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THE EUROPEAN UNION**

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NOTE

from: General Secretariat of the Council
to: Delegations
No. Cion prop. : 15770/10 ATO 63 ENV 742

Subject : Proposal for a Council Directive (Euratom) on the management of spent fuel and radioactive waste

Based on the suggestions received, the Presidency prepared the attached text to be discussed at the WPAQ meeting on 26 January 2011.

The changes are in **bold underline**; deletions are marked with ~~striketrough~~.

Comments of PRES are given in **<pointed brackets>**.

Proposal for a

COUNCIL DIRECTIVE
on the responsible and safe management of spent fuel and radioactive waste

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Atomic Energy Community, and in particular Articles 31 and 32 thereof,

Having regard to the proposal from the European Commission, drawn up after obtaining the opinion of a group of persons appointed by the Scientific and Technical Committee from among scientific experts in the Member States, and after having consulted the European Economic and Social Committee¹,

Having regard to the opinion of the European Parliament²,

Whereas:

- (1) Article 2(b) of the Treaty provides for the establishment of uniform safety standards to protect the health of workers and of the general public.
- (2) Article 30 of the Treaty provides for the establishment of basic standards for the protection of the health of workers and the general public against the dangers arising from ionizing radiations.
- (3) Article 37 of the Treaty requires Member States to provide the Commission with general data relating to any plan for the disposal of radioactive waste.

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- (4) Council Directive 96/29/Euratom of 13 May 1996 laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionizing radiation¹ applies to all practices which involve a risk from ionizing radiation emanating from an artificial source or from a natural radiation source in cases where natural radionuclides are or have been processed in view of their radioactive, fissile or fertile properties. It also covers the authorised releases of materials that originate from such practices. The provisions of that Directive have been supplemented by more specific legislation.
- (4a) Commission Regulation (Euratom) No 302/2005 of 8 February 2005 on the application of Euratom safeguards establishes a Community legal basis for safeguards ~~of storage~~ of source material or special fissile material.
- (5) As recognised by the Court of Justice of the European Union (hereinafter referred to as 'the Court of Justice') in its case-law, the provisions of Chapter 3 of the Treaty, on health and safety, form a coherent whole conferring upon the Commission powers of some considerable scope in order to protect the population and the environment against the risks of nuclear contamination².
- (6) Council Decision 87/600/Euratom of 14 December 1987 on Community arrangements for the early exchange of information in the event of a radiological emergency³ established a framework for notification and provision of information to be used by the Member States in order to protect the general public in case of a radiological emergency. Council Directive 89/618/Euratom of 27 November 1989 on informing the general public about health protection measures to be applied and steps to be taken in the event of a radiological emergency⁴ imposed obligations on the Member States to inform the general public in the event of a radiological emergency.
- (7) Council Directive 2003/122/Euratom of 22 December 2003 provides for the control of high-activity sealed radioactive sources and orphan sources⁵, including disused sources.

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¹ OJ L 159, 29.6.1996, p.1.

² C-187/87 (1988 ECR p.5013) and C-29/99 (2002 ECR p. I-11221)

³ OJ L 371, 30.12.1987, p.76.

⁴ OJ L 357, 7.12.1989, p. 31.

⁵ OJ L 346, 31.12.2003, p. 57.

- (9) Council Directive 2006/117/Euratom of 20 November 2006¹ lays down a Community system of supervision and control of transboundary shipments of radioactive waste and spent fuel. This Directive was supplemented by Commission Recommendation 2008/956/Euratom of 4 December 2008 on criteria for the export of radioactive waste and spent fuel to third countries².
- (10) Council Directive 2009/71/Euratom of 25 June 2009 establishing a Community framework for the nuclear safety of nuclear installations³, defines obligations on the Member States to establish and maintain a national framework for nuclear safety. While that Directive concerns principally the nuclear safety of nuclear installation, it states that it is also important to ensure the safe management of spent fuel and radioactive waste, including at storage and disposal facilities. However, Directive 2009/71/Euratom does not cover all facilities and aspects of spent fuel and radioactive waste management.
- (11) Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment, as amended by Directive 97/11/EC, by Directive 2003/35/EC and by Directive 2009/31/EC⁴ applies to ~~facilities for spent fuel management~~ **facilities** and ~~facilities for radioactive waste management~~ **facilities**, in so far as they are covered by Annex I of this Directive.
- (12) Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment⁵ states that environmental assessment shall be carried out for all plans and programmes which are prepared for certain sectors and set the framework for future development consent of projects listed in Annexes I and II to Directive 85/337/EEC.
- (13) Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information⁶ refers to radioactive waste in the definition of 'environmental information'.

