A Step Closer to EU Law on the Management of Radioactive Waste and Spent Fuel

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ABSTRACT


Although Euratom and all EU Member States, which have nuclear facilities, are parties to the Joint Convention, the convention is an “incentive” instrument containing no mechanism of enforcement or sanction in case of a breach by a state of its obligation thereunder. By comparison if adopted the proposed Directive would for the first time promulgate binding and enforceable obligations in EU law concerning the management of radioactive waste and spent fuel. Importantly, it will also mark the first step towards the harmonisation of management standards across EU and should contribute to improving public confidence in the nuclear sector across the EU.

1 INTRODUCTION

Back in 2003 the European Commission put forward a package of three directives for discussion regarding: (i) the safety of nuclear installations, (ii) the management of radioactive waste (“RW”) and spent nuclear fuel (“SF”), and (iii) the supervision and control of shipments of RW. However, its proposals met strong resistance from many Member States (“MS”) who feared that they would reduce the power of national regulators in this strategically important industry. Moreover, at the time there was little agreement amongst MS on geological disposal, which formed a key part of the Commission’s proposal on management of RW and SF, as the appropriate final disposal option. There was also no appetite amongst MS for the imposition of a binding timetable for the adoption of national long-term programmes for the management of RW and SF.

Thereafter, very little progress was made on the adoption of biding EU law in the field of nuclear energy. The first breakthrough was achieved in 2006 when the European Council adopted the Directive 2006/117/Euratom of 20 November 2006 on the supervision and control of shipments of RW (the “Shipment Directive”) [2]. Then last year saw the adoption by the
EU Council of Directive 2009/71 Euratom establishing a Community framework for the nuclear safety of nuclear installations (the “Safety Directive”) [3]. At the end of 2009 the Council called on the Commission to re-commence its work towards the development of a Community approach to the management of RW and SF.

With the aim of contributing to the on-going discussion concerning the scope and the terms of the new directive, this paper discusses: the key provisions of the Commissions’ 2003 and 2004 proposals in Section 3 and 4 and, the recent steps taken by the Commission towards the adoption of the new directive in Section 5. By way of background the current EU law on radioactive waste is summarised in Section 2.

2 BACKGROUND

There is at present no legislation ensuring that RW and SF is managed in an effective, safe and consistent manner through the EU from generation to disposal. Set out below is an outline of the current EU legislation concerning or relevant to the management of RW and SF.

The key obligation imposed on MS is to provide data to the Commission concerning its plans to dispose of RW. Article 37 of the Treaty Establishing the European Atomic Energy Community (the “Euratom Treaty”) requires MS to provide the Commission with “general data relating to any plan for the disposal of RW in whatever forms will make it possible to determine whether the implementation of such plan is liable to result in the radioactive contamination of the water, soil or airspace of another [MS]” [4]. Upon receipt of such data the Commission is required to deliver an opinion (within 6 months) on whether or not the plan is liable to result in such cross-border contamination. The Commission's opinion is, however, not legally binding on the MS since it is free to go ahead with its plans if it disagrees with the Commissions' conclusions.

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 radiation requires MS to ensure that the disposal of radioactive substances is reported and that such activity is only carried out by licensed persons [5]. As such it prescribes, albeit limited, rules concerning the management of RW and SF. It 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.

The Safety Directive adopted in 2009 sets out rules concerning the safe management of SF storage facilities and other storage facilities for RW which are located on the same site as, and which are directly related to, nuclear installations. However, it does not cover all types of facilities or aspects of the management of RW and SF.

Although strictly speaking the Shipment Directive adopted in 2006 does not address the management of RW, it does set out a compulsory and common system for the notification and prior authorisation of shipments of RW and obliges states to adopt a standard control document.

