REPUBLIC OF CAMEROON

PEACE – WORK – FATHERLAND

DECREE No. 2026/00202 /PM of 02 FEV 2026

To lay down conditions for the management of radioactive waste.-

THE PRIME MINISTER, HEAD OF GOVERNMENT,

Mindful of the Constitution;
Mindful of Law No. 89/27 of 29 December 1989 on toxic and hazardous waste;

Mindful of Law No. 96/03 of 4 January 1996: Framework Law on Health;
Mindful of Law No. 96/12 of 5 August 1996: Framework Law on Environmental Management;
Mindful of Law No. 98/015 of 14 July 1998 to regulate establishments classified as dangerous, unhealthy and obnoxious;
Mindful of Law No. 2019/012 of 19 July 2019 to lay down the general framework for radiological and nuclear safety, nuclear security, civil liability and safeguards enforcement;
Mindful of Decree No. 92/089 of 4 May 1992 to specify the duties of the Prime Minister, as amended and supplemented by Decree No. 95/145-a of 4 August 1995;
Mindful of Decree No. 2011/408 of 9 December 2011 to organize the Government, as amended and supplemented by Decree No. 2018/190 of 2 March 2018;
Mindful of Decree No. 2019/001 of 4 January 2019 to appoint a Prime Minister, Head of Government;
Mindful of Decree No. 2024/599 of 19 November 2024 to change the name of and reorganize the National Radiation Protection Agency;
Mindful of Decree No. 2012/2809/PM of 26 September 2012 to lay down conditions for the sorting, collection, storage, transport, recovery, recycling, treatment and final disposal of waste;
Mindful of Decree No. 2024/00163 of 22 January 2024 to lay down procedures for the application of certain provisions of Law No. 2019/012 of 19 July 2019 to lay down the general framework for radiological and nuclear safety, nuclear security, civil liability and safeguards enforcement,

HEREBY DECREES AS FOLLOWS:

CHAPTER I
GENERAL PROVISIONS

ARTICLE 1.- (1) This decree lays down conditions for the management of radioactive waste.

(2) It is issued pursuant to the provisions of Section 60(3) of Law No. 2019/012 mentioned above.

ARTICLE 2.- Radioactive waste shall refer to any material for which no further use is foreseen and which contains, or is contaminated with radionuclides whose activity concentration exceeds the clearance levels specified in Annexe 1 of this decree.

ARTICLE 3.- (1) This decree shall apply in particular to:

- all solid, liquid, and gaseous waste whose activity exceeds the clearance levels specified in Annexe 1;
- all users of radioactive sources;
- operators of radioactive waste management facilities;
- operators of nuclear fuel cycle facilities.

(2) Liquid effluents and contaminated solid waste generated outside healthcare facilities by patients undergoing diagnostic tests or treatment using radionuclides in nuclear medicine shall be excluded from the scope of this decree.

ARTICLE 4.- Importation of radioactive waste into the national territory shall be forbidden.

ARTICLE 5.- All exempt radioactive waste must be managed in an environmentally friendly and rational manner in accordance with the regulations in force.

ARTICLE 6.- For purposes of this decree, the following definitions shall apply:

Safety case: A collection of arguments and evidence in support of the safety of a facility or activity. This normally includes the findings of a safety assessment and a statement of confidence in these findings. For a disposal facility, the safety case may relate to a given stage of development. In such cases, it should acknowledge the existence of any unresolved issues and provide guidance for work to resolve these issues in future development stages;

Quality assurance: All planned and systematic actions necessary to provide adequate confidence that a product, process, or service will meet given requirements for quality, for example, those specified in the authorization;

Characterization: Process of determining the physical, chemical, and radiological properties of waste;

Clarity: Good structure and presentation at an appropriate level of detail such as to allow an understanding of the arguments included in the safety case;

Exempt waste: Waste that is released from regulatory control in accordance with clearance levels because the associated radiological hazards are negligible;

Radioactive waste: Material for which no further use is foreseen and which contains, or is contaminated with radionuclides whose activity concentration exceeds the clearance levels defined in Annexe 1;

Storage: Retention of radioactive waste in a facility that ensures its containment, with the intention of retrieving it later;

