$	10 <sup>7</sup>	10 <sup>6</sup>
Ra-224+	1	10 <sup>5</sup>	10	10 <sup>8</sup>	10 <sup>6</sup>
Ra-225	10	10 <sup>5</sup>	10 <sup>2</sup>	10 <sup>7</sup>	10 <sup>6</sup>
Ra-226+	0.01	10 <sup>4</sup>	10	10 <sup>7</sup>	10 <sup>5</sup>
Ra-227	10 <sup>2</sup>	10 <sup>6</sup>	10 <sup>2</sup>	10 <sup>13</sup>	10 <sup>7</sup>
Ra-228+	0.01	10 <sup>5</sup>	10	108	10 <sup>6</sup>
Actinium	L	l	I	I	
Ac-228	1	10 <sup>6</sup>	10	10 <sup>10</sup>	10 <sup>7</sup>
Thorium	L	I	I	I	ı

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

1	2	3	4	5	6
Radionuclide name, symbol, isotope	Concentration for: Notification (any amount of radioactive material); Registration (amounts of radioactive material that exceed 1,000kg) Regulation 5(1) and Schedule 1, paragraph 1(a);regulation(f)	Quantity for Notification S(1) and Schedule 1, paragraph 1(b)	Concentration for Registration (amounts of radioactive material that do not exceed 1,000kg)  Regulation 6(2)(e)	Quantity for notification of occurrences  Regulation 31(1)	Quantity for notification of occurrences  Regulation 31(3)
	(Bq/g)	(Bq)	(Bq/g)	(Bq)	(Bq)
Th-226+	$10^3$	10 <sup>7</sup>	$10^3$	10 <sup>11</sup>	108
Th-227	1	10 <sup>4</sup>	10	10 <sup>7</sup>	10 <sup>5</sup>
Th-228+	0.1	10 <sup>4</sup>	1	10 <sup>6</sup>	10 <sup>5</sup>
Th-229+	0.1	10 <sup>3</sup>	1	10 <sup>6</sup>	10 <sup>4</sup>
Th-230	0.1	10 <sup>4</sup>	1	10 <sup>6</sup>	10 <sup>5</sup>
Th-231	10 <sup>2</sup>	10 <sup>7</sup>	10 <sup>3</sup>	10 <sup>12</sup>	108
Th-232	0.01	10 <sup>4</sup>	10	10 <sup>6</sup>	10 <sup>5</sup>
Th-234+	10	10 <sup>5</sup>	10 <sup>3</sup>	10 <sup>10</sup>	10 <sup>6</sup>
Protactinium					
Pa-230	10	10 <sup>6</sup>	10	10 <sup>8</sup>	10 <sup>7</sup>
Pa-231	0.01	10 <sup>3</sup>	1	10 <sup>6</sup>	10 <sup>4</sup>
Pa-233	10	10 <sup>7</sup>	10 <sup>2</sup>	10 <sup>10</sup>	108
Uranium		T			
U-230+	10	10 <sup>5</sup>	10	10 <sup>7</sup>	10 <sup>6</sup>
U-231	$10^2$	10 <sup>7</sup>	$10^2$	10 <sup>11</sup>	108
U-232+	0.1	10 <sup>3</sup>	1	10 <sup>6</sup>	10 <sup>4</sup>
U-233	1	10 <sup>4</sup>	10	10 <sup>7</sup>	10 <sup>5</sup>
U-234	1	10 <sup>4</sup>	10	10 <sup>7</sup>	10 <sup>5</sup>

