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The Gazette of the Democratic Socialist Republic of Sri Lanka

EXTRAORDINARY

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PART I : SECTION (I) — GENERAL

Government Notifications

L. D. B. 16/2014.

SRI LANKA ATOMIC ENERGY ACT, No. 40 OF 2014

Rules made by the Sri Lanka Atomic Energy Regulatory Council, under section 87 read with section 23(1) (c) and section 30 (1) of the Sri Lanka Atomic Energy Act, No. 40 of 2014.

Chairman,
Sri Lanka Atomic Energy Regulatory Council.

Colombo,
30th June 2015.

Rules

1. These Rules may be cited as Atmoic Energy (Licence) Rules No. 1 of 2015.

2. A licence issued by the Council under section 22 of the Sri Lanka Atomic Energy Act No.40 of 2014 in respect of the sources within a practice as specified in Column II of the Schedule to these rules for the corresponding practices involving ionizing radiation as specified in Column I of the Schedule to these rules, shall be valid for such maximum period as specified in the corresponding entry in Column III of that Schedule.

3. Where a person holding a licence issued for the conduct of a practice involving ionizing radiation fails to apply for the renewal of the same three months prior to the date of expiry of such licence, the license holder shall be liable to the payment of a sum of Rs. 100/- for each day as a surcharge, until the date of the expiry of the licence that is sought to be renewed.

(Rule 2)

SCHEDULE

LIST OF PRACTICES

Column I	*Column II*	*Column III*
Type of Practice	*Source*	*Maximum Period of validity of the Licence*
Radiotherapy using Ionizing radiation	Tele- Gamma facility /Gamma knife facility/ Brachytherapy facility	01 year
	Linear Accelerator facility/Tomotherapy Facility/ X - ray Facility / Therapy simulators and a similar facility	02 years
Sterilization and food preservation, blood irradiation using ionizing radiation	Dry storage or Pool type Irradiation facility	01 year
	Gamma irradiation chambers/Electron beam accelerator/ X- ray machine	02 years
Industrial Radiography using ionizing radiation	Gamma /neutron and beta radiography source/ X - ray machine	01 year
Applications in Nuclear Medicine	Therapy using unsealed sources	01 year
	Diagnosis using unsealed sources for in vitro or in vivo	02 years
Medical Radiography using ionizing radiation	Interventional radiological X-ray unit / Angiography X- ray Unit/CT scanner / Mammography/ General radiography	02 years
	dental X-ray machine/veterinary X -ray machine/ bone density scanner	03 years
Applications of Ionizing radiation in industry, research and education	Particle accelerators/ neutron generators/ Nucleonic gauge/well logging source/lightening arresting device	02 years
	Analytical X- ray equipment/ An analytical equipment containing radioactive sources	03 years
	cabinet X-ray unit	03 years
	Sealed and unsealed sources: Total activity less than 37 Giga Becquerel (1 curie)	03 years
	Sealed and unsealed sources: Total activity more than 37 Giga Becquerel (1 curie)	02 years
	Unsealed sources in tracer application	03 months

SCHEDULE (*Contd.*)

LIST OF PRACTICES

Column I	*Column II*	*Column III*
Type of Practice	*Source*	*Maximum Period of validity of the Licence*
commercial production of radioactive material or radiation generating equipment	Radioisotope production facility/cyclotron facility	01 year
	An X -ray unit/linear accelerator/nucleonic gauges	02 years
Transport of Radioactive sources	All sources	01 year
Service and maintenance of sources	All sources	02 years
Radioactive Waste Management and/or storage	All sources including Nuclear and fissionable materials	01 year
Disposal and discharge of radioactive sources	All sources	01 year
Sale of radioactive sources and Irradiating apparatus	All sources	01 year
Applications using ionizing radiation which do not come under above practices	Aggregate radioactivity of sources less than Giga Becquerel 370 (10 Curie)	02 years
	Aggregate radioactivity of sources more than Giga Becquerel 370 (10 Curie)	01 year
	Irradiating apparatus	02 years

08 - 79/1

L. D. B. 16/2014

SRI LANKA ATOMIC ENERGY ACT, No. 40 OF 2014

Rules made by the Sri Lanka Atomic Energy Regulatory Council, under Section 87 read with Section 20(1) of the Sri Lanka Atomic Energy Act, No. 40 of 2014.

Chairman,
Sri Lanka Atomic Energy Regulatory Council.

Colombo,
30th June 2015.

Rules

1. These Rules may be cited as Atomic Energy (Notification of Intention to Conduct a Practice) Rules No.1 of 2015.

2. Any person who intends to conduct a practice involving ionizing radiation as specified in Schedule II hereto shall forward a notification of such intention to the Sri Lanka Atomic Energy Regulatory Council in the Form as specified in the Schedule 1 hereto.

3. In these rules, unless the context otherwise requires:-
"practice involving ionizing radiation" shall have the same meaning as in the Sri Lanka Atomic Energy Act, No. 40 of 2014.

(Rule 2)

SCHEDULE I

FORM OF NOTIFICATION

NOTIFICATION FOR AN INTENTION TO CONDUCT A PRACTICE

1) Name of the applicant/organization :
2) Address :
3) Tel. :
4) E-mail :
5) Type of practice and the source (Identify from the list of practices attached here in Schedule - II) :
   5.1 Type of practice :
   5.2 Source :
6) The purpose for which the practice is sought to be conducted :
7) Where radioactive material is involved :
   i) purpose of use :
   ii) maximum activity of each material in Becquerel and activity: concentration of each material in Becquerel/gram, if applicable
8) Where irradiating apparatus is involved
   i) the types of radiation emitted :
   ii) the maximum energy of each type :
9) In the case of nuclear or fissionable material, activity level of each material in Becquerel and activity concentration of each material in Becquerel/gram, if applicable and percentage of each component of the material :

Name of the person who make the notification :
Signature :
Date :
Seal :

Note : A separate form should be submitted for each practice

(Rule 2)

SCHEDULE - II

LIST OF PRACTICES

Type of Practice	*Source*
Radiotherapy using Ionizing radiation	Tele- Gamma facility /Gamma knife facility/Brachytherapy facility
	Linear Accelerator facility/Tomotherapy Facility/ X - ray Facility / Therapy simulators and a similar facility
Sterilization and food preservation, blood irradiation using ionizing radiation	Dry storage or Pool type Irradiation facility
	Gamma irradiation chambers/Electron beam accelerator/ X - ray machine
Industrial Radiography using ionizing radiation	Gamma /neutron and beta radiography source/X - ray machine
Applications in Nuclear Medicine	Therapy using unsealed sources
	Diagnosis using unsealed sources for in vitro or in vivo
Medical Radiography using ionizing radiation	Interventional radiological X -ray unit / Angiography X- ray Unit/ CT scanner / Mammography/ General radiography
	dental X-ray machine/veterinary X -ray machine/ bone density scanner
Applications of Ionizing radiation in industry, research and education	Particle accelerators/ neutron generators/Nucleonic gauge/ well logging source/lightening arresting device
	Analytical X- ray equipment/ An analytical equipment containing radioactive sources
	cabinet X-ray unit
	Sealed and unsealed sources: Total activity less than 37 Giga Becquerel (1 curie)
	Sealed and unsealed sources: Total activity more than 37 Giga Becquerel (1 curie)
	Unsealed sources in tracer application

SCHEDULE (*Contd.*)

LIST OF PRACTICES

Type of Practice	*Source*
commercial production of radioactive material or radiation generating equipment	Radioisotope production facility/cyclotron facility
	An X -ray unit/linear accelerator/nucleonic gauges
Transport of Radioactive sources	All sources
Service and maintenance of sources	All sources
Radioactive Waste Management and/or storage	All sources including Nuclear and fissionable materials
Disposal and discharge of radioactive sources	All sources
Sale of radioactive sources and Irradiating apparatus	All sources
Applications using ionizing radiation which do not come under above practices	Aggregate radioactivity of sources less than 370 Giga Becquere (10 Curie)
	Aggregate radioactivity of sources more than 370 Giga Becquere (10 Curie)
	Irradiating apparatus

08 - 79/2

L. D. B. 16/2014.

SRI LANKA ATOMIC ENERGY ACT, No. 40 OF 2014

Order under Section 19

BY VIRTUE of the powers vested in the Sri Lanka Atomic Energy Regulatory Council by Section 19 of the Sri Lanka Atomic Energy Act, No.40 of 2014, the Council do by this Order, exempt the practices or sources within a practice as specified in the Schedule to this Order, from the Regulatory control of the Council.

