Australian Radiation Protection and Nuclear Safety Regulations 2018

I, the Honourable Paul de Jersey AC, Administrator of the Government of the Commonwealth of Australia, acting with the advice of the Federal Executive Council, make the following regulations.

Dated 06 December 2018

Paul de Jersey AC
Administrator of the Government of the Commonwealth of Australia

By His Excellency's Command

Bridget McKenzie
Minister for Regional Services, Sport, Local Government and Decentralisation

Contents

Part 1—Preliminary 1

1 Name 1
2 Commencement 1
3 Authority 1
4 Definitions 1
5 Parent nuclides and progeny nuclides included in secular equilibrium 7

Part 2—CEO's functions 8

6 Simplified outline of this Part 8
7 CEO's functions 8

Part 3—Controlled apparatus, controlled facilities and controlled persons 9

Division 1—Simplified outline of this Part 9

8 Simplified outline of this Part 9

Division 2—Controlled apparatus 10

9 Kinds of apparatus that are controlled apparatus 10

Division 3—Controlled facilities 11

Subdivision A—Activity levels for certain facilities to be nuclear installations 11

10 Activity level for radioactive waste storage facilities to be nuclear installations 11
11 Activity level for radioactive waste disposal facilities to be nuclear installations 11
12 Activity level for facilities for production of radioisotopes to be nuclear installations 12

Subdivision B—Prescribed radiation facilities 12

13 Prescribed radiation facility 12

Subdivision C—Prescribed legacy sites 13

14 Prescribed legacy site 13

Division 4—Controlled persons 14

15 Prescribed Commonwealth place 14

Part 4—The Radiation Health and Safety Advisory Council and advisory committees 15

Division 1—Introduction 15

16 Simplified outline of this Part 15
17 Authority for this Part 15

Division 2—Radiation Health and Safety Advisory Council 16

Subdivision A—Provisions about membership of the Council 16

18 Term of appointment 16
19 Resignation 16
20 Disclosure of interests to the Minister 16
21 Disclosure of interests to the Council 16
22 Termination of appointment 16
23 Leave of absence 17

Subdivision B—Provisions about Council procedure 17

24 Council procedures generally 17
25 Meetings 17
26 Presiding at meetings 18
27 Quorum 18

28 Voting at meetings 18
29 Records and reports 18
Division 3—Radiation Health Committee and Nuclear Safety Committee 19
Subdivision A—Provisions about membership of the Committees 19
30 Term of appointment 19
31 Resignation 19
32 Disclosure of interests to the CEO 19
33 Disclosure of interests to the Committee 19
34 Termination of appointment 19
35 Leave of absence 20
Subdivision B—Provisions about Committee procedure 20
36 Committee procedures generally 20
37 Meetings 20
38 Presiding at meetings 21
39 Quorum 21
40 Voting at meetings 21
41 Records and reports 21
Part 5—Licences 22
Division 1—Simplified outline of this Part 22
42 Simplified outline of this Part 22
Division 2—Exemptions 23
43 Exemption of controlled person from requirement for facility licence for conduct relating to controlled facility 23
44 Exempt dealings with controlled material or controlled apparatus 24
Division 3—Applications for licences 27
45 How application for facility licence or source licence for Commonwealth entity is to be made 27
46 Application for facility licence 27
47 Application for source licence 28
48 Public notice and consultation before facility licence issued 30
Division 4—Application fees for licences 31
49 Application fees for facility licences relating to nuclear installations 31
50 Application fees for facility licences relating to prescribed radiation facilities 33
51 Application fees for facility licences relating to prescribed legacy sites 34
52 Application fees for source licences 35
Division 5—Deciding whether to issue licence 36
53 Issue of facility licence—matters to be taken into account by CEO 36
54 Issue of source licence—matters to be taken into account by CEO 36
Division 6—Licence conditions 38
55 Authority for this Division 38
56 Taking steps to prevent breaches of other conditions 38
57 Investigating and rectifying breaches of conditions 38
58 Preventing, controlling and minimising accidents 38
59 Complying with Codes 38
60 Managing safety 39
61 Reviewing and updating plans and arrangements for managing safety 39
62 Keeping accurate inventory of controlled apparatus and materials 40
63 Obtaining CEO's approval for certain changes 40
64 Telling CEO about other changes 40

65 Telling CEO about disposal and transfer of controlled apparatus, controlled materials and controlled facilities 40
66 Obtaining approval for constructing safety item 41
67 Obtaining approval for loading nuclear fuel 41

Division 7—Annual charge 42
68 Authority for this Division 42
69 Time for payment of annual charge 42
70 Pro-rating of annual charge 42
71 Refund of annual charge 42

Part 6—Practices and procedures to be followed 44

Division 1—Introduction 44
72 Simplified outline of this Part 44
73 Application of this Part 44
74 Limits on the operation of this Part 44

Division 2—Dose limits 45
75 Scope of this Division 45
76 Practices to be followed by holders of licences 45
77 Effective dose limits for ionizing radiation 46
78 Effective doses 46
79 Annual equivalent dose limit for ionizing radiation 46
80 Dealings with controlled apparatus generating non-ionizing radiation to comply with non-ionizing radiation exposure limits 47

Division 3—Practices and procedures 48
81 Practices and procedures to be followed by controlled persons 48

Part 7—Miscellaneous 49
82 Simplified outline of this Part 49
83 Inspector's identity card 49
84 State and Territory laws that do not apply to activities of controlled or permitted persons 49
85 International agreements 49
86 Review of decisions by CEO 51

Part 8—Application, saving and transitional provisions 52

Division 1—Provisions for this instrument as originally made 52
87 Things done under the *Australian Radiation Protection and Nuclear Safety Regulations 1999* 52

Schedule 1—Activity concentration values and activity values for nuclides 53

Part 1—Activity concentration values and activity values for nuclides 53

Part 2—Parent and progeny nuclides 73

Schedule 2—Form of inspector's identity card 76

Part 1—Preliminary

1 Name

This instrument is the *Australian Radiation Protection and Nuclear Safety Regulations 2018*.

2 Commencement

(1) Each provision of this instrument specified in column 1 of the table commences, or is taken to have commenced, in accordance with column 2 of the table. Any other statement in column 2 has effect according to its terms.

Commencement information

Column 1	Column 2	Column 3
Provisions	**Commencement**	**Date/Details**
1. The whole of this instrument	The day after this instrument is registered.	8 December 2018

Note: This table relates only to the provisions of this instrument as originally made. It will not be amended to deal with any later amendments of this instrument.

(2) Any information in column 3 of the table is not part of this instrument. Information may be inserted in this column, or information in it may be edited, in any published version of this instrument.

3 Authority

This instrument is made under the *Australian Radiation Protection and Nuclear Safety Act 1998*.

4 Definitions

Note: A number of expressions used in this instrument are defined in the Act, including the following:
(a) controlled apparatus;
(b) controlled facility;
(c) controlled material;
(d) controlled person;
(e) deal with.

In this instrument:

absorbed dose means the energy absorbed per unit mass by matter from ionizing radiation that impinges upon it.

Note: See the Planned Exposure Code.

Act means the *Australian Radiation Protection and Nuclear Safety Act 1998*.

action level means an intervention level applied to exposure to radiation.

activity concentration value steps: the ***activity concentration value steps*** for a waste package are the following steps:

(a) first, divide the activity of each nuclide in the waste package by the mass of the waste package;

(b) secondly, divide the result of paragraph (a) for each nuclide by the activity concentration value set out in Part 1 of Schedule 1 for the nuclide;

(c) thirdly, if there is more than one nuclide in the waste package, total the result of paragraph (b) for each nuclide.

Note: Section 5 affects how the activity of a parent nuclide mentioned in Part 2 of Schedule 1 (or marked [a] in Part 1 of Schedule 1) is worked out, by providing for inclusion of the activity of certain progeny nuclides that are included in secular equilibrium with the parent nuclide.

activity value division steps: the ***activity value division steps*** for sources or controlled materials are the following steps:

(a) first, divide the activity of each nuclide in the sources or controlled materials by the activity value set out in Part 1 of Schedule 1 for the nuclide;

(b) secondly, if there is more than one nuclide in the sources or controlled materials, total the result of paragraph (a) for each nuclide.

Note: Section 5 affects how the activity of a parent nuclide mentioned in Part 2 of Schedule 1 (or marked [a] in Part 1 of Schedule 1) is worked out, by providing for inclusion of the activity of certain progeny nuclides that are included in secular equilibrium with the parent nuclide.

appointed member of the Council or a Committee means a member of the Council or Committee other than the CEO.

AS/NZS IEC 60825.1:2014 means the Australian/New Zealand Standard AS/NZS IEC 60825.1:2014 *Safety of laser products, Part 1: Equipment classification and requirements*, published jointly by, or on behalf of, Standards Australia and Standards New Zealand, as at the commencement of this instrument.

AS/NZS IEC 60825.2:2011 means the Australian/New Zealand Standard AS/NZS IEC 60825.2:2011 *Safety of laser products, Part 2: Safety of optical fibre communication systems (OFCS)*, published jointly by, or on behalf of, Standards Australia and Standards New Zealand, as at the commencement of this instrument.

committed effective dose means the effective dose that a person is committed to receive from an intake of radioactive material.

Note: See the Planned Exposure Code.

Committee means the Radiation Health Committee or the Nuclear Safety Committee.

dose includes absorbed dose, equivalent dose and effective dose.

Note: See the Planned Exposure Code.

effective dose means a measure of dose that takes into account both the type of radiation involved and the radiological sensitivities of the organs and tissues irradiated.

Note: See the Planned Exposure Code.

equivalent dose means a measure of dose in organs and tissues that takes into account the type of radiation involved.

Note: See the Planned Exposure Code.

excluded exposure means the component of exposure that arises from natural background radiation, provided that:

(a) any relevant action level or levels for the workplace are not exceeded; and

(b) the CEO does not prohibit the exclusion of that component.

exposure means exposure to radiation.

Group 1: each controlled apparatus or controlled material described in the following table is in ***Group 1***.

Group 1 controlled apparatus and controlled materials

	Controlled apparatus or controlled material
1	Sealed source for calibration purposes of activity of 40 MBq or less
2	Sealed source in a fully enclosed analytical device
3	Sealed source with activity of 400 MBq or less in a fixed gauge
4	Sealed source in a blood irradiator
5	Sealed source in a bone densitometer
6	Sealed source that: (a) is in storage and awaiting disposal; and (b) has a nuclide with a maximum activity of not more than 10^9 times the activity value for that nuclide set out in Part 1 of Schedule 1
7	Unsealed source, or sources, in a laboratory or particular premises, having nuclides of one kind only with a maximum activity not more than 10^2 times the activity value for that nuclide set out in Part 1 of Schedule 1
8	Unsealed source, or sources, in a laboratory or particular premises, having nuclides such that, when the maximum activity of each nuclide in the source, or sources, is divided by the activity value for that nuclide set out in Part 1 of Schedule 1, the total of the results for all nuclides in the source, or sources, is not more than 10^2
9	Mammographic X-ray unit
10	Conventional dental X-ray unit
11	X-ray unit used for bone densitometry
12	X-ray unit used for veterinary radiography
13	Fully enclosed X-ray analysis unit
14	Baggage inspection X-ray unit
15	Mobile or portable medical X-ray unit
16	Magnetic field non-destructive testing device
17	Induction heater or induction furnace

Group 1 controlled apparatus and controlled materials	
	Controlled apparatus or controlled material
18	Industrial radiofrequency heater or welder
19	Radiofrequency plasma tube
20	Microwave or radiofrequency diathermy equipment
21	Industrial microwave or radiofrequency processing system
22	Optical source, other than a laser product, emitting ultraviolet radiation, infra-red or visible light
23	Laser product with an accessible emission that exceeds the accessible emission limits of a Class 3R laser product, as set out in AS/NZS IEC 60825.1:2014
24	Optical fibre communication system exceeding Hazard Level 3R, as defined by AS/NZS IEC 60825.2:2011
25	Sealed source not mentioned in another item of this table or in the definition of ***Group 2*** or ***Group 3***, dealings with which do not have the potential for accidental exposure likely to exceed the dose limits mentioned in sections 77 and 79
26	Controlled apparatus that produces ionizing radiation and is not mentioned in another item of this table or in the definition of ***Group 2*** or ***Group 3***, dealings with which do not have the potential for accidental exposure likely to exceed the dose limits mentioned in sections 77 and 79

Group 2: each controlled apparatus or controlled material described in the following table is in ***Group 2***.

Group 2 controlled apparatus and controlled materials	
	Controlled apparatus or controlled material
1	Sealed source for calibration purposes of activity of more than 40 MBq
2	Sealed source in a partially enclosed analytical device
3	Sealed source of activity of more than 400 MBq in a fixed gauge
4	Sealed source in a mobile gauge
5	Sealed source for medical or veterinary diagnostic nuclear medicine use
6	Unsealed source, or sources, in a laboratory or particular premises, having nuclides of one kind only with a maximum activity of more than 10^2, but not more than 10^4, times the activity value for that nuclide set out in Part 1 of Schedule 1
7	Unsealed source, or sources, in a laboratory or particular premises, having nuclides such that, when the maximum activity of each nuclide in the source, or sources, is divided by the activity value for that nuclide set out in Part 1 of Schedule 1, the total of the results for all nuclides in the source, or sources, is more than 10^2 but not more than 10^4
8	Unsealed sources used for tracer studies in the environment
9	Industrial radiography X-ray unit
10	Fixed medical X-ray unit, including a unit used for fluoroscopy, tomography and chiropractic radiography
11	Partially enclosed X-ray analysis unit
12	Medical therapy simulator
13	CT scanner

Group 2 controlled apparatus and controlled materials	
	Controlled apparatus or controlled material
14	Sealed source not mentioned in another item of this table or in the definition of ***Group 1*** or ***Group 3***, dealings with which have the potential for accidental exposure likely to exceed a dose limit mentioned in sections 77 and 79 but unlikely to result in acute effects
15	Controlled apparatus that produces ionizing radiation not mentioned in another item of this table or in the definition of ***Group 1*** or ***Group 3***, dealings with which have the potential for accidental exposure likely to exceed a dose limit mentioned in sections 77 and 79 but unlikely to result in acute effects

Group 3: each controlled apparatus or controlled material described in the following table is in ***Group 3***.

Group 3 controlled apparatus and controlled materials	
	Controlled apparatus or controlled material
1	Sealed source for industrial radiography
2	Sealed source for medical and veterinary radiotherapy
3	Sealed source in a borehole logger
4	Sealed source not mentioned in another item of this table or in the definition of ***Group 1*** or ***Group 2***, dealings with which have the potential for accidental exposure likely to exceed a dose limit mentioned in sections 77 and 79 and likely to result in acute effects
5	Unsealed source, or sources, in a laboratory or particular premises, having nuclides of one kind only with a maximum activity of more than 10^4, but not more than 10^6, times the activity value for that nuclide set out in Part 1 of Schedule 1
6	Unsealed source, or sources, in a laboratory or particular premises, having nuclides such that, when the maximum activity of each nuclide in the source, or sources, is divided by the activity value for that nuclide set out in Part 1 of Schedule 1, the total of the results for all nuclides in the source, or sources, is more than 10^4 but not more than 10^6
7	Veterinary or medical radiotherapy unit
8	Controlled apparatus that produces ionizing radiation not mentioned in another item of this table or in the definition of ***Group 1*** or ***Group 2***, dealings with which have the potential for accidental exposure likely to exceed a dose limit mentioned in sections 77 and 79 and likely to result in acute effects

holder of a licence means the controlled person to whom the licence is issued.

irradiator means a device that contains a controlled material and gives a controlled dose of radiation to any target material.

Licence Charges Regulations means the *Australian Radiation Protection and Nuclear Safety (Licence Charges) Regulations 2018*.

non-ionizing radiation exposure limits means any of the following:

(a) the reference levels mentioned in the *ICNIRP Guidelines For Limiting Exposure To Time-Varying Electric And Magnetic Fields (1 Hz—100 kHz)*,

published by the International Commission on Non-Ionizing Radiation Protection, as at the commencement of this instrument;

(b) the maximum exposure levels mentioned in the *Radiation Protection Standard for Maximum Exposure Levels to Radiofrequency Fields—3 kHz to 300 GHz (2002) (Radiation Protection Series No. 3)*, published by the CEO, as at the commencement of this instrument;

(c) the maximum permissible exposure limits mentioned in AS/NZS IEC 60825.1:2014;

(d) the exposure limits mentioned in the Australian/New Zealand Standard AS/NZS IEC 62471:2011 *Photobiological safety of lamp and lamp systems*, published jointly by, or on behalf of, Standards Australia and Standards New Zealand, as at the commencement of this instrument;

(e) the exposure limits mentioned in the *Radiation Protection Standard for Occupational Exposure to Ultraviolet Radiation (2006) (Radiation Protection Series No. 12)*, published by the CEO, as at the commencement of this instrument;

(f) the exposure limits mentioned in the *ICNIRP Guidelines On Limits Of Exposure To Static Magnetic Fields*, published by the International Commission on Non-Ionizing Radiation Protection, as at the commencement of this instrument.