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

1	2	3	4	5	6
Radionuclide name, symbol, isotope	Concentration for: Notification (any amount of radioactive material); Registration (amounts of radioactive material that exceed 1,000kg) Regulation 5(1) and Schedule 1, paragraph 1(a);regulation(f)	Quantity for Notification S(1) and Schedule 1, paragraph 1(b)	Concentration for Registration (amounts of radioactive material that do not exceed 1,000kg)  Regulation 6(2)(e)	Quantity for notification of occurrences  Regulation 31(1)	Quantity for notification of occurrences  Regulation 31(3)
	(Bq/g)	(Bq)	(Bq/g)	(Bq)	(Bq)
U-235+	1	10 <sup>4</sup>	10	107	10 <sup>5</sup>
U-236	10	10 <sup>4</sup>	10	107	10 <sup>5</sup>
U-237	$10^2$	10 <sup>6</sup>	$10^2$	10 <sup>11</sup>	10 <sup>7</sup>
U-238+	1	10 <sup>4</sup>	10	10 <sup>7</sup>	10 <sup>5</sup>
U-239	$10^2$	10 <sup>6</sup>	$10^2$	10 <sup>14</sup>	10 <sup>7</sup>
U-240	0.01	10 <sup>7</sup>	10 <sup>3</sup>	10 <sup>12</sup>	108
U-240+	10 <sup>2</sup>	10 <sup>6</sup>	10	10 <sup>11</sup>	10 <sup>7</sup>
Neptunium		I.			1
Np-237+	1	10 <sup>3</sup>	1	10 <sup>7</sup>	10 <sup>4</sup>
Np-239	$10^2$	10 <sup>7</sup>	10 <sup>2</sup>	10 <sup>11</sup>	10 <sup>8</sup>
Np-240	10	10 <sup>6</sup>	10	10 <sup>13</sup>	10 <sup>7</sup>
Plutonium					1
Pu-234	10 <sup>2</sup>	10 <sup>7</sup>	$10^2$	10 <sup>10</sup>	108
Pu-235	$10^2$	10 <sup>7</sup>	$10^2$	10 <sup>14</sup>	108
Pu-236	1	10 <sup>4</sup>	10	10 <sup>7</sup>	10 <sup>5</sup>
Pu-237	10 <sup>2</sup>	10 <sup>7</sup>	10 <sup>3</sup>	10 <sup>11</sup>	108
Pu-238	0.1	10 <sup>4</sup>	1	10 <sup>6</sup>	10 <sup>5</sup>
Pu-239	0.1	104	1	10 <sup>6</sup>	10 <sup>5</sup>

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

1	2	3	4	5	6
Radionuclide name, symbol, isotope	Concentration for: Notification (any amount of radioactive material); Registration (amounts of radioactive material that exceed 1,000kg) Regulation 5(1) and Schedule 1, paragraph 1(a);regulation(f)	Quantity for Notification S(1) and Schedule 1, paragraph 1(b)	Concentration for Registration (amounts of radioactive material that do not exceed 1,000kg)  Regulation 6(2)(e)	Quantity for notification of occurrences  Regulation 31(1)	Quantity for notification of occurrences  Regulation 31(3)
	(Bq/g)	(Bq)	(Bq/g)	(Bq)	(Bq)
Pu-240	0.1	10 <sup>3</sup>	1	10 <sup>6</sup>	104
Pu-241	10	10 <sup>5</sup>	$10^2$	108	10 <sup>6</sup>
Pu-242	0.1	10 <sup>4</sup>	1	10 <sup>6</sup>	10 <sup>5</sup>
Pu-243	10 <sup>3</sup>	10 <sup>7</sup>	10 <sup>3</sup>	10 <sup>13</sup>	108
Pu-244+	0.1	10 <sup>4</sup>	1	10 <sup>6</sup>	10 <sup>5</sup>
Americium					1
Am-241	0.1	10 <sup>4</sup>	1	10 <sup>6</sup>	10 <sup>5</sup>
Am-242	$10^3$	10 <sup>6</sup>	$10^3$	10 <sup>10</sup>	10 <sup>7</sup>
Am-242m+	0.1	10 <sup>4</sup>	1	10 <sup>6</sup>	10 <sup>5</sup>
Am-243+	0.1	10 <sup>3</sup>	1	10 <sup>6</sup>	10 <sup>4</sup>
Curium					
Cm-242	10	10 <sup>5</sup>	$10^2$	10 <sup>7</sup>	10 <sup>6</sup>
Cm-243	1	10 <sup>4</sup>	1	10 <sup>7</sup>	10 <sup>5</sup>
Cm-244	1	10 <sup>4</sup>	10	10 <sup>7</sup>	10 <sup>5</sup>
Cm-245	0.1	10 <sup>3</sup>	1	10 <sup>6</sup>	10 <sup>4</sup>
Cm-246	0.1	10 <sup>3</sup>	1	10 <sup>6</sup>	10 <sup>4</sup>
Cm-247+	0.1	10 <sup>4</sup>	1	10 <sup>6</sup>	10 <sup>5</sup>
Cm-248	0.1	10 <sup>3</sup>	1	10 <sup>6</sup>	10 <sup>4</sup>
Berkelium	l.	<u>I</u>	ı	1	J