Chairman,
Sri Lanka Atomic Energy Regulatory Council.

Colombo,
30th June 2015.

SCHEDULE

(a) A practice involving ionizing radiation or a source within a practice, which under all reasonably foreseeable circumstance shall not cause the effective dose to an individual to be more than l0μSv in any year, and which the person conducting the practice or a source within a practice shall demonstrate by a safety assessment, that an effective dose shall not exceed l0μSv to any individual, in any year.

(b) The following sources within justified practices are automatically exempted from the regulatory control of the Council:-

(1) Material in a moderate amount for which either the total activity of an individual radionuclide present on the premises at anyone time or the concentration as used in the practice does not exceed the applicable exemption level given in Table 1.1 hereto.

(2) Material in bulk amount for which the activity concentration of a given radionuclide of artificial origin used in the practice does not exceed the relevant value given in Table 1.2 hereto.

(3) Radiation generators in the form of an electronic tube, such as a cathode ray tube for the display of visual images, provided that:

(i) They do not in normal operating conditions cause an ambient dose equivalent rate or a directional dose equivalent rate, as appropriate, exceeding 1 μSv/h at a distance of 0.1m from any accessible surface of the equipment; or

(ii) The maximum energy of the radiation generated is not greater than 5 keV.

(c) When the material concern contains more than one radionuclide, the condition for exemption of such material is that the sum of the individual radionuclide activities or activity concentrations, as appropriate, is less than the derived exemption level for the mixture *(Xm)*, determined as follows:

$$X_m = \frac{1}{\sum_{i=1}^{n} \left(\frac{f(i)}{x(i)} \right)}$$

where *f(i)* is the fraction of activity or activity concentration, as appropriate, of radionuclide *i* in the mixture;

X(i) is the applicable level for radionuclide *i* as given in Table 1.1 or Table 1.2 and *n* is the number of radionuclides present.

(d) In this order, unless the context otherwise requires :

"material in a moderate amount" means a weight of 10kg or less; "material in bulk amount" means a weight of more than 10kg ; and
"practice involving ionizing radiation" and "source" shall have the same meaning as given to that phrase and the term, in the Sri Lanka Atomic Energy Act, No. 40 of 2014.

TABLE 1.1 LEVELS FOR EXEMPTION OF MODERATE AMOUNTS OF MATERIAL WITHOUT FURTHER CONSIDERATION : EXEMPT ACTIVITY CONCENTRATIONS AND EXEMPT ACTIVITIES OF RADIONUCLIDES

Radionuclide[a]	*Activity concentration (Bq/g)*	*Activity (Bq)*	*Radionuclide*[a]	*Activity concentration (Bq/g)*	*Activity (Bq)*
H-3	1×10^6	1×10^9	Sc-45	1×10^2	1×10^7
Be-7	1×10^3	1×10^7	Sc-46	1×10^1	1×10^6
Be-10	1×10^4	1×10^6	Sc-47	1×10^2	1×10^6
C-ll	1×10^1	1×10^6	Sc-48	1×10^1	1×10^5
C-14	1×10^4	1×10^7	Sc-49	1×10^3	1×10^5
N-13	1×10^2	1×10^9	Ti-44	1×10^1	1×10^5
Ne-19	1×10^2	1×10^9	Ti-45	1×10^1	1×10^b
O-15	1×10^2	1×10^9	V-47	1×10^1	1×10^5
F-18	1×10^1	1×10^6	V-48	1×10^1	1×10^5
Na-22	1×10^1	1×10^6	V-49	1×10^4	1×10^7
Na-24	1×10^1	1×10^5	Cr-48	1×10^2	1×10^6
Mg-28	1×10^1	1×10^5	Cr-49	1×10^1	1×10^6
Al-26	1×10^1	1×10^5	Cr-51	1×10^3	1×10^7
Si-31	1×10^3	1×10^6	Mn-51	1×10^1	1×10^5
Si-32	1×10^3	1×10^6	Mn-52	1×10^1	1×10^5
P-32	1×10^3	1×10^5	Mn-52m	1×10^1	1×10^5
P-33	1×10^5	1×10^8	Mn-53	1×10^4	1×10^9
S-35	1×10^5	1×10^8	Mn-54	1×10^1	1×10^6
Cℓ - 36	1×10^4	1×10^6	Mn-56	1×10^1	1×10^5
Cℓ-38	1×10^1	1×10^5	Fe-52	1×10^1	1×10^6
Cℓ-39	1×10^1	1×10^5	Fe-55	1×10^4	1×10^6
Ar-37	1×10^6	1×10^8	Fe-59	1×10^1	1×10^6
Ar-39	1×10^7	1×10^4	Fe-60	1×10^2	1×10^5
Ar-41	1×10^2	1×10^9	Co-55	1×10^1	1×10^6
K-40	1×10^2	1×10^6	Co-56	1×10^1	1×10^5
K-42	1×10^2	1×10^6	Co-57	1×10^2	1×10^6
K-43	1×10^1	1×10^6	Co-58	1×10^1	1×10^6
K-44	1×10^1	1×10^5	Co-58m	1×10^4	1×10^7
K-45	1×10^1	1×10^5	Co-60	1×10^1	1×10^5
Ca-41	1×10^5	1×10^7	Co-60m	1×10^3	1×10^6
Ca-45	1×10^4	1×10^7	Co-61	1×10^2	1×10^6
Ca-47	1×10^1	1×10^6	Co-62m	1×10^1	1×10^5
Sc-43	1×10^1	1×10^6	Ni-56	1×10^1	1×10^6
Sc-44	1×10^1	1×10^5	Ni-57	1×10^1	1×10^6

TABLE 1.1 LEVELS FOR EXEMPTION OF MODERATE AMOUNTS OF MATERIAL WITHOUT FURTHER CONSIDERATION: EXEMPT ACTIVITY CONCENTRATIONS AND EXEMPT ACTIVITIES OF RADIONUCLIDES (contd ....)