¹ OJ L 337, 5.12.2006, p. 21.

² OJ L 338, 17.12.2008, p. 69.

³ OJ L 172, 2.7.2009, p. 18.

⁴ OJ L 175, 5.7.1985, p. 40.

⁵ OJ L 197, 21.7.2001, p. 30

⁶ OJ L 41, 14.2.2003, p. 26

- (14) Directive 2003/35/EC of the European Parliament and of the Council of 26 May 2003 providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment¹ **amending with regard to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC** applies to **certain** the plans and programmes contemplated by Directive 2001/42.
- (15) Commission Recommendation of 24 October 2006 on the management of the financial resources for the decommissioning of nuclear installations, spent fuel and radioactive waste² focuses on the adequacy of funding, its financial security and its transparency in order to ensure that the funds are only used for the intended purposes.
- (16) Existing Community legislation does not lay down specific rules ensuring safe and responsible management of spent fuel and radioactive waste at all stages, from generation to disposal.
- (17) The Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (hereafter referred to as 'the Joint Convention')³, concluded under the auspices of the IAEA, to which Euratom and almost all Member States are Contracting Parties, aims at achieving and maintaining a high level of safety world-wide in spent fuel and radioactive waste management through the enhancement of national measures and international co-operation.
- (18) In 2006 the IAEA updated the structure of standards and published the Fundamental Safety Principles⁴, which were jointly sponsored by Euratom, OECD/NEA and other international organisations. As stated by the Joint Sponsoring Organisations, applying the Fundamental Safety Principles will facilitate the application of international safety standards and will make for greater consistency between the arrangements of different States. It is therefore desirable that all States adhere to and advocate these principles. ~~The implementation of the IAEA principles is required of States in relation to operation assisted by IAEA.~~ States or sponsoring organisations may adopt the principles, at their own discretion, for application to their own activities.

¹ OJ L 156, 25.6.2003, p. 17

² OJ L 330, 28.11.2006, p.31

³ INFCIRC/546 of 24 December 1997.

⁴ Fundamental Safety Principles, Safety Fundamentals No. SF-1, IAEA, Vienna, 2006

- (19) The Joint Convention represents an incentive instrument, as it does not entail any sanctions for non-compliance. Also the safety standards developed by the IAEA in cooperation with Euratom, OECD/NEA and other international organisations are neither legally binding, nor enforceable.
- (20) Following the Council's invitation to set up a High Level Group at EU level, as recorded in its Conclusions of 8 May 2007 on nuclear safety and safe management of spent fuel and radioactive waste, the European Nuclear Safety Regulators Group (ENSREG) was set up by Commission Decision 2007/530/Euratom of 17 July 2007 on establishing the European High Level Group on Nuclear Safety and Waste Management¹ to contribute to the achievement of the Community objectives in the field of spent fuel and radioactive waste management.
- (21) The first conclusions and recommendations of ENSREG were reflected in the Council Resolution of 16 December 2008 on Spent Fuel and Radioactive Waste Management. In July 2009 the first ENSREG's report² was submitted to the Commission, and transmitted to the European Parliament and the Council in September. It was reflected by the Council in its Conclusions of 10 November 2009³, where the Council further invites the Commission to make full use of ENSREG expertise in the case of proposals for legally binding instruments in the field of safe management of spent fuel and radioactive waste being considered.
- (22) The European Parliament called for harmonised standards for radioactive waste management⁴ and invited the Commission to review the relevant drafts of its legislative proposal and submit a new proposal for a directive on radioactive waste management⁵
- (23) There is a growing recognition in the Union as well as worldwide of the need for a stronger demonstration of responsible use of nuclear energy, covering in particular nuclear ~~safeguards, safety, and security~~ **and safeguards**. In this context the issue of spent fuel and radioactive waste management needs to be addressed in order to ensure a safe, optimised and sustainable use of nuclear energy.

