Regulation 3(1)

PART 1
Table of radionuclides

Radionuclide	Form	Activity (Bq)
Actinium		
Ac-224		2 x 10 ¹¹
Ac-225		3 x 10 ⁰⁹
Ac-226		2 x 10 ¹⁰
Ac-227		5 x 10 ⁰⁷
Ac-228		7 x 10 ¹¹
Aluminium		
Al-26		6 x 10 ¹¹
Americium		
Am-237		2 x 10 ¹⁴
Am-238		9 x 10 ¹³
Am-239		3 x 10 ¹³
Am-240		1 x 10 ¹³
Am-241		3 x 10 ⁰⁸
Am-242		1 x 10 ¹²
Am-242m		3 x 10 ⁰⁸
Am-243		3 x 10 ⁰⁸
Am-244		7 x 10 ¹²
Am-244m		2 x 10 ¹⁴
Am-245		1 x 10 ¹⁴
Am-246		9 x 10 ¹³
Am-246m		1 x 10 ¹⁴
Antimony		
Sb-115		2 x 10 ¹⁴
Sb-116		9 x 10 ¹³
Sb-116m		4 x 10 ¹³

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Sb-117 3 x 10 ¹⁴ Sb-118m 3 x 10 ¹³ Sb-119 1 x 10 ¹⁴ Sb-120 3 x 10 ¹⁴ Sb-120m 7 x 10 ¹² Sb-122 5 x 10 ¹² Sb-124 2 x 10 ¹² Sb-125 2 x 10 ¹² Sb-126 3 x 10 ¹² Sb-127 4 x 10 ¹⁴ Sb-128 1 x 10 ¹⁴ Sb-128m 1 x 10 ¹⁴ Sb-129 2 x 10 ¹³ Sb-130 4 x 10 ¹³ Sb-131 5 x 10 ¹³ Argon 4 x 10 ¹⁶ Ar-37 2 x 10 ²⁰ Ar-39 4 x 10 ¹⁶ Ar-41 7 x 10 ¹³ Arsenic As-69 1 x 10 ¹⁴ As-70 3 x 10 ¹³ As-71 2 x 10 ¹³ As-72 5 x 10 ¹² As-73 2 x 10 ¹³ As-74 5 x 10 ¹² As-76 5 x 10 ¹² As-77 2 x 10 ¹³	Radionuclide	Form	Activity (Bq)
Sb-119	Sb-117		3 x 10 ¹⁴
Sb-120 3 x 10 ¹⁴ Sb-120m 7 x 10 ¹² Sb-122 5 x 10 ¹² Sb-122 5 x 10 ¹² Sb-124 2 x 10 ¹² Sb-125 2 x 10 ¹² Sb-125 2 x 10 ¹² Sb-126 3 x 10 ¹² Sb-126 3 x 10 ¹² Sb-126 3 x 10 ¹² Sb-127 4 x 10 ¹² Sb-128 1 x 10 ¹³ Sb-128 1 x 10 ¹³ Sb-128m 1 x 10 ¹⁴ Sb-129 2 x 10 ¹³ Sb-130 4 x 10 ¹³ Sb-131 5 x 10 ¹³ Sb-131 5 x 10 ¹³ Argon Ar-37 2 x 10 ²⁰ Ar-41 7 x 10 ¹³ Arsenic As-69 1 x 10 ¹⁴ As-70 3 x 10 ¹³ As-71 2 x 10 ¹³ As-72 5 x 10 ¹² As-73 2 x 10 ¹³ As-74 5 x 10 ¹² As-76 5 x 10 ¹² As-76 5 x 10 ¹²	Sb-118m		3 x 10 ¹³
Sb-120m 7×10^{12} Sb-122 5×10^{12} Sb-124 2×10^{12} Sb-125 2×10^{12} Sb-126 3×10^{12} Sb-126m 1×10^{14} Sb-127 4×10^{12} Sb-128 1×10^{14} Sb-128m 1×10^{14} Sb-129 2×10^{13} Sb-130 4×10^{13} Sb-131 5×10^{13} Argon 4×10^{16} Ar-39 4×10^{16} Ar-41 7×10^{13} Arsenic As-69 1×10^{14} As-70 3×10^{13} As-71 2×10^{13} As-72 5×10^{12} As-73 2×10^{13} As-74 5×10^{12}	Sb-119		1 x 10 ¹⁴
Sb-122 Sx 10 ¹² Sb-124 2x 10 ¹² Sb-125 2x 10 ¹² Sb-126 3x 10 ¹² Sb-126 3x 10 ¹² Sb-127 4x 10 ¹² Sb-128 1x 10 ¹³ Sb-128 1x 10 ¹³ Sb-129 2x 10 ¹³ Sb-130 4x 10 ¹³ Sb-131 5x 10 ¹³ Argon Ar-37 2x 10 ²⁰ Ar-39 4x 10 ¹⁶ Ar-41 7x 10 ¹³ Arsenic As-70 3x 10 ¹³ As-71 2x 10 ¹³ As-72 5x 10 ¹² As-73 2x 10 ¹² As-74 5x 10 ¹²	Sb-120		3 x 10 ¹⁴
Sb-124 2 x 10 ¹² Sb-124	Sb-120m		7 x 10 ¹²
Sb-124n	Sb-122		5 x 10 ¹²
Sb-125 2×10^{12} Sb-126 3×10^{12} Sb-126m 1×10^{14} Sb-127 4×10^{12} Sb-128 1×10^{14} Sb-128m 1×10^{14} Sb-129 2×10^{13} Sb-130 4×10^{13} Sb-131 5×10^{13} Argon 4×10^{13} Ar-37 2×10^{20} Ar-39 4×10^{16} Ar-41 7×10^{13} Arsenic As-69 1×10^{14} As-70 3×10^{13} As-71 2×10^{13} As-72 5×10^{12} As-73 2×10^{13} As-74 5×10^{12} As-76 5×10^{12}	Sb-124		2 x 10 ¹²
Sb-126 3 x 10 ¹² Sb-126m 1 x 10 ¹⁴ Sb-127 4 x 10 ¹² Sb-128 1 x 10 ¹³ Sb-128m 1 x 10 ¹⁴ Sb-129 2 x 10 ¹³ Sb-130 4 x 10 ¹³ Sb-131 5 x 10 ¹³ Argon Ar-37 2 x 10 ²⁰ Ar-39 4 x 10 ¹⁶ Ar-41 7 x 10 ¹³ Arsenic Arsenic As-69 1 x 10 ¹⁴ As-70 3 x 10 ¹³ As-71 2 x 10 ¹³ As-72 5 x 10 ¹² As-73 2 x 10 ¹³ As-74 5 x 10 ¹²	Sb-124n		1 x 10 ¹⁵
Sb-126m 1×10^{14} Sb-127 4×10^{12} Sb-128 1×10^{14} Sb-128m 1×10^{14} Sb-129 2×10^{13} Sb-130 4×10^{13} Sb-131 5×10^{13} Argon Ar-37 2×10^{20} Ar-39 4×10^{16} Ar-41 7×10^{13} Arsenic As-69 1×10^{14} As-70 3×10^{13} As-71 2×10^{13} As-72 5×10^{12} As-73 2×10^{13} As-74 5×10^{12} As-76 5×10^{12}	Sb-125		2 x 10 ¹²
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Sb-126		3 x 10 ¹²
Sb-128 1×10^{13} Sb-128m 1×10^{14} Sb-129 2×10^{13} Sb-130 4×10^{13} Sb-131 5×10^{13} Argon Ar-37 Ar-39 4×10^{16} Ar-41 7×10^{13} Asenic 1×10^{14} As-70 3×10^{13} As-71 2×10^{13} As-72 5×10^{12} As-73 2×10^{13} As-74 5×10^{12} As-76 5×10^{12}	Sb-126m		1 x 10 ¹⁴
Sb-128m 1×10^{14} Sb-129 2×10^{13} Sb-130 4×10^{13} Sb-131 5×10^{13} Argon Ar-37 2×10^{20} Ar-39 4×10^{16} Ar-41 7×10^{13} Arsenic As-69 1×10^{14} As-70 3×10^{13} As-71 2×10^{13} As-72 5×10^{12} As-73 2×10^{13} As-74 5×10^{12} As-76 5×10^{12}	Sb-127		4 x 10 ¹²
$\begin{array}{c} \text{Sb-}129 & 2 \times 10^{13} \\ \text{Sb-}130 & 4 \times 10^{13} \\ \text{Sb-}131 & 5 \times 10^{13} \\ \end{array}$ $\begin{array}{c} \text{Argon} \\ \text{Ar-37} & 2 \times 10^{20} \\ \text{Ar-39} & 4 \times 10^{16} \\ \text{Ar-41} & 7 \times 10^{13} \\ \end{array}$ $\begin{array}{c} \text{Arsenic} \\ \text{As-69} & 1 \times 10^{14} \\ \text{As-70} & 3 \times 10^{13} \\ \text{As-71} & 2 \times 10^{13} \\ \text{As-72} & 5 \times 10^{12} \\ \text{As-73} & 2 \times 10^{13} \\ \text{As-74} & 5 \times 10^{12} \\ \end{array}$	Sb-128		1 x 10 ¹³
Sb-130 4×10^{13} Sb-131 5×10^{13} Argon 2×10^{20} Ar-37 2×10^{10} Ar-41 7×10^{13} Arsenic 1×10^{14} As-69 1×10^{14} As-70 3×10^{13} As-71 2×10^{13} As-72 5×10^{12} As-73 2×10^{13} As-74 5×10^{12} As-76 5×10^{12}	Sb-128m		1 x 10 ¹⁴
Sb-131 5×10^{13} Argon 2×10^{20} Ar-37 2×10^{16} Ar-41 7×10^{13} Arsenic 1×10^{14} As-69 1×10^{14} As-70 3×10^{13} As-71 2×10^{13} As-72 5×10^{12} As-73 2×10^{13} As-74 5×10^{12} As-76 5×10^{12}	Sb-129		2 x 10 ¹³
Argon Ar-37 2×10^{20} Ar-39 4×10^{16} Ar-41 7×10^{13} Assenic As-69 1×10^{14} As-70 3×10^{13} As-71 2×10^{13} As-72 5×10^{12} As-73 2×10^{13} As-74 5×10^{12} As-76 5×10^{12}	Sb-130		4 x 10 ¹³
Ar-37 2×10^{20} Ar-39 4×10^{16} Ar-41 7×10^{13} Arsenic 1×10^{14} As-69 1×10^{14} As-70 3×10^{13} As-71 2×10^{13} As-72 5×10^{12} As-73 2×10^{13} As-74 5×10^{12} As-76 5×10^{12}	Sb-131		5 x 10 ¹³
Ar-39 4×10^{16} Ar-41 7×10^{13} Arsenic As-69 1×10^{14} As-70 3×10^{13} As-71 2×10^{13} As-72 5×10^{12} As-73 2×10^{13} As-74 5×10^{12} As-76 5×10^{12}	Argon		
Ar-41 7 x 10 ¹³ Arsenic As-69 1 x 10 ¹⁴ As-70 3 x 10 ¹³ As-71 2 x 10 ¹³ As-72 5 x 10 ¹² As-73 2 x 10 ¹³ As-74 5 x 10 ¹² As-76 5 x 10 ¹²	Ar-37		2 x 10 ²⁰
As-69 As-70 As-71 As-72 As-73 As-73 As-74 As-76 Arsenic 1 x 10 ¹⁴ 2 x 10 ¹³ 2 x 10 ¹³ 2 x 10 ¹² 5 x 10 ¹² 5 x 10 ¹² 5 x 10 ¹² 5 x 10 ¹²	Ar-39		4 x 10 ¹⁶
As-69 1×10^{14} As-70 3×10^{13} As-71 2×10^{13} As-72 5×10^{12} As-73 2×10^{13} As-74 5×10^{12} As-76 5×10^{12}	Ar-41		7 x 10 ¹³
As-70 3×10^{13} As-71 2×10^{13} As-72 5×10^{12} As-73 2×10^{13} As-74 5×10^{12} As-76 5×10^{12}	Arsenic		
As-71 2×10^{13} As-72 5×10^{12} As-73 2×10^{13} As-74 5×10^{12} As-76 5×10^{12}	As-69		1 x 10 ¹⁴
As-72 5×10^{12} As-73 2×10^{13} As-74 5×10^{12} As-76 5×10^{12}	As-70		3 x 10 ¹³
As-73 2×10^{13} As-74 5×10^{12} As-76 5×10^{12}	As-71		2 x 10 ¹³
As-74 5×10^{12} As-76 5×10^{12}	As-72		5 x 10 ¹²
As-76 5 x 10 ¹²	As-73		2 x 10 ¹³
	As-74		5 x 10 ¹²
As-77 2 x 10 ¹³	As-76		5 x 10 ¹²
	As-77		2 x 10 ¹³

