2 The law on sustainable management of radioactive materials and waste

Law no. 2006-739 of 28 June 2006 concerning sustainable management of radioactive materials and waste is a key step because it draws up a roadmap for radioactive waste management in France, regardless of its activity level and its nature. This law clearly states that disposal in deep geological formations is the reference solution for management of high-level, long-lived radioactive waste.

Preparation of the law of 28 June 2006

Law no. 91-1381 of 30 December 1991, known as the "Bataille" law, incorporated into article L.542 of the Environment Code, stipulated that the Government would by 30 December 2006 submit a report to Parliament giving an overall assessment of research into the future of high-level radioactive waste, accompanied by a bill which, as necessary, would authorise the creation of a repository for high-level, long-lived radioactive waste.

A number of reports paved the way for this deadline. First of all, ANDRA published a national inventory of radioactive waste and reusable materials in 2004, with an updated version released in 2006. This inventory gives a complete and forward-looking overview of the quantities of existing waste and the future quantities to be expected by 2010 and 2020. It also includes an inventory of materials considered to be reusable, such as spent fuel. The Parliamentary office for the assessment of scientific and technological options (OPECST) then published a report in March 2005 entitled "The long-term view: a law in 2006 on sustainable management of radioactive waste". Prior to its publication, deputies Claude Birraux and Christian Bataille had organised public hearings in order to review the current state of research into the management of high-level and long-lived waste. Finally, the major research players, CEA with the assistance of the National centre for scientific research (CNRS), working on advanced separation and transmutation of long-lived radionuclides and long-term interim storage, and ANDRA working on the disposal of waste in deep geological formations, submitted their reports to the Government in June 2005. These reports, which were analysed by ASN, present the results of 14 years of research, in particular the results obtained by ANDRA during its research in the Meuse Haute-Marne underground laboratory in Bure.

In 2003, at the request of the Minister for Ecology and Sustainable Development, ASN oversaw the drafting of a national plan for management of radioactive waste and reusable materials (PNGDR-MV) by convening a working group consisting of representatives of elected officials, waste producers, radioactive and non-radioactive waste managers, directorates of the ministries concerned, technical experts and environmental protection associations. The purpose of this plan is to look for management solutions for all radioactive wastes, to ensure that the entire waste management system is consistent and to enable the wastes to be handled by the appropriate channels. A first draft of the plan was the subject of a public consultation on the ASN's website in the second half of 2005. The preparatory work for the plan identified a strategy, in particular for long-lived low level waste, used sealed radioactive sources, tritiated waste which cannot be disposed of on the surface or at shallow depths, TENORM waste and disposal facilities for uranium mining residues.

In order to inform and consult the public on the issues involved in radioactive waste management, the Government referred the matter to the national public debates commission. The national debate ran from September 2005 to January 2006 and enabled the stakeholders, waste producers, managers of disposal facilities, administrations concerned and environmental protection associations to present their viewpoints on the subject. The national public debates commission published a report summarising the animated and constructive debates.

While preparing the bill, the Government in January 2006 received a general report assessing the past 14 years of research from the national assessment commission created by the "Bataille" law.

Finally, in February 2006, ASN submitted its opinion to the Government concerning the safety and radiation protection aspects of the files forwarded by the research players, and more generally the overall problem of radioactive waste management in France. ASN opinion contains the strategy defined in the PNGDR-MV and indicates that disposal in deep geological formations

Storage of radioactive waste in metal drums at EDF Nogent power plant

is a final management solution which would appear to be essential for high-level, long-lived radioactive waste.

The main provisions of the law of 28 June 2006

The law of 28 June 2006 comprises a first part concerning the **national policy for sustainable management of radioactive materials and waste**. The law stipulates that research efforts conducted into the three areas defined by the "Bataille" law are considered to be complementary and will be continued. Concerning the separation and transmutation of long-lived radionuclides, after an assessment of the industrial prospects in 2012, a prototype installation will enter service before 31 December 2020. Concerning reversible disposal in deep geological formations, the law specifies that this is the reference solution for management of high-level, long-lived radioactive waste. The aim is to open the repository in the vicinity of the Bure laboratory in 2025. To this end, this centre will be a basic nuclear installation and prior to the ANDRA's submission of an authorisation decree application in 2015, a public debate will be organised, with a law setting the reversibility conditions. Authorisation for final closure of the repository will also require a law to be passed.

The law also clarifies a number of definitions, such as radioactive substances, radioactive waste and radioactive materials.