Radioactive half-life: Time required for the activity of a radionuclide to decrease by half through a process of radioactive decay;

Radionuclide: Nucleus of an atom with the property of spontaneously disintegrating, producing ionizing radiation;

Safety: Protection measures for people and the environment against radiological risks, and control of facilities and activities that give rise to radiological risks under normal conditions, or actions aimed at preventing incidents and measures taken to mitigate the consequences should such incidents occur;

Radiological monitoring: Physical inspection and measurement of the radiological parameters of the facility to verify its integrity and the capability to protect and preserve passive barriers;

Authorization holder: Holder of a licence issued for a practice or source who is recognized as having rights and duties related to that practice or source, particularly with regard to protection and safety;

Traceability: Ability to track information contained in the documentation and used to support the safety case;

Carrier: Person, organization or government undertaking the carriage of radioactive material by any means of transport. The term includes both carriers for hire or reward and carriers on own account.

Controlled area: Defined area, with regulated access, in which specific protection measures and safety provisions are, or could be required for controlling exposures or preventing the spread of contamination in normal working conditions, and preventing or limiting the extent of potential exposures;

Supervised area: Defined area not designated as a controlled area but for which occupational exposure conditions are continuously kept under review, even though specific protection measures and safety provisions are not normally needed.

CHAPTER II
CLASSIFICATION OF RADIOACTIVE WASTE

ARTICLE 7.- Radioactive waste shall be classified into six (6) categories as follows:

Category I: Exempt Waste (EW): Waste that meets the criteria for clearance, exemption or exclusion from regulatory control for radiation protection purposes;

Category II: Very short lived waste (VSLW): Waste that can be stored for decay over a limited period of up to a few years and subsequently cleared from regulatory control according to arrangements approved by the regulatory body, for uncontrolled disposal, use or discharge. This class includes waste containing primarily radionuclides with very short half-lives often used for medical and research purposes.

Category III: Very low level waste (VLLW): Waste that does not necessarily meet the criteria for EW, but that does not need a high level of containment and isolation and, therefore, is suitable for disposal in near surface landfill type facilities with limited regulatory control. Such landfill type facilities may also contain other hazardous waste. Typical waste in this class includes soil and rubble with low levels of activity concentration. Concentrations of longer lived radionuclides in VLLW are generally very limited.

Category IV: Low level waste (LLW): Waste that is above clearance levels, but with limited amounts of long lived radionuclides. Such waste requires robust isolation and containment for periods of up to a few hundred years and is suitable for disposal in engineered near surface facilities. This class covers a very broad range of waste. LLW may include short lived radionuclides at higher levels of activity concentration, and long lived radionuclides, but only at relatively low levels of activity concentration.

Category V: Intermediate level waste (ILW): Waste that, because of its content, particularly of long lived radionuclides, requires a greater degree of containment and isolation than that provided by near surface disposal. However, ILW needs no provision, or only limited provision, for heat dissipation during its storage and disposal. It may contain long lived radionuclides, in particular, alpha emitting radionuclides that will not decay to a level of activity concentration acceptable for near surface disposal during the time for which institutional controls can be relied upon. Therefore, waste in this class requires disposal at greater depths, of the order of tens of metres to a few hundred metres.

Category VI: High level Waste (HLW): Waste with levels of activity concentration high enough to generate significant quantities of heat by the radioactive decay process or waste with large amounts of long lived radionuclides that need to be considered in the design of a disposal facility for such waste. Disposal in deep, stable geological formations usually several hundred metres or more below the surface is the generally recognized option for disposal of HLW.

CHAPTER III
PRINCIPLES OF RADIOACTIVE WASTE MANAGEMENT

ARTICLE 8.- The holder of the radioactive waste management authorization shall take appropriate measures to prevent unauthorized access to the waste management facilities.

ARTICLE 9.- Radioactive waste management shall be subject to the following principles, which shall be applied by all persons, whether natural or legal, public or private:

1- People and the environment must be adequately protected against radiation risks;

2- Waste production must be reduced to the lowest possible level;

3- Undue burdens on current and future generations must be avoided;

4- Protective measures must be taken in accordance with international criteria and standards in force;

5- Biological, chemical and other risks that may be associated with radioactive waste management must be adequately considered.