Radionuclide	Form	Activity (Bq)
As-78		3×10^{13}
Astatine		
At-207		1×10^{13}
At-211		2 x 10 ¹¹
Barium		
Ba-126		3 x 10 ¹³
Ba-128		4 x 10 ¹²
Ba-131		1 x 10 ¹³
Ba-131m		1 x 10 ¹⁵
Ba-133		2 x 10 ¹²
Ba-133m		1 x 10 ¹³
Ba-135m		2 x 10 ¹³
Ba-139		7 x 10 ¹³
Ba-140		3 x 10 ¹²
Ba-141		1 x 10 ¹⁴
Ba-142		2 x 10 ¹⁴
Berkelium		
Bk-245		9 x 10 ¹²
Bk-246		2 x 10 ¹³
Bk-247		4×10^{08}
Bk-249		2 x 10 ¹¹
Bk-250		2 x 10 ¹³
Beryllium		
Be-7		2 x 10 ¹⁴
Be-10		8 x 10 ¹¹
Bismuth		
Bi-200		6 x 10 ¹³
Bi-201		4 x 10 ¹³
Bi-202		4 x 10 ¹³
Bi-203		2 x 10 ¹³

Radionuclide	Form	Activity (Bq)
Bi-205		8×10^{12}
Bi-206		4 x 10 ¹²
Bi-207		2 x 10 ¹²
Bi-210		3 x 10 ¹¹
Bi-210m		8 x 10 ⁰⁹
Bi-212		1 x 10 ¹²
Bi-213		1 x 10 ¹²
Bi-214		3 x 10 ¹²
Bromine		
Br-74		3 x 10 ¹³
Br-74m		3 x 10 ¹³
Br-75		6 x 10 ¹³
Br-76		1 x 10 ¹³
Br-77		8 x 10 ¹³
Br-80		3 x 10 ¹⁴
Br-80m		7 x 10 ¹³
Br-82		1 x 10 ¹³
Br-83		1 x 10 ¹⁴
Br-84		6 x 10 ¹³
Cadmium		
Cd-104		2 x 10 ¹⁴
Cd-107		1 x 10 ¹⁴
Cd-109		2 x 10 ¹²
Cd-113		2 x 10 ¹¹
Cd-113m		2 x 10 ¹¹
Cd-115		6 x 10 ¹²
Cd-115m		2 x 10 ¹²
Cd-117		3 x 10 ¹³
Cd-117m		2 x 10 ¹³

Radionuclide	Form	Activity (Bq)
Cs-125		1×10^{14}
Cs-127		2×10^{14}
Cs-129		1 x 10 ¹⁴
Cs-130		2 x 10 ¹⁴
Cs-131		2 x 10 ¹⁴
Cs-132		2 x 10 ¹³
Cs-134		4 x 10 ¹¹
Cs-134m		2 x 10 ¹⁴
Cs-135		3 x 10 ¹²
Cs-135m		1 x 10 ¹⁴
Cs-136		5 x 10 ¹²
Cs-137		4 x 10 ¹¹
Cs-138		5 x 10 ¹³
Calcium		
Ca-41		6 x 10 ¹³
Ca-45		2 x 10 ¹²
Ca-47		2 x 10 ¹²
Californium		
Cf-244		3 x 10 ¹²
Cf-246		6 x 10 ¹⁰
Cf-248		3 x 10 ⁰⁹
Cf-249		4 x 10 ⁰⁸
Cf-250		9 x 10 ⁰⁸
Cf-251		4 x 10 ⁰⁸
Cf-252		1 x 10 ⁰⁹
Cf-253		2 x 10 ¹⁰
Cf-254		5 x 10 ⁰⁸
Carbon		
C-11		2 x 10 ¹⁴
	carbon dioxide	2 x 10 ¹⁴

Radionuclide	Form	Activity (Bq)
	carbon monoxide	3×10^{14}
	methane	3 x 10 ¹⁴
	vapour	2 x 10 ¹⁴
C-14		5 x 10 ¹²
	carbon dioxide	3 x 10 ¹²
	carbon monoxide	3×10^{12}
	methane	3 x 10 ¹²
	vapour	3 x 10 ¹²
Cerium		
Ce-134		3 x 10 ¹²
Ce-135		1 x 10 ¹³
Ce-137		3×10^{14}
Ce-137m		1 x 10 ¹³
Ce-139		9 x 10 ¹²
Ce-141		5 x 10 ¹²
Ce-143		7 x 10 ¹²
Ce-144		4 x 10 ¹¹
Chlorine		
Cl-36		3×10^{12}
Cl-38		5 x 10 ¹³
Cl-39		6 x 10 ¹³
Chromium		
Cr-48		4×10^{13}
Cr-49		9 x 10 ¹³
Cr-51		2 x 10 ¹⁴
Cobalt		
Co-55		9 x 10 ¹²
Co-56		1 x 10 ¹²
Co-57		1 x 10 ¹³
Co-58		5 x 10 ¹²

Radionuclide	Form	Activity (Bq)
Co-58m		4 x 10 ¹⁴
Co-60		6 x 10 ¹¹
Co-60m		5 x 10 ¹⁵
Co-61		1 x 10 ¹⁴
Co-62m		7 x 10 ¹³
Copper		
Cu-60		4 x 10 ¹³
Cu-61		5 x 10 ¹³
Cu-64		6 x 10 ¹³
Cu-67		2 x 10 ¹³
Curium		
Cm-238		6 x 10 ¹²
Cm-240		8 x 10 ⁰⁹
Cm-241		7 x 10 ¹¹
Cm-242		5 x 10 ⁰⁹
Cm-243		4 x 10 ⁰⁸
Cm-244		5 x 10 ⁰⁸
Cm-245		3 x 10 ⁰⁸
Cm-246		3 x 10 ⁰⁸
Cm-247		3×10^{08}
Cm-248		8 x 10 ⁰⁷
Cm-249		2 x 10 ¹⁴
Cm-250		1 x 10 ⁰⁷
Dysprosium		
Dy-155		6 x 10 ¹³
Dy-157		1 x 10 ¹⁴
Dy-159		4 x 10 ¹³
Dy-165		7 x 10 ¹³
Dy-166		5 x 10 ¹²
T:		

Radionuclide	Form	Activity (Bq)
Es-250m		4×10^{13}
Es-251		1×10^{13}
Es-253		1 x 10 ¹⁰
Es-254		3 x 10 ⁰⁹
Es-254m		6 x 10 ¹⁰
Erbium		
Er-161		7×10^{13}
Er-165		5 x 10 ¹⁴
Er-169		1 x 10 ¹³
Er-171		2 x 10 ¹³
Er-172		8 x 10 ¹²
Europium		
Eu-145		1×10^{13}
Eu-146		7 x 10 ¹²
Eu-147		1 x 10 ¹³
Eu-148		3 x 10 ¹²
Eu-149		4 x 10 ¹³
Eu-150		5 x 10 ¹¹
Eu-150m		2 x 10 ¹³
Eu-152		6 x 10 ¹¹
Eu-152m		2 x 10 ¹³
Eu-154		5 x 10 ¹¹
Eu-155		4 x 10 ¹²
Eu-156		3 x 10 ¹²
Eu-157		1 x 10 ¹³
Eu-158		6 x 10 ¹³
Fermium		
Fm-252		9 x 10 ¹⁰
Fm-253		7×10^{10}
Fm-254		4 x 10 ¹¹

Radionuclide	Form	Activity (Bq)	
Fm-255		1×10^{11}	
Fm-257		3×10^{09}	
Fluorine			
F-18		8 x 10 ¹³	
Francium			
Fr-222		3×10^{12}	
Fr-223		4 x 10 ¹²	
Gadolinium			
Gd-145		7 x 10 ¹³	
Gd-146		3 x 10 ¹²	
Gd-147		1 x 10 ¹³	
Gd-148		1 x 10 ⁰⁹	
Gd-149		1 x 10 ¹³	
Gd-151		1 x 10 ¹³	
Gd-152		2×10^{09}	
Gd-153		7 x 10 ¹²	
Gd-159		2 x 10 ¹³	
Gallium			
Ga-65		1 x 10 ¹⁴	
Ga-66		7 x 10 ¹²	
Ga-67		4 x 10 ¹³	
Ga-68		6 x 10 ¹³	
Ga-70		3 x 10 ¹⁴	
Ga-72		8 x 10 ¹²	
Ga-73		3 x 10 ¹³	
Germanium			
Ge-66		7 x 10 ¹³	
Ge-67		9 x 10 ¹³	
Ge-68		2 x 10 ¹²	
Ge-69		3 x 10 ¹³	