In the absence of specific legislation covering all activities and facilities related to the management of SF and RW and with the aim of harmonising the practice and regulation in the field of radioactive waste and spent fuel management across the EU, the Commission adopted
Recommendation 1999/829/Euratom and Recommendation 1999/669/EC in 1999 [6]. Under the former it made recommendations concerning inter alia the scope of the data to be submitted by MS pursuant to Article 37 of the Euratom Treaty, the definition of the term “the disposal of radioactive waste” for the purpose of Article 37 and the form to be used by MS when submitting data in case of a modification of a plan for the disposal of RW in respect to which the Commission had previously given an opinion. In the latter recommendation it proposed a common EU classification system for solid RW whereby RW is classified for the purposes of information management into three types: transition radioactive waste, low and intermediate level waste (further subdivided into short-lived waste and long-lived waste), and high level waste.

3 KEY PROVISIONS OF COMMISSION’S 2003 PROPOSAL

In 2003 the Commission put forward its first proposal for a Directive on the safe management of RW and SF (the “2003 Proposal”) [7].

3.1 Purpose of the 2003 Proposal

Echoing the objectives of the Joint Convention, Article 1 of the 2003 Proposal provided that its object was “(a) to ensure that all spent nuclear fuel and radioactive waste is safely managed in order to protect the health of workers and of the general public from harmful effects of ionising radiation, both now and in the future; (b) to achieve and maintain a high level of safety in the management of spent nuclear fuel and radioactive waste in order to protect the health of workers and of the general public by taking all necessary precautionary and preventive measures throughout the Community in an effective manner; (c) to enhance effective public information and, where appropriate, consultation in order to ensure the required transparency in the relevant decision-making processes”.

3.2 Scope of the 2003 Proposal

The 2003 Proposal applied to both SF and RW originating from civilian applications. In line with the Joint Convention, “radioactive waste” was defined as any material that emits ionising radiation which is in solid, liquid or gaseous form for which no further use is foreseen and did not cover any waste “from extractive operations that contains only naturally occurring radioactive materials” or “small quantities of radioactive materials such as sealed radioactive sources unless declared as radioactive waste by a [MS]”. Recognising that MS have different policies regarding SF, with some regarding it as waste whilst others as source of valuable quantities of fissile and fertile material, not all SF was defined as “waste”. However, adopting the same approach as the Joint Convention, the 2003 Proposal made clear that both SF and RW must be subject to the same level of regulation and control.

3.3 General Obligations Imposed on MS

Article 3 imposed the following obligations on MS: (1) to take all necessary measures to ensure that RW is managed in such a way that individuals, society and the environment are protected against radiological hazards; (2) to ensure that production of RW is kept to the minimum level practicable; (3) to take all the necessary legislative, regulatory and administrative measures and other steps required to ensure the safe management of SF
and RW; (4) to establish or designate a regulatory body entrusted with the implementation of the legislative and regulatory framework; (5) to guarantee adequate financial resources to support the management of SF while respecting the 'polluter pays' principle; and (6) to ensure effective public information and facilitate public participation in order to achieve a high level of transparency.

3.4 Programme for Management of RW and SF

The MS’ obligations regarding safe management were detailed in Article 4. Concerned by the lack of progress amongst MS in tackling the issue of final disposal of high-level and long-lived RW, the Commission proposed a tight timetable for the long-term management of RW whereby MS were required to identify sites for disposal by 2008, authorise the operation of surface storage sites for short-lived low level RW by 2013 and authorise the operation of geological repositories by 2018. An Annex setting out the important stages and milestones in the development of new disposal facilities was attached to the 2003 Proposal.

Recognising that some MS had accumulated only small amounts of RW and SF and that export of waste may represent the most viable option for the management of such waste from an environmental, safety and economic points of view, Article 4(6) permitted MS to ship RW and SF to other MS or third countries, provided such shipment accorded with EU and international law.

3.5 Research and Technological Development in RW and SF Management

Pursuant to Article 5(2) the Commission accorded itself the power to “identify common areas of research and technological development” in respect of RW management “that could be co-ordinated at the Community level”. It envisaged that joint undertakings could carry out research in the areas of common interest.

3.6 Investments

In the Article 6 the Commission linked its approval of investments in the nuclear industry under Chapter II of the Euratom Treaty with the “progress made by MS towards meeting” the timetable set out in Article 4 of the 2003 Proposal.

