
STATUTORY RULES OF NORTHERN IRELAND

2018 No. 116

The Radioactive Substances (Modification of Enactments) Regulations (Northern Ireland) 2018

PART 1

Radioactive Substances Activities

Amendment of the Radioactive Substances Act 1993

2.—(1) The Radioactive Substances Act 1993 is amended in accordance with paragraphs (2) to (8).

(2) In the Section headed Preliminary in so far as it extends to Northern Ireland—

- (a) in section 1A (meaning of radioactive material) in the first line after “sections 1E, 1F, 1G” insert “, 1GA”;
- (b) after section 1D (radionuclides not of natural terrestrial or cosmic origin) insert—

“Dilution to reduce concentration of radioactivity: Northern Ireland

1DA. For the purposes of section 1B, 1C and 1D, a substance or article is to be treated as having a concentration of radioactivity which exceeds the value referred to in section 1B(2), 1C(c)(i) or 1D(a), if a person has deliberately diluted the substance or article with the intention of ensuring that its concentration of radioactivity does not exceed that value.”; and

- (c) after section 1G (contaminated substances or articles) insert—

“Historic radium contamination: Northern Ireland

1GA. A substance or article is not radioactive material or radioactive waste where the substance or article arises from the remediation of land contaminated by radium and—

- (a) the substance or article contains Ra-226 or its progeny;
- (b) in the absence of Ra-226 or its progeny, the substance or article would not otherwise be radioactive material or radioactive waste under this section;
- (c) the contamination occurred prior to 13 May 2000; and
- (d) the concentration of Ra-226 and any progeny resulting from the decay of Ra-226 does not exceed the following values—
 - (i) for a substance or article which is a solid or a substance which is relevant a liquid, 1Bq/g;
 - (ii) for a substance which is any other liquid, 1Bq/l; or

(iii) for a substance which is a gas, 0.01 Bq/m³.”.

(3) After section 14 (accumulation of radioactive waste) insert—

“Radioactive waste: requirements to be imposed on persons authorised to dispose of and accumulate radioactive waste: Northern Ireland

14A.—(1) The chief inspector shall require a person who holds an authorisation to carry on the radioactive substances activity described in section 13(3) (disposal of radioactive waste) or section 14(2) (accumulation of radioactive waste) to—

- (a) achieve and maintain an optimal level of protection of members of the public;
- (b) accept into service adequate equipment and procedures for measuring and assessing exposure of members of the public and radioactive contamination of the environment;
- (c) check the effectiveness and maintenance of equipment as referred to in paragraph (b) and ensure the regular calibration of measuring instruments; and
- (d) seek advice from a radioactive waste adviser in the performance of the tasks referred to in paragraphs (a), (b) and (c).

(2) In this section “radioactive waste adviser” means a person with the knowledge, training and experience needed to give radioactive waste management and environmental radiation protection advice in relation to radioactive waste in order to ensure the effective protection of members of the public, and whose competence in that respect is recognised by the chief inspector.”.

(4) In section 16 (grant of authorisations) in so far as it extends to Northern Ireland after subsection (8) insert—

“(8A) In exercising the functions under this Act in relation to radioactive material and radioactive waste, the chief inspector shall observe the requirements of Article 30(4) of the Basic Safety Standards Directive⁽¹⁾.

(8B) This subsection applies where the chief inspector is exercising functions under this Act in relation to radioactive substances activity where there are no radioactive discharges specified in conditions in the authorisation—

- (a) the chief inspector shall impose appropriate conditions in the authorisation concerning—
 - (i) the monitoring, or the evaluation, of radioactive airborne or aqueous discharges into the environment; and
 - (ii) the reporting to the chief inspector of the results of such monitoring or evaluation;
- (b) for the purposes of this subsection, where the chief inspector is exercising functions under this Act in relation to a nuclear power station or nuclear reprocessing plant, the conditions imposed in the authorisation shall require the monitoring of radioactive discharges and reporting to the chief inspector of such information on radioactive discharges as the appropriate Minister directs; and
- (c) notification and recording of significant events to ensure compliance with Article 96 of the Basic Safety Standards Directive.”.