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

1	2	3	4	5	6
Radionuclide name, symbol, isotope	Concentration for: Notification (any amount of radioactive material); Registration (amounts of radioactive material that exceed 1,000kg) Regulation 5(1) and Schedule 1, paragraph 1(a);regulation(f)	Quantity for Notification  Regulation 5(1) and Schedule 1, paragraph 1(b)	Concentration for Registration (amounts of radioactive material that do not exceed 1,000kg)  Regulation 6(2)(e)	Quantity for notification of occurrences  Regulation 31(1)	Quantity for notification of occurrences  Regulation 31(3)
	(Bq/g)	(Bq)	(Bq/g)	(Bq)	(Bq)
Bk-249	$10^2$	$10^{6}$	$10^3$	10 <sup>9</sup>	10 <sup>7</sup>
Californium					1
Cf-246	$10^3$	10 <sup>6</sup>	$10^3$	109	107
Cf-248	1	10 <sup>4</sup>	10	10 <sup>7</sup>	10 <sup>5</sup>
Cf-249	0.1	10 <sup>3</sup>	1	10 <sup>6</sup>	10 <sup>4</sup>
Cf-250	1	10 <sup>4</sup>	10	10 <sup>6</sup>	10 <sup>5</sup>
Cf-251	0.1	10 <sup>3</sup>	1	10 <sup>6</sup>	10 <sup>4</sup>
Cf-252	1	10 <sup>4</sup>	10	10 <sup>7</sup>	10 <sup>5</sup>
Cf-253	10 <sup>2</sup>	10 <sup>5</sup>	$10^2$	10 <sup>8</sup>	10 <sup>6</sup>
Cf-254	1	10 <sup>3</sup>	1	10 <sup>7</sup>	10 <sup>4</sup>
Einsteinium					
Es-253	$10^2$	10 <sup>5</sup>	$10^2$	108	10 <sup>6</sup>
Es-254+	0.1	10 <sup>4</sup>	10	10 <sup>7</sup>	10 <sup>5</sup>
Es-254m+	10	10 <sup>6</sup>	10 <sup>2</sup>	10 <sup>9</sup>	10 <sup>7</sup>
Fermium					,
Fm-254	10 <sup>4</sup>	10 <sup>7</sup>	104	10 <sup>10</sup>	108
Fm-255	10 <sup>2</sup>	10 <sup>6</sup>	10 <sup>3</sup>	10 <sup>9</sup>	107
Other radion	uclides not listed	above (see No	te 1)		
	0.01	10 <sup>3</sup>	0.1	10 <sup>5</sup>	104

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

1	2	3	4	5	6
Radionuclide	Concentration	Quantity	Concentration	Quantity for	Quantity
name,	for:	for	for	notification	for
symbol,	Notification	Notification	Registration	of	notification
isotope	(any amount		(amounts of	occurrences	of
	of radioactive		radioactive		occurrences
	material);		material that		
	Registration		do not exceed		
	(amounts of		1,000kg)		
	radioactive				
	material that				
	exceed				
	1,000kg)				
	Regulation	Regulation	Regulation	Regulation	Regulation
	5(1) and	5(1) and	6(2)(e)	31(1)	31(3)
	Schedule 1, paragraph	Schedule 1, paragraph			
	1(a);regula <b>(a)</b> n	1(b)			
	$\mathcal{O}$				
	(Bq/g)	<i>(Bq)</i>	(Bq/g)	<i>(Bq)</i>	<i>(Bq)</i>

## Note 1

In the case of radionuclides not specified elsewhere in this Part, the quantities specified in this entry are to be used unless the Executive has approved some other quantity for that radionuclide.

## Note 2

Nuclides carrying the suffix "+" in the above table represent parent nuclides and their progeny as listed in the table below. The dose contributions for those progeny are taken into account in the dose calculation (thus requiring only the exemption level of the parent radionuclide to be considered).

## List of parent nuclides and their progeny as referred to in Note 2 above

Parent radionuclide	Progeny
Fe-52	Mn-52m
Zn-69m	Zn-69
Ge-68	Ga-68
Sr-90	Y-90
Sr-91	Y-91m
Zr-93	Nb-93m
Zr-95	Nb-95
Zr-97	Nb-97m, Nb-97
Nb-97	Nb-97m
Mo-99	Tc-99m

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

Parent radionuclide	Progeny
Mo-101	Te-101
Ru-103	Rh-103m
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
Cs-137	Ba-137m
Ba-140	La-140
Ce-144	Pr-144, Pr-144m
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	Rn-220, Po-216, Pb-212, Bi-212, Tl-208, Po-212
Ra-226	Rn-222, Po-218, Pb-214, Bi-214, Po-214, Pb-210, Bi-210, Po-210
Ra-228	Ac-228
Th-226	Ra-222, Rn-218, Po-214