Note 1: The documents mentioned in paragraphs (a), (b), (e) and (f) could in 2018 be viewed on, or accessed from, ARPANSA's website (https://www.arpansa.gov.au).

Note 2: For guidance on the exposure limits mentioned in paragraph (d), see the *ICNIRP Guidelines On Limits Of Exposure To Incoherent Visible And Infrared Radiation*, published by the International Commission on Non-Ionizing Radiation Protection. The Guidelines could in 2018 be accessed from ARPANSA's website (https://www.arpansa.gov.au).

occupational exposure means exposure of a person that:

(a) occurs in the course of the person's work; and

(b) is not excluded exposure.

Planned Exposure Code means the *Code for Radiation Protection in Planned Exposure Situations (2016) (Radiation Protection Series C-1)*, published by the CEO, as at the commencement of this instrument.

Note: The Planned Exposure Code could in 2018 be viewed on ARPANSA's website (https://www.arpansa.gov.au).

public exposure means exposure of a person that is none of the following:

(a) occupational exposure of the person;

(b) exposure of the person:

(i) as a patient undergoing medical diagnosis or therapy; or

(ii) as a volunteer in medical research;

(c) exposure, other than occupational exposure, received as a consequence of the person assisting an exposed patient.

sealed source means controlled material permanently contained in a capsule, or closely bound in a solid form, that is strong enough to be leak-tight for:

(a) the intended use of the controlled material; and

(b) any reasonably foreseeable abnormal events likely to affect the controlled material.

Security Code of Practice means the *Code of Practice for the Security of Radioactive Sources (2007) (Radiation Protection Series No. 11)*, published by the CEO, as at the commencement of this instrument.

Note: The Security Code of Practice could in 2018 be viewed on ARPANSA's website (https://www.arpansa.gov.au).

Transport Code means the *Code for the Safe Transport of Radioactive Material (2014) (Radiation Protection Series C-2)*, published by the CEO, as at the commencement of this instrument.

Note: The Transport Code could in 2018 be viewed on ARPANSA's website (https://www.arpansa.gov.au).

unsealed source means controlled material that is not a sealed source.

waste package means the waste form of controlled material and its container as prepared for handling, transport, storage or disposal.

5 Parent nuclides and progeny nuclides included in secular equilibrium

(1) For the purposes of this instrument, in determining the activity of a parent nuclide mentioned in an item of Part 2 of Schedule 1, include the activity of any progeny nuclide mentioned in that item that is included in secular equilibrium with the parent nuclide.

Note: Parent nuclides are also marked [a] in Part 1 of Schedule 1.

(2) Except for the purposes of determining under subsection (1) the activity of a parent nuclide mentioned in an item of Part 2 of Schedule 1, the activity of a progeny nuclide mentioned in an item of that Part is taken to be nil when included in secular equilibrium with a parent nuclide mentioned in that item.

Part 2—CEO's functions

6 Simplified outline of this Part

The CEO's functions include:

(a) granting permissions and approvals for other regulatory regimes; and

(b) making guidelines about compliance by licence holders and conducting of inspections.

7 CEO's functions

For the purposes of paragraph 15(1)(i) of the Act, the following are functions of the CEO:

(a) to grant permissions to export from Australia high activity radioactive sources under regulation 9AD of the *Customs (Prohibited Exports) Regulations 1958*;

(b) to grant permissions to import into Australia radioactive substances under regulation 4R of the *Customs (Prohibited Imports) Regulations 1956*;

(c) to grant approvals under the Transport Code in the CEO's capacity as competent authority for the Commonwealth for the purposes of the Transport Code;

(d) to make guidelines about:

(i) how holders of licences will report their compliance with the Act, this instrument and licence conditions; and

(ii) how inspection of controlled facilities, controlled apparatus and controlled materials will be conducted.

Part 3—Controlled apparatus, controlled facilities and controlled persons

Division 1—Simplified outline of this Part

8 Simplified outline of this Part

Under the Act, controlled apparatus includes apparatus prescribed by regulations that produces harmful non-ionizing radiation when energised. Division 2 of this Part prescribes apparatus that is controlled apparatus.

Under the Act, controlled facilities are:

(a) nuclear installations, including both radioactive waste storage or disposal facilities with an activity greater than the activity level prescribed by the regulations and facilities for production of radioisotopes with an activity greater than the activity level prescribed by regulations; and

(b) prescribed radiation facilities, which are facilities or installations prescribed by regulations; and

(c) prescribed legacy sites, which are places prescribed by regulations.

Division 3 of this Part prescribes:

(a) activity levels for facilities to be nuclear installations; and

(b) facilities and installations that are prescribed radiation facilities; and

(c) places that are prescribed legacy sites.

Under the Act, controlled persons include persons in Commonwealth places prescribed by regulations. Division 4 of this Part prescribes such places.

Division 2—Controlled apparatus

9 Kinds of apparatus that are controlled apparatus

(1) For the purpose of paragraph (c) of the definition of ***controlled apparatus*** in section 13 of the Act, an apparatus is prescribed if:

(a) it is any of the following:

(i) a magnetic field non-destructive testing device;

(ii) an induction heater or induction furnace;

(iii) an industrial radiofrequency heater or welder;

(iv) a radiofrequency plasma tube;

(v) microwave or radiofrequency diathermy equipment;

(vi) an industrial microwave or radiofrequency processing system;

(vii) an optical source, other than a laser product, emitting ultraviolet radiation or infrared or visible light;

(viii) a laser product with an accessible emission that exceeds the accessible emission limits of a Class 3R laser product, as set out in AS/NZS IEC 60825.1:2014;

(ix) an optical fibre communication system exceeding Hazard Level 3R, as defined by AS/NZS IEC 60825.2:2011; and

(b) it produces non-ionizing radiation that could lead to a person being exposed to radiation levels exceeding the non-ionizing radiation exposure limits; and

(c) exposure to those levels is readily accessible to persons:

(i) in the course of intended operations or procedures of the apparatus; or

(ii) as a result of a reasonably foreseeable abnormal event involving the apparatus; or

(iii) as a result of a reasonably foreseeable single element failure of the apparatus; or

(iv) without the use of tools or other specialised equipment required to remove protective barriers or access panels; and

(d) the apparatus is not declared under subsection (2).

(2) The CEO may declare, in writing, that particular apparatus is not prescribed by subsection (1).

Note: A decision to refuse to make a declaration is reviewable under section 86.

(3) The CEO must not make a declaration under subsection (2) unless the CEO is satisfied that:

(a) the apparatus does not pose an unacceptable hazard to the health and safety of people or to the environment; or

(b) it would be inappropriate for the apparatus to be a controlled apparatus.

(4) The CEO must publish the declaration on ARPANSA's website as soon as practicable after making it.

Division 3—Controlled facilities

Subdivision A—Activity levels for certain facilities to be nuclear installations

10 Activity level for radioactive waste storage facilities to be nuclear installations

(1) For the purposes of paragraph (c) of the definition of ***nuclear installation*** in section 13 of the Act, this section prescribes the activity level for a radioactive waste storage facility that contains, or is designed to contain, controlled materials.

Level for facility for unsealed sources

(2) If:

(a) the facility contains, or is designed to contain, unsealed sources; and

(b) the result of the activity concentration value steps for a waste package of the unsealed sources is greater than 10^4;

the level is that at which the result of the activity value division steps for the unsealed sources in the facility is 10^6.

Note: For ***activity concentration value steps***, ***activity value division steps***, ***unsealed source*** and ***waste package***, see section 4.

Level for facility for sealed sources

(3) If the facility contains, or is designed to contain, sealed sources, the level is that at which the result of the activity value division steps for the sealed sources in the facility is 10^{10}.

Note: For ***activity value division steps*** and ***sealed source***, see section 4.

11 Activity level for radioactive waste disposal facilities to be nuclear installations

(1) For the purposes of paragraph (c) of the definition of ***nuclear installation*** in section 13 of the Act, this section prescribes the activity level for a radioactive waste disposal facility if:

(a) the facility contains, or is designed to contain, controlled materials; and

(b) the result of the activity concentration value steps for a waste package of the controlled materials is greater than 10^2.

Note: For ***activity concentration value steps*** and ***waste package***, see section 4.

(2) The level for the facility is that at which the result of the activity value division steps for the controlled materials in the facility is 10^8.

Note: For ***activity value division steps***, see section 4.

12 Activity level for facilities for production of radioisotopes to be nuclear installations

(1) For the purposes of paragraph (d) of the definition of ***nuclear installation*** in section 13 of the Act, this section prescribes the activity level for a facility for production of radioisotopes.

Level for facility for unsealed sources

(2) If the facility contains, or is designed to contain, unsealed sources, the level is that at which the result of the activity value division steps for the unsealed sources is 10^6.

Note: For ***activity value division steps*** and ***unsealed source***, see section 4.

Level for facility for sealed sources

(3) If the facility contains, or is designed to contain, sealed sources, the level is that at which the result of the activity value division steps for the sealed sources is 10^{10}.

Note: For ***activity value division steps*** and ***sealed source***, see section 4.

Subdivision B—Prescribed radiation facilities

13 Prescribed radiation facility

(1) For the purposes of the definition of ***prescribed radiation facility*** in section 13 of the Act, the following facilities and installations are prescribed:

(a) a particle accelerator that:
  (i) has, or is capable of having, a beam energy greater than 1 MeV; or
  (ii) can produce neutrons;

(b) an irradiator that contains more than 10^{15} Bq of a controlled material;

(c) an irradiator that contains more than 10^{13} Bq but not more than 10^{15} Bq of a controlled material and:
  (i) does not include shielding as an integral part of its construction; or
  (ii) includes as an integral part of its construction shielding that does not prevent a person from being exposed to the source or does not shield a source during the operation of the irradiator;

(d) a facility (other than a nuclear installation) used for the production, processing, use, storage, management or disposal of:
  (i) unsealed sources for which the result of the activity value division steps is greater than 10^6; or
  (ii) sealed sources for which the result of the activity value division steps is greater than 10^9.

Note: For ***activity value division steps***, ***sealed source*** and ***unsealed source***, see section 4.

(2) However, the CEO may declare, in writing, that a particular facility is not a prescribed radiation facility. The declaration has effect according to its terms.

Note: A decision to refuse to make a declaration is reviewable under section 86.

(3) The CEO must not make a declaration under subsection (2) unless the CEO is satisfied that:

(a) the facility does not pose an unacceptable hazard to the health and safety of people or to the environment; and

(b) it would be inappropriate for the facility to be a prescribed radiation facility.

(4) The CEO must publish the declaration on ARPANSA's website as soon as practicable after making it.

Subdivision C—Prescribed legacy sites

14 Prescribed legacy site

(1) For the purposes of the definition of ***prescribed legacy site*** in section 13 of the Act, the place described in subsection (2) is prescribed.

(2) The place is that known as the Little Forest Legacy Site, as shown labelled "LFLS" on site plan drawing No. AO SK 127039 revision G dated 1 July 2015, Little Forest Road, Lucas Heights, in the local government area of Sutherland, Parish of Holsworthy, County of Cumberland, erected on part of the land contained in Certificate of Title folio identifier 1/106967.

Note: The Little Forest Legacy Site was previously known as the Little Forest Burial Ground.

Division 4—Controlled persons

15 Prescribed Commonwealth place

(1) For the purposes of the definition of ***prescribed Commonwealth place*** in section 13 of the Act, the place described in subsection (2) is prescribed.

(2) The place is that known as Building 64, as shown on site plan drawing No. A3E 111993 dated November 1999, Lucas Heights Science and Research Centre, New Illawarra Road, Lucas Heights, in the local government area of Sutherland, Parish of Eckersley, County of Cumberland, erected on part of the land contained in Certificate of Title folio identifier 1/89876.

Part 4—The Radiation Health and Safety Advisory Council and advisory committees

Division 1—Introduction

16 Simplified outline of this Part

The Act establishes the Radiation Health and Safety Advisory Council, the Radiation Health Committee and the Nuclear Safety Committee and specifies their membership, but allows the regulations to provide for matters relating to those bodies, including the following:

(a) the term of appointment of members;
(b) resignation of members;
(c) disclosure of interests by members;
(d) procedural matters.

This Part deals with all those matters.

17 Authority for this Part

This Part has effect for the purposes of section 29 of the Act.

Division 2—Radiation Health and Safety Advisory Council

Subdivision A—Provisions about membership of the Council

18 Term of appointment

Appointed member of the Council

(1) An appointed member of the Council holds office for the period specified in the instrument of appointment. The period must not exceed 3 years.

Chair of the Council

(2) The Chair of the Council holds office for the period specified in the instrument of appointment.

19 Resignation

(1) An appointed member of the Council may resign the member's appointment by giving the Minister a written resignation.

(2) The resignation takes effect on the day it is received by the Minister or, if a later day is specified in the resignation, on that later day.

20 Disclosure of interests to the Minister

An appointed member of the Council must give written notice to the Minister of all interests, pecuniary or otherwise, that the member has or acquires and that conflict or could conflict with the proper performance of the member's functions.

21 Disclosure of interests to the Council

(1) A member of the Council who has an interest, pecuniary or otherwise, that conflicts or could conflict with the proper performance of the member's functions in a matter being considered or about to be considered by the Council must disclose the nature of the interest to a meeting of the Council.

(2) The disclosure must be made as soon as possible after the relevant facts have come to the member's knowledge.

(3) The disclosure must be recorded in the minutes of the meeting.

22 Termination of appointment

(1) The Minister may terminate the appointment of an appointed member of the Council:

(a) for misbehaviour; or

(b) if the member is unable to perform the duties of the member's office because of physical or mental incapacity.

(2) The Minister may terminate the appointment of an appointed member of the Council if:

(a) the member:

(i) becomes bankrupt; or

(ii) applies to take the benefit of any law for the relief of bankrupt or insolvent debtors; or

(iii) compounds with the member's creditors; or

(iv) makes an assignment of the member's remuneration for the benefit of the member's creditors; or

(b) the member is absent, except on leave of absence, from 3 consecutive meetings of the Council; or

(c) the member fails, without reasonable excuse, to comply with section 20 or 21.

23 Leave of absence

(1) The Minister may grant leave of absence to the Chair of the Council.

(2) The Chair may grant leave of absence to any other member of the Council on the terms and conditions that the Chair determines.

Subdivision B—Provisions about Council procedure

24 Council procedures generally

(1) In performing its functions, the Council:

(a) must act according to this instrument; and

(b) must act with as little formality and as quickly as the requirements of this instrument, and a proper consideration of the issues before the Council, allow; and

(c) may obtain information about an issue in any way it considers appropriate.

(2) However, the Council must comply with any directions given, in writing, to the Council by the Minister or the CEO about the Council's performance of its functions.

25 Meetings

(1) The Minister or the CEO may, by written notice to the Council, direct the Council to hold meetings at the times and places, and to deal with matters in the manner, stated in the notice.

(2) If the Minister or the CEO has not given written notice to the Council under subsection (1), the Council may hold the meetings at the times and places, and may deal with matters in the manner, that the Council considers necessary for the performance of its functions.

(3) Subject to this Division, the procedure of a meeting of the Council is as decided by the Council.

26 Presiding at meetings

(1) The Chair of the Council must preside at all meetings at which the Chair is present.

(2) If the Chair of the Council is not present at a meeting, the other members of the Council present must appoint one of themselves to preside.

27 Quorum

At a meeting of the Council, a quorum is constituted by a majority of members of the Council.

28 Voting at meetings

(1) A question arising at a meeting of the Council is to be determined by a majority of the votes of the members of the Council present and voting.

(2) The person presiding at a meeting of the Council has a deliberative vote and, if the votes are equal, a casting vote.

29 Records and reports

(1) The Council must keep minutes of its meetings.

(2) The Council must prepare a report for the CEO on the Council's activities for each financial year. The Council must give the CEO the report by the first 31 July after the end of the financial year.