On the basis of the strategy in the PNGDR-MV mentioned above, the law institutes a research and study programme for waste in categories other than high level and long-lived. These objectives are as follows:

- commissioning in 2013 of a repository for graphite waste and waste containing radium;
- evelopment by 2008 of interim storage solutions for tritiated waste prior to surface or shallow depth disposal;
- finalisation in 2008 of processes for disposal of used sealed sources;
- a review in 2009 of the TENORM waste management solutions;
- performance in 2008 of a review of the long-term impact of uranium mining residue disposal sites.

The law creates a national plan for management of radioactive materials and waste (PNGMDR), on the basis of the above-mentioned PNGDR-MV. This plan should be drawn up and then updated every 3 years by the Government and its requirements will be the subject of a decree.

The law incorporates the principle of the ban on the disposal of foreign radioactive waste in France, already laid down by the "Bataille" law. The law sets very precise conditions for processing in France of foreign spent fuels or radioactive waste and the publicity linked to these operations. These conditions are laid down in intergovernmental agreements.

The law supplements the composition of the national Commission responsible for assessing the progress of research and created by the "Bataille" law, in particular by requiring representation of the Academy of moral and political sciences.

The law of 28 June 2006 comprises a second part dealing with the **organisation and financing of sustainable management of radioactive materials and waste**. The law provides for economic support measures by creating a public interest grouping financed by three new taxes in addition to the tax on basic nuclear installations. These are referred to as the "research", "support" and "technological dissemination" taxes respectively and they will be paid by the producers of high-level, long-lived radioactive waste. This mainly concerns EDF, AREVA and the CEA. Revenue from the "research" tax will go to a fund created within the ANDRA.

The law expands the role of the ANDRA, a public establishment created by the "Bataille" law, in particular by enabling it to collect, transport and deal with radioactive waste and the remediation of radioactive pollution sites at the request and expense of those in charge of them, or on the ba-

sis of a public requisition order when those responsible for this waste or sites have defaulted.

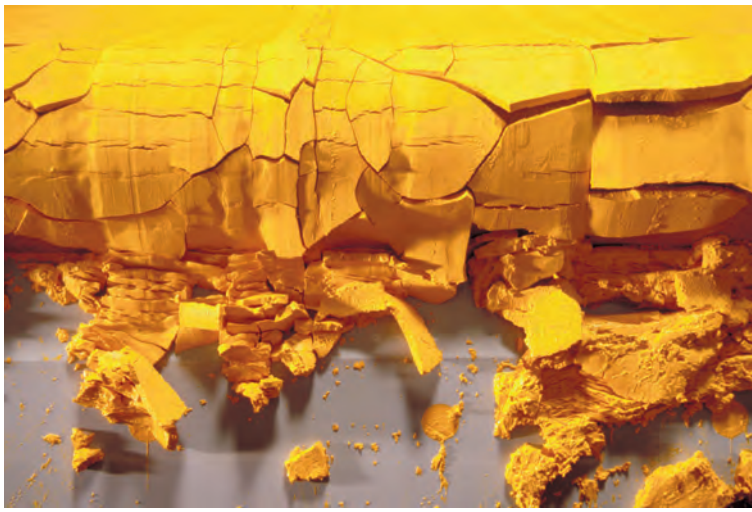
The duties of the Local Committee for Information and Follow-up (CLIS) set up around the Bure laboratory have been slightly modified. It will in particular no longer be chaired by the Prefect of the Meuse but by an elected official.

Finally, the law requires that nuclear installation licensees evaluate the cost of dismantling their installations, the cost of managing their spent fuel and radioactive waste or, for radioactive waste disposal facilities, the cost of closure, maintenance and surveillance. The licensees must set up reserves for the above-mentioned costs and ring-fence the necessary assets to finance these reserves. In order to comply with these requirements, the law set up a National commission for assessing BNI dismantling and spent fuel and radioactive waste management costs.

Application of the law of 28 June 2006

The law of 28 June 2006 constitutes a significant step forward for radioactive waste management in France, defining a clear and precise policy in this field. However, for this law to be implemented in full, a number of regulatory measures are necessary.

A decree laying down the requirements of the PNGMDR has been drafted by ASN, it should be published in the first quarter of 2007.



Uranium concentrate known as "yellow cake" on a band filter

A decree specifying the procedures for processing of spent fuel or radioactive waste in France, and conditions for return of waste, is being prepared by the Ministry for Industry. It should be published in the second quarter of 2007.

A number of decrees concerning the organisation and financing of sustainable management of radioactive materials and waste will also be necessary and are being prepared by the Ministry for Industry.

Finally, it should be noted that the decree of 23 December 2006 enables operation of the Bure laboratory to continue until 31 December 2011.