¹ OJ L 195, 17.7.2007,p.44.

² Report of the European Nuclear Safety Regulators Group, July 2009

³ Council conclusions on the report by the Europeans Nuclear Regulators Group, 10 November 2009

⁴ European Parliament resolution on Assessing Euratom – 50 Years of European nuclear energy policy of 10 May 2007

⁵ Report on Assessing Euratom – 50 Years of European nuclear energy policy, A6-0129/2007

- (24) While it is up to the Member States to define their energy mix, all Member States generate radioactive waste, whether or not they have nuclear reactors. Radioactive waste arises mainly from activities of the nuclear fuel cycle, such as the operation of nuclear power plants and the reprocessing of spent fuel, but also from other activities, such as applications of radioactive isotopes in medicine, research and industry.
- (25) The operation of nuclear reactors also generates spent fuel. Each Member State may define its fuel cycle policy. **The spent fuel may be either considered as a valuable resource that may be, for example, reprocessed or, if regarded as radioactive waste ~~spent fuel~~, destined for direct disposal ~~if regarded as radioactive waste~~.** Whatever option is chosen, the disposal of high level waste, separated at reprocessing, or of spent fuel regarded as waste should be considered.
- (26) The same safety objectives should apply to spent fuel management and to radioactive waste management. Recognising this, the Joint Convention and the IAEA Safety Standards impose the same obligations for disposal of spent fuel as for the disposal of radioactive waste.
- (27) Radioactive waste, including spent fuel considered as waste, requires containment and isolation from humans and the living environment over the long term. Its specific nature (content of radionuclides) requires arrangements to protect human health and the environment against dangers arising from ionizing radiation, including disposal in appropriate facilities as the end point of its management. The storage of radioactive waste, including long-term storage, is an interim solution but not an alternative to disposal.
- (28) A national radioactive waste classification scheme should support these arrangements taking fully into account the specific types and properties of radioactive waste. The precise criteria according to which waste is assigned to a particular waste class will depend on the specific situation in the State in relation to the nature of the waste and the disposal options available or under consideration.
- (29) The typical disposal concept for short lived low and intermediate level waste is near surface disposal. Following 30 years of research, it is broadly accepted at the technical level that deep geological disposal represents the safest and most sustainable option as the end point of the management of high level waste and spent fuel considered as waste. Thus moving towards implementation of disposal should be pursued.

- (30) Although each Member State is responsible for its own policy on spent fuel and radioactive waste management, that policy should respect the relevant fundamental safety principles set by the IAEA¹. It is an ethical obligation of each Member State to avoid any undue burden on future generations in respect of the existing spent fuel and radioactive waste, as well as those expected from decommissioning of existing nuclear installations.
- (31) For the responsible management of spent fuel and radioactive waste, each Member State should establish a national framework which assures political commitments and stepwise decision making implemented through adequate legislation, regulation and organisation with a clear allocation of responsibilities.
- (32) The ultimate responsibility of Member States for the safety of spent fuel and radioactive waste management is a fundamental principle reaffirmed by the Joint Convention. This principle of national responsibility, as well as the principle of prime responsibility of the licence holder for the safety of spent fuel and radioactive waste management under the supervision of its national competent regulatory authority, should be enhanced and the role and independence of the competent regulatory authority should be reinforced by this Directive.
- (33) A national programme should be established to ensure the transposition of the political decisions into clear provisions for the timely implementation of all steps of spent fuel and radioactive waste management from generation to disposal. This should include all activities that relate to handling, pre-treatment, treatment, conditioning, storage, and disposal of radioactive waste. The national programme may be a reference document or a set of documents.
- (34) The different steps in spent fuel and radioactive waste management are closely interrelated. Decisions taken in one individual step may affect a subsequent step. Therefore such interdependencies should be taken into account when developing national programmes.
- (35) Transparency is important in the management of spent fuel and radioactive waste. It should be provided by requiring effective public information and opportunities for all concerned stakeholders to participate in the decision-making processes.
- (36) Cooperation between Member States and at an international level could facilitate and accelerate decision-making through access to expertise and technology.