Parent radionuclide	Progeny	
Th-228	Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208, Po-212	
Th-229	Ra-225, Ac-225, Fr-221, At-217, Bi-213, Po-213, Pb-209	
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	
U-238	Th-234, Pa-234m	
U-240	Np-240m, Np-240	
Np-237	Pa-233	
Pu-244	U-240, Np-240m, Np-240	
Am-242m	Am-242, Np-238	
Am-243	Np-239	
Cm-247	Pu-243	
Es-254	Bk-250	
Es-254m	Fm-254	

Regulations 2(4), 6(2)and Schedule 1

## PART 2

Table of naturally occurring radionuclides (which are not processed for their radioactive, fissile or fertile properties)

Values for exemption from notification and registration for naturally occurring radionuclides in solid materials (which are not processed

# for their radioactive, fissile or fertile properties), which apply whether or not the radionuclide is in secular equilibrium with its progeny

1	2	3	4
Radionuclide name, symbol, isotope	Concentration for: Notification (any amount of radioactive material); Registration (amounts of radioactive material that exceed 1,000kg) Regulation 5(1) and Schedule 1, paragraph 1(a);	Quantity for Notification  Regulation 5(1) and Schedule 1, paragraph 1(b)	Concentration for Registration (amounts of radioactive material that do not exceed 1,000kg)  Regulation 6(2)(e)
	regulation 6(2)(f) (Bq/g)	(Bq)	(Bq/g)
K-40 <sup>(1)</sup>	10	10 <sup>6</sup>	$10^2$
Rb-87	1	10 <sup>7</sup>	104
Pb-210+	1	10 <sup>4</sup>	10
Po-210	1	10 <sup>4</sup>	10
Ra-226+	1	104	10
Ra-228+	1	10 <sup>5</sup>	10
Th-228+	1	10 <sup>4</sup>	1
Th-232 sec	1	10 <sup>3</sup>	1
U-238 sec	1	10 <sup>3</sup>	1

## Note

Nuclides carrying the suffix "+" in the above table represent parent nuclides and their progeny as listed in the table below. The dose contributions of those progeny are taken into account in the dose calculation (thus requiring only the exemption level of the parent radionuclide to be considered).

## List of parent nuclides and their progeny as referred to in the Note above

Parent radionuclide	Progeny
Pb-210	Bi-210, Po-210
Ra-226	Rn-222, Po-218, Pb-214, Bi-214, Po-214, Pb-210, Bi-210, Po-210
Ra-228	Ac-228

<sup>(1)</sup> Potassium salts in quantities less than 1,000kg are exempt.

Parent radionuclide	Progeny
Th-228	Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Tl-208, Po-212

Regulation 2(4)

## PART 3

## Quantity and concentration ratios for more than one radionuclide

- 1. For the purpose of Regulation 2(4)—
  - (a) the quantity ratio for more than one radionuclide is the sum of the quotients of the quantity of a radionuclide present Q<sub>p</sub> divided by the quantity of that radionuclide specified in the appropriate entry in Parts 1, 2 or 4 of this Schedule Q<sub>lim</sub>, namely—

$$\sum \frac{Q_p}{Q_{lim}}$$

(b) the concentration ratio for more than one radionuclide is the sum of the quotients of the concentration of a radionuclide present  $C_p$  divided by the concentration of that radionuclide specified in the appropriate entry in Parts 1 or 2 of this Schedule  $C_{lim}$ , namely—

$$\sum \frac{c_p}{c_{lin}}$$

2. In any case where the isotopic composition of a radioactive substance is not known or is only partially known, the quantity or concentration ratio for that substance is to be calculated by using the values specified in the appropriate column in Part 1 of this Schedule for "other radionuclides not listed above" for any radionuclide that has not been identified or where the quantity or concentration of a radionuclide is uncertain, unless the employer can show that the use of some other value is appropriate in the circumstances of a particular case, when the employer may use that value. Regulations 2(1) and 2(4)

## PART 4

## Table of quantities of radioactive material defining high-activity sealed sources

For radionuclides not listed in the table below, the relevant quantity value is the same as the D-value defined in section 2 Table 1 of the IAEA publication: Dangerous quantities of radioactive material (D-values), (EPR-D-VALUES 2006)

Radionuclide	Quantity (Bq)
Co-60	$3 \times 10^{10}$
Se-75	$2 \times 10^{11}$
Sr-90 (Y-90)	$1 \times 10^{12}$

(\*) The activity given is that of the alpha-emitting radionuclide.