CHAPTER IV
CHARACTERIZATION AND PROCESSING OF RADIOACTIVE WASTE

ARTICLE 10.- Radioactive waste shall be treated in such a way as to reduce its volume and facilitate its subsequent packaging.

ARTICLE 11.- (1) Radioactive waste shall be characterized in terms of its physical, chemical, radiological and biological properties.

(2) Characterization shall be used to provide relevant information for controlling the treatment process and to provide assurance that the waste or waste packages meet the acceptance criteria referred to in Annexe 2 of this decree, for processing, storage, transport and final disposal.

ARTICLE 12.- (1) The authorization holder shall ensure that waste processing is carried out in such a way as to guarantee the safe transport, storage, and final disposal of the radioactive waste.

(2) The processing referred to in paragraph 1 above may produce effluents that give rise to an authorized discharge or release from regulatory control.

ARTICLE 13.- The authorization holder shall ensure that each package of radioactive waste bears the standardized radioactivity pictogram and a visible, legible, and durable label that includes, in particular, the following information:

a) type and category of the waste produced;
b) date of waste production;
c) date of commencement of storage;
d) quantity and quality of the main radionuclides;
e) surface dose rate;
f) biological and chemical materials or other hazardous materials, if any;
g) identification of the person responsible for waste production;
h) identification code issued by the Authority in charge of regulation and regulatory control.

ARTICLE 14.- (1) The authorization holder shall guarantee that, during waste processing, measures are taken to prevent incidents or accidents.

(2) The authorization holder shall take steps to mitigate the consequences of any incidents or accidents.

ARTICLE 15.- The authorization holder shall ensure that radioactive waste is processed in such a way that its new form allows it to be safely stored in a storage facility and safely recovered, until its final disposal.

ARTICLE 16.- The authorization holder shall take steps to identify and sort waste and/or waste packages that do not meet the specifications and requirements for safe handling, transport, storage and/or final disposal, with a view to their reprocessing.

ARTICLE 17.-The authorization holder shall take into consideration, with a view to its appropriate treatment, the secondary waste generated through the processing of waste.

CHAPTER V
STORAGE OF RADIOACTIVE WASTE

ARTICLE 18.- (1) Storage shall be a temporary measure. However, it may last several decades.

(2) Storage shall involve the recovery and temporary storage of radioactive waste with a view to its release, processing and/or final disposal at a later date or its authorized discharge, in the case of effluents.

(3) Storage of radioactive waste shall be subject to authorization by the Authority in charge of regulation and regulatory control.

ARTICLE 19.- Radioactive waste shall be stored in such a way that it can be inspected, monitored, retrieved and preserved under appropriate conditions for subsequent management.

ARTICLE 20.- Due account shall be taken of the expected period of storage and passive safety measures shall be applied. For long-term storage in particular, measures shall be taken by the authorization holder to prevent degradation of the radioactive waste containment.

ARTICLE 21.- Storage shall occur during the stages of radioactive waste management prior to final disposal. In particular, it shall allow:

- to facilitate the next stage of its management;
- to ensure regulatory control during the various management stages;
- to wait for the radionuclides to decay before their authorized release or disposal;
- to wait until a decision is taken regarding their future management, in the case of waste produced in an emergency situation.

ARTICLE 22.- The design of the storage facility shall depend on the type of radioactive waste, its characteristics and associated risks, the inventory of its radionuclides, and the expected period of storage.

ARTICLE 23.- The authorization holder shall make provisions for the regular safety and maintenance of the waste and of the storage facility to ensure their continued integrity.

ARTICLE 24.- Where long-term storage of radioactive waste is proposed, the authorization holder shall take into account the protection of present and future generations in accordance with fundamental safety principles.

ARTICLE 25.- The Authority in charge of regulation and regulatory control shall ensure radiological monitoring of the storage of radioactive waste at intervals that depend on the nature of the radioactive waste.

CHAPTER VI
ACCEPTANCE CRITERIA FOR RADIOACTIVE WASTE

ARTICLE 26.- Waste packages and unpackaged waste that are accepted for processing, storage, and/or final disposal shall meet safety criteria.