Radionuclide	Form	Activity (Bq)
Ge-71		6 x 10 ¹⁴
Ge-75		2×10^{14}
Ge-77		2 x 10 ¹³
Ge-78		7 x 10 ¹³
Gold		
Au-193		6 x 10 ¹³
Au-194		2×10^{13}
Au-195		1 x 10 ¹³
Au-198		7 x 10 ¹²
Au-198m		6 x 10 ¹²
Au-199		2 x 10 ¹³
Au-200		1 x 10 ¹⁴
Au-200m		8 x 10 ¹²
Au-201		3 x 10 ¹⁴
Hafnium		
Hf-170		2 x 10 ¹³
Hf-172		7 x 10 ¹¹
Hf-173		4 x 10 ¹³
Hf-175		1 x 10 ¹³
Hf-177m		5 x 10 ¹³
Hf-178m		1 x 10 ¹¹
Hf-179m		4 x 10 ¹²
Hf-180m		4 x 10 ¹³
Hf-181		4 x 10 ¹²
Hf-182		1 x 10 ¹¹
Hf-182m		1 x 10 ¹⁴
Hf-183		8 x 10 ¹³
Hf-184		2 x 10 ¹³
Holmium		
Ho-155		1 x 10 ¹⁴

Radionuclide	Form	Activity (Bq)
Ho-157		4 x 10 ¹⁴
Но-159		4×10^{14}
Ho-161		6 x 10 ¹⁴
Ho-162		1 x 10 ¹⁵
Ho-162m		2 x 10 ¹⁴
Ho-164		7 x 10 ¹⁴
Ho-164m		5 x 10 ¹⁴
Но-166		6 x 10 ¹²
Ho-166m		2 x 10 ¹¹
Но-167		7 x 10 ¹³
Hydrogen		
H-3		1 x 10 ¹⁴
	organically bound tritium	3 x 10 ¹⁴
	elemental gas	7 x 10 ¹⁴
	tritiated methane	2 x 10 ¹⁵
	tritiated water vapour	7 x 10 ¹⁴
Indium		
In-109		9 x 10 ¹³
In-110		3 x 10 ¹³
In-110m		5 x 10 ¹³
In-111		3 x 10 ¹³
In-112		5 x 10 ¹⁴
In-113m		2 x 10 ¹⁴
In-114		4 x 10 ¹⁵
In-114m		9 x 10 ¹¹
In-115		7 x 10 ¹⁰
In-115m		8 x 10 ¹³
In-116m		5 x 10 ¹³
In-117		1 x 10 ¹⁴

Radionuclide	Form	Activity (Bq)
In-119m		2×10^{14}
Iodine		
I-120		2 x 10 ¹³
	methyl iodide	2 x 10 ¹³
	elemental	1 x 10 ¹³
I-120m		2 x 10 ¹³
	methyl iodide	2 x 10 ¹³
	elemental	2 x 10 ¹³
I-121		9 x 10 ¹³
	methyl iodide	9 x 10 ¹³
	elemental	8 x 10 ¹³
I-123		3 x 10 ¹³
	methyl iodide	3 x 10 ¹³
	elemental	3 x 10 ¹³
I-124		6 x 10 ¹¹
	methyl iodide	5 x 10 ¹¹
	elemental	4 x 10 ¹¹
I-125		1 x 10 ¹²
	methyl iodide	1 x 10 ¹²
	elemental	8 x 10 ¹¹
I-126		3 x 10 ¹¹
	methyl iodide	3 x 10 ¹¹
	elemental	2 x 10 ¹¹
I-128		2 x 10 ¹⁴
	methyl iodide	2 x 10 ¹⁴
	elemental	2 x 10 ¹⁴
I-129		2 x 10 ¹¹
	methyl iodide	2 x 10 ¹¹
	elemental	1 x 10 ¹¹

Radionuclide	Form	Activity (Bq)
I-130		3×10^{12}
	methyl iodide	3 x 10 ¹²
	elemental	3 x 10 ¹²
I-131		3 x 10 ¹¹
	methyl iodide	2 x 10 ¹¹
	elemental	2 x 10 ¹¹
I-132		4 x 10 ¹³
	methyl iodide	3 x 10 ¹³
	elemental	3 x 10 ¹³
I-132m		3 x 10 ¹³
	methyl iodide	3 x 10 ¹³
	elemental	2 x 10 ¹³
I-133		4 x 10 ¹²
	methyl iodide	3×10^{12}
	elemental	2 x 10 ¹²
I-134		4 x 10 ¹³
	methyl iodide	4 x 10 ¹³
	elemental	4 x 10 ¹³
I-135		2 x 10 ¹³
	methyl iodide	1 x 10 ¹³
	elemental	1 x 10 ¹³
Iridium		
Ir-182		1 x 10 ¹⁴
Ir-184		3 x 10 ¹³
Ir-185		3 x 10 ¹³
Ir-186		2 x 10 ¹³
Ir-186m		7 x 10 ¹³
Ir-187		6 x 10 ¹³
Ir-188		1 x 10 ¹³

Radionuclide	Form	Activity (Bq)
Ir-189		2 x 10 ¹³
Ir-190		5 x 10 ¹²
Ir-190m		1 x 10 ¹⁵
Ir-190n		8 x 10 ¹³
Ir-192		3 x 10 ¹²
Ir-192n		8 x 10 ¹¹
Ir-193m		2 x 10 ¹³
Ir-194		6 x 10 ¹²
Ir-194m		1 x 10 ¹²
Ir-195		7 x 10 ¹³
Ir-195m		3 x 10 ¹³
Iron		
Fe-52		7 x 10 ¹²
Fe-55		2 x 10 ¹³
Fe-59		3 x 10 ¹²
Fe-60		8 x 10 ¹⁰
Krypton		
Kr-74		2 x 10 ¹⁴
Kr-76		2×10^{14}
Kr-77		1×10^{14}
Kr-79		4 x 10 ¹⁴
Kr-81		3 x 10 ¹⁶
Kr-81m		7 x 10 ¹⁶
Kr-83m		3 x 10 ¹⁸
Kr-85		2 x 10 ¹⁶
Kr-85m		6 x 10 ¹⁴
Kr-87		1 x 10 ¹⁴
Kr-88		5 x 10 ¹³
Lanthanum		
La-131		1 x 10 ¹⁴

Radionuclide	Form	Activity (Bq)
La-132		2×10^{13}
La-135		3 x 10 ¹⁴
La-137		3 x 10 ¹²
La-138		2 x 10 ¹¹
La-140		1 x 10 ¹³
La-141		2 x 10 ¹³
La-142		3 x 10 ¹³
La-143		2 x 10 ¹⁴
Lead		
Pb-195m		1 x 10 ¹⁴
Pb-198		8 x 10 ¹³
Pb-199		9 x 10 ¹³
Pb-200		2 x 10 ¹³
Pb-201		5 x 10 ¹³
Pb-202		2 x 10 ¹²
Pb-202m		4 x 10 ¹³
Pb-203		3 x 10 ¹³
Pb-205		3 x 10 ¹³
Pb-209		1 x 10 ¹⁴
Pb-210		5 x 10 ⁰⁹
Pb-211		2 x 10 ¹²
Pb-212		1 x 10 ¹¹
Pb-214		3 x 10 ¹²
Lutetium		
Lu-169		2 x 10 ¹³
Lu-170		9 x 10 ¹²
Lu-171		1 x 10 ¹³
Lu-172		6 x 10 ¹²
Lu-173		7 x 10 ¹²
Lu-174		5 x 10 ¹²

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Radionuclide	Form	Activity (Bq)
Hg-195	inorganic	8×10^{13}
	organic	1×10^{14}
	vapour	2 x 10 ¹³
Hg-195m	inorganic	1 x 10 ¹³
	organic	2 x 10 ¹³
	vapour	3 x 10 ¹²
Hg-197	inorganic	3 x 10 ¹³
	organic	5 x 10 ¹³
	vapour	6 x 10 ¹²
Hg-197m	inorganic	1 x 10 ¹³
	organic	2 x 10 ¹³
	vapour	4 x 10 ¹²
Hg-199m	inorganic	2 x 10 ¹⁴
	organic	2 x 10 ¹⁴
	vapour	1 x 10 ¹⁴
Hg-203	inorganic	8 x 10 ¹²
	organic	8 x 10 ¹²
	vapour	3 x 10 ¹²
Molybdenum		
Mo-90		2 x 10 ¹³
Mo-93		6 x 10 ¹²
Mo-93m		3 x 10 ¹³
Mo-93m		3 x 10 ¹³
Mo-99		1 x 10 ¹³
Mo-101		1 x 10 ¹⁴
Neodymium		
Nd-136		9 x 10 ¹³
Nd-138		1 x 10 ¹³
Nd-139		2 x 10 ¹⁴
Nd-139m		3 x 10 ¹³

Radionuclide	Form	Activity (Bq)
Nd-141		8×10^{14}
Nd-147		6 x 10 ¹²
Nd-149		6 x 10 ¹³
Nd-151		2 x 10 ¹⁴
Neon		
Ne-19		1 x 10 ¹⁶
Neptunium		
Np-232		2×10^{14}
Np-233		2 x 10 ¹⁵
Np-234		1 x 10 ¹³
Np-235		3 x 10 ¹³
Np-236		4 x 10 ⁰⁹
Np-236m		3 x 10 ¹²
Np-237		6 x 10 ⁰⁸
Np-238		6 x 10 ¹²
Np-239		9 x 10 ¹²
Np-240		6 x 10 ¹³
Nickel		
Ni-56		9 x 10 ¹²
	nickel carbonyl	9 x 10 ¹²
Ni-57		1 x 10 ¹³
	nickel carbonyl	1 x 10 ¹³
Ni-59		6 x 10 ¹³
	nickel carbonyl	3 x 10 ¹³
Ni-63		2 x 10 ¹³
	nickel carbonyl	1 x 10 ¹³
Ni-65		4 x 10 ¹³
	nickel carbonyl	3 x 10 ¹³
Ni-66		3 x 10 ¹²
	nickel carbonyl	3 x 10 ¹²

Radionuclide	Form	Activity (Bq)
Nitrogen		
N-13	gas	4×10^{14}
Niobium		
Nb-88		5 x 10 ¹³
Nb-89		2 x 10 ¹³
Nb-89m		5 x 10 ¹³
Nb-90		7×10^{12}
Nb-93m		1×10^{13}
Nb-94		5 x 10 ¹¹
Nb-95		9×10^{12}
Nb-95m		1 x 10 ¹³
Nb-96		8 x 10 ¹²
Nb-97		9 x 10 ¹³
Nb-98m		4×10^{13}
Osmium		
Os-180		5 x 10 ¹⁴
Os-181		6 x 10 ¹³
Os-182		2 x 10 ¹³
Os-185		7 x 10 ¹²
Os-189m		4 x 10 ¹⁴
Os-191		9 x 10 ¹²
Os-191m		7 x 10 ¹³
Os-193		1 x 10 ¹³
Os-194		3 x 10 ¹¹
Oxygen		
O-15	Gas	2 x 10 ¹⁵
Palladium		
Pd-100		1 x 10 ¹³
Pd-101		8 x 10 ¹³
Pd-103		3 x 10 ¹³