Division 3—Radiation Health Committee and Nuclear Safety Committee

Subdivision A—Provisions about membership of the Committees

30 Term of appointment

Appointed member of a Committee

(1) An appointed member of a Committee holds office for the period specified in the instrument of appointment. The period must not exceed 3 years.

Chair of a Committee

(2) The Chair of a Committee holds office for the period specified in the instrument of appointment.

31 Resignation

(1) An appointed member of a Committee may resign the member's appointment by giving the CEO a written resignation.

(2) The resignation takes effect on the day it is received by the CEO or, if a later day is specified in the resignation, on that later day.

32 Disclosure of interests to the CEO

An appointed member of a Committee must give written notice to the CEO of all interests, pecuniary or otherwise, that the member has or acquires and that conflict or could conflict with the proper performance of the member's functions.

33 Disclosure of interests to the Committee

(1) A member of a Committee who has an interest, pecuniary or otherwise, that conflicts or could conflict with the proper performance of the member's functions in a matter being considered or about to be considered by the Committee must disclose the nature of the interest to a meeting of the Committee.

(2) The disclosure must be made as soon as possible after the relevant facts have come to the member's knowledge.

(3) The disclosure must be recorded in the minutes of the meeting.

34 Termination of appointment

(1) The CEO may terminate the appointment of an appointed member of a Committee:

(a) for misbehaviour; or

(b) if the member is unable to perform the duties of the member's office because of physical or mental incapacity.

(2) The CEO may terminate the appointment of an appointed member of a Committee if:

(a) the member:

(i) becomes bankrupt; or

(ii) applies to take the benefit of any law for the relief of bankrupt or insolvent debtors; or

(iii) compounds with the member's creditors; or

(iv) makes an assignment of the member's remuneration for the benefit of the member's creditors; or

(b) the member is absent, except on leave of absence, from 3 consecutive meetings of the Committee; or

(c) the member fails, without reasonable excuse, to comply with section 32 or 33.

35 Leave of absence

(1) The CEO may grant leave of absence to the Chair of a Committee.

(2) The Chair of a Committee may grant leave of absence to any other member of the Committee on the terms and conditions that the Chair determines.

Subdivision B—Provisions about Committee procedure

36 Committee procedures generally

(1) In performing its functions, a Committee:

(a) must act according to this instrument; and

(b) must act with as little formality and as quickly as the requirements of this instrument, and a proper consideration of the issues before the Committee, allow; and

(c) may obtain information about an issue in any way it considers appropriate.

(2) However, the Committee must comply with any directions given, in writing, to the Committee by the CEO about the Committee's performance of its functions.

37 Meetings

(1) The CEO may, by written notice to the Committee, direct the Committee to hold meetings at the times and places, and to deal with matters in the manner, stated in the notice.

(2) If the CEO has not given written notice to the Committee under subsection (1), the Committee may hold the meetings at the times and places, and may deal with matters in the manner, that the Committee considers necessary for the performance of its functions.

(3) Subject to this instrument, the procedure of a meeting of a Committee is as decided by the Committee.

38 Presiding at meetings

(1) The Chair of a Committee must preside at all meetings of the Committee at which the Chair is present.

(2) If the Chair of a Committee is not present at a meeting, the other members of the Committee present must appoint one of themselves to preside.

39 Quorum

At a meeting of a Committee, a quorum is constituted by a majority of members of the Committee.

40 Voting at meetings

(1) A question arising at a meeting of a Committee is to be determined by a majority of the votes of the members of the Committee present and voting.

(2) The person presiding at a meeting of a Committee has a deliberative vote and, if the votes are equal, a casting vote.

41 Records and reports

(1) A Committee must keep minutes of its meetings.

(2) A Committee must prepare any report that is requested by the CEO.

(3) If a Committee prepares a report on any matter, it must give a copy of the report to the CEO.

Part 5—Licences

Division 1—Simplified outline of this Part

42 Simplified outline of this Part

This Part provides for:

(a) exemptions from requirements to hold a licence under the Act; and
(b) making and deciding applications for licences; and
(c) fees for applications for licences; and
(d) conditions on licences; and
(e) payment, adjustment and refund of annual charges for licences.

Division 2—Exemptions

43 Exemption of controlled person from requirement for facility licence for conduct relating to controlled facility

(1) For the purposes of paragraph 30(1)(g) of the Act, a controlled person is exempted in relation to conduct of a kind mentioned in paragraph 30(1)(a), (b), (c), (d), (e) or (ea) of the Act in relation to a controlled facility if:

(a) the controlled person, the kind of conduct and the controlled facility are specified in a declaration that is made and published under this section; and

(b) the declaration is in effect at the time the conduct is undertaken.

Declaration

(2) The CEO may declare, in writing, that particular current or future conduct of a kind mentioned in paragraph 30(1)(a), (b), (c), (d), (e) or (ea) of the Act, by a particular controlled person in relation to a particular controlled facility, does not, or will not, pose an unacceptable potential hazard to the health and safety of people or to the environment.

Note: A decision to refuse to make a declaration is reviewable under section 86.

(3) The CEO may also state in the declaration that:

(a) the declaration has effect only if circumstances mentioned in the declaration exist; or

(b) the declaration does not have effect if circumstances mentioned in the declaration exist.

Prerequisites for making declaration

(4) If the CEO proposes to make a declaration under subsection (2), the CEO must, as soon as practicable, publish a notice in a daily newspaper circulating nationally, and on ARPANSA's website, stating that the CEO proposes to make the declaration.

(5) The notice must include:

(a) either:

(i) a copy of the proposed declaration; or

(ii) a description of the controlled person, the kind of conduct and the controlled facility that are to be the subject of the declaration, and the text of any statements permitted under subsection (3); and

(b) if the proposed declaration relates to a nuclear installation:

(i) an invitation to people and bodies to make submissions about the proposed declaration; and

(ii) information about the period for making submissions and procedures for making submissions.

Publication of declaration

(6) The CEO must publish the declaration on ARPANSA's website as soon as practicable after making it.

44 Exempt dealings with controlled material or controlled apparatus

Dealings that are exempt unless declared

(1) For the purposes of paragraph 31(1)(b) of the Act, a dealing that is described in an item of the following table is an exempt dealing unless the dealing is declared under subsection (2) of this section.

Exempt dealings

	Description of dealing
1	The dealing is with a controlled material that has: (a) an activity concentration less than the activity concentration value for the material set out in Part 1 of Schedule 1; or (b) an activity less than the activity value for the material set out in that Part
2	The dealing is mixing 2 or more controlled materials, and each of the following totals is one or less: (a) the total (for all of the materials) of the results of dividing the activity for each material by the activity value for the material set out in Part 1 of Schedule 1; (b) the total (for all of the materials) of the results of dividing the activity for each material by the product of: (i) the activity concentration value for the material set out in Part 1 of Schedule 1; and (ii) the total mass of the mixture
3	The dealing: (a) is with radon-222 with an activity concentration of less than 1,000 Bq/m^3 occurring naturally in a workplace; and (b) either: (i) does not involve any other controlled material; or (ii) involves another controlled material whose use in the dealing is an exempt dealing (apart from this item)
4	The dealing: (a) is with depleted uranium that: (i) is being used as radiation shielding in a container for controlled materials; and (ii) is completely contained in an appropriate metallic sheath; and (iii) is in a container for controlled materials that complies with the requirements in the Transport Code; and (b) is not with any other controlled material
5	The dealing: (a) is with depleted uranium that is in solid massive form used for ballast; and (b) is not with any other controlled material
6	The dealing: (a) is with a smoke detector designed and made in accordance with Australian Standard AS 3786:2014: *Smoke Alarms using scattered light, transmitted light or ionization*, as at the commencement of this instrument; and (b) is not repair or maintenance of the detector

Exempt dealings	
	Description of dealing
7	The dealing is with any of the following items and no other controlled apparatus or controlled material: (a) a gaseous tritium light device that: (i) is used solely for safety purposes; and (ii) includes less than 74 GBq of tritium; (b) a television receiver; (c) a visual display terminal; (d) a cathode ray tube; (e) an electron microscope; (f) arc welding equipment; (g) an electron capture detector or similar device used in gas chromatography containing: (i) a nickel-63 sealed source with activity not more than 750 MBq; or (ii) a tritium source with activity not more than 20 GBq; (h) lighting products that include krypton-85; (i) radar equipment used for communications; (j) radiofrequency equipment used for communications; (k) an artificial optical source emitting ultraviolet A radiation (315—400 nm); (l) a completely enclosed apparatus containing an ultraviolet radiation light source (e.g. a spectrophotometer); (m) a biological safety cabinet (laminar flow or biohazard) with a failsafe interlocking system; (n) an embedded (enclosed) laser product with an accessible emission that is lower than the accessible emission limits of a Class 3B laser product, as set out in AS/NZS IEC 60825.1:2014, during normal operations
8	The dealing is with a sealed source used for teaching the characteristics and properties of radiation or radiation sources, and the sealed source contains one or more of the following: (a) cobalt-60 with an activity not greater than 200 kBq; (b) strontium-90 with an activity not greater than 80 kBq; (c) caesium-137 with an activity not greater than 200 kBq; (d) radium-226 with an activity not greater than 20 kBq; (e) americium-241 with an activity not greater than 40 kBq
9	The dealing is with a geological sample that: (a) contains radioactive material that emits radiation at a level not exceeding 5 micrograys an hour, measured at a distance of 10 cm from its surface; and (b) is being used as a sample in teaching or for display as a geological specimen

Exception to exemption for declared risk of excessive dose

(2) The CEO may declare, in writing, that a particular dealing described in the table in subsection (1) is a dealing for which:

(a) the annual effective dose to an individual during normal operations is likely to be greater than 10 microsieverts; or

(b) an accident, misuse or exceptional circumstance affecting the dealing is likely to produce a dose greater than the effective dose limit worked out under sections 77 and 78.

Note: A decision to make a declaration under this subsection is reviewable under section 86.

Exemption by declaration of dealings not covered by subsection (1)

(3) For the purposes of paragraph 31(1)(b) of the Act, a dealing that is declared under subsection (4) or (5) of this section is an exempt dealing.

Note: A decision to refuse to make a declaration under subsection (4) or (5) is reviewable under section 86.

Declaration of low-dose dealing

(4) The CEO may declare, in writing, that a particular dealing that is not described in the table in subsection (1) is a dealing for which:

(a) the annual effective dose to an individual during normal operations is likely to be not more than 10 microsieverts; or

(b) an accident, misuse or exceptional circumstance affecting the dealing is not likely to produce a dose greater than the effective dose limit worked out under sections 77 and 78.

Declaration of low-risk dealings

(5) The CEO may declare, in writing, that:

(a) a particular dealing that is not described in an item in the table in subsection (1) is a dealing involving:

(i) a radiological emergency or its after-effects; or

(ii) the after-effects of a previous dealing; or

(iii) naturally occurring materials; or

(iv) bulk material with a mass of more than 1,000 kg; and

(b) an assessment of the magnitude of individual doses, the number of people exposed and the likelihood that potential exposure will actually occur justifies the dealing being exempt.

Publication of declarations

(6) The CEO must publish a declaration under subsection (2), (4) or (5) on ARPANSA's website as soon as practicable after making it.

Division 3—Applications for licences

45 How application for facility licence or source licence for Commonwealth entity is to be made

An application for a facility licence, or source licence, for a Commonwealth entity (except an employee) must be made:

(a) in the name of a Department or the entity; and

(b) by the chief executive of the Department or entity or by a person authorised by the chief executive.

46 Application for facility licence

What must be included in application

(1) An application for a facility licence must include the following:

(a) the applicant's full name, position and business address;

(b) a description of the purpose of the facility to which the licence is to relate;

(c) a detailed description of the facility and the site of the facility;

(d) the applicant's plans and arrangements for managing the facility to ensure the health and safety of people and the protection of the environment, including the following:

(i) arrangements for the applicant to maintain effective control of the facility;

(ii) the safety management plan for the facility;

(iii) the radiation protection plan for the facility;

(iv) the radioactive waste management plan for the facility;

(v) the security plan for the facility;

(vi) the emergency plan for the facility;

(vii) the environment protection plan for the facility.

Extra information CEO may ask for

(2) The CEO may ask an applicant for a facility licence to give the CEO either or both of the following:

(a) some or all of the information and documents described (or about a matter described) in an item of the following table relevant to the licence;

(b) other information about the facility concerned that is relevant to deciding whether to issue the licence.

Information and documents CEO may ask applicant for facility licence to give

	Column 1 Act to be authorised by licence	Column 2 Information or documents CEO may ask for
1	Preparing a site for a controlled facility	(a) detailed site evaluation establishing the suitability of the site for the facility; (b) the characteristics of the site, including the extent to which the site may be affected by natural and human events;

Information and documents CEO may ask applicant for facility licence to give		
	Column 1 **Act to be authorised by licence**	**Column 2** **Information or documents CEO may ask for**
		(c) any environmental impact statement (however described) requested or required by a Commonwealth, State, Territory or local government agency in relation to the site or the facility, and the outcome of the environmental assessment
2	Constructing a controlled facility	(a) the design of the facility, including ways in which the design deals with the physical and environmental characteristics of the site; (b) any fundamental difficulties that will need to be resolved before any facility licence relating to the facility is issued; (c) the construction plan and schedule; (d) a preliminary safety analysis report that demonstrates the adequacy of the design of the facility and identifies structures, components and systems that are safety-related items; (e) the arrangements for testing and commissioning safety-related items
3	Having possession or control of a controlled facility	(a) arrangements for maintaining criticality safety during loading, moving or storing nuclear fuel and other fissile materials at the facility; (b) arrangements for safe storage of controlled material and maintaining the facility
4	Operating a controlled facility	(a) description of the structures, components, systems and equipment of the facility as they have been constructed; (b) final safety analysis report that demonstrates the adequacy of the design of the facility, and includes the results of commissioning tests; (c) operational limits and conditions of the facility; (d) arrangements for commissioning the facility; (e) arrangements for operating the facility
5	Decommissioning a controlled facility	(a) decommissioning plan for the facility; (b) schedule for decommissioning the facility
6	Abandoning a controlled facility	(a) results of decommissioning activities at the facility; (b) details of any environmental monitoring program proposed for the site of the facility

(3) The CEO may ask an applicant for a facility licence authorising dealing with controlled apparatus or controlled material to give the CEO anything described in section 47.

47 Application for source licence

What must be included in application

(1) An application for a source licence must include the following:

(a) the applicant's full name, position and business address;
(b) a description of the purpose of the dealing to be authorised by the licence;
(c) a description of the purpose of the licence;
(d) the applicant's plans and arrangements for managing the controlled material or controlled apparatus to ensure the health and safety of people and the protection of the environment, including the following:
  (i) arrangements for maintaining effective control of the controlled material or controlled apparatus;
  (ii) the safety management plan for the controlled material or controlled apparatus;
  (iii) the radiation protection plan for the controlled material or controlled apparatus;
  (iv) the radioactive waste management plan for the controlled material or controlled apparatus;
  (v) the plan for ultimate disposal or transfer of the controlled material or controlled apparatus;
  (vi) the security plan for the controlled material or controlled apparatus;
  (vii) the emergency plan for the controlled material or controlled apparatus.

Extra information CEO may ask for

(2) The CEO may ask an applicant for a source licence to give either or both of the following:
  (a) some or all of the information and documents described (or about a matter described) in an item of the following table relevant to the licence;
  (b) other information about the application that is relevant to deciding whether to issue the licence.

Information and documents CEO may ask applicant for source licence to give

	Column 1 **Dealing to be authorised by licence**	**Column 2** **Information or documents CEO may ask for**
1	A dealing with a sealed source	(a) the nuclide, activity, chemical form, encapsulation material and physical form of the sealed source; (b) the purpose and identification details of the sealed source; (c) the place where the sealed source is to be located; (d) a copy of any sealed source certificate for the sealed source
2	A dealing with an unsealed source	(a) the nuclide, chemical form and physical form of the unsealed source; (b) the purpose and identification details of the unsealed source; (c) the maximum activity of each nuclide to be held on particular premises at any one time; (d) the place where the unsealed source is to be located
3	A dealing with a controlled	(a) the purpose and identification details of the controlled apparatus;

Information and documents CEO may ask applicant for source licence to give		
	Column 1 **Dealing to be authorised by licence**	**Column 2** **Information or documents CEO may ask for**
	apparatus that produces ionizing radiation	(b) the maximum kilovoltage; (c) the place where the controlled apparatus is used
4	A dealing with a controlled apparatus that produces non-ionizing radiation	(a) the purpose and identification details of the controlled apparatus; (b) the likely exposure levels including the nature of the radiation; (c) all output parameters relevant to the likely exposure conditions; (d) the place where the controlled apparatus is used

48 Public notice and consultation before facility licence issued

(1) This section applies if the CEO receives an application for a facility licence.