ARTICLE 27.- The waste acceptance criteria shall specify the radiological, mechanical, physical, chemical and biological characteristics of waste packages and unpackaged waste to be processed, stored, or finally disposed of.

ARTICLE 28.- Compliance with the waste acceptance criteria shall be essential to guarantee safety during the handling and storage of waste packages and unpackaged waste under normal operations, possible accidents, and, in the long term, during final disposal of the waste.

ARTICLE 29.- The procedures used by authorization holders to receive waste shall include provisions for the safe management of waste that does not meet the acceptance criteria, notably the undertaking of corrective actions or the return of such waste.

ARTICLE 30.- The acceptance criteria for radioactive waste shall be set out in Annexe 2 of this decree.

CHAPTER VII
PREPARATION AND SCOPE OF THE SAFETY CASE AND SUPPORTING SAFETY ASSESSMENT

ARTICLE 31.- (1) The authorization holder shall prepare a safety case and a safety assessment from the design stage of the facility and attach it to his request for authorization. It shall be used as a basis for decision-making by the Authority in charge of regulation and regulatory control.

(2) In the case of a phased approach or if the facility or activity being carried out is modified, the safety case and supporting safety assessment shall be updated and submitted to the Authority in charge of regulation and regulatory control for assessment.

ARTICLE 32.- The safety case shall cover operational safety and all safety aspects of the facility and activities. It shall take account of risk reduction factors for workers, the public and the environment under normal operating conditions and possible accidental conditions.

ARTICLE 33.- The safety case for a radioactive waste management facility prior to final disposal shall include a description of how all the safety aspects of the site, design, operation, shutdown, and decommissioning of the facility, as well as managerial controls, meet regulatory requirements.

ARTICLE 34.- The safety case and supporting safety assessment shall demonstrate the level of protection provided and shall provide assurance to the Authority in charge of regulation and regulatory control that safety requirements have been met.

ARTICLE 35.- The design of the facility, the arrangements made for operational management and the systems and processes used must be examined and justified in the safety case.

ARTICLE 36.- Any significant modification to the safety of a facility which requires the review of the safety case shall be subject to the same regulatory controls and approvals as those which apply to a new facility.

CHAPTER VIII
DOCUMENTATION OF THE SAFETY CASE AND SUPPORTING SAFETY ASSESSMENT

ARTICLE 37.- The safety case and its supporting safety assessment shall be documented with sufficient detail and quality to demonstrate safety, support the decisions to be made at each stage and allow for the independent review and approval of the safety case and safety assessment.

ARTICLE 38.- The documentation shall be clearly written and shall include arguments justifying the approaches taken in the safety case on the basis of information that is traceable.

CHAPTER IX
PERIODIC SAFETY REVIEWS

ARTICLE 39.- (1) The authorization holder shall carry out periodic safety reviews and make any improvements required by the Authority in charge of regulation and regulatory control as a result

of the review. The results of periodic safety reviews shall be taken into account in the updated version of the safety case prepared for the facility.

(2) The authorization holder shall periodically review the safety assessment to confirm that any assumptions made that must be met continue to be adequately verified as part of the overall safety managerial controls.

(3) The authorization issued by the Authority in charge of regulation and regulatory control shall specify the period for the production of the report referred to in paragraph 1 above.

ARTICLE 40.- (1) The safety assessment and the management systems that support it shall be reviewed periodically at planned intervals, in accordance with the requirements of the Authority in charge of regulation and regulatory control.

(2) The safety assessment shall be periodically reviewed and updated in the following cases:

- When a significant change occurs that may affect the safety of the facility or activity;
- When significant developments in knowledge and understanding occur, such as developments arising from research or feedback from operating experience;
- When emerging safety issues arise as a result of a regulatory concern or a significant incident;
- When significant improvements are made to the assessment techniques, such as calculation programmes or input data used in the safety analysis.

CHAPTER X
LOCATION AND DESIGN OF FACILITIES

ARTICLE 41.- Radioactive waste management facilities prior to final disposal shall be designed and their location chosen to ensure safety for the expected operating lifetime under both normal and possible accident conditions, and for their decommissioning.