Radionuclide	Form	Activity (Bq)
Pd-107		5×10^{13}
Pd-109		1 x 10 ¹³
Phosphorus		
P-32		7 x 10 ¹¹
P-33		4 x 10 ¹²
Platinum		
Pt-186		8×10^{13}
Pt-188		1 x 10 ¹³
Pt-189		7 x 10 ¹³
Pt-191		3 x 10 ¹³
Pt-193		2 x 10 ¹⁴
Pt-193m		2 x 10 ¹³
Pt-195m		1 x 10 ¹³
Pt-197		2 x 10 ¹³
Pt-197m		1 x 10 ¹⁴
Pt-199		2 x 10 ¹⁴
Pt-200		8 x 10 ¹²
Plutonium		
Pu-234		1 x 10 ¹²
Pu-235		2 x 10 ¹⁵
Pu-236		8 x 10 ⁰⁸
Pu-237		4 x 10 ¹³
Pu-238		3 x 10 ⁰⁸
Pu-239		3 x 10 ⁰⁸
Pu-240		3 x 10 ⁰⁸
Pu-241		1 x 10 ¹⁰
Pu-242		3 x 10 ⁰⁸
Pu-243		8 x 10 ¹³
Pu-244		3×10^{08}
Pu-245		1 x 10 ¹³

Radionuclide	Form	Activity (Bq)
Pu-246		2×10^{12}
Polonium		
Po-203		8×10^{13}
Po-205		7 x 10 ¹³
Po-206		1 x 10 ¹¹
Po-207		5 x 10 ¹³
Po-208		3×10^{09}
Po-209		2×10^{09}
Po-210		4×10^{09}
Potassium		
K-40		1 x 10 ¹²
K-42		2×10^{13}
K-43		3×10^{13}
K-44		5 x 10 ¹³
K-45		8 x 10 ¹³
Praseodymium		
Pr-136		1 x 10 ¹⁴
Pr-137		1 x 10 ¹⁴
Pr-138m		4×10^{13}
Pr-139		2×10^{14}
Pr-142		6 x 10 ¹²
Pr-142m		6 x 10 ¹⁴
Pr-143		5 x 10 ¹²
Pr-144		2×10^{14}
Pr-145		2×10^{13}
Pr-147		2 x 10 ¹⁴
Promethium		
Pm-141		2 x 10 ¹⁴
Pm-143		9 x 10 ¹²
Pm-144		2 x 10 ¹²

Radionuclide	Form	Activity (Bq)
Pm-145		8 x 10 ¹²
Pm-146		1×10^{12}
Pm-147		5 x 10 ¹²
Pm-148		3 x 10 ¹²
Pm-148m		2 x 10 ¹²
Pm-149		8 x 10 ¹²
Pm-150		3 x 10 ¹³
Pm-151		1 x 10 ¹³
Protactinium		
Pa-227		4 x 10 ¹¹
Pa-228		4 x 10 ¹¹
Pa-230		4 x 10 ¹⁰
Pa-231		2 x 10 ⁰⁸
Pa-232		3 x 10 ¹²
Pa-233		5 x 10 ¹²
Pa-234		1 x 10 ¹³
Radium		
Ra-223		3 x 10 ⁰⁹
Ra-224		8 x 10 ⁰⁹
Ra-225		4 x 10 ⁰⁹
Ra-226		3 x 10 ⁰⁹
Ra-227		6 x 10 ¹³
Ra-228		2 x 10 ⁰⁹
Rhenium		
Re-177		5 x 10 ¹⁴
Re-178		1 x 10 ¹⁴
Re-181		2×10^{13}
Re-182		5 x 10 ¹²
Re-182m		3×10^{13}
Re-184		6 x 10 ¹²

Radionuclide	Form	Activity (Bq)
Re-184m		3×10^{12}
Re-186		5 x 10 ¹²
Re-186m		2 x 10 ¹²
Re-187		1 x 10 ¹⁵
Re-188		6 x 10 ¹²
Re-188m		3 x 10 ¹⁴
Re-189		1 x 10 ¹³
Rhodium		
Rh-99		1×10^{13}
Rh-99m		9 x 10 ¹³
Rh-100		1 x 10 ¹³
Rh-101		4 x 10 ¹²
Rh-101m		4 x 10 ¹³
Rh-102		2 x 10 ¹²
Rh-102m		9 x 10 ¹¹
Rh-103m		2 x 10 ¹⁵
Rh-105		2 x 10 ¹³
Rh-106m		3 x 10 ¹³
Rh-107		3 x 10 ¹⁴
Rubidium		
Rb-79		9 x 10 ¹³
Rb-81		9 x 10 ¹³
Rb-81m		8 x 10 ¹⁴
Rb-82m		3 x 10 ¹³
Rb-83		6 x 10 ¹²
Rb-84		4 x 10 ¹²
Rb-86		3 x 10 ¹²
Rb-87		6 x 10 ¹²
Rb-88		9 x 10 ¹³
Rb-89		8 x 10 ¹³

Radionuclide	Form	Activity (Bq)	
Ruthenium			
Ru-94		9×10^{13}	
	ruthenium tetroxide	8 x 10 ¹³	
Ru-97		6 x 10 ¹³	
	ruthenium tetroxide	6 x 10 ¹³	
Ru-103		7 x 10 ¹²	
	ruthenium tetroxide	1×10^{13}	
Ru-105		3 x 10 ¹³	
	ruthenium tetroxide	3 x 10 ¹³	
Ru-106		4 x 10 ¹¹	
	ruthenium tetroxide	8 x 10 ¹¹	
Samarium			
Sm-141		1×10^{14}	
Sm-141m		7 x 10 ¹³	
Sm-142		5 x 10 ¹³	
Sm-145		1 x 10 ¹³	
Sm-146		3 x 10 ⁰⁹	
Sm-147		3 x 10 ⁰⁹	
Sm-151		7×10^{12}	
Sm-153		1×10^{13}	
Sm-155		3 x 10 ¹⁴	
Sm-156		3 x 10 ¹³	
Scandium			
Sc-43		4×10^{13}	
Sc-44		2 x 10 ¹³	
Sc-44m		4 x 10 ¹²	
Sc-46		2 x 10 ¹²	
Sc-47		1 x 10 ¹³	
Sc-48		5 x 10 ¹²	
Sc-49		1 x 10 ¹⁴	

Radionuclide	Form	Activity (Bq)
Selenium		
Se-70		6 x 10 ¹³
Se-73		3 x 10 ¹³
Se-73m		2 x 10 ¹⁴
Se-75		4 x 10 ¹²
Se-79		2 x 10 ¹²
Se-81		3 x 10 ¹⁴
Se-81m		1 x 10 ¹⁴
Se-83		6 x 10 ¹³
Silicon		
Si-31		6 x 10 ¹³
Si-32		3 x 10 ¹¹
Silver		
Ag-102		7 x 10 ¹³
Ag-103		1 x 10 ¹⁴
Ag-104		5 x 10 ¹³
Ag-104m		7 x 10 ¹³
Ag-105		1 x 10 ¹³
Ag-106		2 x 10 ¹⁴
Ag-106m		6 x 10 ¹²
Ag-108m		6 x 10 ¹¹
Ag-110m		1 x 10 ¹²
Ag-111		6 x 10 ¹²
Ag-112		2 x 10 ¹³
Ag-115		1 x 10 ¹⁴
Sodium		
Na-22		1 x 10 ¹²
Na-24		1 x 10 ¹³
Strontium		
Sr-80		3 x 10 ¹³

Radionuclide	Form	Activity (Bq)
Sr-81		8×10^{13}
Sr-82		1×10^{12}
Sr-83		2 x 10 ¹³
Sr-85		1 x 10 ¹³
Sr-85m		6 x 10 ¹⁴
Sr-87m		2 x 10 ¹⁴
Sr-89		2 x 10 ¹²
Sr-90		2 x 10 ¹¹
Sr-91		1 x 10 ¹³
Sr-92		2 x 10 ¹³
Sulphur		
S-35	inorganic	1 x 10 ¹³
	organic	1 x 10 ¹³
	gas / vapour	1 x 10 ¹¹
Tantalum		
Ta-172		7×10^{13}
Ta-173		4×10^{13}
Ta-174		8 x 10 ¹³
Ta-175		4×10^{13}
Ta-176		2 x 10 ¹³
Ta-177		7×10^{13}
Ta-178m		7×10^{13}
Ta-179		3 x 10 ¹³
Ta-180		1 x 10 ¹⁴
Ta-182		2 x 10 ¹²
Ta-182m		4 x 10 ¹⁴
Ta-183		5 x 10 ¹²
Ta-184		1 x 10 ¹³
Ta-185		1 x 10 ¹⁴
Ta-186		1 x 10 ¹⁴

Radionuclide	Form	Activity (Bq)
Technetium		
Tc-93		7×10^{13}
Tc-93m		1 x 10 ¹⁴
Tc-94		3 x 10 ¹³
Tc-94m		5 x 10 ¹³
Tc-95		4 x 10 ¹³
Tc-95m		8 x 10 ¹²
Tc-96		8 x 10 ¹²
Tc-96m		7 x 10 ¹⁴
Tc-97		2 x 10 ¹³
Tc-97m		6 x 10 ¹²
Tc-98		5 x 10 ¹¹
Tc-99		2 x 10 ¹²
Tc-99m		3 x 10 ¹⁴
Tc-101		3 x 10 ¹⁴
Tc-104		6 x 10 ¹³
Tellurium		
Te-116		5 x 10 ¹³
	vapour	6 x 10 ¹³
Te-121		2 x 10 ¹³
	vapour	2 x 10 ¹³
Te-121m		3 x 10 ¹²
	vapour	2 x 10 ¹²
Te-123		4 x 10 ¹²
	vapour	2 x 10 ¹²
Te-123m		4 x 10 ¹²
	vapour	3 x 10 ¹²
Te-125m		5 x 10 ¹²
	vapour	6 x 10 ¹²
Te-127		4 x 10 ¹³

Radionuclide	Form	Activity (Bq)
	vapour	5×10^{13}
Te-127m		2 x 10 ¹²
	vapour	2 x 10 ¹²
Te-129		1 x 10 ¹⁴
	vapour	1 x 10 ¹⁴
Te-129m		2 x 10 ¹²
	vapour	2 x 10 ¹²
Te-131		9 x 10 ¹³
	vapour	8 x 10 ¹³
Te-131m		4 x 10 ¹²
	vapour	3 x 10 ¹²
Te-132		4 x 10 ¹²
	vapour	2 x 10 ¹²
Te-133		8 x 10 ¹³
	vapour	8 x 10 ¹³
Te-133m		2 x 10 ¹³
	vapour	2 x 10 ¹³
Te-134		6 x 10 ¹³
	vapour	6 x 10 ¹³
Terbium		
Tb-147		3×10^{13}
Tb-149		5 x 10 ¹²
Tb-150		2 x 10 ¹³
Tb-151		2 x 10 ¹³
Tb-153		1 x 10 ¹³
Tb-154		1×10^{13}
Tb-155		4 x 10 ¹³
Tb-156		7 x 10 ¹²
Tb-156m		5 x 10 ¹³