(2) As soon as practicable after receiving the application, the CEO must publish a notice in a daily newspaper circulating nationally, and on ARPANSA's website, stating that the CEO intends to make a decision on the application.

(3) If the application relates to a nuclear installation, the CEO must also include in the notice:

(a) an invitation to people and bodies to make submissions about the application; and

(b) information about:

(i) the period for making submissions; and

(ii) procedures for making submissions.

Division 4—Application fees for licences

49 Application fees for facility licences relating to nuclear installations

For the purposes of paragraph 34(b) of the Act, the fee to accompany an application for a facility licence to authorise an act described in an item of the following table is the amount set out in that item.

Application fees for facility licences relating to nuclear installations

	Act authorised by licence	Amount ($)
1	Preparing a site for a nuclear reactor designed: (a) for research or production of radioactive materials for industrial or medical use (including critical and subcritical assemblies); and (b) to have maximum thermal power less than 1 megawatt	30,144
2	Constructing a nuclear reactor designed: (a) for research or production of radioactive materials for industrial or medical use (including critical and subcritical assemblies); and (b) to have maximum thermal power less than 1 megawatt	188,414
3	Possessing or controlling a nuclear reactor: (a) for research or production of radioactive materials for industrial or medical use (including critical and subcritical assemblies); and (b) with maximum thermal power less than 1 megawatt	150,732
4	Operating a nuclear reactor: (a) for research or production of radioactive materials for industrial or medical use (including critical and subcritical assemblies); and (b) with maximum thermal power less than 1 megawatt	75,364
5	Decommissioning, disposing of or abandoning a nuclear reactor that: (a) was used for research or production of radioactive materials for industrial or medical use (including critical and subcritical assemblies); and (b) had maximum thermal power less than 1 megawatt	75,364
6	Preparing a site for a nuclear reactor designed: (a) for research or production of radioactive materials for industrial or medical use (including critical and subcritical assemblies); and (b) to have maximum thermal power at least 1 megawatt	150,732
7	Constructing a nuclear reactor designed: (a) for research or production of radioactive materials for industrial or medical use (including critical and subcritical assemblies); and (b) to have maximum thermal power at least 1 megawatt	602,933
8	Possessing or controlling a nuclear reactor: (a) for research or production of radioactive materials for industrial or medical use (including critical and subcritical assemblies); and (b) with maximum thermal power at least 1 megawatt	150,732
9	Operating a nuclear reactor: (a) for research or production of radioactive materials for industrial or medical use (including critical and subcritical assemblies); and (b) with maximum thermal power at least 1 megawatt	646,002

Application fees for facility licences relating to nuclear installations		
	Act authorised by licence	**Amount ($)**
10	Decommissioning, disposing of or abandoning a nuclear reactor that: (a) was used for research or production of radioactive materials for industrial or medical use (including critical and subcritical assemblies); and (b) had maximum thermal power at least 1 megawatt	150,732
11	Preparing a site for a plant for preparing or storing fuel for use in a nuclear reactor described in any of items 1 to 9	15,071
12	Constructing a plant for preparing or storing fuel for use in a nuclear reactor described in any of items 1 to 9	67,827
13	Possessing or controlling a plant for preparing or storing fuel for use in a nuclear reactor described in any of items 1 to 9	15,071
14	Operating a plant for preparing or storing fuel for use in a nuclear reactor described in any of items 1 to 9	67,827
15	Decommissioning, disposing of or abandoning a plant that was used for preparing or storing fuel for use in a nuclear reactor described in any of items 1 to 10	30,144
16	Preparing a site for: (a) a radioactive waste storage facility designed to contain controlled materials with an activity greater than the applicable activity level prescribed by section 10; or (b) a radioactive waste disposal facility designed to contain controlled materials and have an activity greater than the applicable activity level prescribed by section 11	358,890
17	Constructing: (a) a radioactive waste storage facility designed to contain controlled materials and have an activity greater than the applicable activity level prescribed by section 10; or (b) a radioactive waste disposal facility designed to contain controlled materials and have an activity greater than the applicable activity level prescribed by section 11	430,667
18	Possessing or controlling: (a) a radioactive waste storage facility containing controlled materials that has an activity greater than the applicable activity level prescribed by section 10; or (b) a radioactive waste disposal facility containing controlled materials that has an activity greater than the applicable activity level prescribed by section 11	15,071
19	Operating: (a) a radioactive waste storage facility containing controlled materials that has an activity greater than the applicable activity level prescribed by section 10; or (b) a radioactive waste disposal facility containing controlled materials that has an activity greater than the applicable activity level prescribed by section 11	226,100

Application fees for facility licences relating to nuclear installations		
	Act authorised by licence	**Amount ($)**
20	Decommissioning, disposing of or abandoning: (a) a radioactive waste storage facility that contained controlled materials and had an activity greater than the applicable activity level prescribed by section 10; or (b) a radioactive waste disposal facility that contained controlled materials and had an activity that was greater than the applicable activity level prescribed by section 11	30,144
21	Preparing a site for a facility to produce radioisotopes that is designed to contain controlled materials and have an activity greater than the applicable activity level prescribed by section 12	75,364
22	Constructing a facility to produce radioisotopes that is designed to contain controlled materials and have an activity greater than the applicable activity level prescribed by section 12	150,732
23	Possessing or controlling a facility producing radioisotopes and containing controlled materials that has an activity greater than the applicable activity level prescribed by section 12	15,071
24	Operating a facility producing radioisotopes and containing controlled materials that has an activity greater than the applicable activity level prescribed by section 12	135,659
25	Decommissioning, disposing of or abandoning a facility that formerly produced radioisotopes, contained controlled materials and had an activity greater than the applicable activity level prescribed by section 12	30,144

50 Application fees for facility licences relating to prescribed radiation facilities

(1) For the purposes of paragraph 34(b) of the Act, the fee to accompany an application for a facility licence to authorise:

(a) an act mentioned in paragraph 30(1)(a), (b), (c), (d) or (e) of the Act relating to a prescribed radiation facility described in an item of the table in subsection (2); or

(b) an act described in an item of the table in subsection (3);

is the amount set out in that item. However, the fee is the amount set out in the item of the table in subsection (3) if the act to be authorised by the licence is described in both paragraphs (a) and (b) of this subsection.

Fees for prescribed radiation facilities (except ones formerly used for weapons tests or radioactive ores)

(2) For the purposes of paragraph (1)(a), the table is as follows:

Fees for prescribed radiation facilities not formerly used for weapons tests or radioactive ores		
	Kind of prescribed radiation facility	**Amount ($)**
1	Particle accelerator that: (a) has, or is capable of having, a beam energy greater than 1 MeV; or (b) can produce neutrons	13,563
2	Irradiator containing more than 10^{15} Bq of a controlled material	13,563

Fees for prescribed radiation facilities not formerly used for weapons tests or radioactive ores		
	Kind of prescribed radiation facility	**Amount ($)**
3	Irradiator: (a) containing more than 10^{13} Bq of a controlled material; and (b) either: (i) not including shielding as an integral part of its construction; or (ii) including as an integral part of its construction shielding that does not prevent a person from being exposed to the source or does not shield a source during the operation of the irradiator	13,563
4	Facility for the production, processing, use, storage, management or disposal of: (a) unsealed sources for which the result of the activity value division steps is greater than 10^6; or (b) sealed sources for which the result of the activity value division steps is greater than 10^9	27,130

Fees for prescribed radiation facilities formerly used for weapons tests or radioactive ores

(3) For the purposes of paragraph (1)(b), the table is as follows:

Fees for prescribed radiation facilities formerly used for weapons tests or radioactive ores		
	Act authorised by licence	**Amount ($)**
1	Decommissioning a prescribed radiation facility formerly used as a nuclear or atomic weapon test site	45,217
2	Disposing of or abandoning a prescribed radiation facility formerly used as a nuclear or atomic weapon test site	30,144
3	Decommissioning a prescribed radiation facility formerly used for mining, processing, using, storing, managing or disposing of radioactive ores	45,217
4	Disposing of or abandoning a prescribed radiation facility formerly used for mining, processing, using, storing, managing or disposing of radioactive ores	30,144

Fee for application for one licence to authorise 2 or more acts

(4) Despite subsection (1), the fee to accompany an application for a facility licence to authorise 2 or more acts described in paragraph (1)(a) or (b) is the sum of the amounts of the fees under that subsection for applications for separate licences for each of those acts.

51 Application fees for facility licences relating to prescribed legacy sites

For the purposes of paragraph 34(b) of the Act, the fee to accompany an application for a facility licence to authorise an act relating to a controlled facility described in an item of the following table is the amount set out in that item.

Application fees for facility licences relating to prescribed legacy sites		
	Act authorised by licence	**Amount ($)**
1	Possessing or controlling a prescribed legacy site	14,675

Application fees for facility licences relating to prescribed legacy sites		
	Act authorised by licence	**Amount ($)**
2	Remediating a prescribed legacy site	220,155
3	Abandoning a prescribed legacy site	29,352

52 Application fees for source licences

For the purposes of paragraph 34(b) of the Act, the fee to accompany an application for a source licence for controlled apparatus or controlled materials is the total of each amount worked out using the following table for the number of those apparatus or materials that are in a Group specified in an item of the table and are within 5 kilometres of one another.

Fees for source licences

	Column 1 **Group of controlled apparatus or controlled material**	**Column 2** **Amount for less than 4 apparatus or materials in the Group within 5 km of one another ($)**	**Column 3** **Amount for 4 to 10 apparatus or materials in the Group within 5 km of one another ($)**	**Column 4** **Amount for 11 or more apparatus or materials in the Group within 5 km of one another ($)**
1	Group 1	751	1,955	3,767
2	Group 2	3,012	6,028	11,330
3	Group 3	9,040	18,084	33,159

Note: For ***Group 1***, ***Group 2*** and ***Group 3***, see section 4.

Example 1: For an application for a source licence for a single controlled apparatus or controlled material in Group 1, the amount of the fee is the amount in column 2 of item 1 of the table.

Example 2: For an application for a source licence for 12 controlled apparatus or controlled materials, 3 of which are in Group 1 and are within 5 kilometres of one another, and the remaining 9 of which are in Group 2 and are within 5 kilometres of one another, the amount of the fee is the total of:

(a) the amount in column 2 of item 1 of the table; and

(b) the amount in column 3 of item 2 of the table.

Example 3: For an application for a source licence for 16 controlled apparatus or controlled materials, all of which are in Group 3, 5 of which are within 5 kilometres of one another and 11 of which are within 5 kilometres of one another (but more than 5 kilometres from any of the first group of 5), the amount of the fee is the total of:

(a) the amount in column 3 of item 3 of the table; and

(b) the amount in column 4 of item 3 of the table.

Division 5—Deciding whether to issue licence

53 Issue of facility licence—matters to be taken into account by CEO

For the purposes of subsection 32(3) of the Act, matters (to be taken into account by the CEO in deciding whether to issue a facility licence) include the following:

(a) whether the application for the licence complies with subsection 46(1) of this instrument;

(b) whether the applicant for the licence has given the information asked for by the CEO;

(c) whether the application, together with the information (if any) given as described in paragraph (b), establishes that the conduct proposed to be authorised by the licence can be carried out without undue risk to the health and safety of people, and to the environment;

(d) whether the applicant has shown that there is a net benefit from carrying out the conduct proposed to be authorised by the licence;

(e) whether the applicant has shown that the magnitude of individual doses, the number of people exposed and the likelihood that exposure will happen are as low as reasonably achievable, having regard to economic and societal factors;

(f) whether the applicant has shown a capacity for complying with this instrument and the licence conditions that would be imposed under section 35 of the Act;

(g) whether the application has been signed by an office holder of the applicant, a person authorised by an office holder of the applicant or, if the licence is for a Commonwealth entity mentioned in section 45 of this instrument, someone described in paragraph (b) of that section;

(h) if the application is for a facility licence for a nuclear installation—the content of any submissions made by members of the public about the application.

Note: Subsection 32(3) of the Act requires the CEO to take international best practice in relation to radiation protection and nuclear safety into account too.

54 Issue of source licence—matters to be taken into account by CEO

For the purposes of subsection 33(3) of the Act, matters (to be taken into account by the CEO in deciding whether to issue a source licence to deal with controlled apparatus or controlled material) include the following:

(a) whether the application for the licence complies with subsection 47(1) of this instrument;

(b) whether the applicant for the licence has given the information asked for by the CEO;

(c) whether the application, together with the information (if any) given as described in paragraph (b), establishes that the controlled apparatus or material can be dealt with without undue risk to the health and safety of people, and to the environment;

(d) whether the applicant has shown that there is a net benefit from dealing with the controlled apparatus or material;

(e) whether the applicant has shown that the magnitude of individual doses, the number of people exposed and the likelihood that exposure will happen are as low as reasonably achievable, having regard to economic and societal factors;

(f) whether the applicant has shown a capacity for complying with this instrument and the licence conditions that would be imposed under section 35 of the Act;

(g) whether the application has been signed by an office holder of the applicant, a person authorised by an office holder of the applicant or, if the licence is for a Commonwealth entity mentioned in section 45 of this instrument, someone described in paragraph (b) of that section.

Note: Subsection 33(3) of the Act requires the CEO to take international best practice in relation to radiation protection and nuclear safety into account too.

Division 6—Licence conditions

55 Authority for this Division

This Division has effect for the purposes of paragraph 35(1)(b) of the Act (which provides that a licence is subject to conditions prescribed by regulations).

56 Taking steps to prevent breaches of other conditions

The holder of a licence must take all reasonably practicable steps to prevent breaches of licence conditions (except the condition prescribed by this section).

57 Investigating and rectifying breaches of conditions

(1) The holder of a licence must investigate suspected breaches of licence conditions.

(2) If the holder of a licence identifies a breach, the holder must rectify the breach and any consequences of the breach as soon as reasonably practicable.

(3) If the holder of a licence identifies a breach, the holder must also tell the CEO as soon as reasonably practicable.

58 Preventing, controlling and minimising accidents

(1) The holder of a licence must take all reasonably practicable steps to prevent accidents involving controlled materials, controlled apparatus or controlled facilities described in the licence.

(2) If an accident mentioned in subsection (1) happens, the holder of a licence must:
  (a) take all reasonably practicable steps to control the accident; and
  (b) take all reasonably practicable steps to minimise the consequences of the accident, including injury to any person and damage or harm to the environment; and
  (c) tell the CEO about the accident within 24 hours of it happening; and
  (d) give the CEO a written report about the accident within 14 days of it happening.

59 Complying with Codes

Facility licences

(1) The holder of a facility licence must ensure that the following are complied with in relation to activities relating to the controlled facilities to which the licence relates:
  (a) the Planned Exposure Code;
  (b) the Security Code of Practice;
  (c) the Transport Code.

(2) If a facility licence authorises persons to deal with a controlled apparatus or a controlled material, the holder of the licence must ensure that the following are complied with in relation to dealings with the controlled apparatus or controlled material:

(a) the Planned Exposure Code;

(b) the Security Code of Practice;

(c) the Transport Code.

Source licences

(3) The holder of a source licence must ensure that the following are complied with in relation to dealings with the controlled apparatus or controlled material to which the licence relates:

(a) the Planned Exposure Code;

(b) the Security Code of Practice;

(c) the Transport Code.

Application of subsections (2) and (3)

(4) Subsections (2) and (3) do not apply in relation to dealings with an apparatus covered by paragraph (c) of the definition of ***controlled apparatus*** in section 13 of the Act.

Note: Section 9 of this instrument identifies such apparatus.

60 Managing safety

(1) The holder of a facility licence must take all reasonably practicable steps to manage the safety of the facility described in the licence, including:

(a) having in place plans and arrangements described in paragraph 46(1)(d); and

(b) ensuring that such plans and arrangements are implemented to the extent reasonably practicable.

(2) The holder of a source licence, or a facility licence authorising dealing with a source, must take all reasonably practicable steps to manage the safety of the source, including:

(a) having in place plans and arrangements described in paragraph 47(1)(d); and

(b) ensuring that such plans and arrangements are implemented to the extent reasonably practicable.

61 Reviewing and updating plans and arrangements for managing safety

(1) The holder of a licence must, at least once every 3 years, review and update the plans and arrangements mentioned in section 60 in relation to the licence.

(2) The holder of a licence must keep records of any changes made to the plans and arrangements.

(3) Subsection (1) does not apply to the extent that the licence makes other arrangements for a matter mentioned in that subsection.