ARTICLE 42.- The characteristics to be incorporated into the design shall depend largely on the properties, the total inventory of radioactive waste to be managed and the potential radiological and non-radiological risks associated with it, as well as the requirements of the Authority in charge of regulation and regulatory control.

ARTICLE 43.- The authorization holder shall take steps, as early as the design study phase, to enable and promote activities related to maintenance, testing, and inspections carried out during the operational phase.

CHAPTER XI
CONSTRUCTION AND COMMISSIONING OF FACILITIES

ARTICLE 44.- (1) Radioactive waste management facilities prior to final disposal shall be constructed in accordance with the design as described in the safety case and approved by the Authority in charge of regulation and regulatory control.

(2) The site shall be chosen subject to authorization from the Authority in charge of regulation and regulatory control.

(3) Construction may only begin after obtaining authorization from the Authority in charge of regulation and regulatory control.

(4) The authorization holder shall conduct tests on the facility to ensure that the equipment, structures, systems and components and the facility as a whole operate in accordance with the safety case.

(5) Once the tests are conclusive, the authorization holder shall apply to the Authority in charge of regulation and regulatory control for authorization to operate the facility.

ARTICLE 45.- The Authority in charge of regulation and regulatory control shall supervise construction and commissioning activities.

ARTICLE 46.- (1) Upon completion of the commissioning, the authorization holder shall prepare a final report.

(2) The report referred to in paragraph (1) above shall describe the state of the facility and the tests conducted. It shall provide factual data on the proper execution of the tests and on any modifications made to the facility or procedures during commissioning.

ARTICLE 47.- The authorization holder shall keep the report referred to in Article 46 above as part of the documentation required for operation and for developing the decommissioning plan.

ARTICLE 48.- The Authority in charge of regulation and regulatory control shall evaluate the report referred to in Article 46 above and, if need be, organize an inspection to ensure that all conditions and requirements have been met before authorizing the operation of the facility.

ARTICLE 49.- The safety case shall be updated, if required, to reflect the state of the facility, and the conclusions of the commissioning report.

CHAPTER XII
OPERATION OF THE FACILITY

ARTICLE 50.- The operation of a radioactive waste management facility, prior to final disposal, shall be subject to authorization by the Authority in charge of regulation and regulatory control.

ARTICLE 51.- (1) The authorization holder shall be responsible for the safe operation of his facility. To this end, he shall take due account of its maintenance to ensure that it operates in safe conditions.

(2) The authorization holder shall draw up emergency preparedness and response plans, which shall be submitted for prior approval to the Authority in charge of regulation and regulatory control.

ARTICLE 52.- Operations and activities related to the safe use of radioactive waste shall be carried out by trained, qualified and competent personnel. Their exposure shall be subject to compliance with dose limits for workers exposed to ionizing radiation.

ARTICLE 53.- Operating procedures, which include programmes for the maintenance, periodic testing and inspection of systems that are vital to safe operation, shall be submitted to the Authority in charge of regulation and regulatory control for approval prior to their implementation.

CHAPTER XIII
SHUTDOWN AND DECOMMISSIONING OF FACILITIES

ARTICLE 54.- (1) At the design stage, the authorization holder shall draw up an initial shutdown and decommissioning plan for the radioactive waste management facility, prior to final disposal, which shall be updated periodically throughout the operating period.

(2) The updates referred to in paragraph 1 above shall be subject to approval by the Authority in charge of regulation and regulatory control.

(3) The decommissioning of the facility shall be carried out in accordance with the final decommissioning plan, as approved by the Authority in charge of regulation and regulatory control.

ARTICLE 55.- The authorization holder shall take steps, approved by the authority in charge of regulation and regulatory control, to secure the funds needed to carry out the shutdown and decommissioning operations.

ARTICLE 56.- The frequency with which the decommissioning plan is updated shall depend on the type of facility and the operating history; it shall be laid down by the Authority in charge of regulation and regulatory control.

ARTICLE 57.- (1) Facilities shall be shut down and decommissioned in accordance with the conditions laid down by the Authority in charge of regulation and regulatory control.

(2) Any transfer of responsibility for the facility must be approved by the Authority in charge of regulation and regulatory control prior to implementation.