¹ Fundamental Safety Principles, Safety Fundamentals No. SF-1, IAEA, Vienna, 2006

- (37) Some Member States consider that the sharing of facilities for spent fuel and radioactive waste management, including disposal facilities, is a potentially beneficial option when based on an agreement between Member States concerned.
- (38) When implementing this Directive, Member States should adopt an approach towards a particular **waste management or spent fuel** facility or activity that is proportional to the potential hazard presented by **that particular** facility or activity (graded approach), and make appropriate justifications in the safety case and adjust the scope of the licence for a **that** particular facility.
- (39) The safety case and the graded approach should provide a basis for decisions related to the development, operation and closure of a disposal facility and should allow the identification of areas of uncertainty on which attention needs to be focused to further improve the understanding of those aspects influencing the safety of the disposal system, including natural (geological) and engineered barriers, and its expected development over the time. The safety case should include the findings of the safety assessment and information on the robustness and reliability of the safety assessment and the assumptions made therein. It should therefore provide the collection of arguments and evidence in support of the safety of a facility or activity related to the management of spent fuel and radioactive waste.
- (40) While recognizing that all hazards associated with spent fuel and radioactive waste should be taken into account in the national framework, this Directive does not cover non radiological hazards, which fall under the Treaty on the Functioning of the European Union.
- (41) Maintaining and further developing competences and skills in the management of spent fuel and radioactive waste, as an essential element to ensure high levels of safety, should be based on a combination of learning through operational experience, scientific research and technological development, and technical cooperation between all actors. This can considerably improve the safe management of spent fuel and radioactive waste, as well as contribute to reducing the radio toxicity of high level waste and the spent nuclear fuel.
- (42) Peer review of national programmes could serve as an excellent means of building confidence and trust in the management of radioactive waste and spent fuel in the European Union, with the aim to develop and exchange experience and ensure high standards.

HAS ADOPTED THIS DIRECTIVE:

Article 1

Subject-matter and objectives

- (1) This Directive establishes a Community framework for ensuring responsible and safe management of spent fuel and radioactive waste.
- (2) It ensures that Member States provide for appropriate national arrangements for a high level of safety in spent fuel and radioactive waste management to protect workers and the general public against the dangers arising from ionizing radiation.
- (3) It ensures **provision of** and ~~promotes~~ **<decision to be made on Jan 26>** public information and participation with regard to spent fuel and radioactive waste management **in accordance with Article 12.**
- (4) This Directive supplements the basic standards referred to in Article 30 of the Treaty as regards the safety of spent fuel and radioactive waste and is without prejudice to Directive 96/29/Euratom.

Article 2

Scope

- (1) This Directive shall apply to:
 - (a) all stages of spent fuel management, irrespective of spent fuel being reprocessed or directly disposed, when the spent fuel results from the operation of civilian nuclear reactors or is managed **in the context of** ~~within~~ civilian activities;
 - (b) all stages of radioactive waste management, from generation up to disposal, when the radioactive waste results from civilian activities or is managed within civilian activities **except those materials originating from defence and military programmes that have been clearly separated from civilian waste;** **<deletion or preservation or modification of the text underlined will be decided after FR-UK-COM discussion/agreement>**
- (2) Waste from extractive industries which may be radioactive and falls within the scope of Directive 2006/21/EC shall not be subject to this Directive.
- (2a) Spent fuel handling related requirements shall not apply to Member States that do not produce spent fuel.**
- (3) This Directive shall not apply to authorised releases.

