THE COUNCIL,

Having regard to the Convention for European Economic Co-operation of 16th April 1948 and, in particular, Article 13 *(a)* thereof ;

Considering that the European Nuclear Energy Agency, established within the framework of the Organisation, is charged with encouraging the elaboration and harmonization of legislation relating to nuclear energy in participating countries, in particular with regard to the protection of public health ;

Considering the importance of norms both for the protection of the health of workers in the atomic industry and the general public against ionizing radiations and for the development of the production and uses of nuclear energy for peaceful uses in Europe ;

Considering the importance of adopting uniform radiation protection norms for the Member countries of the Organisation ;

Considering that collaboration between the European Nuclear Energy Agency and the European Atomic Energy Community (Euratom) has enabled uniform radiation protection norms to be agreed upon ;

Having regard to the Report of the Steering Committee for Nuclear Energy of 29th April 1959 ;

I. DECIDES:

1. Member countries shall take the necessary measures to ensure that adequate protection against the hazards of ionising radiations is provided and maintained for persons occupationally exposed and for the population wherever radioactive materials are produced, processed, handled, used, possessed, stored, transported or disposed of, or wherever any other activity involving hazards of ionizing radiations is carried on, or wherever machines capable of producing hazards of ionizing radiations are used.

2. Member countries shall ensure that appropriate measures are prepared to meet emergencies or accidents involving ionizing radiations.

II. RECOMMENDS to Member countries that the measures referred to in paragraphs 1 and 2 of this Decision be based upon the radiation protection norms annexed to this Decision.

III. FURTHER DECIDES:

1. Member countries shall communicate to the European Nuclear Energy Agency, by 15th November 1959, a first report on their legislative and administrative measures which meet the requirements of this Decision, indicating where radiation protection norms other than those recommended in this Decision have been applied and the reasons therefor.

2. The Health and Safety Sub-committee of the Agency shall examine and report on such measures to the Steering Committee for Nuclear Energy by 31st December 1959, indicating when further communications should be made by Member countries.

3. The Steering Committee for Nuclear Energy may revise the provisions of Appendix II of the Annex to this Decision in the light of new recommendations of the International Commission on Radiological Protection.

ANNEX

Radiation protection norms

I. OCCUPATIONAL EXPOSURE IN CONTROLLED AREAS

A controlled area is an area containing a source of ionizing radiations where persons occupationally exposed could receive doses in excess of 1.5 rems per year.

In a controlled area :

(i) Radioactive contamination and radiation levels shall, as appears necessary for health protection, be measured ;

(ii) Doses received by employed persons due to occupational exposure to external and internal sources of ionizing radiations shall at all times be reduced to the minimum practicable level and be subject to the supervision of a radiation protection officer ;

(iii) The maximum permissible doses due to such exposure shall be the values set out in Appendix I, Part A ;

(iv) The maximum permissible concentrations of radioactive isotopes in drinking water and in air inhaled shall be the values set out in Appendix II ;

(v) No person under the age of 18 shall be engaged in any activity in which he might be occupationally exposed to the hazards of ionizing radiations ;

(vi) Access to a controlled area shall be controlled ;

(vii) Warning and safety signs, labels, signals or other devices of a standardized kind shall be used ;

(viii) Emergency work involving high exposure shall be planned on the basis that the individual will not receive doses higher than those set out in Appendix I, Part A, paragraphe 2 *(e)*. This dose may be received only once in a lifetime. Women of reproductive age shall not be subjected to planned emergency exposure

(ix) *(a)* Accidental high exposure of an employed person to a dose not exceeding that fixed in Appendix I, Part A, paragraph 2 *(f)* shall be added to the maximum permissible dose accumulated up to the time of the accident, providing that this accidental dose is received only once in a lifetime ;

(b) If an accidental high exposure of an employed person exceeds that fixed in Appendix I, Part A, paragraph 2 *(f)*, it must be regarded as being potentially serious and shall be referred to competent medical authorities for appropriate remedial action and recommendations on subsequent occupational exposure ;