62 Keeping accurate inventory of controlled apparatus and materials

The holder of a licence must keep an accurate inventory of the controlled apparatus and controlled materials that the holder deals with.

63 Obtaining CEO's approval for certain changes

Before doing either of the following, the holder of a licence must obtain the CEO's approval to do it if it will have significant implications for safety:

(a) changing anything described in the application for the licence;

(b) modifying the controlled apparatus, controlled material or controlled facility described in the licence.

64 Telling CEO about other changes

(1) The holder of a licence must, within 3 months after doing a thing mentioned in paragraph 63(a) or (b) that is unlikely to have significant implications for safety, tell the CEO about the thing.

(2) However, subsection (1) does not apply to the extent that the licence makes other arrangements for a matter mentioned in that subsection.

65 Telling CEO about disposal and transfer of controlled apparatus, controlled materials and controlled facilities

(1) The holder of a licence may dispose of controlled apparatus or controlled materials only with the approval of the CEO.

(2) However, the holder of a licence may transfer controlled apparatus or controlled materials described in the licence to another person (the ***transferee***) only:

(a) with the approval of the CEO; or

(b) if both of the following apply:

(i) the transferee is the holder of a facility licence or a source licence;

(ii) the transferee's licence authorises the transferee to deal with the controlled apparatus or controlled materials.

(3) If the holder of a licence (the ***transferor***) transfers controlled apparatus or controlled materials described in the licence to another person (the ***transferee***) under paragraph (2)(b), the transferor must, within 7 days of the transfer, tell the CEO:

(a) that the transfer has happened; and

(b) the name of the transferee; and

(c) the number of the licence held by the transferee; and

(d) the location of the controlled apparatus or controlled materials after the transfer.

(4) The holder of a licence must not dispose of, or transfer to the possession of another person, a controlled facility described in the licence without the CEO's approval.

Exception

(5) However, subsections (1), (2), (3) and (4) do not apply to the extent that the licence makes other arrangements for a matter mentioned in the subsections.

66 Obtaining approval for constructing safety item

The holder of a licence, or a person covered by a licence, must not construct an item that is important for safety, and that is identified in a safety analysis report, as part of the construction of a controlled facility, unless the CEO has given the holder, or the person, approval to construct the item.

67 Obtaining approval for loading nuclear fuel

The holder of a licence, or a person covered by a licence, must not load nuclear fuel into a controlled facility described in the licence, as part of the construction of the facility, unless the CEO has given the holder, or the person, approval to load the fuel.

Division 7—Annual charge

68 Authority for this Division

This Division has effect for the purposes of paragraph 85(2)(e) of the Act.

69 Time for payment of annual charge

The annual charge for a facility licence or a source licence held during a financial year must be paid on or before the later of:

(a) 31 July in that financial year; and

(b) 30 days after the day the licence was issued.

70 Pro-rating of annual charge

(1) If a facility licence or source licence is to be held for only part of a financial year, the CEO may decide to make a pro-rata adjustment of the amount of the annual charge for the licence for the year.

(2) If the CEO decides to make a pro-rata adjustment, the amount of the annual charge is:

$$\text{Number of calendar months for all or part of which the licence is to be held in the financial year} \times \frac{\text{Amount of annual charge prescribed for the licence by the Licence Charges Regulations}}{12}$$

71 Refund of annual charge

(1) This section applies to the annual charge for a facility licence or a source licence for a financial year if:

(a) either:

(i) the whole of the annual charge for the licence for the year has been paid; or

(ii) if section 70 applies in relation to the licence—the whole of the annual charge for the licence for the year, as adjusted under that section, has been paid; and

(b) the licence is suspended, cancelled or surrendered before the end of the year.

(2) The CEO may decide to refund to the holder of the licence part of the amount of the annual charge that has been paid for the licence for the year.

(3) If the CEO decides to refund part of the amount of the annual charge, the amount of the refund is:

$$\left(\begin{array}{c}\text{Number of calendar months in the financial year for which annual charge was paid}\end{array} - \begin{array}{c}\text{Number of calendar months for all or part of which the licence was held and in force in the financial year}\end{array}\right) \times \frac{\begin{array}{c}\text{Amount of annual charge for the licence prescribed by the Licence Charges Regulations}\end{array}}{12}$$

Part 6—Practices and procedures to be followed

Division 1—Introduction

72 Simplified outline of this Part

The holders of licences must ensure that exposure of people to radiation is limited.

Controlled persons must comply with various codes of practice.

73 Application of this Part

For the purposes of paragraph 85(2)(a) of the Act, this Part requires practices and procedures to be followed and measures to be taken by controlled persons in relation to:

(a) activities relating to controlled facilities; and

(b) dealings with controlled apparatus or controlled material.

74 Limits on the operation of this Part

This Part operates in relation to a controlled person who is the holder of a licence, or a person covered by a licence, only so far as:

(a) the person can comply with the conditions of the licence without discriminating unlawfully under the *Sex Discrimination Act 1984*; or

(b) if the person cannot comply with the conditions of the licence without discriminating unlawfully under a provision of the *Sex Discrimination Act 1984*—the person is exempted, under section 44 of that Act, from the operation of that provision.

Division 2—Dose limits

75 Scope of this Division

This Division sets out practices and procedures that must be followed, and measures that must be taken, in relation to dose limits.

76 Practices to be followed by holders of licences

By holder of a facility licence

(1) The holder of a facility licence for a controlled facility must ensure that the doses to which a person is exposed, inside or in connection with the facility, do not exceed the effective dose limits mentioned in section 77, and the equivalent dose limits mentioned in section 79.

By holder of licence authorising dealing with controlled apparatus or controlled material

(2) The holder of a source licence, or a facility licence, authorising dealing with controlled apparatus or controlled material must ensure that the doses to which a person is exposed while the source in the apparatus or material is under the holder's control do not exceed the effective dose limits mentioned in section 77, and the equivalent dose limits mentioned in section 79.

By holders of licences generally

(3) The holder of a licence must ensure that radiation protection and safety of the following relating to the licence are optimised in order to achieve the outcome mentioned in subsection (4):
   (a) controlled material;
   (b) controlled apparatus (other than apparatus prescribed by section 9 that produce harmful non-ionizing radiation when energised);
   (c) a controlled facility.

(4) For the purposes of subsection (3), the outcome is that the following are as low as reasonably achievable after taking into account economic and societal factors:
   (a) the magnitude of individual doses;
   (b) the number of people who are exposed;
   (c) the likelihood of incurring exposures to radiation.

(5) The optimisation of radiation protection and safety mentioned in subsection (3) must be in accordance with source-related dose constraints established in accordance with the Planned Exposure Code and agreed by the CEO with the holder of the licence.

(6) The holder of a licence that authorises dealing with apparatus prescribed by this instrument that produce harmful non-ionizing radiation when energised must ensure that exposure of people to such radiation produced by the apparatus is kept to the lowest level that can be achieved, consistent with best practice.

77 Effective dose limits for ionizing radiation

Limit for occupational exposure

(1) The limit on effective dose for occupational exposure is 20 mSv annually, averaged over 5 consecutive years.

(2) However, the effective dose for a person subject to occupational exposure must not, in a year, be greater than 50 mSv.

Limit for public exposure

(3) The limit on effective dose for public exposure is 1 mSv annually.

(4) The limit on effective dose for an unborn child is to be consistent with the effective dose limit for public exposure.

Note: See also the Planned Exposure Code for the obligation to consider additional controls in relation to female employees who are pregnant.

78 Effective doses

(1) For the purposes of section 77, a person's effective dose for a period that is relevant to the person under subsection (2) of this section is the sum of:
  (a) the effective dose that the person receives, from a source outside the person's body, during the relevant period; and
  (b) the person's committed effective dose, received from intakes during the relevant period, for the next 50 years.

(2) For the purposes of subsection (1), a period that is relevant to a person is:
  (a) if the person is a controlled person—5 years; or
  (b) if the person is a member of the public—1 year.

(3) Despite paragraph (1)(b), if the person is under 18, the committed effective dose must be worked out on the basis of the number of years calculated by subtracting the person's age, at the time of the calculation, from 70.

79 Annual equivalent dose limit for ionizing radiation

Limit for occupational exposure of the lens of the eye

(1) For occupational exposure, the equivalent dose limit to the lens of the eye is 20 mSv annually, averaged over 5 consecutive years.

(2) However, the equivalent dose to the lens of the eye for a person subject to occupational exposure must not, in a year, be greater than 50 mSv.

Limit for public exposure of the lens of the eye

(3) The equivalent dose to the lens of the eye for a person subject to public exposure must not, in a year, be greater than 15 mSv.

Limit for occupational exposure of hands and feet

(4) For occupational exposure, the annual equivalent dose limit to the hands and feet is 500 mSv.

Limits for occupational exposure and public exposure of skin

(5) The annual equivalent dose limit to the skin is:
  (a) for occupational exposure—500 mSv; and
  (b) for public exposure—50 mSv.

(6) The annual equivalent dose limit to the skin applies to the average dose received by any 1 cm^2 of skin.

80 Dealings with controlled apparatus generating non-ionizing radiation to comply with non-ionizing radiation exposure limits

The holder of a source licence or a facility licence must ensure that all dealings with controlled apparatus generating non-ionizing radiation (that are authorised by the licence) comply with the appropriate non-ionizing radiation exposure limits.

Division 3—Practices and procedures

81 Practices and procedures to be followed by controlled persons

Controlled persons must follow the practices and procedures described in the following:

(a) the *Code of Practice and Safety Guide for Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing (2005) (Radiation Protection Series No. 9)*, published by the CEO, as at the commencement of this instrument;

(b) the Security Code of Practice;

(c) the Transport Code.

Note: The *Code of Practice and Safety Guide for Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing (2005) (Radiation Protection Series No. 9)* could in 2018 be viewed on ARPANSA's website (https://www.arpansa.gov.au).

Part 7—Miscellaneous

82 Simplified outline of this Part

The Act requires inspectors' identity cards to be in a particular form, which this Part and Schedule 2 prescribe.

The Act prevents State and Territory laws identified in this Part from applying to an activity of a controlled person or permitted person relating to controlled apparatus, controlled material or a controlled facility.

The Act requires powers, discretions, duties and functions to be exercised and performed in accordance with the international agreements identified in this Part.

Controlled persons affected by certain decisions of the CEO under this instrument may request the Minister to reconsider them. If dissatisfied with the Minister's decision on reconsideration, those persons may apply to the Administrative Appeals Tribunal for review of the Minister's decision.

83 Inspector's identity card

For the purposes of subsection 62(3) of the Act, the form in Schedule 2 is prescribed.

84 State and Territory laws that do not apply to activities of controlled or permitted persons

For the purposes of section 83 of the Act, the following laws of a State or Territory are prescribed:

(a) the *Radiation Control Act 1990* (NSW);
(b) the *Radiation Act 2005* (Vic.);
(c) the *Radiation Safety Act 1999* (Qld);
(d) the *Radiation Safety Act 1975* (WA);
(e) the *Radiation Protection and Control Act 1982* (SA);
(f) the *Radiation Protection Act 2005* (Tas.);
(g) the *Radiation Protection Act 2006* (ACT);
(h) the *Radiation Protection Act* (NT).

85 International agreements

For the purposes of subsection 84(3) of the Act, the following international agreements, as in force for Australia at the commencement of this instrument, are prescribed:

(a) the Treaty on the Non-Proliferation of Nuclear Weapons, done at London, Moscow and Washington on 1 July 1968;

(b) the Agreement between Australia and the International Atomic Energy Agency for the Application of Safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons, done at Vienna on 10 July 1974;

(c) the Convention on the Physical Protection of Nuclear Material, done at Vienna on 3 March 1980;

(d) the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, done at Vienna on 26 September 1986;

(e) the Convention on Early Notification of a Nuclear Accident, done at Vienna on 26 September 1986;

(f) the Convention on Nuclear Safety, done at Vienna on 20 September 1994;

(g) the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, done at Vienna on 5 September 1997;

(h) the Agreement for Cooperation between the Government of Australia and the Government of the United States of America concerning Technology for the Separation of Isotopes of Uranium by Laser Excitation, with annexes, agreed minute and exchange of notes, done at Washington on 28 October 1999;

(i) the International Convention for the Suppression of Acts of Nuclear Terrorism, done at New York on 13 April 2005.

Note 1: The Treaty on the Non-Proliferation of Nuclear Weapons is in Australian Treaty Series 1973 No. 3 ([1973] ATS 3) and could in 2018 be viewed in the Australian Treaties Library on the AustLII website (http://www.austlii.edu.au).

Note 2: The Agreement between Australia and the International Atomic Energy Agency for the Application of Safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons is in Australian Treaty Series 1974 No. 16 ([1974] ATS 16) and could in 2018 be viewed in the Australian Treaties Library on the AustLII website (http://www.austlii.edu.au).

Note 3: The Convention on the Physical Protection of Nuclear Material is in Australian Treaty Series 1987 No. 16 ([1987] ATS 16) and could in 2018 be viewed in the Australian Treaties Library on the AustLII website (http://www.austlii.edu.au).

Note 4: The Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency is in Australian Treaty Series 1987 No. 15 ([1987] ATS 15) and could in 2018 be viewed in the Australian Treaties Library on the AustLII website (http://www.austlii.edu.au).

Note 5: The Convention on Early Notification of a Nuclear Accident is in Australian Treaty Series 1987 No. 14 ([1987] ATS 14) and could in 2018 be viewed in the Australian Treaties Library on the AustLII website (http://www.austlii.edu.au).

Note 6: The Convention on Nuclear Safety is in Australian Treaty Series 1997 No. 5 ([1997] ATS 5) and could in 2018 be viewed in the Australian Treaties Library on the AustLII website (http://www.austlii.edu.au).

Note 7: The Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management is in Australian Treaty Series 2003 No. 21 ([2003] ATS 21) and could in 2018 be viewed in the Australian Treaties Library on the AustLII website (http://www.austlii.edu.au).

Note 8: The Agreement for Cooperation between the Government of Australia and the Government of the United States of America concerning Technology for the Separation of Isotopes of Uranium by Laser Excitation, with annexes, agreed minute and exchange of notes, is in Australian Treaty Series 2000 No. 19 ([2000] ATS 19) and could in 2018

be viewed in the Australian Treaties Library on the AustLII website (http://www.austlii.edu.au).

Note 9: The International Convention for the Suppression of Acts of Nuclear Terrorism is in Australian Treaty Series 2012 No. 13 ([2012] ATS 13) and could in 2018 be viewed in the Australian Treaties Library on the AustLII website (http://www.austlii.edu.au).

86 Review of decisions by CEO

(1) A controlled person who is affected by a decision of the CEO:

(a) to refuse to make a declaration under subsection 9(2), 13(2), 43(2) or 44(4) or (5); or

(b) to make a declaration under subsection 44(2);

may request that the Minister reconsider the CEO's decision.

(2) The request must:

(a) be in writing; and

(b) be given to the Minister within 28 days after the decision is made.

(3) The Minister must reconsider the CEO's decision and confirm, vary or set aside the decision.

Note: Under section 27A of the *Administrative Appeals Tribunal Act 1975*, the Minister must give anyone whose interests are affected by the decision notice of the Minister's decision and of the right to have the decision reviewed. In doing so, the Minister must have regard to the Code of Practice determined under section 27B of that Act.

(4) The Minister is taken to have confirmed under subsection (3) the CEO's decision if the Minister does not give written notice of the Minister's decision under that subsection within 60 days after receiving the request.

(5) Applications may be made to the Administrative Appeals Tribunal for review of decisions of the Minister under subsection (3).

Part 8—Application, saving and transitional provisions

Division 1—Provisions for this instrument as originally made

87 Things done under the *Australian Radiation Protection and Nuclear Safety Regulations 1999*

(1) If:

(a) a thing was done for a particular purpose under the *Australian Radiation Protection and Nuclear Safety Regulations 1999* as in force immediately before those Regulations were repealed; and

(b) the thing could be done for that purpose under this instrument;

the thing has effect for the purposes of this instrument as if it had been done for that purpose under this instrument.

(2) Without limiting subsection (1), a reference in that subsection to a thing being done includes a reference to a notice, application or other instrument being given or made.

Schedule 1—Activity concentration values and activity values for nuclides

Note: See the definitions of ***activity concentration value steps***, ***activity value division steps***, ***Group 1***, ***Group 2*** and ***Group 3*** in section 4, and sections 5 and 44.