Article 3

Definitions

For the purpose of this Directive the following definitions shall apply:

- (1) 'closure' means the completion of all operations at some time after the emplacement of spent fuel or radioactive waste in a disposal facility, including the final engineering or other work required to bring the facility to a condition that will be safe in the long term;
- (2) 'competent regulatory authority' means an authority or a system of authorities designated in a Member State **to regulate any aspect** in the field of regulation of the safety of spent fuel or radioactive waste management as referred to in Article 6;
- (2a) **<Waiting for FI proposal for definition of ‘conventional material’>**
- (3) 'disposal' means the emplacement of spent fuel or radioactive waste in an authorised facility without the intention of retrieval;
- (3a) 'disposal facility' means any authorised facility or installation the primary purpose of which is radioactive waste disposal;**
- (4) 'licence' means any legal document granted under the jurisdiction of a Member state to carry out any activity related to the management of spent fuel or of radioactive waste, or to confer responsibility for siting, design, construction, commissioning, operation, decommissioning or closure of a spent fuel management facility or of a radioactive waste management facility;
- (5) 'licence holder' means a legal or natural person having overall responsibility for any activity or facility related to the management of spent fuel or radioactive waste as specified in a licence;
- (5a) ‘owner of spent fuel or radioactive waste’ means the producer of spent fuel or radioactive waste or a license holder to whom the overall responsibility for the spent fuel or radioactive waste has been entrusted by competent authorities in accordance with national law.**
- (6) 'radioactive waste' means radioactive material in gaseous, liquid or solid form for which no further use is foreseen or considered ~~in the next two years~~, **in the period defined in the national programme**, by the Member State or by a ~~licence holder~~ **legal or natural person** whose decision is accepted by the Member State, and which is controlled as radioactive waste by a competent regulatory authority under the legislative and regulatory framework of the Member State;
- (7) 'radioactive waste management' means all activities, that relate to handling, pretreatment, treatment, conditioning, storage, or disposal of radioactive waste, excluding off-site transportation;

- (8) 'radioactive waste management facility' means any **authorized** facility or installation the primary purpose of which is radioactive waste management;
- (9) 'reprocessing' means a process or operation, the purpose of which is to extract fissile and fertile materials from spent fuel for further use;
- (9a) 'safety assessment' means the systematic process that is carried out throughout the design, the siting and operation of an authorised facility that is relevant to protection and safety. The safety assessment includes, but is not limited to, the formal safety analysis;
- (9b) 'safety case' means a collection of arguments and evidence in support of the safety of a facility or activity. This will include the findings of a safety assessment;

<**This definition shall be revisited after the discussion on Art. 8**>

- (10) 'spent fuel' means nuclear fuel that has been irradiated in and permanently removed from a reactor core;
- (11) 'spent fuel management' means all activities that relates to the handling, storage, reprocessing, or disposal of spent fuel, excluding off-site transportation;
- (12) 'spent fuel management facility' means any **authorised** facility or installation the primary purpose of which is spent fuel management;
- (13) 'storage' means the holding of spent fuel or of radioactive waste in an authorised facility with the intention of retrieval;-

(13a) storage facility' means any authorised facility or installation the primary purpose of which is radioactive waste storage;

- (14) 'institutional control' means **control of a radioactive waste site by an authority or institution designed under the laws of a Member State. This control may be active (monitoring, surveillance, remedial work) or passive (land use control) and may be a factor in the design of a nuclear facility (e.g. near surface depository)** ~~the measures, mechanisms and provisions applied to ensure the control of the radioactive waste management facility according to the competent regulatory authority requirements.~~

<**Selection between definitions in directive draft (REV 1), now crossed out, and in IAEA, now inserted underlined, should be made**>

Article 4

General principles

- (1) Member States shall establish and maintain national policies on spent fuel and radioactive waste management. They have ultimate responsibility for management of their spent fuel and radioactive waste.
- (2) Member States shall ensure that:
 - (a) the generation of radioactive waste is kept to the **reasonable** minimum ~~practicable~~, in terms of both activity and volume, **consistent with the national policy in a Member State**, by means of appropriate design measures and of operating and decommissioning practices, including recycle **of recovered nuclear material** and reuse of conventional materials;
 - (b) the interdependencies between all steps in spent fuel and radioactive waste generation and management are taken into account;
 - (c) no undue burdens are imposed on future generations;
 - (d) spent fuel and radioactive waste are safely managed, including in the long term;
 - (e) generators of radioactive waste or spent fuel, in accordance with the polluter pays principle, are responsible for **the costs associated with the management of the spent fuel and radioactive waste** ~~all future management costs~~.

