Management of spent fuel and radioactive waste: EU legal framework

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PURPOSE: to set out an EU legal framework for spent fuel and radioactive waste management.

PROPOSED ACT: Council Directive.

BACKGROUND: all Member States have radioactive waste. It is generated by many beneficial activities, such as electricity production in nuclear power plants and a range of radioisotope applications in medicine, industry, agriculture, research and education.

Radioactive wastes are classified into low-, intermediate-, and high-level waste depending on their level of activity. In the EU, more than 85% of the generated volume of radioactive waste constitutes short lived LILW, about 5% long lived LILW and less than 10% HLW, which includes both vitrified waste from reprocessing and spent fuel considered as waste. For High Level Waste (HLW), by contrast, there is a world-wide scientific and technical consensus that deep geological disposal represents the safest and most sustainable option. Whatever the future of nuclear power and non-power applications, the implementation of disposal as the end point in the management of existing and future radioactive waste is needed in order to assure safety in the long term.

Ultimate responsibility for the management of spent fuel and radioactive waste rests with the States. However, **most countries have yet to take key decisions regarding the management of spent fuel and radioactive waste**. The consequences of the delay are that burdens will be passed on to future generations, both to implement disposal as well as maintaining interim storage options.

The general objective of this proposal is therefore to set up an EU legal framework for the management of spent fuel and radioactive waste as an integral part of the safe use of nuclear energy for electricity production and of the ionizing radiation in medicine, industry, agriculture, research and education.

IMPACT ASSESSMENT: a thorough impact assessment concluded that the lack of binding EU legislation is likely to lead to postponement of taking key decisions, with potentially adverse environmental, economic and social impacts, including undue burdens on future generations and possibly distortion of competition in the electricity market. In contrast, binding EU legislation would result in a uniformly high level of safety of spent fuel and radioactive waste management EU-wide in the long term, without imposing undue burdens on future generations or compromising the ability of future generations to meet their own needs.

LEGAL BASIS: **Articles 31 and 32 of the Treaty establishing the European Atomic Energy Community**.

Community competences regarding spent fuel and radioactive waste arising from civil nuclear activities fall under the framework of the Euratom Treaty. The issue of spent fuel and radioactive waste management is clearly an area where national legislation has to be supplemented by legislation at EU level owing to the cross-border aspect of safety. At the same time the internal market requires the Commission to ensure a level-playing field to avoid distortion of competition.

The recently adopted Council Directive establishing a Community framework for the nuclear safety of nuclear installations only covers spent fuel storage facilities and other storage facilities for radioactive

waste that are on the same site as and are directly related to nuclear installations. However, it states that it is also important to ensure the safe management of spent fuel and radioactive waste, including at storage and disposal facilities. Thus, the proposed Directive on the management of spent fuel and radioactive waste is a logical next step after the Nuclear Safety Directive.

CONTENT: the proposed Directive's objective is the **establishment of a Community framework for responsible management of spent fuel and radioactive waste**, ensuring that Member States make appropriate national arrangements for a high level of safety and maintain and promote public information and participation.Its scope covers **all stages** of the management of civilian spent fuel and radioactive waste from generation to disposal, but not the management of specific types of waste, such as authorised releases and waste from extractive industries which may be radioactive, as already covered by existing European legislation.

Special attention was paid to ensuring the Directive is consistent with existing European legislation while **making internationally accepted principles and requirements**, laid down in the IAEA Safety Standards and the Joint Convention, **legally binding and enforceable in the EU**.

Obligations associated with the application of the general principles include:

- a national framework for spent fuel and radioactive waste management in the long term;
- a competent regulatory authority in the field of safety of spent fuel and radioactive waste management;
- license holders having the prime responsibility for safety;
- education and training to obtain the expertise and skills required;
- transparency in decision-making on spent fuel and radioactive waste management.

Owing to the specificity of radioactive waste management, **specific obligations** are also introduced:

- setting out the approach to safety, including requirements for a safety case and a supporting safety assessment of facilities and activities relating to the management of spent fuel and radioactive waste;
- addressing the need to ensure that sufficient financial resources are available for spent fuel and radioactive waste management when needed, in accordance with the 'polluter-pays-principle';
- seeking to ensure an appropriate quality of the safety.

A conditional set of requirements in respect of the **national programmes** for radioactive waste and spent fuel management, needed to fulfil objectives and satisfy requirements, are included. (i) the basic requirements for national programmes; (ii) the content of a national programme; (iii) the notification of the national programmes to the Commission.

Lastly, the proposal provides that the Member States:

- will **report** to the Commission on the implementation of the proposed Directive, taking advantage of the reporting cycles under the Joint Convention. On the basis of the Member States reports, the Commission will submit a progress report to the Council and the European Parliament;
- will invite **international peer review** of their national frameworks and national programmes with the aim of achieving the required high standards in the management of spent fuel and radioactive waste. The outcomes of any peer review will be reported to the Member States and the Commission.

BUDGETARY IMPLICATIONS: this proposal has no implications for the EU budget.