



What the Greens/EFA group expects from the EU “Directive on the Management of Spent Fuel and Radioactive Waste”

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In a 10 May 2007 resolution the European Parliament “regrets the absence of a legislative corpus on harmonised standards for nuclear safety, the management of radioactive waste and the decommissioning of nuclear plants with real added value”. According to recent opinion studies¹, a vast majority (82%) of European Union citizens thinks European legislation on nuclear waste management would be useful or very useful. The share reaches 91% in France, 90% in Finland and 84% in Sweden. At the same time many people don’t believe that the final disposal of radioactive waste can be done in a safe manner. Only 40%² think that a safe method can be found and applied, while 49% disagree.

So what should be covered in EU legislation and what are issues remaining to be debated? Can an EU Directive achieve the impossible?

In the middle of October 2010 a new nuclear waste draft directive has been leaked to the public. Until then, only a 2003 draft (revised in 2004)³ was publicly available. The scope of the 2009 Nuclear Safety Directive is limited to storage facilities for radioactive waste and spent fuel that are on the same site and are directly related to nuclear installations. Final disposal of radioactive waste is not covered.

What is radioactive waste?

The European Commission’s “new” proposal⁴ for the definition of radioactive waste is

“radioactive material in gaseous, liquid or solid form for which no further use is foreseen by the Member State or by a natural or legal person whose decision is accepted by the Member State and which is controlled as radioactive waste by a competent regulatory body under the legislative and regulatory framework of the Member State”.⁵

The Commission explicitly notes that the scope of the Directive “covers all stages of the management of civilian spent fuel and radioactive waste from generation to disposal, but not the management of

¹ Eurobarometer, “Europeans and Nuclear Safety”, March 2010

² 8% totally agree, 32% tend to agree. The citizens of France, the country with the highest nuclear share in the EU, have the lowest agreement -level. Only 25% of French citizens believe that there is a safe way to dispose of radioactive waste.

³ See CEC, “Modified proposal for a Council Directive (Euratom) on the safe management of spent nuclear fuel and radioactive waste”, 2003/0022 (CNS), COM(2004) 526 final, Brussels, 8 September 2004

⁴ CEC, “Proposal for a Council Directive on the management of spent fuel and radioactive waste”, undated; the underscored term has been added to the 2003 draft.

⁵ The Council Directive 2006/117/Euratom of 20 November 2006 on the supervision and control of shipments of radioactive waste and spent fuel has a very similar definition: “radioactive waste” means radioactive material in gaseous, liquid or solid form for which no further use is foreseen by the countries of origin and destination, or by a natural or legal person whose decision is accepted by these countries, and which is controlled as radioactive waste by a regulatory body under the legislative and regulatory framework of the countries of origin and destination”.

specific types of waste, such as authorised releases and waste from extractive industries which may be radioactive, as are already covered by existing European legislation”. However, the Directives the Commission refers to⁶ do not deal with radioactive releases as a waste management option and uranium mining waste management, disposal and remediation.⁷ Other human activities like oil and gas production, water treatment, fertilizer production and others generate further radioactive wastes that should be covered by the directive.⁸

The European Nuclear Safety Regulators Group (ENSREG) suggests to further simplify and dilute the definition of radioactive waste:

“radioactive material in gaseous, liquid or solid form for which no further use is foreseen or considered⁹ and which is controlled as radioactive waste under the legislative and regulatory framework of the Member State concerned”.¹⁰

ENSREG argues in a background paper “not to provide a precise definition of radioactive waste, neither restricting future use considerations, neither restricting the scope of what should be considered as radioactive materials”.¹¹

The definition of materials for which “no further use is foreseen” is clearly insufficient. The addition by ENSREG of “or considered” makes the suggestion even more unacceptable and leaves the door wide open for unlimited classification as nuclear materials of massive quantities of de facto radioactive wastes. The Commission and ENSREG also consider that the directive should be limited to “civilian” wastes and spent fuel.