(5) In section 17A (review of authorisations) in so far as it extends to Northern Ireland—

(1) O.J. L 13, 17.01.2014, p.1.

- (a) in the title, after “authorisations”, insert “and inspection of premises authorised in this Act”;
- (b) at the end of subsection 1(a) omit “and”;
- (c) at the end of subsection 1(b) omit “.” and insert “.”;
- (d) following subsection 1(b) insert—
 - “(c) shall make appropriate periodic inspections of premises for which an authorisation was granted in accordance with section 13 or 14 of this Act; and
 - (d) when establishing an inspection programme for the purposes of subparagraph (1)(c) in relation to radioactive substances activities, shall take into account the potential magnitude and nature of the hazard associated with such activities, a general assessment of radiation protection issues in the activities, and the state of compliance with the requirements of this Act.”.
- (e) after subsection (1), insert—
 - “(1A) Where the chief inspector makes an inspection of an undertaking that is a radioactive substances activity, the chief inspector shall—
 - (a) record the findings of that inspection; and
 - (b) communicate those findings to the operator of the authorised premises.”.
- (6) In section 30A (recovery and disposal of orphan sources) in so far as it extends to Northern Ireland in subsection (1) after “, to” insert “control and”.
- (7) In section 47 (general interpretation provisions) in so far as it relates to Northern Ireland—
 - (a) in subsection (1)—
 - (i) at the appropriate alphabetical place insert—

““the Basic Safety Standards Directive” means Council [Directive 2013/59/EURATOM](#) laying down basic safety standards for protection against the dangers arising from the exposure to ionising radiation and repealing Directives 89/618/Euratom, 90/641/Euratom, 96/29/Euratom, 97/43/Euratom and 2003/122/Euratom;”;
 - (ii) for the definition of “the appropriate Minister” substitute—

““the appropriate Minister” means, in relation to Northern Ireland, the Department of Agriculture, Environment and Rural Affairs;”;
 - (iii) omit the definition for “the HASS Directive”;
 - (iv) omit the definition of “high-activity source”;
 - (v) after the definition of “the appropriate Minister” insert—

““high-activity sealed source” means a sealed source for which the activity of the contained radionuclide is equal to or exceeds the relevant activity value laid down in Annex III of the Basic Safety Standards Directive;”;
 - (vi) for the definition of “orphan source” substitute—

““orphan source” has the same meaning as in the Basic Safety Standards Directive;”;
 - (vii) after the definition of “waste” insert—
 - “(1A) Any reference to “the HASS Directive” in this Act shall be deemed to be a reference to the Basic Safety Standards Directive.
 - (1B) Any reference to “high-activity source” in this Act shall be deemed to be a reference to “high-activity sealed source”.”;

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- (b) in subsection (5A) for “Council [Directive 96/29/EURATOM](#)” substitute “Council [Directive 2013/59/EURATOM](#)”;
- (c) for subsection (6) substitute —
- “In the application of this section to Northern Ireland, the reference in subsection (2) to the Secretary of State shall have effect as a reference to the Department of Agriculture, Environment and Rural Affairs.”.
- (8) In Schedule 1A (tables of NORM industrial activities, radionuclides and summation rules) in so far as it relates to Northern Ireland—
- (a) in Table 1, NORM Industrial Activities, in Part 2, after the row “China clay extraction” insert a further row called “Geothermal energy production”;
- (b) for Table 2 (concentration of radionuclides: NORM industrial activities) substitute—

“Table 2

Concentration of radionuclides: NORM industrial activities

<i>Radionuclide</i>	<i>Solid or relevant liquid concentration in becquerels per gram (Bq/g)</i>	<i>Any other liquid concentration in becquerels per litre (Bq/l)</i>	<i>Gaseous concentration in becquerels per cubic metre (Bq/m³)</i>
U-238sec	1	0.1	0.001
U-238+	5	10	0.01
U-234	5	10	0.01
Th-230	10	10	0.001
Ra-226+	1	1	0.1
Pb-210+	5	0.1	0.1
Po-210	5	0.1	0.1
U-235sec	1	0.1	0.0001
U-235+	5	10	0.01
Pa-231	5	1	0.001
Ac-227+	1	0.1	0.001
Th-232sec	1	0.1	0.001
Th-232	5	10	0.001
Ra228+	1	0.1	0.01
Th-228+	1	1	0.001”