- (3) Radioactive waste shall be disposed of in the Member State in which it was generated, unless agreements are concluded between Member States to use disposal facilities in one of them.¹

Article 5

National framework

- (1) Member States shall establish and maintain a national legislative, regulatory and organisational framework (referred to as the 'national framework') for spent fuel and radioactive waste management that allocates responsibilities and provides for coordination between relevant state bodies, including in the long term. The national framework shall **establish responsibilities for** ~~include~~:

(aa) a national policy on spent fuel and radioactive waste management;

- (a) a national programme for implementation of the policy on spent fuel and radioactive waste management;
- (b) national requirements for the safety of spent fuel and radioactive waste management;
- (c) a system of licensing of spent fuel and radioactive waste management activities and facilities, including prohibition of the operation of a spent fuel or radioactive waste management facility without a licence and prescribing **conditions** ~~instructions~~ for further management of the facility;

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- ¹ Outlining the different categories/sources of spent fuel and radioactive waste (Commercial reactors; Research reactors; HASS);
 - Acknowledging the existing arrangements/agreements already in place and/or recognising the relevance of international initiatives (e.g. global threat reduction initiative) aimed at reducing security risks;
 - Noting the need for consistency between various instruments (HASS, Shipment Directive, this proposal);
 - The Presidency would like to seek consensus on the following possible option combining:
 - a) the principle that in line with the existing principle of European legislation restricting export of waste generated within the EU to non-EU states. This principle would be relevant in particular in relation with power generation, with,
 - b) justified exemptions such as:
 - Disused sealed sources bought originally with take back guarantee can be repatriated to the suppliers, including other non-EU Member State country;
 - Radioactive waste generated out of the EU shall not be disposed of in any EU country, except in the cases of disused sealed sources sold out by EU members with the take back guarantees given to a non-EU country;
 - In case of reprocessing of spent fuel, the countries establishing an agreement on the process shall unequivocally declare if they consider the residual waste as generated in the country where the fuel was irradiated or in the country where reprocessing takes place;

- (d) a system of appropriate institutional control, **quality assurance**, regulatory inspections, documentation and reporting;
 - (e) enforcement actions, including suspension of activities and modification or revocation of a licence together with **requirements for** ~~prescription of~~ alternative solutions that lead to safer situation;
 - (f) the bodies involved in the different steps of spent fuel and of radioactive waste management;
 - (g) national requirements for public information and participation.
 - (h) the financing schemes(s) for spent fuel and radioactive waste management in accordance with Article 10.**
- (2) Member States shall ensure that the national framework is maintained and improved as necessary, taking into account operating experience, insights gained from safety cases as referred to in Article 8, the development of technology and the results of research, when available and necessary.

Article 6

Competent regulatory authority

- (1) Member States shall establish and maintain an **appropriate competent** regulatory authority [] in the field of **safety of** spent fuel and radioactive waste management.
- (2) Member States shall **take the appropriate measures steps to** ensure that the competent regulatory authority is functionally separate, in discharging of its duties regarding the control and surveillance of nuclear safety, from any other body or organisation concerned with the promotion or exploitation of nuclear energy or radioactive material, including electricity production and radioisotope applications, or with the management of spent fuel and radioactive waste, in order to ensure effective independence from undue influence in its regulatory function.
- (3) Member States shall ensure that the competent regulatory authority is given the legal powers and human and financial resources necessary to fulfil its obligations in connection with the national framework described in Article 5(1) **(b), (c), (d) and (e).** ~~with due priority to safety.~~

Article 7

Ownership and licence holders ~~and owners~~

(1a) Member States shall ensure that the owner of spent fuel or radioactive waste is primarily responsible for the overall management of the spent fuel or radioactive waste, from its generation to the disposal of radioactive residues.