Radionuclide	Form	Activity (Bq)
Tb-156n		9 x 10 ¹³
Tb-157		2 x 10 ¹³
Tb-158		6 x 10 ¹¹
Tb-160		2 x 10 ¹²
Tb-161		9 x 10 ¹²
Thallium		
Tl-194		2 x 10 ¹⁴
Tl-194m		7 x 10 ¹³
Tl-195		1 x 10 ¹⁴
Tl-197		2 x 10 ¹⁴
Tl-198		5 x 10 ¹³
Tl-198m		7 x 10 ¹³
Tl-199		2 x 10 ¹⁴
T1-200		3 x 10 ¹³
T1-201		9 x 10 ¹³
T1-202		2 x 10 ¹³
T1-204		6 x 10 ¹²
Thorium		
Th-226		6 x 10 ¹¹
Th-227		3 x 10 ⁰⁹
Th-228		7 x 10 ⁰⁸
Th-229		1 x 10 ⁰⁸
Th-230		3 x 10 ⁰⁸
Th-231		2 x 10 ¹³
Th-232		3 x 10 ⁰⁸
Th-234		2 x 10 ¹²
Thulium		
Tm-162		9 x 10 ¹³
Tm-166		2 x 10 ¹³
Tm-167		1 x 10 ¹³