CHAPTER XIV
NUCLEAR MATERIAL ACCOUNTING AND CONTROL SYSTEM

ARTICLE 58.- The authorization holder shall carry out the accounting and control of nuclear materials received at the facility.

ARTICLE 59.- The authorization holder shall provide the Authority in charge of regulation and regulatory control with the accounts referred to in Article 58 above.

CHAPTER XV
MISCELLANEOUS, TRANSITIONAL AND FINAL PROVISIONS

ARTICLE 60.- The final disposal of radioactive waste in Cameroon shall be laid down by separate instruments.

ARTICLE 61.- The annexes shall form an integral part of this decree.

ARTICLE 62.- The authorization holder shall be required to comply with the provisions of this decree within twelve (12) months as from its date of publication.

ARTICLE 63.- All authorization holders shall be required to submit an annual report on their radioactive waste management activities to the Authority in charge of regulation and regulatory control.

ARTICLE 64.- The Authority in charge of regulation and regulatory control shall ensure the centralized management of radioactive waste on a transitional basis.

ARTICLE 65.- This decree shall be registered, published according to the procedure of urgency and inserted in the Official Gazette in English and French./-

Yaounde, 02 FEV 2026

Joseph DION NGUTE

PRIME MINISTER,
HEAD OF GOVERNMENT

REPUBLIQUE DU CAMEROUN
REPUBLIC OF CAMEROON
PAIX-TRAVAIL-PATRIE
PEACE-WORK-FATHERLAND
THE PRIME MINISTER
LE PREMIER MINISTRE
PRIME MINISTER'S OFFICE
SERVICES DU PREMIER MINISTRE

SERVICES DU PREMIER MINISTRE
SECRÉTARIAT GÉNÉRAL
DIRECTION DES AFFAIRES ADMINISTRATIVES
ET DES REQUÊTES
COPIE CERTIFIÉE CONFORME

ANNEXE 1

RADIOACTIVE WASTE RELEASE CRITERIA

Waste may be discharged into the atmosphere or into a public sewer, incinerated in an incinerator or disposed of in a municipal landfill, provided that the following conditions are met:

A.1. Gaseous Waste

A.1.1 Any person who manages radioactive waste may not discharge gaseous waste directly into the atmosphere if the quantity does not exceed 10 LAI_{min} per year. Table A1 provides the numerical values of LAI_{min} for the most commonly used radionuclides.

A.1.2 If the waste contains more than one radionuclide, the maximum permitted activity is calculated using equation (1):

$$\sum \frac{A_k}{LAI_{\min k}} \leq 10$$

Where A_K is the activity of the radionuclide K, the values of LAI_{minK} are provided in table A1 for the radionuclide K

A.2. Liquid Waste

A.2.1. Any person who manages radioactive waste may discharge liquid waste into the local sewer system if the total activity does not exceed 1 LAI_{min} per month and 0.1 LAI_{min}, or 5 Mbq if this value is lower, per discharge.

A.2.2. If the waste contains more than one radionuclide, the maximum permitted activity is calculated using equation (2):

$$\sum \frac{A_k}{LAI_{\min k}} \leq 1$$

However, the total activity must not exceed 100 Mbq per month.

A.3. Solid Waste

A.3.1. Any person who manages radioactive waste may dispose of waste with a total activity not exceeding 1 LAI_{min} per month in a municipal landfill. The maximum activity of each waste package must not exceed 0.1 LAI_{min} or 5 Mbq.

A.3.2. If the waste contains more than one radionuclide, the maximum activity must be calculated using equation (1). For the activity of each package, equation (3) shall be applied:

$$\sum \frac{A_k}{LAI_{\min k}} \leq 0{,}1$$

A.3.3. The surface dose rate of waste packages to be sent to a municipal incinerator or municipal landfill must not exceed 5 µGy/h.

A.3.4. When a waste package is sent to a municipal incinerator or municipal landfill, it must bear the following information:

a) a statement worded as follows: "This waste package is exempt from nuclear control in accordance with this title";
b) the name and address of the sender;
c) the sender's signature.

A.3.5. The waste generator must establish and keep records of exempt waste discharged for at least three (3) years. The records must be available for inspection by the Authority in charge of regulation and regulatory control.