(x) There shall be physical and medical supervision and control of employed persons occupationally exposed by :

(a) Personnel radiation monitoring ;

(b) Medical observation, including :

— Medical examinations on recruitment, and, as appropriate, full investigation of personal medical and occupational history and familly medical history ;

— Medical examination during and, as appropriate, after employment ;

— Maintenance of standardized health record cards ;

(xi) The medical officer responsible for such supervision and control shall have power to impose temporary or permanent suspension of employed persons from work involving hazards of ionizing radiations ;

(xii) No employed person shall, after suspension, be employed on such work without the formal sanction of the medical officer concerned ;

(xiii) Every worker who is liable to be exposed to hazards of ionizing radiations must be informed about the risks which the work involves for his health, the techniques of the work, the precautions to be taken and the importance of complying with radiation protection and medical requirements.

II. Exposure of special groups of the population

(i) For persons who are not occupationally exposed but who enter a controlled area occasionally in the course of their duties, the maximum permissible whole body dose due to exposure to external and internal sources of ionizing radiations shall not exceed that fixed in Appendix I, Part B.

(ii) For persons who in their employment are exposed to a source of ionizing radiations in an area other than a controlled area, the maximum permissible whole body dose due to exposure to external and internal sources of ionizing radiations shall not exceed that fixed in Appendix I, Part B.

(iii) *(a)* For persons who reside in a surveyed area, i.e. an area in the vicinity of a controlled area, where persons residing may be exposed to ionizing radiations originating in such controlled area, the maximum permissible whole body dose due to exposure to external and internal sources of ionizing radiations originating in the controlled area shall not exceed that fixed in Appendix I, Part B ;

(b) Radioactive contamination and radiation levels in a surveyed area shall, as appears necessary for health protection, be measured ;

(c) The maximum permissible concentrations of radioactive isotopes in drinking water and in air inhaled in a surveyed area shall be one-tenth of the values set out in Appendix II.

III. Exposure of the population as a whole

For the population as a whole, the maximum permissible genetic dose shall be 5 rems per head of population accumulated up to the age of 30. This dose must take into account, by weighting, the doses received by persons occupationally exposed and by special groups of persons. It shall not take into account exposure to natural background radiation and in the course of medical examination and treatment.

For the proper application of this norm, reference should be made to paragraphs 62-70 of the 1958 Recommendations of the International Commission on Radiological Protection.

APPENDIX I

A. Maximum permissible doses for persons occupationally exposed in controlled areas

1. The maximum permissible dose at any age over 18 years shall be governed by the basic formula :

$$D = 5 (N - 18),$$

where D is tissue dose in rems and N is age in years.

Dose D is that actually received at the level of the blood-forming organs, the gonads and the lenses of the eyes. Protective devices shall be based on an average weekly dose 0.1 rem.

2. Whe dose accumulated during any thirteen consecutive weeks shall not exceed 3 rems. The following shall be taken into account in calculating the dose:

(a) Persons over the age of 18 may receive an accumulated dose of 3 rems (distributed over thirteen consecutive weeks), provided that the basic formula is complied with and that the dose accumulated over one year never exceeds 12 rems.

A single dose of 3 rems may be permitted only in an exceptional case:

(b) When the dose previously accumulated is known with certainty and is below the dose calculated according to the basic formula, doses may be accumulated at the rate of 3 rems per 13 weeks as long as the maximum permissible dose calculated according to the basic formula has not been reached ;

(c) When the dose previously accumulated is not known with certainty, it shall be assumed to be equal to the maximum permissible dose calculated according to the basic formula ;

(d) When the dose previously accumulated is known with certainty and corresponds to standards applying at a time when the recommended maximum permissible doses were higher than those according to the basic formula, the method of calculation shall be as stipulated in *(c)* above.