Tm-170 2 x 10 ¹² Tm-171 2 x 10 ¹³ Tm-172 5 x 10 ¹² Tm-173 3 x 10 ¹³ Tm-175 2 x 10 ¹⁴ Tin Sn-110 3 x 10 ¹³ Sn-111 2 x 10 ¹⁴ Sn-113 6 x 10 ¹² Sn-117m 7 x 10 ¹² Sn-119m 9 x 10 ¹² Sn-121 3 x 10 ¹³ Sn-121 3 x 10 ¹³ Sn-123 2 x 10 ¹² Sn-123m 2 x 10 ¹² Sn-123m 2 x 10 ¹⁴ Sn-125 2 x 10 ¹² Sn-126 8 x 10 ¹¹ Sn-127 3 x 10 ¹³ Sn-128 5 x 10 ¹³ Titanium Titanium Titanium Titanium Tungsten I x 10 ¹⁴ W-176 1 x 10 ¹⁴ W-177 9 x 10 ¹³ W-178 5 x 10 ¹³ W-179 2 x 10 ¹⁵ W-181 9 x 10 ¹³ W-185 2 x 10 ¹³ W-187 1 x 10 ¹³	Radionuclide	Form	Activity (Bq)
$\begin{array}{c} Tm-172 & 5 \times 10^{12} \\ Tm-173 & 3 \times 10^{13} \\ Tm-175 & 2 \times 10^{14} \\ \hline Tin & \\ Sn-110 & 3 \times 10^{13} \\ Sn-111 & 2 \times 10^{14} \\ Sn-113 & 6 \times 10^{12} \\ Sn-117m & 7 \times 10^{12} \\ Sn-119m & 9 \times 10^{12} \\ Sn-121 & 3 \times 10^{13} \\ Sn-121 & 3 \times 10^{13} \\ Sn-121 & 3 \times 10^{13} \\ Sn-123 & 2 \times 10^{12} \\ Sn-123 & 2 \times 10^{12} \\ Sn-123 & 2 \times 10^{12} \\ Sn-125 & 2 \times 10^{12} \\ Sn-126 & 8 \times 10^{11} \\ Sn-127 & 3 \times 10^{13} \\ Sn-128 & 5 \times 10^{13} \\ \hline Titanium & \\ Ti-44 & 2 \times 10^{13} \\ \hline Titanium & \\ Ti-45 & 4 \times 10^{13} \\ \hline Tungsten & \\ W-176 & 1 \times 10^{14} \\ W-177 & 9 \times 10^{13} \\ W-178 & 5 \times 10^{13} \\ \hline W-179 & 2 \times 10^{15} \\ W-181 & 9 \times 10^{13} \\ W-185 & 2 \times 10^{13} \\ \end{array}$	Tm-170		2 x 10 ¹²
$\begin{array}{c} Tm-173 & 3 \times 10^{13} \\ Tm-175 & 2 \times 10^{14} \\ \hline Tin & & & & \\ Sn-110 & 3 \times 10^{13} \\ Sn-111 & 2 \times 10^{14} \\ Sn-113 & 6 \times 10^{12} \\ Sn-113 & 6 \times 10^{12} \\ Sn-117m & 7 \times 10^{12} \\ Sn-119m & 9 \times 10^{12} \\ Sn-121 & 3 \times 10^{13} \\ Sn-121m & 5 \times 10^{12} \\ Sn-123 & 2 \times 10^{12} \\ Sn-123 & 2 \times 10^{12} \\ Sn-123 & 2 \times 10^{14} \\ Sn-125 & 2 \times 10^{12} \\ Sn-126 & 8 \times 10^{11} \\ Sn-127 & 3 \times 10^{13} \\ Sn-128 & 5 \times 10^{13} \\ \hline Titanium & & & \\ Ti-44 & 2 \times 10^{14} \\ Ti-45 & 4 \times 10^{13} \\ \hline Tungsten & & & \\ W-176 & 1 \times 10^{14} \\ W-177 & 9 \times 10^{13} \\ W-179 & 2 \times 10^{15} \\ W-179 & 2 \times 10^{13} \\ W-185 & 2 \times 10^{13} \\ \end{array}$	Tm-171		2×10^{13}
$\begin{array}{c} \text{Tm-}175 & 2 \times 10^{14} \\ \\ \text{Tin} & \\ \\ \text{Sn-}110 & 3 \times 10^{13} \\ \\ \text{Sn-}111 & 2 \times 10^{14} \\ \\ \text{Sn-}113 & 6 \times 10^{12} \\ \\ \text{Sn-}117m & 7 \times 10^{12} \\ \\ \text{Sn-}119m & 9 \times 10^{12} \\ \\ \text{Sn-}121 & 3 \times 10^{13} \\ \\ \text{Sn-}121m & 5 \times 10^{12} \\ \\ \text{Sn-}123 & 2 \times 10^{12} \\ \\ \text{Sn-}123 & 2 \times 10^{12} \\ \\ \text{Sn-}123m & 2 \times 10^{14} \\ \\ \text{Sn-}125 & 2 \times 10^{12} \\ \\ \text{Sn-}126 & 8 \times 10^{11} \\ \\ \text{Sn-}127 & 3 \times 10^{13} \\ \\ \text{Sn-}128 & 5 \times 10^{13} \\ \\ \text{Titanium} & \\ \\ \text{Ti-}44 & 2 \times 10^{13} \\ \\ \text{Titanjum} & \\ \\ \text{Ti-}45 & 4 \times 10^{13} \\ \\ \text{Tungsten} & \\ \\ \text{W-}176 & 1 \times 10^{14} \\ \\ \text{W-}177 & 9 \times 10^{13} \\ \\ \text{W-}178 & 5 \times 10^{13} \\ \\ \text{W-}179 & 2 \times 10^{15} \\ \\ \text{W-}181 & 9 \times 10^{13} \\ \\ \text{W-}185 & 2 \times 10^{13} \\ \end{array}$	Tm-172		5 x 10 ¹²
Tin Sn-110 3×10^{13} Sn-111 2×10^{14} Sn-113 6×10^{12} Sn-117m 7×10^{12} Sn-119m 9×10^{12} Sn-121 3×10^{13} Sn-121m 5×10^{12} Sn-123 2×10^{12} Sn-123 2×10^{12} Sn-123m 2×10^{12} Sn-125 2×10^{12} Sn-126 8×10^{11} Sn-127 3×10^{13} Sn-128 5×10^{13} Titanium Ti-44 2×10^{11} Ti-45 4×10^{13} Tungsten W-176 1×10^{14} W-177 9×10^{13} W-178 5×10^{13} W-179 2×10^{13} W-185 2×10^{13}	Tm-173		3 x 10 ¹³
$\begin{array}{c} \text{Sn-}110 & 3 \times 10^{13} \\ \text{Sn-}111 & 2 \times 10^{14} \\ \text{Sn-}113 & 6 \times 10^{12} \\ \text{Sn-}117m & 7 \times 10^{12} \\ \text{Sn-}119m & 9 \times 10^{12} \\ \text{Sn-}121 & 3 \times 10^{13} \\ \text{Sn-}121m & 5 \times 10^{12} \\ \text{Sn-}123 & 2 \times 10^{12} \\ \text{Sn-}123 & 2 \times 10^{12} \\ \text{Sn-}123m & 2 \times 10^{14} \\ \text{Sn-}125 & 2 \times 10^{12} \\ \text{Sn-}126 & 8 \times 10^{11} \\ \text{Sn-}127 & 3 \times 10^{13} \\ \text{Sn-}128 & 5 \times 10^{13} \\ \hline \textbf{Titanium} \\ \hline \textbf{Ti-44} & 2 \times 10^{11} \\ \textbf{Ti-45} & 4 \times 10^{13} \\ \hline \textbf{Tungsten} \\ \hline \textbf{W-}176 & 1 \times 10^{14} \\ \textbf{W-}177 & 9 \times 10^{13} \\ \textbf{W-}178 & 5 \times 10^{13} \\ \hline \textbf{W-}179 & 2 \times 10^{15} \\ \hline \textbf{W-}181 & 9 \times 10^{13} \\ \hline \textbf{W-}185 & 2 \times 10^{13} \\ \hline \end{array}$	Tm-175		2 x 10 ¹⁴
$\begin{array}{c} \text{Sn-}111 & 2 \times 10^{14} \\ \text{Sn-}113 & 6 \times 10^{12} \\ \text{Sn-}117m & 7 \times 10^{12} \\ \text{Sn-}119m & 9 \times 10^{12} \\ \text{Sn-}121 & 3 \times 10^{13} \\ \text{Sn-}121m & 5 \times 10^{12} \\ \text{Sn-}123 & 2 \times 10^{12} \\ \text{Sn-}123 & 2 \times 10^{12} \\ \text{Sn-}123m & 2 \times 10^{14} \\ \text{Sn-}125 & 2 \times 10^{12} \\ \text{Sn-}126 & 8 \times 10^{11} \\ \text{Sn-}127 & 3 \times 10^{13} \\ \text{Sn-}128 & 5 \times 10^{13} \\ \hline \textbf{Titanium} \\ \hline \textbf{Ti-}44 & 2 \times 10^{14} \\ \textbf{Ti-}45 & 4 \times 10^{13} \\ \hline \textbf{Tungsten} \\ \hline \textbf{W-}176 & 1 \times 10^{14} \\ \textbf{W-}177 & 9 \times 10^{13} \\ \textbf{W-}178 & 5 \times 10^{13} \\ \hline \textbf{W-}179 & 2 \times 10^{15} \\ \textbf{W-}181 & 9 \times 10^{13} \\ \textbf{W-}185 & 2 \times 10^{13} \\ \hline \textbf{W-}185 & 2 \times 10^{13} \\ \hline \end{array}$	Tin		
$\begin{array}{c} \text{Sn-}113 & 6 \times 10^{12} \\ \text{Sn-}117m & 7 \times 10^{12} \\ \text{Sn-}119m & 9 \times 10^{12} \\ \text{Sn-}121 & 3 \times 10^{13} \\ \text{Sn-}121m & 5 \times 10^{12} \\ \text{Sn-}123 & 2 \times 10^{12} \\ \text{Sn-}123m & 2 \times 10^{12} \\ \text{Sn-}123m & 2 \times 10^{14} \\ \text{Sn-}125 & 2 \times 10^{12} \\ \text{Sn-}126 & 8 \times 10^{11} \\ \text{Sn-}127 & 3 \times 10^{13} \\ \text{Sn-}128 & 5 \times 10^{13} \\ \hline \textbf{Titanium} \\ \hline \textbf{Ti-}44 & 2 \times 10^{11} \\ \hline \textbf{Ti-}45 & 4 \times 10^{13} \\ \hline \textbf{Tungsten} \\ \hline \textbf{W-}176 & 1 \times 10^{14} \\ \textbf{W-}177 & 9 \times 10^{13} \\ \textbf{W-}178 & 5 \times 10^{13} \\ \hline \textbf{W-}179 & 2 \times 10^{15} \\ \textbf{W-}181 & 9 \times 10^{13} \\ \hline \textbf{W-}185 & 2 \times 10^{13} \\ \hline \end{array}$	Sn-110		3×10^{13}
$\begin{array}{c} Sn-117m & 7 \times 10^{12} \\ Sn-119m & 9 \times 10^{12} \\ Sn-121 & 3 \times 10^{13} \\ Sn-121m & 5 \times 10^{12} \\ Sn-123 & 2 \times 10^{12} \\ Sn-123 & 2 \times 10^{12} \\ Sn-125 & 2 \times 10^{12} \\ Sn-126 & 8 \times 10^{11} \\ Sn-126 & 8 \times 10^{11} \\ Sn-127 & 3 \times 10^{13} \\ Sn-128 & 5 \times 10^{13} \\ \hline \textbf{Titanium} \\ \hline \textbf{Ti-44} & 2 \times 10^{11} \\ \hline \textbf{Ti-45} & 4 \times 10^{13} \\ \hline \textbf{Tungsten} \\ \hline W-176 & 1 \times 10^{14} \\ W-177 & 9 \times 10^{13} \\ \hline W-178 & 5 \times 10^{13} \\ \hline W-179 & 2 \times 10^{15} \\ \hline W-181 & 9 \times 10^{13} \\ \hline W-185 & 2 \times 10^{13} \\ \hline \end{array}$	Sn-111		2 x 10 ¹⁴
$\begin{array}{c} \text{Sn-}119\text{m} & 9 \times 10^{12} \\ \text{Sn-}121 & 3 \times 10^{13} \\ \text{Sn-}121\text{m} & 5 \times 10^{12} \\ \text{Sn-}123 & 2 \times 10^{12} \\ \text{Sn-}123\text{m} & 2 \times 10^{14} \\ \text{Sn-}125 & 2 \times 10^{12} \\ \text{Sn-}126 & 8 \times 10^{11} \\ \text{Sn-}127 & 3 \times 10^{13} \\ \text{Sn-}128 & 5 \times 10^{13} \\ \hline \textbf{Titanium} \\ \hline \textbf{Ti-44} & 2 \times 10^{11} \\ \hline \textbf{Ti-45} & 4 \times 10^{13} \\ \hline \textbf{Tungsten} \\ \hline \textbf{W-}176 & 1 \times 10^{14} \\ \hline \textbf{W-}177 & 9 \times 10^{13} \\ \hline \textbf{W-}178 & 5 \times 10^{13} \\ \hline \textbf{W-}179 & 2 \times 10^{15} \\ \hline \textbf{W-}181 & 9 \times 10^{13} \\ \hline \textbf{W-}185 & 2 \times 10^{13} \\ \hline \end{array}$	Sn-113		6 x 10 ¹²
$\begin{array}{c} \text{Sn-121} & 3 \times 10^{13} \\ \text{Sn-121m} & 5 \times 10^{12} \\ \text{Sn-123} & 2 \times 10^{12} \\ \text{Sn-123m} & 2 \times 10^{14} \\ \text{Sn-125} & 2 \times 10^{12} \\ \text{Sn-126} & 8 \times 10^{11} \\ \text{Sn-127} & 3 \times 10^{13} \\ \text{Sn-128} & 5 \times 10^{13} \\ \hline \textbf{Titanium} \\ \hline \textbf{Ti-44} & 2 \times 10^{11} \\ \hline \textbf{Ti-45} & 4 \times 10^{13} \\ \hline \textbf{Tungsten} \\ \hline \textbf{W-176} & 1 \times 10^{14} \\ \hline \textbf{W-177} & 9 \times 10^{13} \\ \hline \textbf{W-178} & 5 \times 10^{13} \\ \hline \textbf{W-179} & 2 \times 10^{15} \\ \hline \textbf{W-181} & 9 \times 10^{13} \\ \hline \textbf{W-185} & 2 \times 10^{13} \\ \hline \end{array}$	Sn-117m		7 x 10 ¹²
$\begin{array}{c} \text{Sn-}121\text{m} & 5 \times 10^{12} \\ \text{Sn-}123 & 2 \times 10^{12} \\ \text{Sn-}123\text{m} & 2 \times 10^{14} \\ \text{Sn-}125 & 2 \times 10^{12} \\ \text{Sn-}126 & 8 \times 10^{11} \\ \text{Sn-}127 & 3 \times 10^{13} \\ \text{Sn-}128 & 5 \times 10^{13} \\ \hline \textbf{Titanium} \\ \hline \textbf{Ti-}44 & 2 \times 10^{11} \\ \hline \textbf{Ti-}45 & 4 \times 10^{13} \\ \hline \textbf{Tungsten} \\ \hline \textbf{W-}176 & 1 \times 10^{14} \\ \hline \textbf{W-}177 & 9 \times 10^{13} \\ \hline \textbf{W-}178 & 5 \times 10^{13} \\ \hline \textbf{W-}179 & 2 \times 10^{15} \\ \hline \textbf{W-}181 & 9 \times 10^{13} \\ \hline \textbf{W-}185 & 2 \times 10^{13} \\ \hline \textbf{W-}185 & 2 \times 10^{13} \\ \hline \end{array}$	Sn-119m		9 x 10 ¹²
$\begin{array}{c} \text{Sn-}123 & 2 \times 10^{12} \\ \text{Sn-}123\text{m} & 2 \times 10^{14} \\ \text{Sn-}125 & 2 \times 10^{12} \\ \text{Sn-}126 & 8 \times 10^{11} \\ \text{Sn-}127 & 3 \times 10^{13} \\ \text{Sn-}128 & 5 \times 10^{13} \\ \hline \textbf{Titanium} \\ \hline \textbf{Ti-}44 & 2 \times 10^{11} \\ \hline \textbf{Ti-}45 & 4 \times 10^{13} \\ \hline \textbf{Tungsten} \\ \hline \textbf{W-}176 & 1 \times 10^{14} \\ \hline \textbf{W-}177 & 9 \times 10^{13} \\ \hline \textbf{W-}178 & 5 \times 10^{13} \\ \hline \textbf{W-}179 & 2 \times 10^{15} \\ \hline \textbf{W-}181 & 9 \times 10^{13} \\ \hline \textbf{W-}185 & 2 \times 10^{13} \\ \hline \end{array}$	Sn-121		3 x 10 ¹³
$\begin{array}{c} \text{Sn-}123\text{m} & 2 \times 10^{14} \\ \text{Sn-}125 & 2 \times 10^{12} \\ \text{Sn-}126 & 8 \times 10^{11} \\ \text{Sn-}127 & 3 \times 10^{13} \\ \text{Sn-}128 & 5 \times 10^{13} \\ \hline \textbf{Titanium} \\ \hline \text{Ti-44} & 2 \times 10^{11} \\ \hline \textbf{Ti-45} & 4 \times 10^{13} \\ \hline \textbf{Tungsten} \\ \hline W-176 & 1 \times 10^{14} \\ W-177 & 9 \times 10^{13} \\ \hline W-178 & 5 \times 10^{13} \\ \hline W-179 & 2 \times 10^{15} \\ \hline W-181 & 9 \times 10^{13} \\ \hline W-185 & 2 \times 10^{13} \\ \hline \end{array}$	Sn-121m		5 x 10 ¹²
$\begin{array}{c} \text{Sn-}125 & 2 \times 10^{12} \\ \text{Sn-}126 & 8 \times 10^{11} \\ \text{Sn-}127 & 3 \times 10^{13} \\ \text{Sn-}128 & 5 \times 10^{13} \\ \hline \textbf{Titanium} \\ \hline \textbf{Ti-44} & 2 \times 10^{11} \\ \hline \textbf{Ti-45} & 4 \times 10^{13} \\ \hline \textbf{Tungsten} \\ \hline \textbf{W-}176 & 1 \times 10^{14} \\ \hline \textbf{W-}177 & 9 \times 10^{13} \\ \hline \textbf{W-}178 & 5 \times 10^{13} \\ \hline \textbf{W-}179 & 2 \times 10^{15} \\ \hline \textbf{W-}181 & 9 \times 10^{13} \\ \hline \textbf{W-}185 & 2 \times 10^{13} \\ \hline \end{array}$	Sn-123		2 x 10 ¹²
Sn-126 8×10^{11} Sn-127 3×10^{13} Sn-128 5×10^{13} Titanium Ti-44 2×10^{11} Ti-45 4×10^{13} Tungsten W-176 1×10^{14} W-177 9×10^{13} W-178 5×10^{13} W-179 2×10^{15} W-181 9×10^{13} W-185 2×10^{13}	Sn-123m		2 x 10 ¹⁴
Sn-127 3×10^{13} Sn-128 5×10^{13} Titanium Ti-44 2×10^{11} Ti-45 4×10^{13} Tungsten W-176 1×10^{14} W-177 9×10^{13} W-178 5×10^{13} W-179 2×10^{15} W-181 9×10^{13} W-185 2×10^{13}	Sn-125		2 x 10 ¹²
Sn-128 5×10^{13} Titanium Ti-44 2×10^{11} Ti-45 4×10^{13} Tungsten V-176 1×10^{14} W-177 9×10^{13} W-178 5×10^{13} W-179 2×10^{15} W-181 9×10^{13} W-185 2×10^{13}	Sn-126		8 x 10 ¹¹
Titanium Ti-44 2×10^{11} Ti-45 4×10^{13} Tungsten W-176 1×10^{14} W-177 9×10^{13} W-178 5×10^{13} W-179 2×10^{15} W-181 9×10^{13} W-185 2×10^{13}	Sn-127		3 x 10 ¹³
Ti-44 2×10^{11} Ti-45 4×10^{13} Tungsten W-176 1×10^{14} W-177 9×10^{13} W-178 5×10^{13} W-179 2×10^{15} W-181 9×10^{13} W-185 2×10^{13}	Sn-128		5 x 10 ¹³
Ti-45 4×10^{13} Tungsten 1 \times 10^{14} W-176 1 \times 10^{14} W-177 9 \times 10^{13} W-178 5 \times 10^{13} W-179 2 \times 10^{15} W-181 9 \times 10^{13} W-185 2 \times 10^{13}	Titanium		
Tungsten W-176 1×10^{14} W-177 9×10^{13} W-178 5×10^{13} W-179 2×10^{15} W-181 9×10^{13} W-185 2×10^{13}	Ti-44		2 x 10 ¹¹
W-176 1×10^{14} W-177 9×10^{13} W-178 5×10^{13} W-179 2×10^{15} W-181 9×10^{13} W-185 2×10^{13}	Ti-45		4 x 10 ¹³
W-177 9×10^{13} W-178 5×10^{13} W-179 2×10^{15} W-181 9×10^{13} W-185 2×10^{13}	Tungsten		
$\begin{array}{c} W-178 \\ W-179 \\ W-181 \\ W-185 \\ \end{array}$ $\begin{array}{c} 5 \times 10^{13} \\ 2 \times 10^{15} \\ \\ 9 \times 10^{13} \\ \\ 2 \times 10^{13} \\ \end{array}$	W-176		1 x 10 ¹⁴
	W-177		9 x 10 ¹³
W-181 9×10^{13} W-185 2×10^{13}	W-178		5 x 10 ¹³
W-185 2×10^{13}	W-179		2 x 10 ¹⁵
	W-181		9 x 10 ¹³
W-187 1 x 10 ¹³	W-185		2 x 10 ¹³
	W-187		1 x 10 ¹³