The Greens/EFA group considers that this is unacceptable. The possibility to store for an unlimited period of time very large quantities of wastes in particular from uranium enrichment (depleted uranium or DU) and from reprocessing (reprocessed uranium or REPU and plutonium) under hypothetical and highly unrealistic scenarios of future use is certainly not a “sustainable” option. The loophole to base the consideration of future use on the entirely hypothetical availability of future technologies – for example so-called Generation-IV reactors that nobody claims to be operational before 2030 and likely won’t ever exist – allows for the further accumulation of large quantities of waste, inside and outside the EU.

⁶ OJ L159, 29 June 1996, p.1 and OJ L102, 11 April 2006, p. 15

⁷ Directive 2006/21/EC on the management of waste from extractive industries explicitly states (Art.10):

“Moreover, while covering the management of waste from the extractive industries which may be radioactive, this Directive should not cover such aspects as are specific to radioactivity, which are a matter dealt with under the Treaty establishing the European Atomic Energy Community (Euratom).”

⁸ The US Environmental Protection Agency refers to these as Technologically-Enhanced, Naturally-Occurring Radioactive Materials (TENORM). For a table of reported concentrations see:

www.epa.gov/radiation/tenorm/sources.html

⁹ Underscored by us.

¹⁰ ENSREG, “ENSREG’s suggestion for the content of a Directive on Sustainable Management of Radioactive Waste and Spent Fuel”, undated

¹¹ ENSREG, “Background: Some WG-2 discussions on the scope of a Directive on the sustainable management of radioactive waste and spent fuel”, undated

The Greens/EFA group requests that any directive on nuclear and radioactive waste:

- covers uranium mining wastes¹²;
- explicitly includes wastes from past and current military activities;¹³
- declares spent fuel as nuclear waste and consequently prohibits shipments of spent fuel to reprocessing plants and reprocessing;¹⁴
- takes into account radioactive emissions into the environment since they constitute a waste management option;
- explicitly rules out the possibility to consider very low level radioactive waste as below regulatory concern and thus allow for its recycling or management in household or industrial waste processing and disposal facilities;
- deals with historical wastes as a high priority – large quantities of waste, some of it with high plutonium concentrations, remain unconditioned, often under catastrophic circumstances.

If there is EU legislation on radioactive waste, then it cannot be left up to Member States to decide whether certain categories are to be considered radioactive waste or not.

Who decides what and how?

The Commission claims that it “consulted widely through different EU-wide Initiatives”¹⁵. However, the Commission’s “open public consultation” process via online questionnaire is highly insufficient. Furthermore, it is of serious concern that most of the comments and suggestions made by civil society representatives have not been addressed at all in the new draft Directive.

In contrast there should be a full-scale assessment of ideas and opinions that are directly fed back into the decision-making process. The establishment of a “Committee of Experts” composed of experts designated by each Member State, as in suggested in the draft directive, is insufficient.

The Greens/EFA group requests that:

- The Directive should provide a clear framework for the decision-making process that Member States should follow in the evaluation of all nuclear and radioactive waste management and disposal options.
- The public should be granted full access to comprehensive information on all aspects of the generation, management and disposal of radioactive waste. Enforcement mechanisms with time limits for the transmission of information¹⁶ have to be specified.

¹² for example, in France alone, there are over 200 closed uranium mines leaving ca. 40 million tons of waste

¹³ No more plutonium or highly enriched uranium is being produced for weapons in the EU. Tritium production should be stopped in France too. Beyond good news for the environment, it would be an excellent political signal to demonstrate willingness for nuclear disarmament.

¹⁴ The German legislation already prohibits shipments of spent fuel from German nuclear power plants to reprocessing plants. The draft Directive states: “Each Member State may define its fuel cycle policy considering spent fuel as a valuable resource that may be reprocessed, or deciding to dispose of it as waste.” Considering the fact that only two Member States currently reprocess spent fuel and that two facilities (La Hague, Sellafield) alone account for a large portion of the collective dose to all of the EU citizens without any social benefit, the choice shall not be left open to Member States.