Radionuclide	Quantity (Bq)
Cs-137	$1 \times 10^{11}$
Pm-147	$4 \times 10^{13}$
Gd-153	$1 \times 10^{12}$
Tm-170	$2 \times 10^{13}$
Yb-169	$3 \times 10^{11}$
Ir-192	$8 \times 10^{10}$
Ra-226	$4 \times 10^{10}$
Pu-238	$6 \times 10^{10}$
Pu-239/Be-9 <sup>(*)</sup>	$6 \times 10^{10}$
Am-241	$6 \times 10^{10}$
Am-241/Be-9 <sup>(*)</sup>	$6 \times 10^{10}$
Cm-244	$5 \times 10^{10}$
Cf-252	$2 \times 10^{10}$

<sup>(\*)</sup> The activity given is that of the alpha-emitting radionuclide.

Regulation 41

## Transitional provisions and savings

## 1.—(1) In this Schedule—

"the 1999 Regulations" means the Ionising Radiations Regulations 1999(4);

"restated provision" means any provision of these Regulations so far as it corresponds (with or without modification) to a provision of the 1999 Regulations;

"superseded provision" means any provision of the 1999 Regulations as it has effect immediately before 1st January 2018 so far as it corresponds (with or without modification) to a provision of these Regulations.

- (2) In this Schedule references to things done include references to things omitted to be done.
- **2.**—(1) Any thing done, or having effect as if done, under or for the purposes of any superseded provision, if effective immediately before 1st January 2018, has effect, so far as is required for continuing its effect on and after that date, as if done under or for the purposes of the corresponding restated provision.
- (2) Paragraph (1) does not apply in relation to an authorisation granted or notification made under the 1999 Regulations.

<sup>(4)</sup> S.I. 1999/3232; relevant amending instruments are S.I. 2001/2626, S.I. 2001/2975, S.I.2008//960, S.I. 2010/675, S.I. 2011/1043, S.I. 2013/755, S.I. 2014/469, S.I. 2014/3248 and S.I. 2016/1154.

- (3) The specific provisions in paragraphs 3 to 10 are not to be taken to affect the generality of paragraph (1).
- **3.** Where on or before 5th February 2018 an employer commences work in respect of which a notification is required under regulation 5(2), it will be sufficient compliance with that regulation if the employer notifies the appropriate authority and provides the particulars required under regulation 5(2) on or before 5th February 2018.
  - **4.** In paragraph 3 "appropriate authority" has the same meaning as set out in regulation 5(6).
- 5. Where on or before 5th February 2018 a person carries out a registrable practice (within the meaning of regulation 6(1)) it will be sufficient compliance with regulation 6(3) if the person completes the registration procedure under that regulation on or before 5th February 2018.
- **6.** A person who carries out a practice requiring consent under regulation 7 on or before 5th February 2018 is deemed to have been granted consent to carry out that practice under regulation 7(2) until 5th February 2018.
- 7. Where an employer has, in respect of an employee, applied the dose limits set out in paragraphs 9 to 11 of Schedule 4 to the 1999 Regulations in accordance with the requirements of regulation 11(2) of those Regulations and those dose limits have effect immediately before 1st January 2018, the appropriate authority is deemed to have approved, for the purposes of regulation 12(2) of these Regulations, the application of the dose limits, in respect of that employee, set out in paragraphs 9 to 11 of Schedule 3 to these Regulations.
  - 8. In paragraph 7—
    - (a) "appropriate authority" has the same meaning as set out in regulation 12(4);
    - (b) the deemed approval granted by that paragraph is valid until the end of 5th February 2018.
- **9.** A radiation passbook approved for the purposes of the 1999 Regulations and issued on or before 30th April 2018 in respect of a classified outside worker employed by an employer in Great Britain and which was at that date valid remains valid for such time as the worker to whom the passbook relates continues to be employed by the same employer.
- **10.** Where a superseded provision provides a period of time within which an aggrieved person may apply for a decision to be reviewed, that period of time continues to apply on and after 1st January 2018 in relation to any decision notified to the aggrieved person before 1 January 2018.

Regulation 42

#### Modifications

## The Employment Act 1989

1. In Schedule 1 to the Employment Act 1989(5), omit "Paragraphs 5 and 11 of Schedule 4 to the Ionising Radiations Regulations 1999 [SI 1999/3232]".

## The Employment Rights Act 1996

**2.** In section 64(3) of the Employment Rights Act 1996(**6**), for "Regulation 24 of the Ionising Radiations Regulations 1999 [SI 1999/3232]" substitute "Regulation 25 of the Ionising Radiations Regulation 2017 [SI 2017/1075]".

<sup>(5) 1989</sup> c. 38, amended by S.I. 1999/3232; there is other amending legislation but none is relevant.