Radionuclide	Form	Activity (Bq)
W-188		4×10^{12}
Uranium		
U-230		2×10^{09}
U-231		2×10^{13}
U-232		8 x 10 ⁰⁸
U-233		3 x 10 ⁰⁹
U-234		3 x 10 ⁰⁹
U-235		3 x 10 ⁰⁹
U-236		3 x 10 ⁰⁹
U-237		8×10^{12}
U-238		4×10^{09}
U-239		3×10^{14}
U-240		8×10^{12}
Vanadium		
V-47		9×10^{13}
V-48		3×10^{12}
V-49		3 x 10 ¹⁴
Xenon		
Xe-120		3 x 10 ¹⁴
Xe-121		7 x 10 ¹³
Xe-122		2 x 10 ¹⁵
Xe-123		2×10^{14}
Xe-125		4×10^{14}
Xe-127		4×10^{14}
Xe-129m		4 x 10 ¹⁵
Xe-131m		1 x 10 ¹⁶
Xe-133		3 x 10 ¹⁵
Xe-133m		3 x 10 ¹⁵
Xe-135		4 x 10 ¹⁴
Xe-135m		4 x 10 ¹⁴

Radionuclide	Form	Activity (Bq)
Xe-138		1 x 10 ¹⁴
Ytterbium		
Yb-162		3 x 10 ¹⁴
Yb-166		1 x 10 ¹³
Yb-167		6 x 10 ¹⁴
Yb-169		6 x 10 ¹²
Yb-175		2 x 10 ¹³
Yb-177		8 x 10 ¹³
Yb-178		7 x 10 ¹³
Yttrium		
Y-86		9 x 10 ¹²
Y-86m		2 x 10 ¹⁴
Y-87		2 x 10 ¹³
Y-88		2 x 10 ¹²
Y-90		3 x 10 ¹²
Y-90m		4 x 10 ¹³
Y-91		2 x 10 ¹²
Y-91m		3 x 10 ¹⁴
Y-92		2 x 10 ¹³
Y-93		7 x 10 ¹²
Y-94		9 x 10 ¹³
Y-95		1 x 10 ¹⁴
Zinc		
Zn-62		9 x 10 ¹²
Zn-63		7 x 10 ¹³
Zn-65		3 x 10 ¹²
Zn-69		2 x 10 ¹⁴
Zn-69m		2 x 10 ¹³
Zn-71m		3 x 10 ¹³
Zn-72		6 x 10 ¹²

Status: This is the original version (as it was originally made). This item of legislation is currently only available in its original format.

Radionuclide	Form	Activity (Bq)	
Zirconium			
Zr-86		1 x 10 ¹³	
Zr-88		6 x 10 ¹²	
Zr-89		1 x 10 ¹³	
Zr-93		1 x 10 ¹²	
Zr-95		3 x 10 ¹²	
Zr-97		4 x 10 ¹²	

PART 2

Quantity ratios for more than one radionuclide

For the purpose of regulation 3(4), the quantity ratio for more than one radionuclide is the sum of the quotients of the quantity of a radionuclide present Q_p divided by the quantity of that radionuclide specified in the appropriate column of Part 1 of this Schedule Q_{lim} , namely—

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

SCHEDULE 2

Regulation 3(1)

Fissile material

For the purpose of regulation 3(1), the specified mass of a fissile material set out below is—

- (a) plutonium as Pu-239 or Pu-241 or as a mixture of plutonium isotopes containing Pu-239 or Pu-241 150 grams;
- (b) uranium as U-233 150 grams;
- (c) uranium enriched in U-235 to more than 1% but not more than 5% 500 grams; and
- (d) uranium enriched in U-235 to more than 5% 250 grams.

SCHEDULE 3

Regulation 5(1)

Consequences Assessment

- 1. The following requirements shall be complied with in the assessment of consequences required by regulation 5.
- 2. The assessment shall be based on a suitable and sufficient range of source terms representing a range of potential radiation emergencies which might arise from the work with ionising radiation.
- 3. The calculations undertaken in support of the assessment shall consider a range of weather conditions (if weather conditions are capable of affecting the extent of the impact of the radiation emergency) to account for—

- (a) the likely consequences arising from such conditions; and
- (b) consequences which are less likely, but with greater impact.
- 4. The assessment shall consider the consequences of the potential radiation emergencies identified in regulation 4 on the population within the geographical extent of the potential radiation emergency, accounting for different characteristics, including, for example age and other characteristics which would render specific members of the public especially vulnerable.
- 5. The assessment shall consider what would be an effective and, where relevant, equivalent dose to the thyroid in the context of each potential radiation emergency identified.
- 6. The assessment shall include all relevant pathways by which members of the public could be exposed to radiation in the context of each potential radiation emergency identified.
- 7. The assessment shall identify any protective action that may need to be taken for the range of potential radiation emergencies.
- 8. The assessment shall assess the consequences of suitable and sufficient source terms by distance and by exposure pathway, and the distances to which protective action would be required based on the United Kingdom's Emergency Reference Levels, published by Public Health England(1).
- 9. In this Schedule "source term" means the radioactivity which could give rise to direct external exposures from the premises or which could be released to the environment in a radiation emergency and, for releases, includes—
 - (a) the amount of each radionuclide released;
 - (b) the time distribution of the release;
 - (c) the energy associated with atmospheric release; and
 - (d) the likely chemical and physical form of the radionuclides in the release.

Regulation 7(3)

Particulars to be included in a consequences report

PART 1

Factual Information

- 1. The following factual information shall be provided in the operator's consequences report—
 - (a) the name and address of the operator;
 - (b) the postal address of the premises where the radioactive substance will be processed, manufactured, used or stored, or where the facilities for processing, manufacture, use or storage exist;
 - (c) the date on which it is anticipated that the work with ionising radiation will commence or, if it has already commenced, a statement to that effect.

⁽¹⁾ Available at https://www.gov.uk/government/publications/radiation-emergency-reference-levels or in hard copy from the Department for Business, Energy and Industrial Strategy, 1 Victoria Street, London, SW1H 0ET. The functions of the National Radiological Protection Board were transferred to the Health Protection Agency by section 3 of the Health Protection Act 2004 (c. 17). The Health Protection Agency was abolished by section 56 of the Health and Social Care Act 2012 (c. 7) and its functions are now exercised by Public Health England.

PART 2

Recommendations

- 2. The operator shall include the following recommendations in the consequences report—
 - (a) the proposed minimum geographical extent from the premises to be covered by the offsite emergency plan arranged by the Executive; and
 - (b) the minimum distances to which urgent protective action may need to be taken, marking against each distance the timescale for implementation of the relevant action.
- 3. In relation to a minimum geographical extent recommended under paragraph 2, the operator shall also include within the consequences report—
 - (a) the recommended urgent protective actions to be taken within that zone, if any, together with timescales for the implementation of those actions; and
 - (b) details of the environmental pathways at risk in order to support the determination of food and water restrictions in the event of a radiation emergency.

PART 3

Rationale

- 4. The operator shall set out the rationale supporting each recommendation made in the consequences report.
 - 5. In particular, the operator shall set out—
 - (a) the rationale for its recommendation on the minimum distances for which urgent protective action may need to be taken; and
 - (b) where the operator and the Executive have agreed that no off-site planning is required, and therefore no emergency planning is recommended, the rationale for that agreement.

SCHEDULE 5

Regulations 10(3) and 11(3)

Information to be included in emergency plans

PART 1

Information to be included in an operator's emergency plan

- 1. The information referred to in regulation 10(3) is as follows—
 - (a) the arrangements to set emergency procedures in motion;
 - (b) the arrangements to co-ordinate the on-site mitigatory action;
 - (c) the name or position of the person with responsibility for liaison with the Executive;
 - (d) for conditions or events which could be significant in bringing about a radiation emergency, a description of the action which should be taken to control the conditions or events and to limit their consequences, including a description of the safety equipment and resources available;

- (e) the arrangements for limiting the risks to persons on the premises including how warnings are to be given and the protective action persons are expected to take on receipt of a warning;
- (f) the arrangements for providing early warning of the incident to the emergency services, identified in the off-site emergency plan to set the off-site emergency planning in motion, the type of information which should be contained in an initial warning and the arrangements for the provision of more detailed information as it becomes available;
- (g) the arrangements for providing assistance to the Executive with its off-site protective action;
- (h) the arrangements for providing information about the incident to the Executive;
- (i) the arrangements for dealing with emergency exposures including the dose levels which have been determined as appropriate for the purposes of putting into effect the emergency plan;
- (j) the arrangements to prioritise keeping doses within the reference levels set out in regulation 19(1);
- (k) any specific arrangements which take account of lessons learned from past emergency situations, whether at the operator's premises or otherwise;
- (l) what protective action is proposed to be taken, and how far each such action extends within any detailed emergency planning zone; and
- (m) the arrangements which the operator considers may assist in the transition from a radiation emergency to an existing exposure situation, including who will be involved in such transition, what information they are to receive and when.