- (c) for Table 3 (concentration of radionuclides) substitute—

“Table 3**Concentration of radionuclides**

<i>Radionuclide</i>	<i>Concentration in becquerels per gram (Bq/g)</i>
H-3	10 ²
Be-7	10
C-14	10
F-18	10
Na-22	0.1
Na-24	1
Si-31	10 ³
P-32	10 ³
P-33	10 ³
S-35	10 ²
Cl-36	1
Cl-38	10
K-42	10 ²
K-43	10
Ca-45	10 ²
Ca-47	10
Sc-46	0.1
Sc-47	10 ²
Sc-48	1
V-48	1
Cr-51	10 ²
Mn-51	10
Mn-52	1
Mn-52m	10
Mn-53	10 ²
Mn-54	0.1
Mn-56	10
Fe-52+	10
Fe-55	10 ³

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<i>Radionuclide</i>	<i>Concentration in becquerels per gram (Bq/g)</i>
Fe-59	1
Co-55	10
Co-56	0.1
Co-57	1
Co-58	1
Co-58m	10 ⁴
Co-60	0.1
Co-60m	10 ³
Co-61	10 ²
Co-62m	10
Ni-59	10 ²
Ni-63	10 ²
Ni-65	10
Cu-64	10 ²
Zn-65	0.1
Zn-69	10 ³
Zn-69m ⁺	10
Ga-72	10
Ge-71	10 ⁴
As-73	10 ³
As-74	10
As-76	10
As-77	10 ³
Se-75	1
Br-82	1
Rb-86	10 ²
Sr-85	1
Sr-85m	10 ²
Sr-87m	10 ²
Sr-89	10 ³
Sr-90+	1
Sr-91+	10

<i>Radionuclide</i>	<i>Concentration in becquerels per gram (Bq/g)</i>
Sr-92	10
Y-90	10 ³
Y-91	10 ²
Y-91m	10 ²
Y-92	10 ²
Y-93	10 ²
Zr-93	10
Zr-95+	1
Zr-97+	10
Nb-93m	10
Nb-94	0.1
Nb-95	1
Nb-97+	10
Nb-98	10
Mo-90	10
Mo-93	10
Mo-99+	10
Mo-101+	10
Tc-96	1
Tc-96m	10 ³
Tc-97	10
Tc-97m	10
Tc-99	1
Tc-99m	10 ²
Ru-97	10
Ru-103+	1
Ru-105+	10
Ru-106+	0.1
Rh-103m	10 ⁴
Rh-105	10 ²
Pd-103+	10 ³
Pd-109+	10 ²
Ag-105	1

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<i>Radionuclide</i>	<i>Concentration in becquerels per gram (Bq/g)</i>
Ag-108m+	0.1
Ag-110m+	0.1
Ag-111	10
Cd-109+	1
Cd-115+	10 ²
Cd-115m+	10 ²
In-111	10
In-113m	10 ²
In-114m	10
In-115m	10 ²
Sn-113+	1
Sn-125	10
Sb-122	10
Sb-124	1
Sb-125+	0.1
Te-123m	1
Te-125m	10 ³
Te-127	10 ³
Te-127m+	10
Te-129	10 ²
Te-129m+	10
Te-131	10 ²
Te-131m+	10
Te-132+	1
Te-133+	10
Te-133m+	10
Te-134	10
I-123	10 ²
I-125	10 ²
I-126	10
I-129	0.01
I-130	10
I-131+	10