Part 1—Activity concentration values and activity values for nuclides

Activity concentration values and activity values for nuclides

	Nuclide	Activity concentration value (Bq/g)	Activity value (Bq)
1	H-3	1×10^6	1×10^9
2	Be-7	1×10^3	1×10^7
3	Be-10	1×10^4	1×10^6
4	C-11	1×10^1	1×10^6
5	C-14	1×10^4	1×10^7
6	N-13	1×10^2	1×10^9
7	Ne-19	1×10^2	1×10^9
8	O-15	1×10^2	1×10^9
9	F-18	1×10^1	1×10^6
10	Na-22	1×10^1	1×10^6
11	Na-24	1×10^1	1×10^5
12	Mg-28	1×10^1	1×10^5
13	Al-26	1×10^1	1×10^5
14	Si-31	1×10^3	1×10^6
15	Si-32	1×10^3	1×10^6
16	P-32	1×10^3	1×10^5
17	P-33	1×10^5	1×10^8
18	S-35	1×10^5	1×10^8
19	Cl-36	1×10^4	1×10^6
20	Cl-38	1×10^1	1×10^5
21	Cl-39	1×10^1	1×10^5
22	Ar-37	1×10^6	1×10^8
23	Ar-39	1×10^7	1×10^4
24	Ar-41	1×10^2	1×10^9
25	K-40	1×10^2	1×10^6
26	K-42	1×10^2	1×10^6
27	K-43	1×10^1	1×10^6
28	K-44	1×10^1	1×10^5
29	K-45	1×10^1	1×10^5
30	Ca-41	1×10^5	1×10^7
31	Ca-45	1×10^4	1×10^7

Activity concentration values and activity values for nuclides			
	Nuclide	**Activity concentration value (Bq/g)**	**Activity value (Bq)**
32	Ca-47	1×10^{1}	1×10^{6}
33	Sc-43	1×10^{1}	1×10^{6}
34	Sc-44	1×10^{1}	1×10^{5}
35	Sc-45	1×10^{2}	1×10^{7}
36	Sc-46	1×10^{1}	1×10^{6}
37	Sc-47	1×10^{2}	1×10^{6}
38	Sc-48	1×10^{1}	1×10^{5}
39	Sc-49	1×10^{3}	1×10^{5}
40	Ti-44	1×10^{1}	1×10^{5}
41	Ti-45	1×10^{1}	1×10^{6}
42	V-47	1×10^{1}	1×10^{5}
43	V-48	1×10^{1}	1×10^{5}
44	V-49	1×10^{4}	1×10^{7}
45	Cr-48	1×10^{2}	1×10^{6}
46	Cr-49	1×10^{1}	1×10^{6}
47	Cr-51	1×10^{3}	1×10^{7}
48	Mn-51	1×10^{1}	1×10^{5}
49	Mn-52	1×10^{1}	1×10^{5}
50	Mn-52m	1×10^{1}	1×10^{5}
51	Mn-53	1×10^{4}	1×10^{9}
52	Mn-54	1×10^{1}	1×10^{6}
53	Mn-56	1×10^{1}	1×10^{5}
54	Fe-52	1×10^{1}	1×10^{6}
55	Fe-55	1×10^{4}	1×10^{6}
56	Fe-59	1×10^{1}	1×10^{6}
57	Fe-60	1×10^{2}	1×10^{5}
58	Co-55	1×10^{1}	1×10^{6}
59	Co-56	1×10^{1}	1×10^{5}
60	Co-57	1×10^{2}	1×10^{6}
61	Co-58	1×10^{1}	1×10^{6}
62	Co-58m	1×10^{4}	1×10^{7}
63	Co-60	1×10^{1}	1×10^{5}
64	Co-60m	1×10^{3}	1×10^{6}
65	Co-61	1×10^{2}	1×10^{6}
66	Co-62m	1×10^{1}	1×10^{5}
67	Ni-56	1×10^{1}	1×10^{6}
68	Ni-57	1×10^{1}	1×10^{6}
69	Ni-59	1×10^{4}	1×10^{8}
70	Ni-63	1×10^{5}	1×10^{8}
71	Ni-65	1×10^{1}	1×10^{6}

Activity concentration values and activity values for nuclides			
	Nuclide	**Activity concentration value (Bq/g)**	**Activity value (Bq)**
72	Ni-66	1×10^4	1×10^7
73	Cu-60	1×10^1	1×10^5
74	Cu-61	1×10^1	1×10^6
75	Cu-64	1×10^2	1×10^6
76	Cu-67	1×10^2	1×10^6
77	Zn-62	1×10^2	1×10^6
78	Zn-63	1×10^1	1×10^5
79	Zn-65	1×10^1	1×10^6
80	Zn-69	1×10^4	1×10^6
81	Zn-69m	1×10^2	1×10^6
82	Zn-71m	1×10^1	1×10^6
83	Zn-72	1×10^2	1×10^6
84	Ga-65	1×10^1	1×10^5
85	Ga-66	1×10^1	1×10^5
86	Ga-67	1×10^2	1×10^6
87	Ga-68	1×10^1	1×10^5
88	Ga-70	1×10^2	1×10^6
89	Ga-72	1×10^1	1×10^5
90	Ga-73	1×10^2	1×10^6
91	Ge-66	1×10^1	1×10^6
92	Ge-67	1×10^1	1×10^5
93	Ge-68[a]	1×10^1	1×10^5
94	Ge-69	1×10^1	1×10^6
95	Ge-71	1×10^4	1×10^8
96	Ge-75	1×10^3	1×10^6
97	Ge-77	1×10^1	1×10^5
98	Ge-78	1×10^2	1×10^6
99	As-69	1×10^1	1×10^5
100	As-70	1×10^1	1×10^5
101	As-71	1×10^1	1×10^6
102	As-72	1×10^1	1×10^5
103	As-73	1×10^3	1×10^7
104	As-74	1×10^1	1×10^6
105	As-76	1×10^2	1×10^5
106	As-77	1×10^3	1×10^6
107	As-78	1×10^1	1×10^5
108	Se-70	1×10^1	1×10^6
109	Se-73	1×10^1	1×10^6
110	Se-73m	1×10^2	1×10^6
111	Se-75	1×10^2	1×10^6

Activity concentration values and activity values for nuclides			
	Nuclide	**Activity concentration value (Bq/g)**	**Activity value (Bq)**
112	Se-79	1×10^4	1×10^7
113	Se-81	1×10^3	1×10^6
114	Se-81m	1×10^3	1×10^7
115	Se-83	1×10^1	1×10^5
116	Br-74	1×10^1	1×10^5
117	Br-74m	1×10^1	1×10^5
118	Br-75	1×10^1	1×10^6
119	Br-76	1×10^1	1×10^5
120	Br-77	1×10^2	1×10^6
121	Br-80	1×10^2	1×10^5
122	Br-80m	1×10^3	1×10^7
123	Br-82	1×10^1	1×10^6
124	Br-83	1×10^3	1×10^6
125	Br-84	1×10^1	1×10^5
126	Kr-74	1×10^2	1×10^9
127	Kr-76	1×10^2	1×10^9
128	Kr-77	1×10^2	1×10^9
129	Kr-79	1×10^3	1×10^5
130	Kr-81	1×10^4	1×10^7
131	Kr-81m	1×10^3	1×10^{10}
132	Kr-83m	1×10^5	1×10^{12}
133	Kr-85	1×10^5	1×10^4
134	Kr-85m	1×10^3	1×10^{10}
135	Kr-87	1×10^2	1×10^9
136	Kr-88	1×10^2	1×10^9
137	Rb-79	1×10^1	1×10^5
138	Rb-81	1×10^1	1×10^6
139	Rb-81m	1×10^3	1×10^7
140	Rb-82m	1×10^1	1×10^6
141	Rb-83[a]	1×10^2	1×10^6
142	Rb-84	1×10^1	1×10^6
143	Rb-86	1×10^2	1×10^5
144	Rb-87	1×10^3	1×10^7
145	Rb-88	1×10^2	1×10^5
146	Rb-89	1×10^2	1×10^5
147	Sr-80	1×10^3	1×10^7
148	Sr-81	1×10^1	1×10^5
149	Sr-82[a]	1×10^1	1×10^5
150	Sr-83	1×10^1	1×10^6
151	Sr-85	1×10^2	1×10^6

Activity concentration values and activity values for nuclides			
	Nuclide	**Activity concentration value (Bq/g)**	**Activity value (Bq)**
152	Sr-85m	1×10^2	1×10^7
153	Sr-87m	1×10^2	1×10^6
154	Sr-89	1×10^3	1×10^6
155	Sr-90[a]	1×10^2	1×10^4
156	Sr-91	1×10^1	1×10^5
157	Sr-92	1×10^1	1×10^6
158	Y-86	1×10^1	1×10^5
159	Y-86m	1×10^2	1×10^7
160	Y-87[a]	1×10^1	1×10^6
161	Y-88	1×10^1	1×10^6
162	Y-90	1×10^3	1×10^5
163	Y-90m	1×10^1	1×10^6
164	Y-91	1×10^3	1×10^6
165	Y-91m	1×10^2	1×10^6
166	Y-92	1×10^2	1×10^5
167	Y-93	1×10^2	1×10^5
168	Y-94	1×10^1	1×10^5
169	Y-95	1×10^1	1×10^5
170	Zr-86	1×10^2	1×10^7
171	Zr-88	1×10^2	1×10^6
172	Zr-89	1×10^1	1×10^6
173	Zr-93[a]	1×10^3	1×10^7
174	Zr-95	1×10^1	1×10^6
175	Zr-97[a]	1×10^1	1×10^5
176	Nb-88	1×10^1	1×10^5
177	Nb-89	1×10^1	1×10^5
178	Nb-89m	1×10^1	1×10^5
179	Nb-90	1×10^1	1×10^5
180	Nb-93m	1×10^4	1×10^7
181	Nb-94	1×10^1	1×10^6
182	Nb-95	1×10^1	1×10^6
183	Nb-95m	1×10^2	1×10^7
184	Nb-96	1×10^1	1×10^5
185	Nb-97	1×10^1	1×10^6
186	Nb-98	1×10^1	1×10^5
187	Mo-90	1×10^1	1×10^6
188	Mo-93	1×10^3	1×10^8
189	Mo-93m	1×10^1	1×10^6
190	Mo-99	1×10^2	1×10^6
191	Mo-101	1×10^1	1×10^6

Activity concentration values and activity values for nuclides			
	Nuclide	**Activity concentration value (Bq/g)**	**Activity value (Bq)**
192	Tc-93	1×10^{1}	1×10^{6}
193	Tc-93m	1×10^{1}	1×10^{6}
194	Tc-94	1×10^{1}	1×10^{6}
195	Tc-94m	1×10^{1}	1×10^{5}
196	Tc-95	1×10^{1}	1×10^{6}
197	Tc-95m	1×10^{1}	1×10^{6}
198	Tc-96	1×10^{1}	1×10^{6}
199	Tc-96m	1×10^{3}	1×10^{7}
200	Tc-97	1×10^{3}	1×10^{8}
201	Tc-97m	1×10^{3}	1×10^{7}
202	Tc-98	1×10^{1}	1×10^{6}
203	Tc-99	1×10^{4}	1×10^{7}
204	Tc-99m	1×10^{2}	1×10^{7}
205	Tc-101	1×10^{2}	1×10^{6}
206	Tc-104	1×10^{1}	1×10^{5}
207	Ru-94	1×10^{2}	1×10^{6}
208	Ru-97	1×10^{2}	1×10^{7}
209	Ru-103	1×10^{2}	1×10^{6}
210	Ru-105	1×10^{1}	1×10^{6}
211	Ru-106[a]	1×10^{2}	1×10^{5}
212	Rh-99	1×10^{1}	1×10^{6}
213	Rh-99m	1×10^{1}	1×10^{6}
214	Rh-100	1×10^{1}	1×10^{6}
215	Rh-101	1×10^{2}	1×10^{7}
216	Rh-101m	1×10^{2}	1×10^{7}
217	Rh-102	1×10^{1}	1×10^{6}
218	Rh-102m	1×10^{2}	1×10^{6}
219	Rh-103m	1×10^{4}	1×10^{8}
220	Rh-105	1×10^{2}	1×10^{7}
221	Rh-106m	1×10^{1}	1×10^{5}
222	Rh-107	1×10^{2}	1×10^{6}
223	Pd-100	1×10^{2}	1×10^{7}
224	Pd-101	1×10^{2}	1×10^{6}
225	Pd-103	1×10^{3}	1×10^{8}
226	Pd-107	1×10^{5}	1×10^{8}
227	Pd-109	1×10^{3}	1×10^{6}
228	Ag-102	1×10^{1}	1×10^{5}
229	Ag-103	1×10^{1}	1×10^{6}
230	Ag-104	1×10^{1}	1×10^{6}
231	Ag-104m	1×10^{1}	1×10^{6}

Activity concentration values and activity values for nuclides			
	Nuclide	**Activity concentration value (Bq/g)**	**Activity value (Bq)**
232	Ag-105	1×10^2	1×10^6
233	Ag-106	1×10^1	1×10^6
234	Ag-106m	1×10^1	1×10^6
235	Ag-108m[a]	1×10^1	1×10^6
236	Ag-110m	1×10^1	1×10^6
237	Ag-111	1×10^3	1×10^6
238	Ag-112	1×10^1	1×10^5
239	Ag-115	1×10^1	1×10^5
240	Cd-104	1×10^2	1×10^7
241	Cd-107	1×10^3	1×10^7
242	Cd-109	1×10^4	1×10^6
243	Cd-113	1×10^3	1×10^6
244	Cd-113m	1×10^3	1×10^6
245	Cd-115	1×10^2	1×10^6
246	Cd-115m	1×10^3	1×10^6
247	Cd-117	1×10^1	1×10^6
248	Cd-117m	1×10^1	1×10^6
249	In-109	1×10^1	1×10^6
250	In-110	1×10^1	1×10^6
251	In-110m	1×10^1	1×10^5
252	In-111	1×10^2	1×10^6
253	In-112	1×10^2	1×10^6
254	In-113m	1×10^2	1×10^6
255	In-114	1×10^3	1×10^5
256	In-114m	1×10^2	1×10^6
257	In-115	1×10^3	1×10^5
258	In-115m	1×10^2	1×10^6
259	In-116m	1×10^1	1×10^5
260	In-117	1×10^1	1×10^6
261	In-117m	1×10^2	1×10^6
262	In-119m	1×10^2	1×10^5
263	Sn-110	1×10^2	1×10^7
264	Sn-111	1×10^2	1×10^6
265	Sn-113	1×10^3	1×10^7
266	Sn-117m	1×10^2	1×10^6
267	Sn-119m	1×10^3	1×10^7
268	Sn-121	1×10^5	1×10^7
269	Sn-121m[a]	1×10^3	1×10^7
270	Sn-123	1×10^3	1×10^6
271	Sn-123m	1×10^2	1×10^6

Activity concentration values and activity values for nuclides			
	Nuclide	**Activity concentration value (Bq/g)**	**Activity value (Bq)**
272	Sn-125	1×10^{2}	1×10^{5}
273	Sn-126[a]	1×10^{1}	1×10^{5}
274	Sn-127	1×10^{1}	1×10^{6}
275	Sn-128	1×10^{1}	1×10^{6}
276	Sb-115	1×10^{1}	1×10^{6}
277	Sb-116	1×10^{1}	1×10^{6}
278	Sb-116m	1×10^{1}	1×10^{5}
279	Sb-117	1×10^{2}	1×10^{7}
280	Sb-118m	1×10^{1}	1×10^{6}
281	Sb-119	1×10^{3}	1×10^{7}
282	Sb-120	1×10^{2}	1×10^{6}
283	Sb-120m	1×10^{1}	1×10^{6}
284	Sb-122	1×10^{2}	1×10^{4}
285	Sb-124	1×10^{1}	1×10^{6}
286	Sb-124m	1×10^{2}	1×10^{6}
287	Sb-125	1×10^{2}	1×10^{6}
288	Sb-126	1×10^{1}	1×10^{5}
289	Sb-126m	1×10^{1}	1×10^{5}
290	Sb-127	1×10^{1}	1×10^{6}
291	Sb-128	1×10^{1}	1×10^{5}
292	Sb-128m	1×10^{1}	1×10^{5}
293	Sb-129	1×10^{1}	1×10^{6}
294	Sb-130	1×10^{1}	1×10^{5}
295	Sb-131	1×10^{1}	1×10^{6}
296	Te-116	1×10^{2}	1×10^{7}
297	Te-121	1×10^{1}	1×10^{6}
298	Te-121m	1×10^{2}	1×10^{6}
299	Te-123	1×10^{3}	1×10^{6}
300	Te-123m	1×10^{2}	1×10^{7}
301	Te-125m	1×10^{3}	1×10^{7}
302	Te-127	1×10^{3}	1×10^{6}
303	Te-127m	1×10^{3}	1×10^{7}
304	Te-129	1×10^{2}	1×10^{6}
305	Te-129m	1×10^{3}	1×10^{6}
306	Te-131	1×10^{2}	1×10^{5}
307	Te-131m	1×10^{1}	1×10^{6}
308	Te-132	1×10^{2}	1×10^{7}
309	Te-133	1×10^{1}	1×10^{5}
310	Te-133m	1×10^{1}	1×10^{5}
311	Te-134	1×10^{1}	1×10^{6}