(e) In the case of a planned emergency exposure, a dose of 12.5 rems may be permitted for persons occupationally exposed ; it shall be included in the maximum permissible total dose calculated according to the basic formula. If the sum should exceed this maximum permissible total dose, the excess shall be disregarded ;

(f) In the case of an accidental exposure on a person occupationally exposed, a dose between 3 and 25 rems, insofar as it is received only once in a lifetime, shall be included in the maximum permissible accumulated dose corresponding to the age of the individual and calculated in accordance with the basic formula. If this maximum permissible total dose is exceeded, the excess shall be disregarded.

3. In the case of partial exposure of the body, during which the doses received by the blood-forming organs, the gonads and the lenses of the eyes do not exceed the limits set by the basic formula, the maximum permissible dose shall be :

(a) For external exposures of the hands and forearms, and feet and ankles, 15 rems per 13 weeks and 60 rems per year ;

(b) For external exposure of the whole skin, 8 rems per 13 weeks and 30 rems per year ;

(c) For exposure of internal organs with the exception of the blood-forming organs, the gonads and the lenses of the eyes, 4 rems per 13 weeks and 15 rems per year.

B. Maximum permissible doses for exposure of special groups of the population

The maximum permissible doses for the various special groups of the population shall be as follows :

For persons defined in Part II	*Maximum permissible dose*
Paragraph *(i)*	1.5 rems per year
— *(ii)*	1.5 rems per year
— *(iii)* *(a)*	0.5 rems per year

APPENDIX II

Maximum permissible concentrations of radioactive isotopes in drinking water and in air inhaled for continuous exposure of persons occupationally exposed

(i) Each radioactive isotope in the concentration given in the Table, in drinking water or in air inhaled, corresponds to continuous exposure to the maximum permissible dose to the critical organ concerned.

(ii) In the case of contamination resulting from the uptake in the same organs of a mixture of radioactive isotopes of which the nature is known, the cumulative action of the exposures which they cause must be taken into account.

(iii) In the case of contamination of a single organ by a mixture of radioactive isotopes of which the nature is known, the sum of exposures from the different isotopes must be taken into account in calculating the maximum permissible concentrations.

(iv) The case of contamination of different organs by the uptake of a mixture of radioactive isotopes must be regarded as a total exposure.

(v) In the case of contamination by a mixture of radioactive isotopes of unknown composition, the values used are those shown in the following Table for any mixture of beta and gamma emitters and for any mixture of alpha emitters.

(vi) When the exposure of persons occupationally exposed is limited to 40 hours per week, the concentrations shown for air inhaled may be multiplied by 3. In the case of persons remaining for a limited period in an atmosphere contaminated by a radioactive substance, the conversion factor may be higher than 3, according to the period of exposure, provided that it does not exceed 10.

TABLE OF MAXIMUM PERMISSIBLE CONCENTRATIONS OF RADIOACTIVE ISOTOPES IN DRINKING WATER AND IN AIR INHALED FOR CONTINUOUS EXPOSURE OF PERSONS OCCUPATIONALLY EXPOSED

ATOMIC NUMBER	RADIOISOTOPE	CRITICAL ORGAN	MAXIMUM PERMISSIBLE CONCENTRATIONS	
			IN DRINKING WATER *(microcurie/c.c.)*	IN AIR INHALED *(microcurie/c.c.)*
1	H^3 (HTO or H^3_2O)	Total body	0.2	10^{-5}
		(GI) *(a)*	0.2	10^{-5}
4	Be^7	Bone	1	5×10^{-6}
		(GI)	2×10^{-2}	3×10^{-6}

NOTE. This Table is based on the Recommendations of the International Commission on Radiological Protection of 1st December 1954, and is being revised by the International Commission on Radiological Protection on the basis of its new conclusions of 1958. It may be used provided that it is remembered that the values are established on the basis of the former norm of 0.3 rems per week. Hence, for radio-isotopes taken up in the total body the values for the maximum permissible concentrations should be divided by 3 so as to correspond with the norms set out in Appendix I.

(a) (GI) denotes gastro-intestinal tract.