Radionuclide[a]	*Activity concentration (Bq/g)*	*Activity (Bq)*	*Radionuclide*[a]	*Activity concentration (Bq/g)*	*Activity (Bq)*
Ni-59	1×10^{4}	1×10^{8}	As-72	1×10^{1}	1×10^{5}
Ni-63	1×10^{5}	1×10^{8}	As-73	1×10^{3}	1×10^{7}
Ni-65	1×10^{1}	1×10^{6}	As-74	1×10^{1}	1×10^{6}
Ni-66	1×10^{4}	1×10^{7}	As-76	1×10^{2}	1×10^{5}
Cu-60	1×10^{1}	1×10^{5}	As-77	1×10^{3}	1×10^{6}
Cu-61	1×10^{1}	1×10^{6}	As-78	1×10^{1}	1×10^{5}
Cu-64	1×10^{2}	1×10^{6}	Se-70	1×10^{1}	1×10^{6}
Cu-67	1×10^{2}	1×10^{6}	Se-73	1×10^{1}	1×10^{6}
Zn-62	1×10^{2}	1×10^{6}	Se-73m	1×10^{2}	1×10^{6}
Zn-63	1×10^{1}	1×10^{5}	Se-75	1×10^{2}	1×10^{6}
Zn-65	1×10^{1}	1×10^{6}	Se-79	1×10^{4}	1×10^{7}
Zn-69	1×10^{4}	1×10^{6}	Se-81	1×10^{3}	1×10^{6}
Zn-69m	1×10^{2}	1×10^{6}	Se-81m	1×10^{3}	1×10^{7}
Zn-71m	1×10^{1}	1×10^{6}	Se-83	1×10^{1}	1×10^{5}
Zn-72	1×10^{2}	1×10^{6}	Br-74	1×10^{1}	1×10^{5}
Ga-65	1×10^{1}	1×10^{5}	Br-74m	1×10^{1}	1×10^{5}
Ga-66	1×10^{1}	1×10^{5}	Br-75	1×10^{1}	1×10^{6}
Ga-67	1×10^{2}	1×10^{6}	Br-76	1×10^{1}	1×10^{5}
Ga-68	1×10^{1}	1×10^{5}	Br-77	1×10^{2}	1×10^{6}
Ga-70	1×10^{2}	1×10^{6}	Br-80	1×10^{2}	1×10^{5}
Ga-72	1×10^{1}	1×10^{5}	Br-80m	1×10^{3}	1×10^{7}
Ga-73	1×10^{2}	1×10^{6}	Br-82	1×10^{1}	1×10^{6}
Ge-66	1×10^{1}	1×10^{6}	Br-83	1×10^{3}	1×10^{6}
Ge-67	1×10^{1}	1×10^{5}	Br-84	1×10^{1}	1×10^{5}
Ge-68[b]	1×10^{1}	1×10^{5}	Kr-74	1×10^{2}	1×10^{9}
Ge-69	1×10^{1}	1×10^{6}	Kr-76	1×10^{2}	1×10^{9}
Ge-71	1×10^{4}	1×10^{8}	Kr-77	1×10^{2}	1×10^{9}
Ge-75	1×10^{3}	1×10^{6}	Kr-79	1×10^{3}	1×10^{5}
Ge-77	1×10^{1}	1×10^{5}	Kr-81	1×10^{4}	1×10^{7}
Ge-78	1×10^{2}	1×10^{6}	Kr-81m	1×10^{3}	1×10^{10}
As-69	1×10^{1}	1×10^{5}	Kr-83m	1×10^{5}	1×10^{12}
As-70	1×10^{1}	1×10^{5}	Kr-85	1×10^{5}	1×10^{4}
As-71	1×10^{1}	1×10^{6}	Kr-85m	1×10^{3}	1×10^{10}

TABLE l.l LEVELS FOR EXEMPTION OF MODERATE AMOUNTS OF MATERIAL WITHOUT FURTHER CONSIDERATION: EXEMPT ACTIVITY CONCENTRATIONS AND EXEMPT ACTIVITIES OF RADIONUCLIDES (contd ....)

Radionuclide[a]	*Activity concentration (Bq/g)*	*Activity (Bq)*	*Radionuclide*[a]	*Activity concentration (Bq/g)*	*Activity (Bq)*
Kr-87	1×10^{2}	1×10^{9}	Y-94	1×10^{1}	1×10^{5}
Kr-88	1×10^{2}	1×10^{9}	Y-95	1×10^{1}	1×10^{5}
Rb-79	1×10^{1}	1×10^{5}	Zr-86	1×10^{2}	1×10^{7}
Rb-81	1×10^{1}	1×10^{6}	Zr-88	1×10^{2}	1×10^{6}
Rb-81m	1×10^{3}	1×10^{7}	Zr-89	1×10^{1}	1×10^{6}
Rb-82m	1×10^{1}	1×10^{6}	Zr-93[b]	1×10^{3}	1×10^{7}
Rb-83[b]	1×10^{2}	1×10^{6}	Zr-95	1×10^{1}	1×10^{6}
Rb-84	1×10^{1}	1×10^{6}	Zr-97[b]	1×10^{1}	1×10^{5}
Rb-86	1×10^{2}	1×10^{5}	Nb-88	1×10^{1}	1×10^{5}
Rb-87	1×10^{3}	1×10^{7}	Nb-89	1×10^{1}	1×10^{5}
Rb-88	1×10^{2}	1×10^{5}	Nb-89m	1×10^{1}	1×10^{5}
Rb-89	1×10^{2}	1×10^{5}	Nb-90	1×10^{1}	1×10^{5}
Sr-80	1×10^{3}	1×10^{7}	Nb-93m	1×10^{4}	1×10^{7}
Sr-81	1×10^{1}	1×10^{5}	Nb-94	1×10^{1}	1×10^{6}
Sr-82[b]	1×10^{1}	1×10^{5}	Nb-95	1×10^{1}	1×10^{6}
Sr-83	1×10^{1}	1×10^{6}	Nb-95m	1×10^{2}	1×10^{7}
Sr-85	1×10^{2}	1×10^{6}	Nb-96	1×10^{1}	1×10^{5}
Sr-85m	1×10^{2}	1×10^{7}	Nb-97	1×10^{1}	1×10^{6}
Sr-87m	1×10^{2}	1×10^{6}	Nb-98	1×10^{1}	1×10^{5}
Sr-89	1×10^{3}	1×10^{6}	Mo-90	1×10^{1}	1×10^{6}
Sr-90[b]	1×10^{2}	1×10^{4}	Mo-93	1×10^{3}	1×10^{8}
Sr-91	1×10^{1}	1×10^{5}	Mo-93m	1×10^{1}	1×10^{6}
Sr-92	1×10^{1}	1×10^{6}	Mo-99	1×10^{2}	1×10^{6}
Y-86	1×10^{1}	1×10^{5}	Mo-101	1×10^{1}	1×10^{6}
Y-86m	1×10^{2}	1×10^{7}	Tc-93	1×10^{1}	1×10^{6}
Y-87[b]	1×10^{1}	1×10^{6}	Tc-93m	1×10^{1}	1×10^{6}
Y-88	1×10^{1}	1×10^{6}	Tc-94	1×10^{1}	1×10^{6}
Y-90	1×10^{3}	1×10^{5}	Tc-94m	1×10^{1}	1×10^{5}
Y-90m	1×10^{1}	1×10^{6}	Tc-95	1×10^{1}	1×10^{6}
Y-91	1×10^{3}	1×10^{6}	Tc-95m	1×10^{1}	1×10^{6}
Y-91m	1×10^{2}	1×10^{6}	Tc-96	1×10^{1}	1×10^{6}
Y-92	1×10^{2}	1×10^{5}	Tc-96m	1×10^{3}	1×10^{7}
Y-93	1×10^{2}	1×10^{5}	Tc-97	1×10^{3}	1×10^{8}

TABLE l.l LEVELS FOR EXEMPTION OF MODERATE AMOUNTS OF MATERIAL WITHOUT FURTHER CONSIDERATION: EXEMPT ACTIVITY CONCENTRATIONS AND EXEMPT ACTIVITIES OF RADIONUCLIDES (contd ....)