<i>Radionuclide</i>	<i>Concentration in becquerels per gram (Bq/g)</i>
I-132	10
I-133	10
I-134	10
I-135	10
Cs-129	10
Cs-131	10 ³
Cs-132	10
Cs-134	0.1
Cs-134m	10 ³
Cs-135	10 ²
Cs-136	1
Cs-137+	1
Cs-138	10
Ba-131	10
Ba-140	1
La-140	1
Ce-139	1
Ce-141	100
Ce-143	10
Ce-144+	10
Pr-142	10 ²
Pr-143	10 ³
Nd-147	10 ²
Nd-149	10 ²
Pm-147	10 ³
Pm-149	10 ³
Sm-151	10 ³
Sm-153	10
Eu-152	0.1
Eu-152m	10
Eu-154	0.1
Eu-155	1
Gd-153	10

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<i>Radionuclide</i>	<i>Concentration in becquerels per gram (Bq/g)</i>
Gd-159	10 ²
Tb-160	1
Dy-165	10 ³
Dy-166	10 ²
Ho-166	10 ²
Er-169	10 ³
Er-171	10 ²
Tm-170	10 ²
Tm-171	10 ³
Yb-175	10 ²
Lu-177	10 ²
Hf-181	1
Ta-182	0.1
W-181	10
W-185	10 ³
W-187	10
Re-186	10 ³
Re-188	10 ²
Os-185	10 ³
Os-191	10 ²
Os-191m	10 ³
Os-193	10 ²
Ir-190	1
Ir-192	1
Ir-194	10 ²
Pt-191	10
Pt-193m	10 ³
Pt-197	10 ³
Pt-197m	10 ²
Au-198	10
Au-199	10 ²

<i>Radionuclide</i>	<i>Concentration in becquerels per gram (Bq/g)</i>
Hg-197	10 ²
Hg-197m	10 ²
Hg-203	10
TI-200	10
TI-201	10 ²
TI-202	10
TI-204	1
Pb-203	10
Pb-210+	0.01
Pb-212+	1
Bi-206	1
Bi-207	0.1
Bi-210	10
Bi-212+	1
Po-203	10
Po-205	10
Po-207	10
Po-210	0.01
At-211	10 ³
Ra-223+	1
Ra-224+	1
Ra-225	10
Ra-226+	0.01
Ra-227	10 ²
Ra-228+	0.01
Ac-227+	0.01
Ac-228	1
Th-226+	10 ³
Th-227	1
Th-228+	0.1
Th-229	0.1
Th-230	0.1
Th-231	10 ²

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<i>Radionuclide</i>	<i>Concentration in becquerels per gram (Bq/g)</i>
Th-232	0.01
Th-232+	0.01
Th-232sec	0.01
Th-234+	10
Pa-230	10
Pa-231	0.01
Pa-233	10
U-230	10
U-231	10 ²
U-232+	0.1
U-233	1
U-234	1
U-235+	1
U-235sec	0.01
U-236	10
U-237	10 ²
U-238+	1
U-238sec	0.01
U-239	10 ²
U-240+	10 ²
Np-237+	1
Np-239	10 ²
Np-240	10
Pu-234	10 ³
Pu-235	10 ²
Pu-236	1
Pu-237	10 ²
Pu-238	0.1
Pu-239	0.1
Pu-240	0.1
Pu-241	10
Pu-242	0.1
Pu-243	10 ³

<i>Radionuclide</i>	<i>Concentration in becquerels per gram (Bq/g)</i>
Pu-244+	0.1
Am-241	0.1
Am-242	10 ³
Am-242m+	0.1
Am-243+	0.1
Cm-242	10
Cm-243	1
Cm-244	1
Cm-245	0.1
Cm-246	0.1
Cm-247+	0.1
Cm-248	0.1
Bk-249	10 ²
Cf-246	10 ³
Cf-248	1
Cf-249	0.1
Cf-250	1
Cf-251	0.1
Cf-252	1
Cf-253	10 ²
Cf-253+	10 ²
Cf-254	1
Es-253	10 ²
Es-254+	0.1
Es-254m+	10
Fm-254	10 ⁴
Fm-255	10 ²
Any other solid or non-aqueous liquid radionuclide that is not of natural terrestrial or cosmic origin	0.01, unless the concentration which gives rise to the same 10 µSv/year dose criteria as used in column 2 of this table can be calculated by reference to the IAEA publication “Application of the Concepts of Exclusion, Exemption and Clearance” IAEA Safety Standards Series NO. RS-G-1.7.”