(b) Values of microcuries/c.c. are given for the parent element. The daughter elements are assumed to reach the appropriate fraction of equilibrium with the parent after it is taken into the body.

(c) The curie of natural uranium is considered to correspond to 3.7×10^{10} dis/sec. from U^{238}, to 3.7×10^{10} dis/sec. from U^{234} and 9×10^8 dis/sec. from U^{235}. The curie of natural thorium is considered to correspond to 3.7×10^{10} dis/sec. from Th^{232} and 3.7×10^{10} dis/sec. from Th^{228}. It is considered that none of the other daughter products of U^{238} or Th^{232} are present at the time of ingestion or inhalation.

ATOMIC NUMBER	RADIOISOTOPE	CRITICAL ORGAN	MAXIMUM PERMISSIBLE CONCENTRATIONS	
			IN DRINKING WATER *(microcurie/c.c.)*	IN AIR INHALED *(microcurie/c.c.)*
6	C^{14} (CO_2 in air)	Fat (GI)	3×10^{-3} 6×10^{-2}	10^{-5} 10^{-5}
9	F^{18}	Bone (GI)	0.2 > 0.2	3×10^{-5} $> 3 \times 10^{-5}$
11	Na^{24}	Total body (GI)	8×10^{-3} 8×10^{-3}	2×10^{-6} 10^{-6}
15	P^{32}	Bone (GI)	2×10^{-4} 8×10^{-4}	10^{-7} 10^{-7}
16	S^{35}	Skin (GI)	5×10^{-3} 6×10^{-3}	10^{-6} 10^{-6}
17	Cl^{36}	Total body (GI)	4×10^{-3} 10^{-2}	6×10^{-7} 2×10^{-6}
19	K^{42}	Muscle (GI)	10^{-2} 3×10^{-3}	2×10^{-6} 6×10^{-7}
20	Ca^{45}	Bone (GI)	10^{-4} 2×10^{-2}	8×10^{-9} 3×10^{-6}
21	Sc^{46}	Spleen Liver (GI)	0.4 0.3 4×10^{-4}	7×10^{-8} 5×10^{-8} 7×10^{-8}
21	Sc^{47}	Spleen Liver (GI)	4 3 9×10^{-4}	9×10^{-7} 6×10^{-7} 2×10^{-7}
21	Sc^{48}	Spleen Liver (GI)	3 1 4×10^{-4}	6×10^{-7} 3×10^{-7} 7×10^{-8}
23	V^{48}	Bone (GI)	0.3 3×10^{-4}	6×10^{-7} 5×10^{-8}
24	Cr^{51}	Kidneys (GI)	0.7 2×10^{-2}	10^{-5} 4×10^{-6}
25	Mn^{56}	Kidneys Liver (GI)	0.15 0.4 3×10^{-3}	4×10^{-6} 4×10^{-6} 5×10^{-7}
26	Fe^{55}	Blood (GI)	5×10^{-3} 0.1	7×10^{-7} 2×10^{-5}
26	Fe^{59}	Blood (GI)	10^{-4} 3×10^{-3}	2×10^{-8} 5×10^{-7}