Radionuclide[a]	*Activity concentration (Bq/g)*	*Activity (Bq)*	*Radionuclide*[a]	*Activity concentration (Bq/g)*	*Activity (Bq)*
Tc-97m	1×10^{3}	1×10^{7}	Ag-106m	1×10^{1}	1×10^{6}
Tc-98	1×10^{1}	1×10^{6}	Ag-108m	1×10^{1}	1×10^{6}
Tc-99	1×10^{4}	1×10^{7}	Ag-110m	1×10^{1}	1×10^{6}
Tc-99m	1×10^{2}	1×10^{7}	Ag-1l1	1×10^{3}	1×10^{6}
Tc-101	1×10^{2}	1×10^{6}	Ag-112	1×10^{1}	1×10^{5}
Tc-104	1×10^{1}	1×10^{5}	Ag-115	1×10^{1}	1×10^{5}
Ru-94	1×10^{2}	1×10^{6}	Cd-l04	1×10^{2}	1×10^{7}
Ru-97	1×10^{2}	1×10^{7}	Cd-107	1×10^{3}	1×10^{7}
Ru-103	1×10^{2}	1×10^{6}	Cd-109	1×10^{4}	1×10^{6}
Ru-l05	1×10^{1}	1×10^{6}	Cd-113	1×10^{3}	1×10^{6}
Ru-l06[b]	1×10^{2}	1×10^{5}	Cd-113m	1×10^{3}	1×10^{6}
Rh-99	1×10^{1}	1×10^{6}	Cd-115	1×10^{2}	1×10^{6}
Rh-99m	1×10^{1}	1×10^{6}	Cd-115m	1×10^{3}	1×10^{6}
Rh-l00	1×10^{1}	1×10^{6}	Cd-117	1×10^{1}	1×10^{6}
Rh-101	1×10^{2}	1×10^{7}	Cd-117m	1×10^{1}	1×10^{6}
Rh-l0lm	1×10^{2}	1×10^{7}	In-109	1×10^{1}	1×10^{6}
Rh-102	1×10^{1}	1×10^{6}	In-110	1×10^{1}	1×10^{6}
Rh-102m	1×10^{2}	1×10^{6}	In-110m	1×10^{1}	1×10^{5}
Rh-103m	1×10^{4}	1×10^{8}	In-111	1×10^{2}	1×10^{6}
Rh-105	1×10^{2}	1×10^{7}	In-112	1×10^{2}	1×10^{6}
Rh-l06m	1×10^{1}	1×10^{5}	In-113m	1×10^{2}	1×10^{6}
Rh-107	1×10^{2}	1×10^{6}	In-114	1×10^{3}	1×10^{5}
Pd-l00	1×10^{2}	1×10^{7}	In-114m	1×10^{2}	1×10^{6}
Pd-l01	1×10^{2}	1×10^{6}	In-115	1×10^{3}	1×10^{5}
Pd-l03	1×10^{3}	1×10^{8}	In-115m	1×10^{2}	1×10^{6}
Pd-l07	1×10^{5}	1×10^{8}	In-116m	1×10^{1}	1×10^{5}
Pd-l09	1×10^{3}	1×10^{6}	In-117	1×10^{1}	1×10^{6}
Ag-102	1×10^{1}	1×10^{5}	In-117m	1×10^{2}	1×10^{6}
Ag-103	1×10^{1}	1×10^{6}	In-119m	1×10^{2}	1×10^{5}
Ag-104	1×10^{1}	1×10^{6}	Sn-110	1×10^{2}	1×10^{7}
Ag-104m	1×10^{1}	1×10^{6}	Sn-111	1×10^{2}	1×10^{6}
Ag-105	1×10^{2}	1×10^{6}	Sn-113	1×10^{3}	1×10^{7}
Ag-106	1×10^{1}	1×10^{6}	Sn-117m	1×10^{2}	1×10^{6}

TABLE I.l LEVELS FOR EXEMPTION OF MODERATE AMOUNTS OF MATERIAL WITHOUT FURTHER CONSIDERATION: EXEMPT ACTIVITY CONCENTRATIONS AND EXEMPT ACTIVITIES OF RADIONUCLIDES (contd ....)

Radionuclide[a]	*Activity concentration (Bq/g)*	*Activity (Bq)*	*Radionuclide*[a]	*Activity concentration (Bq/g)*	*Activity (Bq)*
Sn-ll9m	1×10^3	1×10^7	Te-123m	1×10^2	1×10^7
Sn-121	1×10^5	1×10^7	Te-125m	1×10^3	1×10^7
Sn-121m[b]	1×10^3	1×10^7	Te-127	1×10^3	1×10^6
Sn-123	1×10^3	1×10^6	Te-127m	1×10^3	1×10^7
Sn-123m	1×10^2	1×10^6	Te-129	1×10^2	1×10^6
Sn-125	1×10^2	1×10^5	Te-129m	1×10^3	1×10^6
Sn-126[b]	1×10^1	1×10^5	Te-131	1×10^2	1×10^5
Sn-127	1×10^1	1×10^6	Te-13lm	1×10^1	1×10^6
Sn-128	1×10^1	1×10^6	Te-132	1×10^2	1×10^7
Sb-115	1×10^1	1×10^6	Te-133	1×10^1	1×10^5
Sb-116	1×10^1	1×10^6	Te-133m	1×10^1	1×10^5
Sb-ll6m	1×10^1	1×10^5	Te-134	1×10^1	1×10^6
Sb-117	1×10^2	1×10^7	I-120	1×10^1	1×10^5
Sb-1l8m	1×10^1	1×10^6	I-120m	1×10^1	1×10^5
Sb-119	1×10^3	1×10^7	I-121	1×10^2	1×10^6
Sb-120	1×10^2	1×10^6	I-123	1×10^2	1×10^7
Sb-120m	1×10^1	1×10^6	I-124	1×10^1	1×10^6
Sb-122	1×10^2	1×10^4	I-125	1×10^3	1×10^6
Sb-124	1×10^1	1×10^6	I-126	1×10^2	1×10^6
Sb-124m	1×10^2	1×10^6	I-128	1×10^2	1×10^5
Sb-125	1×10^2	1×10^6	I-129	1×10^2	1×10^5
Sb-126	1×10^1	1×10^5	I-130	1×10^1	1×10^6
Sb-126m	1×10^1	1×10^5	I-131	1×10^2	1×10^6
Sb-127	1×10^1	1×10^6	I-132	1×10^1	1×10^5
Sb-128	1×10^1	1×10^5	I-132m	1×10^2	1×10^6
Sb-128m	1×10^1	1×10^5	I-133	1×10^1	1×10^6
Sb-129	1×10^1	1×10^6	I-134	1×10^1	1×10^5
Sb-130	1×10^1	1×10^5	I-135	1×10^1	1×10^6
Sb-131	1×10^1	1×10^6	Xe-120	1×10^2	1×10^9
Te-1l6	1×10^2	1×10^7	Xe-121	1×10^2	1×10^9
Te-121	1×10^1	1×10^6	Xe-122[b]	1×10^2	1×10^9
Te-121m	1×10^2	1×10^6	Xe-123	1×10^2	1×10^9
Te-123	1×10^3	1×10^6	Xe-125	1×10^3	1×10^9

TABLE l.l LEVELS FOR EXEMPTION OF MODERATE AMOUNTS OF MATERIAL WITHOUT FURTHER CONSIDERATION: EXEMPT ACTIVITY CONCENTRATIONS AND EXEMPT ACTIVITIES OF RADIONUCLIDES (contd ....)