- (1) Member States shall ensure that the prime responsibility for the safety of spent fuel and radioactive waste management rests with the licence holder. This responsibility can not be delegated.
- (2) Member States shall ensure that the national framework requires licence holders, under the supervision of the competent regulatory authority, to regularly assess and verify, and continuously improve, as far as reasonably achievable, the safety of their activities and **of the waste management and spent fuel management** facilities in a systematic and verifiable manner.
- (3) The assessments referred to in paragraph 2 shall include verification that measures are in place to prevent accidents **at spent fuel and radioactive management facilities** and mitigate the consequences of accidents, including verification of the physical barriers and the licence holder's administrative procedures for protection that would have to fail before workers and the general public would be significantly affected by ionizing radiation.
- (4) Member States shall ensure that the national framework requires licence holders to establish and implement management systems, **including quality assurance,** which give due priority **for overall management of spent fuel and radioactive waste** ~~to safety~~ and are regularly verified by the competent regulatory authority.
- (5) Member States shall ensure that the national framework requires licence holders to provide for and maintain adequate financial and human resources to fulfil their obligations with respect to the safety of spent fuel and radioactive waste management, laid down in paragraphs 1 to 4.

Article 8

Safety case

- (1) A safety case and a supporting safety assessment shall be prepared as part of the license application for a facility or activity. They shall be updated, as necessary, over the evolution of the facility or activity. The extent and detail of the safety case and the safety assessment shall be commensurate with the complexity of the operations and the magnitude of the hazards associated with the facility or activity.

- (2) The safety case and supporting safety assessment shall cover the siting, design, construction, operation, and decommissioning of a facility or closure of a disposal facility; the safety case shall specify the standards applied for this assessment. For disposal facilities, the long-term post-closure safety shall be addressed, in particular how it is ensured by passive means to the fullest extent possible.
- (3) The safety case for a facility shall describe all safety-relevant aspects of the site, the design of the facility, and the managerial control measures and regulatory controls. The safety case and supporting safety assessment shall demonstrate the level of protection provided and shall provide assurance to the competent regulatory authority and other interested parties that safety requirements will be met.
- (4) The safety case and supporting safety assessment shall be submitted to the competent regulatory authority for review **and** assessment [].

Article 9

Expertise and skills

Member States shall ensure that the national framework includes arrangements for education and training covering the needs of all parties with responsibilities for spent fuel and radioactive waste management in order to maintain and to further develop necessary expertise and skills.

Article 10

Financial resources

Member States shall ensure that the national framework ensures that adequate financial resources are available when needed for the management of spent fuel and radioactive waste, taking due account of the responsibility of spent fuel and radioactive waste producers.

Article 11

Quality assurance

~~Member States shall ensure that appropriate quality assurance programmes concerning the safety of spent fuel and radioactive waste management are established and implemented.~~

Article 12

Transparency

- (1) Member States shall ensure that information on the management of spent fuel and radioactive waste is made available to workers and the general public. This obligation includes ensuring that the competent regulatory authority informs the public in the fields of its competence. Information shall be made available to the public in accordance with national legislation and international obligations, **provided that this does not jeopardise to the fullest extent practicable, while having regard to other interests such as, inter alia, security,** recognised in national legislation or international obligations ~~such as, inter alia, security,~~.
- (2) Member States shall ensure that the public is given opportunities to participate appropriately in the process of decision making on policies regarding the spent fuel and radioactive waste management and in particular in the siting of relevant facilities.