3.7 Reporting Obligations

Importantly, Article 7 envisaged the establishment of a uniform reporting structure at the EU level, along the lines of those set out in the Joint Convention. MS were required to report every three years to the Commission on the status of management of RW and SF under its jurisdiction. MS were also asked to report on all research and technological development in the field of RW and SF management that was being carried out or was planned within the MS. In place of the peer review mechanism of the Joint Convention, the obligation to report under the 2003 Proposal was to become enforceable under Community law.
KEY PROVISIONS OF THE COMMISSION’S AMENDED PROPOSAL

The 2003 Proposal was rejected by the MS for the reasons discussed in Section 1. The Commission submitted an Amended Proposal for a Directive of Safe Management of Spent Nuclear Fuel and Radioactive Waste Management (the “Amended Proposal”) in September 2004 [8]. However, the terms of this proposal were also rejected. The following were the key amendments to the 2003 Proposal set out in the Amended Proposal.

4.1 Independence of National Regulatory Bodies

In line with the Joint Convention, a paragraph was inserted in Article 3 requiring that national bodies responsible for regulating the management of RW and SF be effectively separated from all organisations (whether private or public) involved in the management of RW and SF.

4.2 Transparency and Consultation

Recognising that the issue of the disposal RW and SF was a key concern to EU citizens, additional obligations were imposed on MS in Article 3 to ensure a high level of transparency concerning (i) the management of RW and SF, which included consultation with the local public as well as competent authorities of neighbouring states, where appropriate, and (ii) the research and development in RW and SF management.

4.3 Programme for the Management of RW and SF

Article 4 was entirely amended. In place of a uniform Community-wide programme for RW and SF, MS were now only required to adopt a national programme for the management of RW and SF. Importantly, they were only required to “study the possibility of giving priority to the solution of deep geological disposal, taking due account of their specific circumstances”.

4.4 Review of National Reports

The requirement that national reports submitted by MS to the Commission under the directive be reviewed by a Committee of Experts was introduced in the Amended Proposal. This Committee, made up of experts designated by each MS, was to give an opinion on the national reports, including recommendations. Although not obliged to follow the Committee’s opinion, a MS was required to provide observations on such opinion and present measures which it had taken, or intended to take, in response to such opinion within six months of receipt thereof.

5 RECENT STEPS TOWARDS THE ADOPTION OF A DIRECTIVE ON THE MANAGEMENT OF RW AND SF

Armed with the results of the Eurobarometer Survey of 2008, which showed that European citizens supported the EU having an active role in monitoring and harmonising RW and SF management, the Commission called in its Sixth Situation Report on RW and SF Management for discussions to be restarted regarding the adoption of EU legislation on RW and SF management [9]. Asserting that there was now greater agreement about geological disposal as the appropriate final disposal option, the Commission argued that a decision on a
definitive solution could no longer be postponed. Abandoning the position it adopted in the 2003 Proposal, the Commission noted that disposal of RW and SF outside the EU should not be encouraged for technical, economical and also safety and security reasons.

Following the Council’s call to restart its work towards a Community approach, the Commission announced on 8 March 2010 that it would propose a directive establishing a Community framework for the management of RW and SF by the end of the year [10].

At the time of writing this paper the proposed directive is still being drafted. In order to assist the Commission in preparing the draft of the directive, the Working Group on Waste Management of the European Nuclear Safety Regulators Group (the “ENSREG”) presented its draft proposal (the “ENSREG Proposal”) in June of this year [11]. The following are the key provisions of the ENSREG Proposal.

5.1 Objectives of the Directive

The ENSREG Proposal sets out the objectives of the directive in Article 1 as follows: (a) to establish a community framework for ensuring the long term management of RW and SF, (b) to ensure a high level of safety in SF and RW management, protecting workers and the general public against the dangers arising from ionising radiations at all stages of management of RW and SF; and (c) to maintain and promote public participation and information with regard to RW and SF management policies.