Radionuclide[a]	*Activity concentration (Bq/g)*	*Activity (Bq)*	*Radionuclide*[a]	*Activity concentration (Bq/g)*	*Activity (Bq)*
Xe-127	1×10^{3}	1×10^{5}	La-131	1×10^{1}	1×10^{6}
Xe-129m	1×10^{3}	1×10^{4}	La-132	1×10^{1}	1×10^{6}
Xe-13lm	1×10^{4}	1×10^{4}	La-135	1×10^{3}	1×10^{7}
Xe-133m	1×10^{3}	1×10^{4}	La-137	1×10^{3}	1×10^{7}
Xe-133	1×10^{3}	1×10^{4}	La-138	1×10^{1}	1×10^{6}
Xe-135	1×10^{3}	1×10^{10}	La-140	1×10^{1}	1×10^{5}
Xe-135m	1×10^{2}	1×10^{9}	La-141	1×10^{2}	1×10^{5}
Xe-138	1×10^{2}	1×10^{9}	La-142	1×10^{1}	1×10^{5}
Cs-125	1×10^{1}	1×10^{4}	La-143	1×10^{2}	1×10^{5}
Cs-127	1×10^{2}	1×10^{5}	Ce-l34	1×10^{3}	1×10^{7}
Cs-129	1×10^{2}	1×10^{5}	Ce-135	1×10^{1}	1×10^{6}
Cs-130	1×10^{2}	1×10^{6}	Ce-137	1×10^{3}	1×10^{7}
Cs-131	1×10^{3}	1×10^{6}	Ce-137m	1×10^{3}	1×10^{6}
Cs-132	1×10^{1}	1×10^{5}	Ce-139	1×10^{2}	1×10^{6}
Cs-134m	1×10^{3}	1×10^{5}	Ce-141	1×10^{2}	1×10^{7}
Cs-134	1×10^{1}	1×10^{4}	Ce-143	1×10^{2}	1×10^{6}
Cs-135	1×10^{4}	1×10^{7}	Ce-144[b]	1×10^{2}	1×10^{5}
Cs-135m	1×10^{1}	1×10^{6}	Pr-136	1×10^{1}	1×10^{5}
Cs-136	1×10^{1}	1×10^{5}	Pr-137	1×10^{2}	1×10^{6}
Cs-137[b]	1×10^{1}	1×10^{4}	Pr-138m	1×10^{1}	1×10^{6}
Cs-138	1×10^{1}	1×10^{4}	Pr-139	1×10^{2}	1×10^{7}
Ba-126	1×10^{2}	1×10^{7}	Pr-142	1×10^{2}	1×10^{5}
Ba-128	1×10^{2}	1×10^{7}	Pr-142m	1×10^{7}	1×10^{9}
Ba-131	1×10^{2}	1×10^{6}	Pr-143	1×10^{4}	1×10^{6}
Ba-131m	1×10^{2}	1×10^{7}	Pr-I44	1×10^{2}	1×10^{5}
Ba-133	1×10^{2}	1×10^{6}	Pr-145	1×10^{3}	1×10^{5}
Ba-133m	1×10^{2}	1×10^{6}	Pr-147	1×10^{1}	1×10^{5}
Ba-135m	1×10^{2}	1×10^{6}	Nd-136	1×10^{2}	1×10^{6}
Ba-137m	1×10^{1}	1×10^{6}	Nd-138	1×10^{3}	1×10^{7}
Ba-139	1×10^{2}	1×10^{5}	Nd-139	1×10^{2}	1×10^{6}
Ba-I40[b]	1×10^{1}	1×10^{5}	Nd-139m	1×10^{1}	1×10^{6}
Ba-141	1×10^{2}	1×10^{5}	Nd-141	1×10^{2}	1×10^{7}
Ba-142	1×10^{2}	1×10^{6}	Nd-147	1×10^{2}	1×10^{6}

TABLE 1.1 LEVELS FOR EXEMPTION OF MODERATE AMOUNTS OF MATERIAL WITHOUT FURTHER CONSIDERATION: EXEMPT ACfIVITY CONCENTRATIONS AND EXEMPT ACTIVITIES OF RADIONUCLIDES (conld ....)

Radionuclide[a]	*Activity concentration (Bq/g)*	*Activity (Bq)*	*Radionuclide*[a]	*Activity concentration (Bq/g)*	*Activity (Bq)*
Ho-I57	1×10^{2}	1×10^{6}	Lu-172	1×10^{1}	1×10^{6}
Ho-159	1×10^{2}	1×10^{6}	Lu-173	1×10^{2}	1×10^{7}
Ho-161	1×10^{2}	1×10^{7}	Lu-174	1×10^{2}	1×10^{7}
Ho-162	1×10^{2}	1×10^{7}	Lu-174m	1×10^{2}	1×10^{7}
Ho-162m	1×10^{1}	1×10^{6}	Lu-176	1×10^{2}	1×10^{6}
Ho-l64	1×10^{3}	1×10^{6}	Lu-176m	1×10^{3}	1×10^{6}
Ho-l64m	1×10^{3}	1×10^{7}	Lu-l77	1×10^{3}	1×10^{7}
Ho-l66	1×10^{3}	1×10^{5}	Lu-177m	1×10^{1}	1×10^{6}
Ho-l66m	1×10^{1}	1×10^{6}	Lu-178	1×10^{2}	1×10^{5}
Ho-167	1×10^{2}	1×10^{6}	Lu-l78m	1×10^{1}	1×10^{5}
Er-161	1×10^{1}	1×10^{6}	Lu-179	1×10^{3}	1×10^{6}
Er-165	1×10^{3}	1×10^{7}	Hf-170	1×10^{2}	1×10^{6}
Er-169	1×10^{4}	1×10^{7}	Hf-172[b]	1×10^{1}	1×10^{6}
Er-l71	1×10^{2}	1×10^{6}	Hf-I73	1×10^{2}	1×10^{6}
Er-172	1×10^{2}	1×10^{6}	Hf-175	1×10^{2}	1×10^{6}
Tm-162	1×10^{1}	1×10^{6}	Hf-177m	1×10^{1}	1×10^{5}
Tm-I66	1×10^{1}	1×10^{6}	Hf-178m	1×10^{1}	1×10^{6}
Tm-167	1×10^{2}	1×10^{6}	Hf-179m	1×10^{1}	1×10^{6}
Tm-170	1×10^{3}	1×10^{6}	Hf-180m	1×10^{1}	1×10^{6}
Tm-171	1×10^{4}	1×10^{8}	Hf-181	1×10^{1}	1×10^{6}
Tm-172	1×10^{2}	1×10^{6}	Hf-182	1×10^{2}	1×10^{6}
Tm-173	1×10^{2}	1×10^{6}	Hf-182m	1×10^{1}	1×10^{6}
Tm-175	1×10^{1}	1×10^{6}	Hf-183	1×10^{1}	1×10^{6}
Yb-162	1×10^{2}	1×10^{7}	Hf-184	1×10^{2}	1×10^{6}
Yb-I66	1×10^{2}	1×10^{7}	Ta-l72	1×10^{1}	1×10^{6}
Yb-167	1×10^{2}	1×10^{6}	Ta-173	1×10^{1}	1×10^{6}
Yb-169	1×10^{2}	1×10^{7}	Ta-174	1×10^{1}	1×10^{6}
Yb-175	1×10^{3}	1×10^{7}	Ta-175	1×10^{1}	1×10^{6}
Yb-177	1×10^{2}	1×10^{6}	Ta-176	1×10^{1}	1×10^{6}
Yb-178	1×10^{3}	1×10^{6}	Ta-177	1×10^{2}	1×10^{7}
Lu-169	1×10^{1}	1×10^{6}	Ta-178	1×10^{1}	1×10^{6}
Lu-170	1×10^{1}	1×10^{6}	Ta-179	1×10^{3}	1×10^{7}
Lu-171	1×10^{1}	1×10^{6}	Ta-180	1×10^{1}	1×10^{6}

TABLE 1.1 LEVELS FOR EXEMPTION OF MODERATE AMOUNTS OF MATERIAL WITHOUT FURTHER CONSIDERATION: EXEMPT ACfIVITY CONCENTRATIONS AND EXEMPT ACTIVITIES OF RADIONUCLIDES (conld ....)