Activity concentration values and activity values for nuclides			
	Nuclide	**Activity concentration value (Bq/g)**	**Activity value (Bq)**
312	I-120	1×10^{1}	1×10^{5}
313	I-120m	1×10^{1}	1×10^{5}
314	I-121	1×10^{2}	1×10^{6}
315	I-123	1×10^{2}	1×10^{7}
316	I-124	1×10^{1}	1×10^{6}
317	I-125	1×10^{3}	1×10^{6}
318	I-126	1×10^{2}	1×10^{6}
319	I-128	1×10^{2}	1×10^{5}
320	I-129	1×10^{2}	1×10^{5}
321	I-130	1×10^{1}	1×10^{6}
322	I-131	1×10^{2}	1×10^{6}
323	I-132	1×10^{1}	1×10^{5}
324	I-132m	1×10^{2}	1×10^{6}
325	I-133	1×10^{1}	1×10^{6}
326	I-134	1×10^{1}	1×10^{5}
327	I-135	1×10^{1}	1×10^{6}
328	Xe-120	1×10^{2}	1×10^{9}
329	Xe-121	1×10^{2}	1×10^{9}
330	Xe-122[a]	1×10^{2}	1×10^{9}
331	Xe-123	1×10^{2}	1×10^{9}
332	Xe-125	1×10^{3}	1×10^{9}
333	Xe-127	1×10^{3}	1×10^{5}
334	Xe-129m	1×10^{3}	1×10^{4}
335	Xe-131m	1×10^{4}	1×10^{4}
336	Xe-133m	1×10^{3}	1×10^{4}
337	Xe-133	1×10^{3}	1×10^{4}
338	Xe-135	1×10^{3}	1×10^{10}
339	Xe-135m	1×10^{2}	1×10^{9}
340	Xe-138	1×10^{2}	1×10^{9}
341	Cs-125	1×10^{1}	1×10^{4}
342	Cs-127	1×10^{2}	1×10^{5}
343	Cs-129	1×10^{2}	1×10^{5}
344	Cs-130	1×10^{2}	1×10^{6}
345	Cs-131	1×10^{3}	1×10^{6}
346	Cs-132	1×10^{1}	1×10^{5}
347	Cs-134m	1×10^{3}	1×10^{5}
348	Cs-134	1×10^{1}	1×10^{4}
349	Cs-135	1×10^{4}	1×10^{7}
350	Cs-135m	1×10^{1}	1×10^{6}
351	Cs-136	1×10^{1}	1×10^{5}

Activity concentration values and activity values for nuclides			
	Nuclide	**Activity concentration value (Bq/g)**	**Activity value (Bq)**
352	Cs-137[a]	1×10^{1}	1×10^{4}
353	Cs-138	1×10^{1}	1×10^{4}
354	Ba-126	1×10^{2}	1×10^{7}
355	Ba-128	1×10^{2}	1×10^{7}
356	Ba-131	1×10^{2}	1×10^{6}
357	Ba-131m	1×10^{2}	1×10^{7}
358	Ba-133	1×10^{2}	1×10^{6}
359	Ba-133m	1×10^{2}	1×10^{6}
360	Ba-135m	1×10^{2}	1×10^{6}
361	Ba-137m	1×10^{1}	1×10^{6}
362	Ba-139	1×10^{2}	1×10^{5}
363	Ba-140[a]	1×10^{1}	1×10^{5}
364	Ba-141	1×10^{2}	1×10^{5}
365	Ba-142	1×10^{2}	1×10^{6}
366	La-131	1×10^{1}	1×10^{6}
367	La-132	1×10^{1}	1×10^{6}
368	La-135	1×10^{3}	1×10^{7}
369	La-137	1×10^{3}	1×10^{7}
370	La-138	1×10^{1}	1×10^{6}
371	La-140	1×10^{1}	1×10^{5}
372	La-141	1×10^{2}	1×10^{5}
373	La-142	1×10^{1}	1×10^{5}
374	La-143	1×10^{2}	1×10^{5}
375	Ce-134	1×10^{3}	1×10^{7}
376	Ce-135	1×10^{1}	1×10^{6}
377	Ce-137	1×10^{3}	1×10^{7}
378	Ce-137m	1×10^{3}	1×10^{6}
379	Ce-139	1×10^{2}	1×10^{6}
380	Ce-141	1×10^{2}	1×10^{7}
381	Ce-143	1×10^{2}	1×10^{6}
382	Ce-144[a]	1×10^{2}	1×10^{5}
383	Pr-136	1×10^{1}	1×10^{5}
384	Pr-137	1×10^{2}	1×10^{6}
385	Pr-138m	1×10^{1}	1×10^{6}
386	Pr-139	1×10^{2}	1×10^{7}
387	Pr-142	1×10^{2}	1×10^{5}
388	Pr-142m	1×10^{7}	1×10^{9}
389	Pr-143	1×10^{4}	1×10^{6}
390	Pr-144	1×10^{2}	1×10^{5}
391	Pr-145	1×10^{3}	1×10^{5}

Activity concentration values and activity values for nuclides			
	Nuclide	**Activity concentration value (Bq/g)**	**Activity value (Bq)**
392	Pr-147	1×10^{1}	1×10^{5}
393	Nd-136	1×10^{2}	1×10^{6}
394	Nd-138	1×10^{3}	1×10^{7}
395	Nd-139	1×10^{2}	1×10^{6}
396	Nd-139m	1×10^{1}	1×10^{6}
397	Nd-141	1×10^{2}	1×10^{7}
398	Nd-147	1×10^{2}	1×10^{6}
399	Nd-149	1×10^{2}	1×10^{6}
400	Nd-151	1×10^{1}	1×10^{5}
401	Pm-141	1×10^{1}	1×10^{5}
402	Pm-143	1×10^{2}	1×10^{6}
403	Pm-144	1×10^{1}	1×10^{6}
404	Pm-145	1×10^{3}	1×10^{7}
405	Pm-146	1×10^{1}	1×10^{6}
406	Pm-147	1×10^{4}	1×10^{7}
407	Pm-148	1×10^{1}	1×10^{5}
408	Pm-148m	1×10^{1}	1×10^{6}
409	Pm-149	1×10^{3}	1×10^{6}
410	Pm-150	1×10^{1}	1×10^{5}
411	Pm-151	1×10^{2}	1×10^{6}
412	Sm-141	1×10^{1}	1×10^{5}
413	Sm-141m	1×10^{1}	1×10^{6}
414	Sm-142	1×10^{2}	1×10^{7}
415	Sm-145	1×10^{2}	1×10^{7}
416	Sm-146	1×10^{1}	1×10^{5}
417	Sm-147	1×10^{1}	1×10^{4}
418	Sm-151	1×10^{4}	1×10^{8}
419	Sm-153	1×10^{2}	1×10^{6}
420	Sm-155	1×10^{2}	1×10^{6}
421	Sm-156	1×10^{2}	1×10^{6}
422	Eu-145	1×10^{1}	1×10^{6}
423	Eu-146	1×10^{1}	1×10^{6}
424	Eu-147	1×10^{2}	1×10^{6}
425	Eu-148	1×10^{1}	1×10^{6}
426	Eu-149	1×10^{2}	1×10^{7}
427	Eu-150	1×10^{1}	1×10^{6}
428	Eu-150m	1×10^{3}	1×10^{6}
429	Eu-152	1×10^{1}	1×10^{6}
430	Eu-152m	1×10^{2}	1×10^{6}
431	Eu-154	1×10^{1}	1×10^{6}

Activity concentration values and activity values for nuclides			
	Nuclide	**Activity concentration value (Bq/g)**	**Activity value (Bq)**
432	Eu-155	1×10^{2}	1×10^{7}
433	Eu-156	1×10^{1}	1×10^{6}
434	Eu-157	1×10^{2}	1×10^{6}
435	Eu-158	1×10^{1}	1×10^{5}
436	Gd-145	1×10^{1}	1×10^{5}
437	Gd-146[a]	1×10^{1}	1×10^{6}
438	Gd-147	1×10^{1}	1×10^{6}
439	Gd-148	1×10^{1}	1×10^{4}
440	Gd-149	1×10^{2}	1×10^{6}
441	Gd-151	1×10^{2}	1×10^{7}
442	Gd-152	1×10^{1}	1×10^{4}
443	Gd-153	1×10^{2}	1×10^{7}
444	Gd-159	1×10^{3}	1×10^{6}
445	Tb-147	1×10^{1}	1×10^{6}
446	Tb-149	1×10^{1}	1×10^{6}
447	Tb-150	1×10^{1}	1×10^{6}
448	Tb-151	1×10^{1}	1×10^{6}
449	Tb-153	1×10^{2}	1×10^{7}
450	Tb-154	1×10^{1}	1×10^{6}
451	Tb-155	1×10^{2}	1×10^{7}
452	Tb-156	1×10^{1}	1×10^{6}
453	Tb-156 (24.4 h)	1×10^{3}	1×10^{7}
454	Tb-156m’ (5 h)	1×10^{4}	1×10^{7}
455	Tb-157	1×10^{4}	1×10^{7}
456	Tb-158	1×10^{1}	1×10^{6}
457	Tb-160	1×10^{1}	1×10^{6}
458	Tb-161	1×10^{3}	1×10^{6}
459	Dy-155	1×10^{1}	1×10^{6}
460	Dy-157	1×10^{2}	1×10^{6}
461	Dy-159	1×10^{3}	1×10^{7}
462	Dy-165	1×10^{3}	1×10^{6}
463	Dy-166	1×10^{3}	1×10^{6}
464	Ho-155	1×10^{2}	1×10^{6}
465	Ho-157	1×10^{2}	1×10^{6}
466	Ho-159	1×10^{2}	1×10^{6}
467	Ho-161	1×10^{2}	1×10^{7}
468	Ho-162	1×10^{2}	1×10^{7}
469	Ho-162m	1×10^{1}	1×10^{6}
470	Ho-164	1×10^{3}	1×10^{6}
471	Ho-164m	1×10^{3}	1×10^{7}

Activity concentration values and activity values for nuclides			
	Nuclide	**Activity concentration value (Bq/g)**	**Activity value (Bq)**
472	Ho-166	1×10^3	1×10^5
473	Ho-166m	1×10^1	1×10^6
474	Ho-167	1×10^2	1×10^6
475	Er-161	1×10^1	1×10^6
476	Er-165	1×10^3	1×10^7
477	Er-169	1×10^4	1×10^7
478	Er-171	1×10^2	1×10^6
479	Er-172	1×10^2	1×10^6
480	Tm-162	1×10^1	1×10^6
481	Tm-166	1×10^1	1×10^6
482	Tm-167	1×10^2	1×10^6
483	Tm-170	1×10^3	1×10^6
484	Tm-171	1×10^4	1×10^8
485	Tm-172	1×10^2	1×10^6
486	Tm-173	1×10^2	1×10^6
487	Tm-175	1×10^1	1×10^6
488	Yb-162	1×10^2	1×10^7
489	Yb-166	1×10^2	1×10^7
490	Yb-167	1×10^2	1×10^6
491	Yb-169	1×10^2	1×10^7
492	Yb-175	1×10^3	1×10^7
493	Yb-177	1×10^2	1×10^6
494	Yb-178	1×10^3	1×10^6
495	Lu-169	1×10^1	1×10^6
496	Lu-170	1×10^1	1×10^6
497	Lu-171	1×10^1	1×10^6
498	Lu-172	1×10^1	1×10^6
499	Lu-173	1×10^2	1×10^7
500	Lu-174	1×10^2	1×10^7
501	Lu-174m	1×10^2	1×10^7
502	Lu-176	1×10^2	1×10^6
503	Lu-176m	1×10^3	1×10^6
504	Lu-177	1×10^3	1×10^7
505	Lu-177m	1×10^1	1×10^6
506	Lu-178	1×10^2	1×10^5
507	Lu-178m	1×10^1	1×10^5
508	Lu-179	1×10^3	1×10^6
509	Hf-170	1×10^2	1×10^6
510	Hf-172[a]	1×10^1	1×10^6
511	Hf-173	1×10^2	1×10^6

Activity concentration values and activity values for nuclides			
	Nuclide	**Activity concentration value (Bq/g)**	**Activity value (Bq)**
512	Hf-175	1×10^{2}	1×10^{6}
513	Hf-177m	1×10^{1}	1×10^{5}
514	Hf-178m	1×10^{1}	1×10^{6}
515	Hf-179m	1×10^{1}	1×10^{6}
516	Hf-180m	1×10^{1}	1×10^{6}
517	Hf-181	1×10^{1}	1×10^{6}
518	Hf-182	1×10^{2}	1×10^{6}
519	Hf-182m	1×10^{1}	1×10^{6}
520	Hf-183	1×10^{1}	1×10^{6}
521	Hf-184	1×10^{2}	1×10^{6}
522	Ta-172	1×10^{1}	1×10^{6}
523	Ta-173	1×10^{1}	1×10^{6}
524	Ta-174	1×10^{1}	1×10^{6}
525	Ta-175	1×10^{1}	1×10^{6}
526	Ta-176	1×10^{1}	1×10^{6}
527	Ta-177	1×10^{2}	1×10^{7}
528	Ta-178	1×10^{1}	1×10^{6}
529	Ta-179	1×10^{3}	1×10^{7}
530	Ta-180	1×10^{1}	1×10^{6}
531	Ta-180m	1×10^{3}	1×10^{7}
532	Ta-182	1×10^{1}	1×10^{4}
533	Ta-182m	1×10^{2}	1×10^{6}
534	Ta-183	1×10^{2}	1×10^{6}
535	Ta-184	1×10^{1}	1×10^{6}
536	Ta-185	1×10^{2}	1×10^{5}
537	Ta-186	1×10^{1}	1×10^{5}
538	W-176	1×10^{2}	1×10^{6}
539	W-177	1×10^{1}	1×10^{6}
540	W-178[a]	1×10^{1}	1×10^{6}
541	W-179	1×10^{2}	1×10^{7}
542	W-181	1×10^{3}	1×10^{7}
543	W-185	1×10^{4}	1×10^{7}
544	W-187	1×10^{2}	1×10^{6}
545	W-188[a]	1×10^{2}	1×10^{5}
546	Re-177	1×10^{1}	1×10^{6}
547	Re-178	1×10^{1}	1×10^{6}
548	Re-181	1×10^{1}	1×10^{6}
549	Re-182	1×10^{1}	1×10^{6}
550	Re-182m	1×10^{1}	1×10^{6}
551	Re-184	1×10^{1}	1×10^{6}

Activity concentration values and activity values for nuclides			
	Nuclide	**Activity concentration value (Bq/g)**	**Activity value (Bq)**
552	Re-184m	1×10^2	1×10^6
553	Re-186	1×10^3	1×10^6
554	Re-186m	1×10^3	1×10^7
555	Re-187	1×10^6	1×10^9
556	Re-188	1×10^2	1×10^5
557	Re-188m	1×10^2	1×10^7
558	Re-189[a]	1×10^2	1×10^6
559	Os-180	1×10^2	1×10^7
560	Os-181	1×10^1	1×10^6
561	Os-182	1×10^2	1×10^6
562	Os-185	1×10^1	1×10^6
563	Os-189m	1×10^4	1×10^7
564	Os-191	1×10^2	1×10^7
565	Os-191m	1×10^3	1×10^7
566	Os-193	1×10^2	1×10^6
567	Os-194[a]	1×10^2	1×10^5
568	Ir-182	1×10^1	1×10^5
569	Ir-184	1×10^1	1×10^6
570	Ir-185	1×10^1	1×10^6
571	Ir-186	1×10^1	1×10^6
572	Ir-186m	1×10^1	1×10^6
573	Ir-187	1×10^2	1×10^6
574	Ir-188	1×10^1	1×10^6
575	Ir-189[a]	1×10^2	1×10^7
576	Ir-190	1×10^1	1×10^6
577	Ir-190m (3.1 h)	1×10^1	1×10^6
578	Ir-190m' (1.2 h)	1×10^4	1×10^7
579	Ir-192	1×10^1	1×10^4
580	Ir-192m	1×10^2	1×10^7
581	Ir-193m	1×10^4	1×10^7
582	Ir-194	1×10^2	1×10^5
583	Ir-194m	1×10^1	1×10^6
584	Ir-195	1×10^2	1×10^6
585	Ir-195m	1×10^2	1×10^6
586	Pt-186	1×10^1	1×10^6
587	Pt-188[a]	1×10^1	1×10^6
588	Pt-189	1×10^2	1×10^6
589	Pt-191	1×10^2	1×10^6
590	Pt-193	1×10^4	1×10^7
591	Pt-193m	1×10^3	1×10^7