5.2 Scope of the Directive

In line with the 2003 Proposal and the Joint Convention, the directive was to apply to all stages of the management of RW and SF arising from civilian programmes. There had been discussion within the Working Group on whether or not the directive should include the safety aspect of the disposal of RW and SF since the Safety Directive does not cover disposal facilities and only partly covers storage facilities. In the end the Working Group proposed that the Directive should concentrate on the management policy of RW only in order to help achieve consensus on the scope of the Directive. Unlike the Commission’s proposals but in line with the Safety Directive, ENSREG Proposal makes clear that the Directive does not prevent MS from adopting more stringent measures than those proposed in the Directive, provided this is done in compliance with Community law. Unlike the previous proposals, the ENSREG Proposal does not cover decommissioning. According to ENSREG decommissioning (and remediation) should not be covered by the directive since (i) its operations are not limited to RW production and management and (ii) decommission licensing is governed by the Safety Directive.

5.3 General Obligations

The wording of the general obligations concerning the management of RW and SF in the ENSREG Proposal is closer to that of the 2003 Proposal than the Amended Proposal. It is unclear whether the reference to these as “general principles” instead of “general requirements” as per the 2003 Proposal was intended to suggest that these obligations should be soft law obligations only.

Greater emphasis is given in the ENSREG Proposal to MS ensuring that (i) the possible effects beyond national borders are taken into account, (ii) no undue health impacts or economical burdens fall upon future generations, (iii) in accordance with the polluter-pays
principle, the costs for the management of RW and SF are borne by the original waste producer, and (iv) interdependencies among the different steps in RW and SF management are appropriately taken into account. There is a separate article setting out the obligation of MS to provide information to the public. However, this provision is less detailed than that contained in the Amended Proposal.

5.4 Framework for the Long Term Management

As under the Amended Proposal, MS are required to establish and maintain a national legislative, regulatory and organisational framework for management of RW and SF. However, reference is made to such management having to be long term in nature. Since the term “long term” is not defined in the ENSREG Proposal it is not clear whether the insertion of these words should be seen as introducing a new and substantive requirement concerning the scope of RW and SF management.

Unlike the 2003 Proposal, the ENSREG Proposal only prescribes a general framework of the national programmes for the management of RW ad SF. Specifically, it provides that a national programme must (i) include an inventory of RW and SF present in the national territory; (ii) describe and assess existing management solutions; (iii) formulate the research and development strategies or take benefit from existing studies, in order to improve existing solutions or to develop new solutions for the management of all kind of radioactive RW and SF; (iv) establish a timetable with milestones for putting these solutions into effect; (v) evaluate the cost of the implementation of the programme and describe funding methods for achieving it; and (vi) describe the framework and the decision making process for the implementation of the programme. Unlike the 2003 Proposal there is no reference to research and development being carried out at Community level in the field of RW and SF management.

5.5 Reporting Obligation

In line with the previous proposals, ENSREG Proposal required MS to submit a report on the implementation of the directive every three years. Consistent with the approach adopted under the Safety Directive, the reporting cycle is to be aligned to that under the Joint Convention to reduce the reporting burden. It should be noted, however, that the requirement for the report to be reviewed by the Committee of Experts as per the Amended Proposal was not included in the ENSREG Proposal.

5.5 Peer Review

The ENSREG Proposal imposed an additional obligation on MS to invite an international peer review of segments of their national framework and/or authorities of their choice. In addition, an obligation is imposed on the MS to report the outcome of such peer review to other MS and the Commission.

6 CONCLUSION

The Commission has identified nuclear energy as a potentially important element of ensuring the EU’s security of supply and as one of the options for meeting EU’s target for reducing greenhouse gas emissions by 20% by 2020 [12]. The management of RW and SF is of key importance for the future use of nuclear energy. A draft directive for a Community
framework for the management of RW and SF is expected to be proposed by the Commission in November this year. Hopefully by examining the Commission’s previous proposals and the very recent ENSREG Proposal, this paper will contribute to the discussions concerning the scope and terms of the directive which will ensue thereafter.

REFERENCES