Radionuclide[a]	*Activity concentration (Bq/g)*	*Activity (Bq)*	*Radionuclide*[a]	*Activity concentration (Bq/g)*	*Activity (Bq)*
Ta-180m	1×10^3	1×10^7	Os-191	1×10^2	1×10^7
Ta-182	1×10^1	1×10^4	Os-191m	1×10^3	1×10^7
Ta-182m	1×10^2	1×10^6	Os-193	1×10^2	1×10^6
Ta-183	1×10^2	1×10^6	Os-194[b]	1×10^2	1×10^5
Ta-184	1×10^1	1×10^6	Ir-182	1×10^1	1×10^5
Ta-l85	1×10^2	1×10^5	Ir-184	1×10^1	1×10^6
Ta-186	1×10^1	1×10^5	Ir-185	1×10^1	1×10^6
W-176	1×10^2	1×10^6	Ir-186	1×10^1	1×10^6
W-177	1×10^1	1×10^6	Ir-186m	1×10^1	1×10^6
W-178[b]	1×10^1	1×10^6	Ir-187	1×10^2	1×10^6
W-179	1×10^2	1×10^7	Ir-188	1×10^1	1×10^6
W-181	1×10^3	1×10^7	Ir-189[b]	1×10^2	1×10^7
W-185	1×10^4	1×10^7	Ir-190	1×10^1	1×10^6
W-l87	1×10^2	1×10^6	Ir-190m (3.1h)	1×10^1	1×10^6
W-188[b]	1×10^2	1×10^5	Ir-190m (1.2h)	1×10^4	1×10^7
Re-177	1×10^1	1×10^6	Ir-192	1×10^1	1×10^4
Re-178	1×10^1	1×10^6	Ir-192m	1×10^2	1×10^7
Re-181	1×10^1	1×10^6	Ir-193m	1×10^4	1×10^7
Re-182	1×10^1	1×10^6	Ir-194	1×10^2	1×10^5
Re-182m	1×10^1	1×10^6	Ir-194m	1×10^1	1×10^6
Re-184	1×10^1	1×10^6	Ir-195	1×10^2	1×10^6
Re-184m	1×10^2	1×10^6	Ir-195m	1×10^2	1×10^6
Re-186	1×10^3	1×10^6	Pt-186	1×10^1	1×10^6
Re-186m	1×10^3	1×10^7	Pt-I88[b]	1×10^1	1×10^6
Re-187	1×10^6	1×10^9	Pt-189	1×10^2	1×10^6
Re-188	1×10^2	1×10^5	Pt-191	1×10^2	1×10^6
Re-188m	1×10^2	1×10^7	Pt-193	1×10^4	1×10^7
Re-189[b]	1×10^2	1×10^6	Pt-193m	1×10^3	1×10^7
Os-180	1×10^2	1×10^7	Pt-195m	1×10^2	1×10^6
Os-181	1×10^1	1×10^6	Pt-I97	1×10^3	1×10^6
Os-182	1×10^2	1×10^6	Pt-197m	1×10^2	1×10^6
Os-185	1×10^1	1×10^6	Pt-199	1×10^2	1×10^6
Os-189m	1×10^4	1×10^7	Pt-200	1×10^2	1×10^6

TABLE l.l LEVELS FOR EXEMPTION OF MODERATE AMOUNTS OF MATERIAL WITHOUT FURTHER CONSIDERATION: EXEMPT ACTIVITY CONCENTRATIONS AND EXEMPT ACTIVITIES OF RADIONUCLIDES (contd ..)

Radionuclide[a]	*Activity concentration (BqIg)*	*Activity (Bq)*	*Radionuclide*[a]	*Activity concentration (BqIg)*	*Activity (Bq)*
Au-193	1×10^2	1×10^7	Pb-201	1×10^1	1×10^6
Au-194	1×10^1	1×10^6	Pb-202	1×10^3	1×10^6
Au-195	1×10^2	1×10^7	Pb-202m	1×10^1	1×10^6
Au-198	1×10^2	1×10^6	Pb-203	1×10^2	1×10^6
Au-198m	1×10^1	1×10^6	Pb-205	1×10^4	1×10^7
Au-199	1×10^2	1×10^6	Pb-209	1×10^5	1×10^6
Au-200	1×10^2	1×10^5	Pb-210[b]	1×10^1	1×10^4
Au-200m	1×10^1	1×10^6	Pb-21l	1×10^2	1×10^6
Au-201	1×10^2	1×10^6	Pb-212[b]	1×10^1	1×10^5
Hg-193	1×10^2	1×10^6	Pb-214	1×10^2	1×10^6
Hg-193m	1×10^1	1×10^6	Bi-200	1×10^1	1×10^6
Hg-194[b]	1×10^1	1×10^6	Bi-20l	1×10^1	1×10^6
Hg-195	1×10^2	1×10^6	Bi-202	1×10^1	1×10^6
Hg-195m[b]	1×10^2	1×10^6	Bi-203	1×10^1	1×10^6
Hg-197	1×10^2	1×10^7	Bi-205	1×10^1	1×10^6
Hg-197m	1×10^2	1×10^6	Bi-206	1×10^1	1×10^5
Hg-199m	1×10^2	1×10^6	Bi-207	1×10^1	1×10^6
Hg-203	1×10^2	1×10^5	Bi-210	1×10^3	1×10^6
Tℓ-194	1×10^1	1×10^6	Bi-210m[b]	1×10^1	1×10^5
Tℓ-194m	1×10^1	1×10^6	Bi-212[b]	1×10^1	1×10^5
Tℓ-195	1×10^1	1×10^6	Bi-213	1×10^2	1×10^6
Tℓ-197	1×10^2	1×10^6	Bi-214	1×10^1	1×10^5
Tℓ-198	1×10^1	1×10^6	Po-203	1×10^1	1×10^6
Tℓ-198m	1×10^1	1×10^6	Po-205	1×10^1	1×10^6
Tℓ-199	1×10^2	1×10^6	Po-206	1×10^1	1×10^6
Tℓ-200	1×10^1	1×10^6	Po-207	1×10^1	1×10^6
Tℓ-201	1×10^2	1×10^6	Po-208	1×10^1	1×10^4
Tℓ-202	1×10^2	1×10^6	Po-209	1×10^1	1×10^4
Tℓ-204	1×10^4	1×10^4	Po-210	1×10^1	1×10^4
Pb-195m	1×10^1	1×10^6	At-207	1×10^1	1×10^6
Pb-198	1×10^2	1×10^6	At-211	1×10^3	1×10^7
Pb-199	1×10^1	1×10^6	Fr-222	1×10^3	1×10^5
Pb-200	1×10^2	1×10^6	Fr-223	1×10^2	1×10^6

TABLE 1.1 LEVELS FOR EXEMPTION OF MODERATE AMOUNTS OF MATERIAL WITHOUT FURTHER CONSIDERATION: EXEMPT ACTIVTIY CONCENTRATIONS AND EXEMPT ACTIVITIES OF RADIONUCLIDES (contd ....)

Radionuclide[a]	*Activity concentration (Bq/g)*	*Activity (Bq)*	*Radionuclide*[a]	*Activity concentration (Bq/g)*	*Activity (Bq)*
Rn-220[b]	1×10^{4}	1×10^{7}	U-235[b]	1×10^{1}	1×10^{4}
Rn-222[b]	1×10^{1}	1×10^{8}	U-236	1×10^{1}	1×10^{4}
Ra-223[b]	1×10^{2}	1×10^{5}	U-237	1×10^{2}	1×10^{6}
Ra-224[b]	1×10^{1}	1×10^{5}	U-238[b]	1×10^{1}	1×10^{4}
Ra-225	1×10^{2}	1×10^{5}	U-239	1×10^{2}	1×10^{6}
Ra-226[b]	1×10^{1}	1×10^{4}	U-240	1×10^{3}	1×10^{7}
Ra-227	1×10^{2}	1×10^{6}	U-240[b]	1×10^{1}	1×10^{6}
Ra-228[b]	1×10^{1}	1×10^{5}	Np-232	1×10^{1}	1×10^{6}
Ac-224	1×10^{2}	1×10^{6}	Np-233	1×10^{2}	1×10^{7}
Ac-225[b]	1×10^{1}	1×10^{4}	Np-234	1×10^{1}	1×10^{6}
Ac-226	1×10^{2}	1×10^{5}	Np-235	1×10^{3}	1×10^{7}
Ac-227[b]	1×10^{-1}	1×10^{3}	Np-236	1×10^{2}	1×10^{5}
Ac-228	1×10^{1}	1×10^{6}	Np-236m	1×10^{3}	1×10^{7}
Th-226[b]	1×10^{3}	1×10^{7}	Np-237[b]	1×10^{0}	1×10^{3}
Th-227	1×10^{1}	1×10^{4}	Np-238	1×10^{2}	1×10^{6}
Th-228[b]	1×10^{0}	1×10^{4}	Np-239	1×10^{2}	1×10^{7}
Th-229[b]	1×10^{0}	1×10^{3}	Np-240	1×10^{1}	1×10^{6}
Th-230	1×10^{0}	1×10^{4}	Pu-234	1×10^{2}	1×10^{7}
Th-231	1×10^{3}	1×10^{7}	Pu-235	1×10^{2}	1×10^{7}
Th-232	1×10^{1}	1×10^{4}	Pu-236	1×10^{1}	1×10^{4}
Th-234[b]	1×10^{3}	1×10^{5}	Pu-237	1×10^{3}	1×10^{7}
Pa-227	1×10^{1}	1×10^{6}	Pu-238	1×10^{0}	1×10^{4}
Pa-228	1×10^{1}	1×10^{6}	Pu-239	1×10^{0}	1×10^{4}
Pa-230	1×10^{1}	1×10^{6}	Pu-240	1×10^{0}	1×10^{3}
Pa-231	1×10^{0}	1×10^{3}	Pu-241	1×10^{2}	1×10^{5}
Pa-232	1×10^{1}	1×10^{6}	Pu-242	1×10^{0}	1×10^{4}
Pa-233	1×10^{2}	1×10^{7}	Pu-243	1×10^{3}	1×10^{7}
Pa-234	1×10^{1}	1×10^{6}	Pu-244	1×10^{0}	1×10^{4}
U-230[b]	1×10^{1}	1×10^{5}	Pu-245	1×10^{2}	1×10^{6}
U-231	1×10^{2}	1×10^{7}	Pu-246	1×10^{2}	1×10^{6}
U-232[b]	1×10^{0}	1×10^{3}	Am-237	1×10^{2}	1×10^{6}
U-233	1×10^{1}	1×10^{4}	Am-238	1×10^{1}	1×10^{6}
U-234	1×10^{1}	1×10^{4}	Am-239	1×10^{2}	1×10^{6}