Article 13

National programmes

- (1) ~~As part of the national framework,~~ Member States shall ~~establish,~~ implement and keep ~~updated~~ **national** programmes for the management of spent fuel and radioactive waste (hereafter referred to as 'national programmes'), covering all types of spent fuel and radioactive waste under their jurisdiction and all stages of spent fuel and radioactive waste management from generation to disposal.
- ~~(2) National programmes shall be in line with the provisions of Articles 4 to 12.~~
- (3) Member States shall regularly review and update ~~the their~~ national programmes, taking into account technical and scientific progress as appropriate: **and shall analyse recommendations and lessons learned from peer reviews and best practices**.

Article 14

Contents of national programmes

National programmes shall be based on the existing and projected national inventory of radioactive wastes and spent fuel and shall include:

- (1) an inventory of all spent fuel and radioactive waste and previsions of future quantities, including those from decommissioning. The inventory shall clearly indicate the location and amount of the ~~material~~ **radioactive waste and spent fuel** and, through appropriate classification the ~~level of hazard~~ **radioactive waste**;

- (2) concepts, plans and technical solutions from generation to disposal;
- (3) concepts and plans for the post-closure period of a disposal facility, including time over which institutional controls are retained and the means to be employed to preserve knowledge of **the that** facility in the longer term;
- (4) description of research, development and demonstration activities that are needed in order to implement solutions for the management of spent fuel and radioactive waste;
- (5) major milestones, clear timeframes and responsibilities for implementation;
- (6) key performance indicators to monitor progress towards implementation;
- (7) assessment of programme costs and the underlying basis and hypotheses for this assessment, which must include a profile over time;
- (8) description of the financing scheme(s) in force to be in accordance with Article 10;
- ~~(9) analysis of recommendations and lessons learned from peer reviews and best practices;~~
- (10) description of the transparency policy ~~covering information on the management of spent fuel and radioactive waste for workers and members of the public, and a system of public participation in decision making.~~

Article 15

Notification

- (1) Member States shall notify the Commission of their national programmes and of subsequent significant changes.
- (2) Within three months of the date of notification, the Commission may request clarification and/or express its opinion on whether the content of the national programmes is in accordance with Article 14.
- (3) Within three months from receiving the Commission's reaction Member States shall provide the requested clarification and/or inform the Commission of any revision of the national programmes.
- (4) The Commission will take into account the Member States' clarifications and progress on the national waste management programs, when deciding on the provision of Euratom financial or technical assistance for spent fuel and radioactive waste management facilities or activities, or when formulating its views on investment projects in accordance with Article 43 of the Euratom Treaty.

Article 16

Reporting

- (1) Member States shall submit a report to the Commission on the implementation of this Directive for the first time by, and every three years thereafter, taking advantage of the review and reporting cycles under the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.
- (2) On the basis of the Member States' reports, the Commission shall submit a report to the Council and the European Parliament on progress made with the implementation of this Directive. On the same basis, the Commission shall also submit an inventory of radioactive waste and spent fuel present in the Community's territory and the future prospects.
- (3) Member States shall periodically, and at least every 10 years, arrange for self-assessments of their national framework, competent regulatory authority, national programme and its implementation, and invite international peer review of their national framework, authority and/or programme with the aim of ensuring that high **safety** standards are achieved in the **safe** management of spent fuel and radioactive waste. The outcomes of any peer review shall be reported to the Commission and the Member States, and may be made available to the public where there is no conflict with security and proprietary information.

Article 17

Transposition

- (1) Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by **[2 years after the date referred to in Art. 18]**. They shall forthwith inform the Commission thereof. When Member States adopt these measures, they shall contain a reference to this Directive or shall be accompanied by such reference on the occasion of their official publication. The methods of making such reference shall be laid down by Member States.
- (2) Member States shall communicate to the Commission the text of the main provisions of national law which they adopt in the field covered by this Directive and of any subsequent amendments to those provisions.
- (3) Member States shall notify the Commission their first National Programme covering all the items provided for in Article 14 as soon as possible but not later than four years after the entry into force of this Directive.

Article 18

Entry into force

This Directive shall enter into force on the twentieth day following its publication in the *Official Journal of the European Union*.

Article 19

Addressees

This Directive is addressed to the Member States.

Done at Brussels,

For the Council

The President