ATOMIC NUMBER	RADIOISOTOPE	CRITICAL ORGAN	MAXIMUM PERMISSIBLE CONCENTRATIONS	
			IN DRINKING WATER *(microcurie/c.c.)*	IN AIR INHALED *(microcurie/c.c.)*
27	Co^{60}	Liver (GI)	2×10^{-2} 4×10^{-4}	10^{-6} 8×10^{-8}
28	Ni^{59}	Liver (GI)	0.3 4×10^{-3}	2×10^{-5} 7×10^{-7}
29	Cu^{64}	Liver (GI)	6×10^{-2} 5×10^{-3}	5×10^{-6} 9×10^{-7}
30	Zn^{65}	Bone (GI)	6×10^{-2} 2×10^{-3}	2×10^{-6} 4×10^{-7}
31	Ga^{72}	Bone (GI)	3 5×10^{-4}	10^{-6} 10^{-7}
32	Ge^{71}	Kidneys (GI)	10 2×10^{-2}	4×10^{-5} 3×10^{-6}
33	As^{76}	Kidneys (GI)	0.2 2×10^{-4}	2×10^{-6} 4×10^{-8}
37	Rb^{86}	Muscle (GI)	3×10^{-3} 3×10^{-3}	4×10^{-7} 4×10^{-7}
38	Sr^{89}	Bone (GI)	7×10^{-5} 7×10^{-4}	2×10^{-8} 10^{-7}
38	$Sr^{90} + Y^{90}$ *(b)*	Bone (GI)	8×10^{-7} 10^{-3}	2×10^{-10} 2×10^{-7}
39	Y^{91}	Bone (GI)	4×10^{-2} 3×10^{-4}	9×10^{-9} 5×10^{-8}
40	$Zr^{95} + Nb^{95}$	Bone (GI)	0.4 6×10^{-4}	8×10^{-8} 10^{-7}
41	Nb^{95}	Bone (GI)	2×10^{-3} 2×10^{-3}	2×10^{-7} 3×10^{-7}
42	Mo^{99}	Bone (GI)	5 3×10^{-3}	6×10^{-4} 5×10^{-7}
43	Tc^{9}	Kidneys (GI)	3×10^{-2} 10^{-3}	3×10^{-6} 2×10^{-7}
44	$Ru^{106}+Rh^{106}$ *(b)*	Kidneys (GI)	0.1 10^{-4}	3×10^{-8} 2×10^{-8}
45	Rh^{105}	Kidneys (GI)	0.4 10^{-3}	2×10^{-6} 2×10^{-7}

ATOMIC NUMBER	RADIOISOTOPE	CRITICAL ORGAN	MAXIMUM PERMISSIBLE CONCENTRATIONS	
			IN DRINKING WATER *(microcurie/c.c.)*	IN AIR INHALED *(microcurie/c.c.)*
46	$Pd^{103}+Rh^{103}$ *(b)*	Kidneys (GI)	10^{-2} 5×10^{-3}	8×10^{-7} 9×10^{-7}
47	Ag^{105}	Liver (GI)	2 4×10^{-4}	10^{-5} 7×10^{-8}
47	Ag^{111}	Liver (GI)	5 5×10^{-4}	3×10^{-5} 8×10^{-8}
48	$Cd^{109}+Ag^{109}$ *(b)*	Liver (GI)	7×10^{-2} 0.7	7×10^{-8} 10^{-4}
50	Sn^{113}	Bone (GI)	0.2 2×10^{-3}	6×10^{-7} 3×10^{-7}
52	Te^{127}	Kidneys (GI)	3×10^{-2} 7×10^{-4}	10^{-7} 10^{-7}
52	Te^{129}	Kidneys (GI)	10^{-2} 2×10^{-4}	4×10^{-8} 4×10^{-8}
53	I^{131}	Thyroid (GI)	6×10^{-5} $> 6 \times 10^{-5}$	6×10^{-9} $> 6 \times 10^{-9}$
54	Xe^{133}	Total body	4×10^{-3}	4×10^{-6}
54	Xe^{135}	Total body	10^{-3}	2×10^{-6}
55	$Cs^{137}+Ba^{137}$ *(b)*	Muscle (GI)	2×10^{-3} 2×10^{-3}	2×10^{-7} 2×10^{-7}
56	$Ba^{140}+La^{140}$ *(b)*	Bone (GI)	5×10^{-4} 3×10^{-4}	2×10^{-8} 6×10^{-8}
57	La^{140}	Bone (GI)	0.3 3×10^{-4}	4×10^{-7} 5×10^{-8}
58	$Ce^{144} + Pr^{144}$ *(b)*	Bone (GI)	8×10^{-3} 10^{-4}	2×10^{-9} 2×10^{-8}
59	Pr^{143}	Bone (GI)	8×10^{-2} 5×10^{-4}	2×10^{-7} 9×10^{-8}
61	Pm^{147}	Bone (GI)	0.2 2×10^{-3}	4×10^{-8} 4×10^{-7}
62	Sm^{151}	Bone (GI)	5×10^{-2} 8×10^{-3}	3×10^{-9} 10^{-6}
63	Eu^{154}	Bone (GI)	10^{-2} 4×10^{-4}	2×10^{-9} 8×10^{-8}