Activity concentration values and activity values for nuclides			
	Nuclide	**Activity concentration value (Bq/g)**	**Activity value (Bq)**
592	Pt-195m	1×10^2	1×10^6
593	Pt-197	1×10^3	1×10^6
594	Pt-197m	1×10^2	1×10^6
595	Pt-199	1×10^2	1×10^6
596	Pt-200	1×10^2	1×10^6
597	Au-193	1×10^2	1×10^7
598	Au-194	1×10^1	1×10^6
599	Au-195	1×10^2	1×10^7
600	Au-198	1×10^2	1×10^6
601	Au-198m	1×10^1	1×10^6
602	Au-199	1×10^2	1×10^6
603	Au-200	1×10^2	1×10^5
604	Au-200m	1×10^1	1×10^6
605	Au-201	1×10^2	1×10^6
606	Hg-193	1×10^2	1×10^6
607	Hg-193m	1×10^1	1×10^6
608	Hg-194[a]	1×10^1	1×10^6
609	Hg-195	1×10^2	1×10^6
610	Hg-195m[a]	1×10^2	1×10^6
611	Hg-197	1×10^2	1×10^7
612	Hg-197m	1×10^2	1×10^6
613	Hg-199m	1×10^2	1×10^6
614	Hg-203	1×10^2	1×10^5
615	Tl-194	1×10^1	1×10^6
616	Tl-194m	1×10^1	1×10^6
617	Tl-195	1×10^1	1×10^6
618	Tl-197	1×10^2	1×10^6
619	Tl-198	1×10^1	1×10^6
620	Tl-198m	1×10^1	1×10^6
621	Tl-199	1×10^2	1×10^6
622	Tl-200	1×10^1	1×10^6
623	Tl-201	1×10^2	1×10^6
624	Tl-202	1×10^2	1×10^6
625	Tl-204	1×10^4	1×10^4
626	Pb-195m	1×10^1	1×10^6
627	Pb-198	1×10^2	1×10^6
628	Pb-199	1×10^1	1×10^6
629	Pb-200	1×10^2	1×10^6
630	Pb-201	1×10^1	1×10^6
631	Pb-202	1×10^3	1×10^6

Activity concentration values and activity values for nuclides			
	Nuclide	**Activity concentration value (Bq/g)**	**Activity value (Bq)**
632	Pb-202m	1×10^{1}	1×10^{6}
633	Pb-203	1×10^{2}	1×10^{6}
634	Pb-205	1×10^{4}	1×10^{7}
635	Pb-209	1×10^{5}	1×10^{6}
636	Pb-210[a]	1×10^{1}	1×10^{4}
637	Pb-211	1×10^{2}	1×10^{6}
638	Pb-212[a]	1×10^{1}	1×10^{5}
639	Pb-214	1×10^{2}	1×10^{6}
640	Bi-200	1×10^{1}	1×10^{6}
641	Bi-201	1×10^{1}	1×10^{6}
642	Bi-202	1×10^{1}	1×10^{6}
643	Bi-203	1×10^{1}	1×10^{6}
644	Bi-205	1×10^{1}	1×10^{6}
645	Bi-206	1×10^{1}	1×10^{5}
646	Bi-207	1×10^{1}	1×10^{6}
647	Bi-210	1×10^{3}	1×10^{6}
648	Bi-210m[a]	1×10^{1}	1×10^{5}
649	Bi-212[a]	1×10^{1}	1×10^{5}
650	Bi-213	1×10^{2}	1×10^{6}
651	Bi-214	1×10^{1}	1×10^{5}
652	Po-203	1×10^{1}	1×10^{6}
653	Po-205	1×10^{1}	1×10^{6}
654	Po-206	1×10^{1}	1×10^{6}
655	Po-207	1×10^{1}	1×10^{6}
656	Po-208	1×10^{1}	1×10^{4}
657	Po-209	1×10^{1}	1×10^{4}
658	Po-210	1×10^{1}	1×10^{4}
659	At-207	1×10^{1}	1×10^{6}
660	At-211	1×10^{3}	1×10^{7}
661	Fr-222	1×10^{3}	1×10^{5}
662	Fr-223	1×10^{2}	1×10^{6}
663	Rn-220[a]	1×10^{4}	1×10^{7}
664	Rn-222[a]	1×10^{1}	1×10^{8}
665	Ra-223[a]	1×10^{2}	1×10^{5}
666	Ra-224[a]	1×10^{1}	1×10^{5}
667	Ra-225	1×10^{2}	1×10^{5}
668	Ra-226[a]	1×10^{1}	1×10^{4}
669	Ra-227	1×10^{2}	1×10^{6}
670	Ra-228[a]	1×10^{1}	1×10^{5}
671	Ac-224	1×10^{2}	1×10^{6}

Activity concentration values and activity values for nuclides			
	Nuclide	**Activity concentration value (Bq/g)**	**Activity value (Bq)**
672	Ac-225[a]	1×10^{1}	1×10^{4}
673	Ac-226	1×10^{2}	1×10^{5}
674	Ac-227[a]	1×10^{-1}	1×10^{3}
675	Ac-228	1×10^{1}	1×10^{6}
676	Th-226[a]	1×10^{3}	1×10^{7}
677	Th-227	1×10^{1}	1×10^{4}
678	Th-228[a]	1×10^{0}	1×10^{4}
679	Th-229[a]	1×10^{0}	1×10^{3}
680	Th-230	1×10^{0}	1×10^{4}
681	Th-231	1×10^{3}	1×10^{7}
682	Th-232	1×10^{1}	1×10^{4}
683	Th-nat[a]	1×10^{0}	1×10^{3}
684	Th-234[a]	1×10^{3}	1×10^{5}
685	Pa-227	1×10^{1}	1×10^{6}
686	Pa228	1×10^{1}	1×10^{6}
687	Pa-230	1×10^{1}	1×10^{6}
688	Pa-231	1×10^{0}	1×10^{3}
689	Pa-232	1×10^{1}	1×10^{6}
690	Pa-233	1×10^{2}	1×10^{7}
691	Pa-234	1×10^{1}	1×10^{6}
692	U-230[a]	1×10^{1}	1×10^{5}
693	U-231	1×10^{2}	1×10^{7}
694	U-232[a]	1×10^{0}	1×10^{3}
695	U-233	1×10^{1}	1×10^{4}
696	U-234	1×10^{1}	1×10^{4}
697	U-235[a]	1×10^{1}	1×10^{4}
698	U-236	1×10^{1}	1×10^{4}
699	U-237	1×10^{2}	1×10^{6}
700	U-238[a]	1×10^{1}	1×10^{4}
701	U-nat[a]	1×10^{0}	1×10^{3}
702	U-239	1×10^{2}	1×10^{6}
703	U-240	1×10^{3}	1×10^{7}
704	U-240[a]	1×10^{1}	1×10^{6}
705	Np-232	1×10^{1}	1×10^{6}
706	Np-233	1×10^{2}	1×10^{7}
707	Np-234	1×10^{1}	1×10^{6}
708	Np-235	1×10^{3}	1×10^{7}
709	Np-236	1×10^{2}	1×10^{5}
710	Np-236m	1×10^{3}	1×10^{7}
711	Np-237[a]	1×10^{0}	1×10^{3}

Activity concentration values and activity values for nuclides			
	Nuclide	**Activity concentration value (Bq/g)**	**Activity value (Bq)**
712	Np-238	1×10^{2}	1×10^{6}
713	Np-239	1×10^{2}	1×10^{7}
714	Np-240	1×10^{1}	1×10^{6}
715	Pu-234	1×10^{2}	1×10^{7}
716	Pu-235	1×10^{2}	1×10^{7}
717	Pu-236	1×10^{1}	1×10^{4}
718	Pu-237	1×10^{3}	1×10^{7}
719	Pu-238	1×10^{0}	1×10^{4}
720	Pu-239	1×10^{0}	1×10^{4}
721	Pu-240	1×10^{0}	1×10^{3}
722	Pu-241	1×10^{2}	1×10^{5}
723	Pu-242	1×10^{0}	1×10^{4}
724	Pu-243	1×10^{3}	1×10^{7}
725	Pu-244	1×10^{0}	1×10^{4}
726	Pu-245	1×10^{2}	1×10^{6}
727	Pu-246	1×10^{2}	1×10^{6}
728	Am-237	1×10^{2}	1×10^{6}
729	Am-238	1×10^{1}	1×10^{6}
730	Am-239	1×10^{2}	1×10^{6}
731	Am-240	1×10^{1}	1×10^{6}
732	Am-241	1×10^{0}	1×10^{4}
733	Am-242	1×10^{3}	1×10^{6}
734	Am-242m[a]	1×10^{0}	1×10^{4}
735	Am-243[a]	1×10^{0}	1×10^{3}
736	Am-244	1×10^{1}	1×10^{6}
737	Am-244m	1×10^{4}	1×10^{7}
738	Am-245	1×10^{3}	1×10^{6}
739	Am-246	1×10^{1}	1×10^{5}
740	Am-246m	1×10^{1}	1×10^{6}
741	Cm-238	1×10^{2}	1×10^{7}
742	Cm-240	1×10^{2}	1×10^{5}
743	Cm-241	1×10^{2}	1×10^{6}
744	Cm-242	1×10^{2}	1×10^{5}
745	Cm-243	1×10^{0}	1×10^{4}
746	Cm-244	1×10^{1}	1×10^{4}
747	Cm-245	1×10^{0}	1×10^{3}
748	Cm-246	1×10^{0}	1×10^{3}
749	Cm-247	1×10^{0}	1×10^{4}
750	Cm-248	1×10^{0}	1×10^{3}
751	Cm-249	1×10^{3}	1×10^{6}

Activity concentration values and activity values for nuclides			
	Nuclide	**Activity concentration value (Bq/g)**	**Activity value (Bq)**
752	Cm-250	1×10^{-1}	1×10^{3}
753	Bk-245	1×10^{2}	1×10^{6}
754	Bk-246	1×10^{1}	1×10^{6}
755	Bk-247	1×10^{0}	1×10^{4}
756	Bk-249	1×10^{3}	1×10^{6}
757	Bk-250	1×10^{1}	1×10^{6}
758	Cf-244	1×10^{4}	1×10^{7}
759	Cf-246	1×10^{3}	1×10^{6}
760	Cf-248	1×10^{1}	1×10^{4}
761	Cf-249	1×10^{0}	1×10^{3}
762	Cf-250	1×10^{1}	1×10^{4}
763	Cf-251	1×10^{0}	1×10^{3}
764	Cf-252	1×10^{1}	1×10^{4}
765	Cf-253	1×10^{2}	1×10^{5}
766	Cf-254	1×10^{0}	1×10^{3}
767	Es-250	1×10^{2}	1×10^{6}
768	Es-251	1×10^{2}	1×10^{7}
769	Es-253	1×10^{2}	1×10^{5}
770	Es-254	1×10^{1}	1×10^{4}
771	Es-254m	1×10^{2}	1×10^{6}
772	Fm-252	1×10^{3}	1×10^{6}
773	Fm-253	1×10^{2}	1×10^{6}
774	Fm-254	1×10^{4}	1×10^{7}
775	Fm-255	1×10^{3}	1×10^{6}
776	Fm-257	1×10^{1}	1×10^{5}
777	Md-257	1×10^{2}	1×10^{7}
778	Md-258	1×10^{2}	1×10^{5}
779	An alpha-emitting nuclide not mentioned in another item	1×10^{0}	1×10^{3}
780	A nuclide that is not alpha-emitting and not mentioned in another item	1×10^{1}	1×10^{4}

Note 1: The activity of a progeny nuclide included in secular equilibrium with a parent nuclide is dealt with in section 5. Parent nuclides and progeny nuclides are set out in Part 2 of this Schedule, and parent nuclides are also marked [a] in the table in this Part.

Note 2: A nuclide marked m or m' in the table indicates a metastable state of the nuclide, with the metastable state m' indicating a state of higher energy than the metastable state m.

Part 2—Parent and progeny nuclides

Parent nuclides and progeny nuclides

	Parent nuclide	Progeny nuclide
1	Ge-68	Ga-68
2	Rb-83	Kr-83m
3	Sr-82	Rb-82
4	Sr-90	Y-90
5	Y-87	Sr-87m
6	Zr-93	Nb-93m
7	Zr-97	Nb-97
8	Ru-106	Rh-106
9	Ag-108m	Ag-108
10	Sn-121m	Sn-121 (0.776)
11	Sn-126	Sb-126m
12	Xe-122	I-122
13	Cs-137	Ba-137m
14	Ba-140	La-140
15	Ce-144	Pr-144
16	Gd-146	Eu-146
17	Hf-172	Lu-172
18	W-178	Ta-178
19	W-188	Re-188
20	Re-189	Os-189m (0.241)
21	Os-194	Ir-194
22	Ir-189	Os-189m
23	Pt-188	Ir-188
24	Hg-194	Au-194
25	Hg-195m	Hg-195 (0.542)
26	Pb-210	Bi-210 Po-210
27	Pb-212	Bi-212 Tl-208 (0.36) Po-212 (0.64)
28	Bi-210m	Tl-206
29	Bi-212	Tl-208 (0.36) Po-212 (0.64)
30	Rn-220	Po-216
31	Rn-222	Po-218 Pb-214 Bi-214 Po-214

Parent nuclides and progeny nuclides		
	Parent nuclide	**Progeny nuclide**
32	Ra-223	Rn-219 Po-215 Pb-211 Bi-211 Tl-207
33	Ra-224	Rn-220 Po-216 Pb-212 Bi-212 Tl-208 (0.36) Po-212 (0.64)
34	Ra-226	Rn-222 Po-218 Pb-214 Bi-214 Po-214 Pb-210 Bi-210 Po-210
35	Ra-228	Ac-228
36	Ac-225	Fr-221 At-217 Bi-213 Po-213 (0.978) Tl-209 (0.0216) Pb-209 (0.978)
37	Ac-227	Fr-223 (0.0138)
38	Th-226	Ra-222 Rn-218 Po-214
39	Th-228	Ra-224 Rn-220 Po-216 Pb-212 Bi-212 Tl-208 (0.36) Po-212 (0.64)
40	Th-229	Ra-225 Ac-225 Fr-221 At-217 Bi-213 Po-213 Pb-209
41	Th-nat	Ra-228 Ac-228 Th-228 Ra-224

Parent nuclides and progeny nuclides		
	Parent nuclide	**Progeny nuclide**
		Rn-220 Po-216 Pb-212 Bi-212 Tl-208 (0.36) Po-212 (0.64)
42	Th-234	Pa-234m
43	U-230	Th-226 Ra-222 Rn-218 Po-214
44	U-232	Th-228 Ra-224 Rn-220 Po-216 Pb-212 Bi-212 Tl-208 (0.36) Po-212 (0.64)
45	U-235	Th-231
46	U-238	Th-234 Pa-234m
47	U-nat	Th-234 Pa-234m U-234 Th-230 Ra-226 Rn-222 Po-218 Pb-214 Bi-214 Po-214 Pb-210 Bi-210 Po-210
48	U-240	Np-240m
49	Np-237	Pa-233
50	Am-242m	Am-242
51	Am-243	Np-239

Note 1: The activity of a progeny nuclide included in secular equilibrium with a parent nuclide is dealt with in section 5.

Note 2: Parent nuclides are also marked [a] in the table in Part 1.

Schedule 2—Form of inspector's identity card

Note: See section 83.

Australian Radiation Protection and Nuclear Safety Act 1998

This identifies *(name of inspector)*, whose photograph and signature appear below, as an inspector appointed by the CEO of ARPANSA under subsection 62(1) of the *Australian Radiation Protection and Nuclear Safety Act 1998*.

(photograph)

(signature of inspector)

(signature of the CEO)

Valid until *(date when appointment ceases)*

Dated *(date of issue)*