TABLE I

RELEASE LEVELS FOR MODERATE QUANTITIES OF MATERIALS: ACTIVITY CONCENTRATIONS OF ARTIFICIAL RADIONUCLIDES

Radionucléide	Concentration d'activité (Bq/g)	Radionucléide	Concentration d'activité (Bq/g)
H-3	100	Co-58	1
Be-7	10	Co-58m	10 000
C-14	1	Co-60	0,1
F-18	10	Co-60m	1 000
Na-22	0,1	Co-61	100
Na-24	1	Co-62m	10
Si-31	1 000	Ni-59	100
P-32	1 000	Ni-63	100
P-33	1 000	Ni-65	10
S-35	100	Cu-64	100
Cl-36	1	Zn-65	0,1
Cl-38	10	Zn-69	1 000
K-42	100	Zn-69m[a]	10
K-43	10	Ga-72	10
Ca-45	100	Ge-71	10 000
Ca-47	10	As-73	1 000
Sc-46	0,1	As-74	10
Sc-47	100	As-76	10
Sc-48	1	As-77	1 000
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	1 000
Mn-56	10	Sr-90[a]	1
Fe-52[a]	10	Sr-91[a]	10
Fe-55	1 000	Sr-92	10
Fe-59	1	Y-90	1 000
Co-55	10	Y-91	100
Co-56	0,1	Y-91m	100
Co-57	1	Y-92	100

Radionucléide	Concentration d'activité (Bq/g)	Radionucléide	Concentration d'activité (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-113[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	1 000
Mo-99[a]	10	Te-127	1 000
Mo-101[a]	10	Te-127m[a]	10
Tc-96	1	Te-129	100
Tc-96m	1 000	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-103[a]	1	Te-134	10
Ru-105[a]	10	I-123	100
Ru-106[a]	0,1	I-125	100
Rh-103m	10 000	I-126	10
Rh-105	100	I-129	0,01
Pd-103[a]	1 000	I-130	10
Pd-109[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-109[a]	1	I-135	10
Cd-115[a]	10	Cs-129	10
Cd-115m[a]	100	Cs-131	1 000

Radionucléide	Concentration d'activité (Bq/g)	Radionucléide	Concentration d'activité (Bq/g)
Cs-132	10	Er-171	100
Cs-134	0,1	Tm-170	100
Cs-134m	1 000	Tm-171	1 000
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	1 000
La-140	1	W-187	10
Ce-139	1	Re-186	1 000
Ce-141	100	Re-188	100
Ce-143	10	Os-185	1
Ce-144a	10	Os-191	100
Pr-142	100	Os-191m	1 000
Pr-143	1 000	Os-193	100
Nd-147	100	Ir-190	1
Nd-149	100	Ir-192	1
Pm-147	1 000	Ir-194	100
Pm-149	1 000	Pt-191	10
Sm-151	1 000	Pt-193m	1 000
Sm-153	100	Pt-197	1 000
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-166	100	Tl-204	1
Er-169	1 000	Pb-203	10

Radionucléide	Concentration d'activité (Bq/g)	Radionucléide	Concentration d'activité (Bq/g)
Ba-206	1	Pu-241	10
Ba-207	0,1	Pu-242	0,1
Po-203	10	Pu-243	1 000
Po-205	10	Pu-244[a]	0,1
Po-207	10	Am-241	0,1
At-211	1 000	Am-242	1 000
Ra-225	10	Am-242m[a]	0,1
Ra-227	100	Am-243[a]	0,1
Th-226	1 000	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	1 000
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	10 000
Pu-239	0,1	Fm-255	100
Pu-240	0,1		

[a] Les radionucléides précurseurs, ainsi que leurs produits de filiation dont les contributions à la dose sont prises en compte dans les calculs de doses (en sorte que seul le niveau d'exemption du radionucléide précurseur est à prendre en considération), sont énumérés ci-après :

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

Note : Pour les niveaux d'exemption figurant dans le tableau I.1 (p. 124) et les niveaux d'exemption et de libération indiqués dans ce tableau, il faut tenir compte des considérations suivantes : a) ils ont été calculés à partir d'un modèle prudent reposant sur i) les critères des paragraphes I.2 et I.11, respectivement, et ii) un ensemble de scénarios limitatifs en ce qui concerne l'utilisation et le stockage définitif (voir les réf. [25, 26] dans le cas du tableau I.1 et la réf. [27] dans celui du tableau I.2) ; b) lorsqu'il y a plus d'un radionucléide, le niveau d'exemption calculé ou le niveau de libération calculé pour le mélange est déterminé comme indiqué aux paragraphes I.7 et I.14.