ATOMIC NUMBER	RADIOISOTOPE	CRITICAL ORGAN	MAXIMUM PERMISSIBLE CONCENTRATIONS	
			IN DRINKING WATER *(microcurie/c.c.)*	IN AIR INHALED *(microcurie/c.c.)*
67	Ho^{166}	Bone (GI)	5 5×10^{-4}	8×10^{-7} 8×10^{-8}
69	Tm^{170}	Bone (GI)	6×10^{-2} 5×10^{-4}	10^{-8} 8×10^{-8}
71	Lu^{177}	Bone (GI)	6 10^{-3}	10^{-6} 2×10^{-7}
73	Ta^{182}	Liver (GI)	10^{-1} 5×10^{-4}	2×10^{-8} 9×10^{-8}
74	W^{181}	Bone (GI)	0.1 7×10^{-4}	5×10^{-6} 10^{-7}
75	Re^{183}	Thyroid Skin (GI)	9×10^{-2} 0.3 2×10^{-3}	9×10^{-6} 3×10^{-5} 4×10^{-7}
77	Ir^{190}	Kidneys Spleen (GI)	10^{-2} 0.2 3×10^{-3}	8×10^{-7} 10^{-6} 6×10^{-7}
77	Ir^{192}	Kidneys Spleen (GI)	9×10^{-4} 6×10^{-3} 5×10^{-4}	5×10^{-8} 3×10^{-8} 9×10^{-8}
78	Pt^{191}	Kidneys (GI)	6×10^{-3} 7×10^{-4}	2×10^{-7} 10^{-7}
78	Pt^{193}	Kidneys (GI)	5×10^{-3} 9×10^{-4}	2×10^{-7} 2×10^{-7}
79	Au^{196}	Liver Kidneys (GI)	5×10^{-2} 5×10^{-3} 2×10^{-3}	2×10^{-7} 2×10^{-7} 4×10^{-7}
79	Au^{198}	Liver Kidneys (GI)	4×10^{-2} 3×10^{-3} 6×10^{-4}	2×10^{-7} 10^{-7} 10^{-7}
79	Au^{199}	Liver Kidneys (GI)	9×10^{-2} 8×10^{-3} 2×10^{-3}	4×10^{-7} 3×10^{-7} 3×10^{-7}
81	Tl^{200}	Muscle (GI)	2×10^{-2} 10^{-3}	2×10^{-6} 2×10^{-7}
81	Tl^{201}	Muscle (GI)	8×10^{-2} 9×10^{-3}	7×10^{-6} 2×10^{-6}
81	Tl^{202}	Muscle (GI)	2×10^{-2} 5×10^{-3}	2×10^{-6} 9×10^{-7}