TABLE 1.1 LEVELS FOR EXEMPTION OF MODERATE AMOUNTS OF MATERIAL WITHOUT FURTHER CONSIDERATION: EXEMPT ACTIVTIY CONCENTRATIONS AND EXEMPT ACTIVITIES OF RADIONUCLIDES (contd ....)

Radionuclide[a]	*Activity concentration (Bq/g)*	*Activity (Bq)*	*Radionuclide*[a]	*Activity concentration (Bq/g)*	*Activity (Bq)*
Am-240	1×10^{1}	1×10^{6}	Bk-247	1×10^{0}	1×10^{4}
Am-241	1×10^{0}	1×10^{4}	Bk-249	1×10^{3}	1×10^{6}
Am-242	1×10^{3}	1×10^{6}	Bk-250	1×10^{1}	1×10^{6}
Am-242m[b]	1×10^{0}	1×10^{4}	Cf-244	1×10^{4}	1×10^{7}
Am-243[b]	1×10^{0}	1×10^{3}	Cf-246	1×10^{3}	1×10^{6}
Am-244	1×10^{1}	1×10^{6}	Cf-248	1×10^{1}	1×10^{4}
Am-244m	1×10^{4}	1×10^{7}	Cf-249	1×10^{0}	1×10^{3}
Am-245	1×10^{3}	1×10^{6}	Cf-250	1×10^{1}	1×10^{4}
Am-246	1×10^{1}	1×10^{5}	Cf-251	1×10^{0}	1×10^{3}
Am-246m	1×10^{1}	1×10^{6}	Cf-252	1×10^{1}	1×10^{4}
Cm-238	1×10^{2}	1×10^{7}	Cf-253	1×10^{2}	1×10^{5}
Cm-240	1×10^{2}	1×10^{5}	Cf-254	1×10^{0}	1×10^{3}
Cm-241	1×10^{2}	1×10^{6}	Es-250	1×10^{2}	1×10^{6}
Cm-242	1×10^{2}	1×10^{5}	Es-251	1×10^{2}	1×10^{7}
Cm-243	1×10^{0}	1×10^{4}	Es-253	1×10^{2}	1×10^{5}
Cm-244	1×10^{1}	1×10^{4}	Es-254	1×10^{1}	1×10^{4}
Cm-245	1×10^{0}	1×10^{3}	Es-254m	1×10^{2}	1×10^{6}
Cm-246	1×10^{0}	1×10^{3}	Fm-252	1×10^{3}	1×10^{6}
Cm-247	1×10^{0}	1×10^{4}	Fm-253	1×10^{2}	1×10^{6}
Cm-248	1×10^{0}	1×10^{3}	Fm-254	1×10^{4}	1×10^{7}
Cm-249	1×10^{3}	1×10^{6}	Fm-255	1×10^{3}	1×10^{6}
Cm-250	1×10^{-1}	1×10^{3}	Fm-257	1×10^{1}	1×10^{5}
Bk-245	1×10^{2}	1×10^{6}	Md-257	1×10^{2}	1×10^{7}
Bk-246	1×10^{1}	1×10^{6}	Md-258	1×10^{2}	1×10^{5}

[a] m and m´ denote metastable states of the redionuclide. The metastable state m´ is of higher energy than the metastable state m.

[b] Parent radionuclides and their progeny whose dose contributions are taken into account in the dose calculations (thus requiring only the exemption level of the parent radionuclide to be considered) are listed here :

Ge-68	Ga-68	Y-87	Sr-87m
Rb-83	Kr-83m	Zr-93	Nb-93m
Sr-82	Rb-82	Zr-97	Nb-97
Sr-90	Y-90	Ru-106	Rh-106

Ag-108m	Ag-108	Ra-226	Rn-222,Po-218,Pb-214,
Sn-121m	Sn-121 (0.776)		Bi-214, Po-214, Pb-210,
Sn-126	Sb-126m		Bi-210, Po-210
Xe-122	I-122	Ra-228	Ac-228
Cs-137	Ba-137m	Ac-225	Fr-221,At-217, Bi-213,
Ba-140	La-l40		Po-213 (0.978),
Ce-134	La-I34		Tl-209 (0.0216).
Ce-144	Pr-I44		Pb-209 (0.978)
Gd-146	Eu-I46	Ac-227	Fr-223 (0.0138)
Hf-172	Lu-172	Th-226	Ra-222, Rn-218, Po-214
W-178	Ta-178	Th-228	Ra-224, Rn-220, Po-216,
W-I88	Re-188		Pb-212, Bi-212,Tl-208 (0.36),
			Po-212(0.64)
Re-189	Os-189m(0.241)	Th-229	Ra-225,Ac-225, Fr-221,
Ir-189	Os-189m		At-217,Bi-213,Po-213,
Pt-188	Ir-188		Pb-209
Hg-I94	Au-l94	Th-234	Pa-234m
Hg-195m	Hg-195(0.542)	U-230	Th-226, Ra-222. Rn-218,
Pb-210	Bi-210, Po-210		Po-214
Pb-212	Bi-212, Tl-208 (0.36),	U-232	Th-228, Ra-224, Rn-220,
	Po-212(0.64)		Po-216, Pb-212, Bi-212,
Bi-210m	Tl-206		Tl-208 (0.36), Po-212 (0.64)
Bi-212	Tl-208 (0.36), Po-212 (0.64)	U-235	Th-231
Rn-220	Po-216	U-238	Th-234, Pa-234m
Rn-222	Po-218, Pb-214, Bi-214,	U-240	Np-240m
	Po-214	Np-237	Pa-233
Ra-223	Rn-219. Po-215, Pb-211,	Am-242m	Am-242
	Bi-211,Tl-207	Am-243	Np-239
Ra-224	Rn-220, Po-216, Pb-212,		
	Bi-212, TI-208 (0.36),		
	Po-212 (0.64)		

TABLE 1.2 LEVELS FOR EXEMPTION OF BULK AMOUNTS OF SOLID MATERIAL WITHOUT FURTHER CONSIDERATION: ACTIVTIY CONCENTRATIONS OF RADIONUCLIDES OF ARTIFICIAL ORIGIN (contd ....)