<sup>(6) 1996</sup> c. 18, amended by S.I.1999/3232; there is other amending legislation but none is relevant.

#### The Personal Protective Equipment at Work Regulations 1992

**3.** In regulation 3(3)(b) of the Personal Protective Equipment at Work Regulations 1992(7), for "the Ionising Radiations Regulations 1999 [SI 1999/3232]" substitute "the Ionising Radiations Regulations 2017 [SI 2017/1075]".

### The Health and Safety (Enforcing Authority) Regulations 1998

- **4.**—(1) The Health and Safety (Enforcing Authority) Regulations 1998(8) are amended as follows.
- (2) In regulation 2(1), in the definition of "ionising radiation", for "the Ionising Radiations Regulations 1999 [SI 1999/3232]" substitute "the Ionising Radiations Regulations 2017 [SI 2017/1075]".
  - (3) In regulation 4A (the Office for Nuclear Regulation)—
    - (a) in paragraph (2), for sub-paragraph (a) substitute—
      - "(a) the provisions of the Ionising Radiations Regulations 2017 in so far as they apply—
        - (i) in relation to the civil transport of radioactive material by road, railway or inland waterway; and
        - (ii) to premises which are or are on a nuclear warship site;
      - (aa) the provisions of the Radiation (Emergency Preparedness and Public Information) Regulations 2001 in so far as they apply to premises which are or are on a nuclear warship site;"
    - (b) for paragraph (3) substitute—
      - "(3) For the purposes of—
        - (a) paragraph (2)(a)—
          - (i) "civil transport" means transport otherwise than for the purposes of the department of the Secretary of State with responsibility for defence;
          - (ii) "radioactive material" has the same meaning as given in regulation 2(1) of the Ionising Radiations Regulations 2017 [S.I. 2017/1075];
          - (iii) the transport of material begins with any preparatory process (such as packaging) and continues until the material has been unloaded at its destination;
        - (b) paragraphs (2)(a) and (aa) "premises" includes a nuclear powered warship during any period it is berthed or anchored at a nuclear warship site."
  - (4) In Schedule 2—
    - (a) in paragraph 4(d), for "Schedule 1 of the Ionising Radiations Regulations 1999 [SI 1999/3232]" substitute "Schedule 1 to the Ionising Radiations Regulations 2017 [SI 2017/1075]";
    - (b) in paragraph 5, for "the Ionising Radiations Regulations 1999 [SI 1999/3232]" substitute "the Ionising Radiations Regulations 2017 [SI 2017/1075]".

<sup>(7)</sup> S.I. 1992/2966, amended by S.I.1999/3232; there are other amending instruments but none is relevant.

<sup>(8)</sup> S.I. 1998/494; relevant amending instruments are S.I.1999/3232 and S.I. 2014/469.

#### The Radiation (Emergency Preparedness and Public Information) Regulations 2001

- **5.**—(1) The Radiation (Emergency Preparedness and Public Information) Regulations 2001(9) are amended as follows.
  - (2) In regulation 2(1)—
    - (a) for the definition of "the 1999 Regulations" substitute—
      - ""the 2017 Regulations" means the Ionising Radiations Regulations 2017;";
    - (b) in the definition of "approved dosimetry service", for "the 1999 Regulations" substitute "the 2017 Regulations";
    - (c) in the definition of "dose assessment", for "regulation 21 of the 1999 Regulations" substitute "regulation 22 of the 2017 Regulations";
    - (d) in the definition of "dose record", for "regulation 21 of the 1999 Regulations" substitute "regulation 22 of the 2017 Regulations";
    - (e) in the definition of "emergency exposure", for "Schedule 4 to the 1999 Regulations" substitute "Schedule 3 to the 2017 Regulations";
    - (f) in the definition of "medical surveillance", for "regulation 24 of the 1999 Regulations" substitute "regulation 25 of the 2017 Regulations".
- (3) In regulation 4(3), for "regulation 7 (Prior risk assessment etc) of the 1999 Regulations" substitute "regulation 8 (Radiation risk assessments) of the 2017 Regulations".
- (4) In regulations 7(7)(b) and 8(8)(b), for "regulation 21 of the 1999 Regulations" substitute "regulation 22 of the 2017 Regulations" in each case.
- (5) In regulation 15, for "regulation 11 of the 1999 Regulations" substitute "regulation 12 of the 2017 Regulations".
  - (6) In Schedule 11 omit paragraphs 2 to 9.