ATOMIC NUMBER	RADIOISOTOPE	CRITICAL ORGAN	MAXIMUM PERMISSIBLE CONCENTRATIONS	
			IN DRINKING WATER *(microcurie/c.c.)*	IN AIR INHALED *(microcurie/c.c.)*
81	Tl^{204}	Muscle (GI)	8×10^{-3} 10^{-3}	8×10^{-7} 2×10^{-7}
82	Pb^{203}	Bone (GI)	0.1 2×10^{-3}	7×10^{-6} 4×10^{-7}
82	Pb^{210} + daughter products *(b)*	Bone (GI)	2×10^{-6} 3×10^{-3}	8×10^{-11} 4×10^{-7}
84	Po^{219} (sol)	Spleen (GI)	3×10^{-5} 3×10^{-6}	5×10^{-10} 5×10^{-10}
84	Po^{210} (insol)	Lungs	—	10^{-10}
85	At^{211}	Thyroïd (GI)	3×10^{-6} $> 3 \times 10^{-6}$	5×10^{-10} $> 5 \times 10^{-10}$
86	Rn^{220} + daughter products	Lungs	—	10^{-7}
86	Rn^{222} + daughter products	Lungs	—	10^{-7}
88	Ra^{226} + 55 % daughter products *(b)*	Bone	4×10^{-8}	8×10^{-12}
89	Ac^{227} + daughter products *(b)*	Bone (GI)	3×10^{-6} 6×10^{-5}	4×10^{-12} 10^{-8}
90	Th-natural *(c)*	Bone (GI)	5×10^{-7} 10^{-6}	3×10^{-11} 2×10^{-10}
90	Th-natural (insol)	Lungs	—	3×10^{-11}
90	$Th^{234} + Pa^{234}$ *(b)*	Bone (GI)	5×10^{-2} 2×10^{-4}	10^{-8} 3×10^{-8}
92	U-natural *(c)* (sol)	Kidneys (GI)	10^{-4} 2×10^{-6}	3×10^{-11} 3×10^{-10}
92	U-natural (insol)	Lungs	—	3×10^{-11}
92	U^{233} (sol)	Bone (GI)	1.5×10^{-4} 3×10^{-6}	3×10^{-11} 5×10^{-10}
92	U^{233} (insol)	Lungs	—	3×10^{-11}
94	Pu^{239} (sol)	Bone (GI)	6×10^{-6} 3×10^{-6}	2×10^{-12} 2×10^{-12}

ATOMIC NUMBER	RADIOISOTOPE	CRITICAL ORGAN	MAXIMUM PERMISSIBLE CONCENTRATIONS	
			IN DRINKING WATER *(microcurie/c.c.)*	IN AIR INHALED *(microcurie/c.c.)*
94	Pu^{239} (insol)	Lungs	—	2×10^{-12}
95	Am^{241}	Bone (GI)	2×10^{-4} 3×10^{-6}	4×10^{-11} 5×10^{-10}
96	Cm^{242}	Bone (GI)	10^{-3} 2×10^{-6}	2×10^{-10} 4×10^{-10}
Any fission mixture (beta, gamma)			10^{-7}	10^{-9}
Any mixture of alpha emitters			10^{-7}	5×10^{-12}

GROUP OF EXPERTS ON RADIATION PROTECTION NORMS

List of members

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	Mr. J. PFAFFELHÜBER.	Adviser, Ministry for Nuclear Energy, Bad Godesberg.
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	Mr. L. BOST.	Attaché, External Relations Division, Euratom Commission.
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	Dr. S. PASQUALE.	Ministry of Industry and Commerce, Rome.
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	Prof. H. THILL.	Member of the National Council for Nuclear Energy.
Norway	Dr. R. EKER.	Director, Norwegian Cancer Hospital, Oslo.
	Dr. K. KOREN.	Director of the State Institute for Radiological Protection, Oslo.
Netherlands	Mr. J. WESTER.	Chairman of the Health Council, The Hague.
	Dr. F. BEZEMER.	Medical Adviser, Labour Inspectorate, The Hague.
Portugal	Mr. J.P. GALVÂO.	Physicist of the Junta de Energia Nuclear, Lisbon.

United Kingdom .	Mr. R.J. SHERWOOD.	Operations Group, Health Physics Division, A.E.R.E., Harwell.
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Switzerland.....	Prof. Dr. O HUBER.	Professor of Physics, Physics Institute, Freiburg University.
	Dr. W. MINDER.	Director of the Radium Institute, Berne.
United States	Dr. M. EISENBUD.	Manager, New York Operations Office, U.S. Atomic Energy Commission.
Canada	Mr. F. X. HOUDE.	Member of Permanent Delegation.
International Atomic Energy Agency :		
	Mr. G.W.TAIT	Director, Health and Safety Division.