Radionuclide	*Activity concentration (Bq/g)*	*Radionuclide*	*Activity concentration (Bq/g)*
H-3	100	Co-58	1
Be-7	10	Co-58m	10000
C-14	1	Co-60	0.1
F-18	10	Co-60m	1000
Na-22	0.1	Co-61	100
Na-24	1	Co-62m	10
Si-31	1000	Ni-59	100
P-32	1000	Ni-63	100
p-33	1000	Ni-65	10
S-35	100	Cu-64	100
Cl-36	1	Zn-65	0.1
Cl-38	10	Zn-69	1000
K-42	100	Zn-69m[2]	10
K-43	10	Ga-72	10
Ca-45	100	Ga-71	10000
Ca-47	10	As-73	1000
Sc-46	0.1	As-74	10
Sc-47	100	As-76	10
Sc-48	1	As-77	1000
V-48	1	Se-75	1
Cr-51	100	Br-82	1
Mn-51	10	Rb-86	100
Mn-52	1	Sr-85	1
Mn-52m	10	Sr-85m	100
Mn-53	100	Sr-87m	100
Mn-54	0.1	Sr-89	1000
Mn-56	10	Sr-90[a]	1
Fe-52[a]	10	Sr-91[a]	10
Fe-55	1000	Sr-92	10
Fe-59	1	Y-90	1000
Co-55	10	Y-91	100
Co-56	0.1	Y-91m	100
Co-57	1	Y-92	100

TABLE 1.2. LEVELS FOR EXEMPTION OF BULK AMOUNTS OF SOLID MATERIAL WITHOUT FURTHER CONSIDERATION: ACTIVITY CONCENTRATIONS OF RADIONUCLIDES OF ARTIFICIAL ORIGIN (contd.)

Radionuclide	*Activity concentration (Bq/g)*	*Radionuclide*	*Activity concentration (Bq/g)*
Y-93	100	In-111	10
Zr-93	10	In-113m	100
Zr-95[a]	1	In-114m[a]	10
Zr-97[a]	10	In-115m	100
Nb-93m	10	Sn-l13[a]	1
Nb-94	0.1	Sn-125	10
Nb-95	1	Sb-122	10
Nb-97[a]	10	Sb-124	1
Nb-98	10	Sb-125[a]	0.1
Mo-90	10	Te-123m	1
Mo-93	10	Te-125m	1000
Mo-99[a]	10	Te-127	1000
Mo-101[a]	10	Te-127m[a]	10
Tc-96	1	Te-129	100
Tc-96m	1000	Te-129m[a]	10
Tc-97	10	Te-131	100
Tc-97m	100	Te-131m[a]	10
Tc-99	1	Te-132[a]	1
Tc-99m	100	Te-133	10
Ru-97	10	Te-133m	10
Ru-l03[a]	1	Te-134	10
Ru-I05[a]	10	I-123	100
Ru-l06[a]	0.1	I-125	100
Rh-103m	10000	I-126	10
Rh-105	100	I-129	0.01
Pd-l03[a]	1000	I-130	10
Pd-l09[a]	100	I-131	10
Ag-105	1	I-132	10
Ag-110m[a]	0.1	I-133	10
Ag-111	100	I-134	10
Cd-l09[a]	1	I-135	10
Cd-115[a]	10	Cs-129	10
Cd-115m[a]	100	Cs-131	1000

TABLE 1.2. LEVELS FOR EXEMPTION OF BULK AMOUNTS OF SOLID MATERIAL WITHOUT FURTHER CONSIDERATION: ACTIVITY CONCENTRATIONS OF RADIONUCLIDES OF ARTIFICIAL ORIGIN (contd.)

Radionuclide	*Activity concentration (Bq/g)*	*Radionuclide*	*Activity concentration (Bq/g)*
Cs-132	10	Er-l71	100
Cs-134	0.1	Tm-170	100
Cs-I34m	1000	Tm-171	1000
Cs-135	100	Yb-175	100
Cs-136	1	Lu-177	100
Cs-137[a]	0.1	Hf-181	1
Cs-138	10	Ta-182	0.1
Ba-131	10	W-181	10
Ba-140	1	W-185	1000
La-140	1	W-187	10
Ce-139	1	Re-186	1000
Ce-141	100	Re-188	100
Ce-143	10	Os-185	1
Ce-144[a]	10	Os-191	100
Pr-142	100	Os-191m	1000
Pr-143	1 000	Os-193	100
Nd-147	100	Ir-190	1
Nd-149	100	lr-l92	1
Pm-147	1000	lr-194	100
Pm-149	1000	Pt-191	10
Sm-151	1 000	Pt-193m	1000
Sm-153	100	Pt-197	1000
Eu-152	0.1	Pt-197m	100
Eu-152m	100	Au-198	10
Eu-154	0.1	Au-199	100
Eu-155	1	Hg-197	100
Gd-153	10	Hg-197m	100
Gd-159	100	Hg-203	10
Tb-160	1	Tℓ-200	10
Dy-165	1 000	Tℓ-201	100
Dy-166	100	Tℓ-202	10
Ho-l66	100	Tℓ-204	1
Er-169	1 000	Pb-203	10

TABLE 1.2. LEVELS FOR EXEMPTION OF BULK AMOUNTS OF SOLID MATERIAL WITHOUT FURTHER CONSIDERATION: ACTIVITY CONCENTRATIONS OF RADIONUCLIDES OF ARTIFICIAL ORIGIN (contd.)

Radionuclide	*Activity concentration (Bq/g)*	*Radionuclide*	*Activity concentration (Bq/g)*
Bi-206	1	Pu-241	10
Bi-207	0.1	Pu-242	0.1
Po-203	10	Pu-243	1000
Po-205	10	Pu-244[a]	0.1
Po-207	10	Am-241	0.1
At-211	1000	Am-242	1000
Ra-225	10	Am-242m[a]	0.1
Ra-227	100	Am-243[a]	0.1
Th-226	1000	Cm-242	10
Th-229	0.1	Cm-243	1
Pa-230	10	Cm-244	1
Pa-233	10	Cm-245	0.1
U-230	10	Cm-246	0.1
U-231	100	Cm-247[a]	0.1
U-232[a]	0.1	Cm-248	0.1
U-233	1	Bk-249	100
U-236	10	Cf-246	1000
U-237	100	Cf-248	1
U-239	100	Cf-249	0.1
U-240[a]	100	Cf-250	1
Np-237[a]	1	Cf-251	0.1
Np-239	100	Cf-252	1
Np-240	10	Cf-253	100
Pu-234	100	Cf-254	1
Pu-235	100	Es-253	100
Pu-236	1	Es-254[a]	0.1
Pu-237	100	Es-254m[a]	10
Pu-238	0.1	Fm-254	10000
Pu-239	0.1	Fm-255	100
Pu-240	0.1		

[a] Parent redionuclides and their progeny whose dose contributions are taken into account in the dose calculations (thus requiring only the exemption level of the parent radionuclide to be considered), are listed here :

Fe-52	Mn-52m	Sn-113	In-113m
Zn-69m	Zn-69	Sb-l25	Te-125m
Sr-90	Y-90	Te-127m	Te-127
Sr-91	Y-91m	Te-129m	Te-129
Zr-95	Nb-95	Te-l3lm	Te-131
Zr-97	Nb-97m, Nb-97	Te-132	I-132
Nb-97	Nb-97m	Cs-137	Ba-137m
Mo-99	Tc-99m	Ce-144	Pr-l44, Pr-I44m
Mo-101	Tc-101	U-232	Th-228, Ra-224, Rn-220,
Ru-103	Rh-103m		Po-216, Pb-212, Bi-212.
Ru-105	Rh-l05m		TI-208
Ru-106	Rh-l06	U-240	Np-240m, Np-240
Pd-103	Rh-103m	Np-237	Pa-233
Pd-109	Ag-109m	Pu-244	U-240, Np-240m, Np-240
Ag-110m	Ag-110	Am-242m	Np-238
Cd-I09	Ag-I09m	Am-243	Np-239
Cd-115	In-115m	Cm-247	Pu-243
Cd-115m	In-115m	Es-254	Bk-250
In-114m	In-1I4	Es-254m	Fm-254

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