¹⁵ Explanatory Memorandum to the Draft Directive

¹⁶ This can be similar to maximum time lags accepted for government answers to written parliamentary questions in some countries.

- The notion of experts should be significantly extended beyond natural to social sciences.
- Mechanisms that involve citizen participation should be encouraged.
- The use of “raison d’Etat” overruling local opposition should be ruled out.

Who pays the bill?

The European Parliament in its 2007 resolution¹⁷ explicitly asks for “taking into account the ‘polluter-pays’ principle”. The implementation of the principle in the case of radioactive waste management means:

- The assessment of costs has to be carried out independent of the operators and cost bearers;
- The availability of sufficient funds at the time when they are needed.¹⁸

Who addresses outstanding issues?

Short-term versus long-term. In some cases highly complex issues arise where apparent short-term solutions face long-term problems or short-term problems need to be overcome in order to provide long-term solutions. In the case of the German Asse salt mine threatened by massive intrusion of water, the only long-term solution is likely the retrieval of all 126,000 waste packages. However, the operation raises a number of very delicate short-term safety issues. Another example is the short-term security interest to reduce the exposure of spent fuel in storage pools to terrorist attack for example by transferring them to dry storage versus the long-term goal to optimize protection in sub-surface or geological disposal.¹⁹

Environment and safety versus security concerns. The assessment perspective is of great significance to its outcome. Environmental or safety concerns do not necessarily lead to the same mitigation strategies as security concerns. For example, from a security perspective one would always put nuclear and/or radioactive materials as far away from human access as possible, e.g. into a backfilled geological disposal. While environmental or safety concerns can lead to the same result, some might wish to favour long-term easy access for monitoring purposes.

Retrievability? Reversibility? Retrievable disposal options shall allow for all of the waste to be retrieved should this be wished or necessary for any reason. Reversible disposal options designate

¹⁷ Op. cit.

¹⁸ France has established a remarkable framework to assure the management of decommissioning and waste management funds independent of the operators. However, there has been no independent oversight of the cost calculations. Estimated costs for final disposal alone have more than doubled within a few years.

¹⁹ The 12 security specialists that advised the UK Committee on Radioactive Waste Management (CoRWM) came up with a unanimous declaration that made it into the final CoRWM report:

"It is our unanimous opinion that greater attention should be given to the current management of radioactive waste held in the UK, in the context of its vulnerability to potential terrorist attack. We are not aware of any UK Government programme that is addressing this issue with adequate detail or priority, and consider it unacceptable for some vulnerable waste forms, such as spent fuel, to remain in their current condition and mode of storage.

"We urge the Government to take the required action and to instruct the Nuclear Decommissioning Authority, in cooperation with the regulators, to produce an implementation plan for categorising and reducing the vulnerability of the UKs inventory of radioactive waste to potential acts of terrorism, through conditioning and placement in storage options with an engineered capability specifically designed to resist a major terrorist attack."

concepts that allow for step-by-step reversibility and modification of waste management actions.²⁰ There is no homogenous approach to the issue. However, in some countries the simple option to maintain a disposal site “open” for a given time period is being presented as reversible or retrievable. In fact, few concepts are currently being discussed that are specifically designed to allow for relatively easy retrieval of waste packages (the opposite of the Asse case). The development and assessment of such concepts should be explicitly encouraged.

Latent Further Internationalisation. The directive must stop the further erosion of national responsibilities for nuclear and radioactive waste management.²¹ The application of the polluter-pays-principle is not only a financial but also an ethical obligation. Radioactive wastes shall be processed and disposed of in the countries that have generated them. International shipments of radioactive wastes should be banned. That also means that every nuclear country shall take care of its own radioactive waste disposal.

²⁰ The OECD’s Nuclear Energy Agency runs a dedicated “Retrievability and Reversibility (R&R) Project”, see <http://www.nea.fr/rwm/rr/>

²¹ The draft Directive leaves the option open for international approaches: “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.”