#### The High-activity Sealed Radioactive Sources and Orphan Sources Regulations 2005

**6.** In the High-activity Sealed Radioactive Sources and Orphan Sources Regulations 2005(**10**), omit regulation 19.

## The Health and Safety (Enforcing Authority for Railways and Other Guided Transport Systems) Regulations 2006

- 7.—(1) The Health and Safety (Enforcing Authority for Railways and Other Guided Transport Systems) Regulations 2006(11) are amended as follows.
  - (2) In regulation 3 (enforcing authority)—
    - (a) after paragraph (4) insert—
      - "(4A) The Office of Rail and Road has no responsibility for the enforcement of the Ionising Radiations Regulations 2017."
    - (b) in paragraph (5)—
      - (i) for "regulation 93(4)" substitute "regulation 32(4)";
      - (ii) for "2007 (defence and enforcement)" substitute "2009 (enforcement)".

<sup>(9)</sup> S.I. 2001/2975, to which there are amendments not relevant to these Regulations.

<sup>(10)</sup> S.I. 2005/2686; revoked in relation to England and Wales by S.I. 2010/675.

<sup>(11)</sup> S.I. 2006/557; relevant amending instruments are S.I. 2007/1573, S.I. 2014/469 and S.I. 2015/1682.

#### The Legislative Reform (Health and Safety Executive) Order 2008

**8.** In Schedule 3 to the Legislative Reform (Health and Safety Executive) Order 2008(12) omit the entry relating to the Ionising Radiations Regulations 1999.

## **The REACH Enforcement Regulations 2008**

- 9. In Part 3 of Schedule 3 to the REACH Enforcement Regulations 2008(13)—
  - (a) in paragraph 1(g)(i), for "the Ionising Radiations Regulations 1999" substitute "the Ionising Radiations Regulations 2017";
  - (b) in paragraph 3, for "the Ionising Radiations Regulations" substitute "the Ionising Radiations Regulations 2017".

## The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009

- **10.**—(1) Schedule 2 to the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009(**14**) is amended as follows.
  - (2) In paragraph 3(1)—
    - (a) for "regulation 20 of the Ionising Radiations Regulations 1999 ("the 1999 Regulations")" substitute "regulation 21 of the Ionising Radiations Regulations 2017 ("the 2017 Regulations")";
    - (b) for "regulations 21 to 26 of the 1999 Regulations" substitute "regulations 22 to 27 of the 2017 Regulations".
- (3) In paragraph 3(2), for "paragraph 1, 2, 6, 7 or 8 of Schedule 4 (Dose Limits) to the 1999 Regulations" substitute "paragraphs 1, 2, 5, 6 or 7 of Schedule 3 (Dose limits) to the 2017 Regulations".
- (4) In paragraph 3(3), for "Schedule 4 to the 1999 Regulations" substitute "Schedule 3 to the 2017 Regulations".
- (5) In paragraph 4(2)(c), for "Schedule 4 to the Ionising Radiations Regulations 1999" substitute "Schedule 3 to the Ionising Radiations Regulations 2017".

## The Environmental Permitting (England and Wales) Regulations 2010

11. In Part 2 of Schedule 26 to the Environmental Permitting (England and Wales) Regulations 2010(15), omit paragraph 15 (Ionising Radiations Regulations 1999).

#### The Natural Resources Body for Wales (Functions) Order 2013

**12.** In Schedule 4 to the Natural Resources Body for Wales (Functions) Order 2013(**16**), omit paragraph 113 (Ionising Radiations Regulations 1999).

## The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013

**13.**—(1) The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013(17) are amended as follows.

<sup>(12)</sup> S.I. 2008/960, to which there are amendments not relevant to these Regulations.

<sup>(13)</sup> S.I. 2008/2852, to which there are amendments not relevant to these Regulations.

<sup>(14)</sup> S.I. 2009/1348, to which there are amendments not relevant to these Regulations.

<sup>(15)</sup> S.I. 2010/675, to which there are amendments not relevant to these Regulations.

<sup>(16)</sup> S.I. 2013/755, to which there are amendments not relevant to these Regulations.

<sup>(17)</sup> S.I. 2013/1471, to which there are amendments not relevant to these Regulations.

- (2) In regulation 14(6)(e), for "the Ionising Radiations Regulations 1999" substitute "the Ionising Radiations Regulations 2017".
  - (3) In Schedule 4, Table 1, omit the entry relating to the Ionising Radiations Regulations 1999.

## The Construction (Design and Management) Regulations 2015

**14.** In paragraph 3 of Schedule 3 to the Construction (Design and Management) Regulations 2015(**18**), for "regulation 16 of the Ionising Radiations Regulations 1999" substitute "regulation 17 of the Ionising Radiations Regulations 2017".