TABLE II

RELEASE LEVELS FOR MATERIALS: ACTIVITY CONCENTRATIONS OF NATURAL RADIONUCLIDES

Radionuclide	Activity Concentration (Bq/g)
K-40	10
Each radionuclide in the decay chains of uranium and thorium	1

Annual Limit on Intake

	Inhalation			
	Oral		class W	class Y
Radionuclide	$f_1 = 5x10^{-2}$	$f_1 = 3x10^{-1}$	$f_1 = 5x10^{-2}$	$f_1 = 5x10^{-2}$
^{55}Co	4×10^7	6×10^7	1×10^8	1×10^8
^{56}Co	2×10^7	2×10^7	1×10^7	7×10^6
^{57}Co	3×10^8	2×10^8	1×10^8	2×10^7
^{58}Co	6×10^7	5×10^7	4×10^7	3×10^7
^{58m}Co	2×10^9	2×10^9	3×10^9	2×10^9
^{60}Co	2×10^7	7×10^6	6×10^6	1×10^6
^{60m}Co	4×10^{10} ($5x10^{10}$) ST Wall	4×10^{10} ($5x10^{10}$) ST Wall	1×10^{11}	1×10^{11}
^{61}Co	7×10^8	8×10^8	2×10^9	2×10^9
^{62m}Co	1×10^9 (2×10^9) ST Wall	1×10^9 (2×10^9) ST Wall	6×10^9	6×10^9

ANNEXE 2

ACCEPTANCE CRITERIA FOR RADIOACTIVE WASTE

Designation	Acceptance criteria	Description
Identification, type and content of the package	High level waste (in the order of TBq) with short lived radionuclides (< 30 years); Low level waste with long lived radionuclides (activity between 1 MBq and 1 GBq) (≥30 years); Very short lived radioactive waste (VSL) (< 100 days). # Nature of the radioelement	The type of package and the nature of radionuclides in the waste package must be known and accurately documented. Labelling is necessary to provide the disposal operator with information on the content of each waste package so that it can be disposed of appropriately. Label specifications regarding location, size, colour, content, etc., should comply with the requirements of the appropriate regulations, which require legibility, clarity, and standardization of waste packages.
Dose rate upon contact with the waste package	≤ 2 mSv/h	The surface dose rate of the waste package must be such that occupational exposure is kept at an acceptable level.
Surface contamination of the waste package:	≤ 0.4 Bq/cm^2 for alpha emitters; ≤ 4 Bq/cm^2 for beta and gamma emitters.	Surface contamination of the waste package (or any other overpack during transport) must comply with the requirements applicable to transport and any other values calculated for the purposes of radiological protection of workers.
Structural stability of a waste package	The physical integrity of the package must be maintained by using: - a standard container - stable package contents	It maintains the integrity of the waste package and must be such that occupational exposure is kept to an acceptable level. It is recommended to reuse the overpack used to import the source. The use of standardized waste packages allows for the application of standardized handling procedures.
Corrosivity of waste and container	Waste that contains corrosive materials must be treated to eliminate the corrosiveness of the material or isolated in a special container.	The presence of corrosive materials such as inorganic acids, alkalis and some salts can lead to a loss of package integrity and the release of radionuclides into the environment. Containers must be sufficient corrosion-resistant to meet the requirements for their normal lifespan and intended use.
Leakage (leachability)	The package must not show any leaks	Care should be taken to ensure that the combination of wastes does not have the potential to react chemically, as this could alter the properties of the waste forms in the long term.
Combustibility of the waste package	The combustibility of the waste package must be as low as reasonably achievable	For packages containing organic material such as paper, bitumen, resins and polymers, a fire risk assessment must be carried out.

	(ALARA) to prevent fires	The fire risk can be reduced by separating the waste into two categories: flammable and non-flammable.