PART 2

Information to be included in the off-site emergency plan

CHAPTER 1

Information about detailed emergency planning zones

- 2. The information referred to in regulation 11(3)(a) is as follows—
 - (a) the arrangements to set emergency procedures in motion;
 - (b) the arrangements to co-ordinate the off-site protective action;
 - (c) the arrangements for receiving early warning of incidents, and alert and call-out procedures;
 - (d) the arrangements for co-ordinating resources necessary to implement the off-site emergency plan;
 - (e) the arrangements for providing assistance to the operator with on-site mitigatory action;
 - (f) the arrangements for off-site protective action;
 - (g) the arrangements for providing the public with specific information relating to the emergency and the response or responses recommended to the public as a whole or parts of it as a result of the emergency;
 - (h) the arrangements for dealing with emergency exposures including the dose levels which have been determined as appropriate for the purposes of putting into effect the emergency plan;

- (i) the arrangements to prioritise keeping the doses within the reference levels set out at regulation 19(1);
- (j) any specific arrangements which take account of lessons learned from past emergency situations, whether at the operator's premises or otherwise;
- (k) the arrangements for carrying out an assessment of the impacts of the radiation; and
- (l) the arrangements which the Executive considers necessary in the transition from a radiation emergency to an existing exposure situation, including who will be involved in such a transition and what information they are to receive.

CHAPTER 2

Information about outline planning zones

- 3. The information referred to in regulation 11(3)(b) is as follows—
 - (a) where there is no detailed emergency planning zone, the information set out at paragraph 2; and
 - (b) in all cases—
 - (i) at what stage and how the response to a radiation emergency triggers a response within the outline planning zone; and
 - (ii) whether there are any areas of detailed planning within the outline planning zone and, if so, the detailed planning arrangements in respect of any such area.
- 4. In paragraph 3(b)(ii), an area of detailed planning within the outline planning zone means an area within which a greater degree of planning is necessary as a result of the existence of particular factors such as schools or hospitals within that area.

CHAPTER 3

Information which an off-site emergency plan shall contain

- 5. In order to comply with regulation 11(3)(c) an off-site emergency plan shall—
 - (a) set out the extent of the detailed emergency planning zone (if any) and the outline planning zone (if any);
 - (b) in respect of the detailed emergency planning zone, set out—
 - (i) the severity of the consequences in terms of dose quantity; and
 - (ii) the extent to which the consequences can be mitigated by timely action;
 - (c) set out how the off-site emergency plan aims to mitigate the consequences of an emergency, in response to the factors listed at (b); and
 - (d) set out the process for determining when the site and the surrounding area is no longer in an emergency state.

Regulations 10(3) and 11(3)

Principles and purposes of emergency plans

PART 1

Principles to which emergency plans shall have regard

- 1. Any person with responsibility for preparing an emergency plan under these Regulations shall consider the following principles when preparing that plan—
 - (a) the necessity for the plan to respond to the particular characteristics of a given radiation emergency as those characteristics emerge;
 - (b) the necessity to optimise protection strategies to ensure that the proposed response, as a whole, is predicted to do more to mitigate the radiation emergency and facilitate transition from that emergency to an existing exposure situation than to increase its duration or consequences, taking into account—
 - (i) the health risks arising from exposure to ionising radiation as a result of the radiation emergency, in both the long and the short term;
 - (ii) the economic consequences of the radiation emergency;
 - (iii) the effects of the disruption, both on the premises and the area immediately surrounding it, and on the public perception of the effects of the radiation emergency;
 - (c) the necessity of avoiding, so far as possible, the occurrence of serious physical injury to any person; and
 - (d) the necessity of ensuring that an appropriate balance is struck between the expected harms and benefits of any particular protective action so as to maximise the benefit of that action.

PART 2

Purposes of emergency plans

- 2. Any person with responsibility for preparing an emergency plan under these Regulations shall ensure that the plan, if implemented, would fulfil the following purposes—
 - (a) to reduce or stop the effects of the radiation emergency;
 - (b) to reduce the exposure to individuals and to the environment resulting from the release of ionising radiation;
 - (c) if necessary, to ensure that provision is made for the medical treatment of those affected by the radiation emergency; and
 - (d) to prioritise the implementation of the plan in relation to any person exposed to a dose in excess of the reference levels set out in regulation 19.

Regulation 20(3)

Prior information for members of the public

PART 1

Information in relation to detailed emergency planning zones

- 1. Basic facts about ionising radiation and its effects on persons and on the environment.
- 2. The various types of radiation emergency identified and their consequences for the general public and the environment.
- 3. Protective action envisaged to alert, protect and assist the general public in the event of a radiation emergency.
- 4. Appropriate information on protective action to be taken by the general public in the event of a radiation emergency.
- 5. The authority or authorities responsible for implementing the protective action referred to in paragraphs 3 and 4 above.
 - 6. The extent of the detailed emergency planning zone.

PART 2

Information in relation to outline planning zones

- 7. Where the information set out at paragraphs 1 to 5 can be obtained.
- 8. The extent of the outline planning zone.
- 9. The factors which would cause the plan in respect of the outline planning zone to be triggered, and whether there are any areas of detailed planning within the outline planning zone as defined at paragraph 4 of Part 2 of Schedule 5.

SCHEDULE 8

Regulation 21(4)

Information to be supplied in the event of a radiation emergency

- 1. Information on the type of emergency which has occurred, and, where possible, its characteristics, for example, its origin, extent and probable development.
 - 2. Advice on protective action which may include, depending on the type of emergency—
 - (a) any restrictions on the consumption of certain foodstuffs and water supply likely to be contaminated;
 - (b) any basic rules on hygiene and decontamination;
 - (c) any recommendation to stay indoors;
 - (d) the distribution and use of protective substances;
 - (e) any evacuation arrangements;
 - (f) special warnings for certain population groups.

- 3. Details concerning any announcements recommending cooperation with instructions or requests by the Executive.
- 4. Where an incident which is likely to give rise to a release of radioactivity or ionising radiation has taken place but no release has yet occurred, the information and advice should include the following—
 - (a) details of the relevant communications channels on which information about the incident will be available;
 - (b) preparatory advice to establishments with particular collective responsibilities; and
 - (c) recommendations to occupational groups particularly affected.
- 5. If time permits, information setting out the basic facts about radioactivity and its effects on persons and on the environment.
- 6. In paragraph 4(b), "establishments with particular collective responsibilities" means hospitals, care homes, schools or similar establishments.

Regulation 28

Consequential amendments

Motor Vehicles (Construction and Use) Regulations (Northern Ireland) 1999

- 1. Regulation 44 of the Motor Vehicles (Construction and Use) Regulations (Northern Ireland) 1999(2) is amended as follows—
 - (a) in paragraph (5)(k) omit "radiation accident or" in both places it occurs; and
 - (b) in paragraph (9A) for the definition of "radiation accident" and "radiation emergency" substitute—

""radiation emergency" has the same meaning as in the Radiation (Emergency Preparedness and Public Information) Regulations (Northern Ireland) 2019.".

Road Vehicles Lighting Regulations (Northern Ireland) 2000

- 2. Regulation 2 of the Road Vehicles Lighting Regulations (Northern Ireland) 2000(3) is amended as follows—
 - (a) in the definition of "emergency vehicle" omit "radiation accident or" in both places it occurs; and
 - (b) for the definition of "radiation accident" and "radiation emergency" substitute—

 ""radiation emergency" has the same meaning as in the Radiation (Emergency Preparedness and Public Information) Regulations (Northern Ireland) 2019.".

Civil Contingencies Act 2004 (Contingency Planning) Regulations 2005

3. In regulation 12(f) of the Civil Contingencies Act 2004 (Contingency Planning) Regulations 2005(4) for "Radiation (Emergency Preparedness and Public Information) Regulations (Northern

⁽²⁾ S.R. 1999 No. 454. Regulation 44 was amended by S.R. 2007 No. 238. There are other amendments, but none are relevant to this rule.

⁽³⁾ S.R. 2000 No. 169. Regulation 2 was amended by S.R. 2007 No. 239. There are other amendments, but none are relevant to this rule

⁽⁴⁾ S.I. 2005/2042. Regulation 12 has been amended, but that amendment is not relevant to this rule.

Status: This is the original version (as it was originally made). This item of legislation is currently only available in its original format.

Ireland) 2001" substitute "Radiation (Emergency Preparedness and Public Information) Regulations (Northern Ireland) 2019".

Radioactive Contaminated Land Regulations (Northern Ireland) 2006

4. In regulation 7(a) of the Radioactive Contaminated Land Regulations (Northern Ireland) 2006(5) for "paragraph (2) of regulation 13 (implementation of emergency plans) of the Radiation (Emergency Preparedness and Public Information) Regulations (Northern Ireland) 2001" substitute "paragraph (3) of regulation 16 (implementation of emergency plans) of the Radiation (Emergency Preparedness and Public Information) Regulations (Northern Ireland) 2019".

Ionising Radiations Regulations (Northern Ireland) 2017

- 5.—(1) In regulation 36(1) of the Ionising Radiations Regulations (Northern Ireland) 2017(6) for "Radiation (Emergency Preparedness and Public Information) Regulations (Northern Ireland) 2001" substitute "Radiation (Emergency Preparedness and Public Information) Regulations (Northern Ireland) 2019".
 - (2) In Schedule 10, paragraph 4(2) for the definition of "pipeline works"—
 - (a) for head "(h)" substitute "(a)";
 - (b) for head "(i)" substitute "(b)";
 - (c) for head "(j)" substitute "(c)";
 - (d) for head "(k)" substitute "(d)";
 - (e) for head "(l)" substitute "(e)"; and
 - (f) for head "(m)" substitute "(f)".

Ionising Radiation (Basic Safety Standards) (Miscellaneous Provisions) Regulations 2018

6. In regulation 4(2)(b) of the Ionising Radiation (Basic Safety Standards) (Miscellaneous Provisions) Regulations 2018(7) for "paragraph (2) of regulation 13 (implementation of emergency plans) of the Radiation (Emergency Preparedness and Public Information) Regulations (Northern Ireland) 2001" substitute "paragraph (3) of regulation 16 of the Radiation (Emergency Preparedness and Public Information) Regulations (Northern Ireland) 2019".

⁽⁵⁾ S.R. 2006 No. 345. Regulation 7 was substituted by S.R. 2007 No. 3236. Other amendments have been made but none are relevant to this rule.

⁽⁶⁾ S.R. 2017 No. 229. Amendments have been made but none are relevant to this rule.

⁽⁷⁾ S.I. 2018/482. Amendments have been made but none are relevant to this rule.