## The Infrastructure Planning (Interested Parties and Miscellaneous Prescribed Provisions) Regulations 2015

- **15.**—(1) The Infrastructure Planning (Interested Parties and Miscellaneous Prescribed Provisions) Regulations 2015(**19**) are amended as follows.
  - (2) In Part 2 of Schedule 2—
    - (a) in column 1, for "Ionising Radiations Regulations 1999" substitute "Ionising Radiations Regulations 2017";
    - (b) in column 2, for the corresponding entry, for "Authorisation under regulation 5 (authorisation of specified practices)" substitute "Registration under regulation 6 (registration of certain practices) in relation to the use of electrical equipment intended to produce x-rays for the purpose of research or the exposure of persons for medical treatment, and consent under regulation 7 (consent to carry out specified practices) in relation to the practices specified in regulation 7(1)(d), (e) and (f)".

## The Health and Safety and Nuclear (Fees) Regulations 2016

- **16.**—(1) The Health and Safety and Nuclear (Fees) Regulations 2016(**20**) are amended as follows.
- (2) In regulation 2(1), for the definition of "the 1999 Regulations" substitute—
  ""the 2017 Regulations" means the Ionising Radiations Regulations 2017 [SI 2017/1075];"
- (3) In the heading of regulation 8, for "the Ionising Radiation Regulations 1999" substitute "the Ionising Radiations Regulations 2017".
  - (4) In regulation 8—
    - (a) in paragraph (2)—
      - (i) for "1(c)(i) or 1(d)(i)" substitute "1(d)(i) or 1(e)(i)";
      - (ii) for "1999" substitute "2017";
    - (b) after paragraph (2) insert—
      - "(2A) A fee is payable to the appropriate authority (within the relevant meaning given in the 2017 Regulations) on each application for registration or for a consent to carry out specified practices for the purposes of the 2017 Regulations."
    - (c) in paragraph (3), for "paragraph (1) or (2)" substitute "paragraph (1), (2) or (2A)";
    - (d) in paragraph (7), for "this regulation" substitute "paragraph (1), (2) or (4)";
    - (e) in paragraph (9), for "regulation 21(3)(e) of the 1999 Regulations" substitute "regulation 22(3)(e) of the 2017 Regulations".

<sup>(18)</sup> S.I. 2015/51, to which there are amendments not relevant to these Regulations.

<sup>(19)</sup> S.I. 2015/462, to which there are amendments not relevant to these Regulations.

<sup>(20)</sup> S.I. 2016/253, to which there are amendments not relevant to these Regulations.

- (5) In Schedule 4, in relation to entry (a)—
  - (a) for "The 1999 Regulations" substitute "The 2017 Regulations";
  - (b) for "SI 1999/3232" substitute "SI 2017/1075".
- (6) In the heading of Schedule 6, for "1999" substitute "2017".
- (7) In Schedule 6, in column 1 of Table 1—
  - (a) for "regulation 35 of the 1999 Regulations", in both places in which it occurs, substitute "regulation 36 of the 2017 Regulations";
  - (b) in the entry for "Original type approval of apparatus"—
    - (i) for "paragraph 1(c)(i) or 1(d)(i) of Schedule 1 to the 1999 Regulations" substitute "paragraph 1(d)(i) or 1(e)(i) of Schedule 1 to the 2017 Regulations";
    - (ii) for "regulation 6" substitute "regulation 5";
  - (c) in the entry for "Amendment of an original approval of dosimetry services", in addition to the amendment made by sub-paragraph (a) above, for "paragraph 1(c)(i) or 1(d)(i)" substitute "paragraph 1(d)(i) or 1(e)(i)";
  - (d) after the entry referred in sub-paragraph (c) above, insert—
    - "Application for registration or for consent to carry out a specified practice pursuant to regulations 6 and 7 of the 2017 Regulations".
- (8) In Schedule 6, in column 2 of Table 1, in relation to the entry inserted by paragraph (7)(d), insert "£25".
- (9) In Schedule 6, in column 1 of Table 2, for "regulation 35 of the 1999 Regulations", in both places in which it occurs, substitute "regulation 36 of the 2017 Regulations".
- (10) In Schedule 6, in column 3 of Table 3, for "regulation 21(3)(e) of the 1999 Regulations" substitute "regulation 22(3)(e) of the 2017 Regulations".

## The Environmental Permitting (England and Wales) Regulations 2016

**17.** In Part 5 of Schedule 23 to the Environmental Permitting (England and Wales) Regulations 2016(**21**), omit paragraph 7.

<sup>(21)</sup> S.I. 2016/1154.