RADIOACTIVE WASTE MANAGEMENT PROGRAMMES IN OECD/NEA MEMBER COUNTRIES

FRANCE

NATIONAL NUCLEAR ENERGY CONTEXT

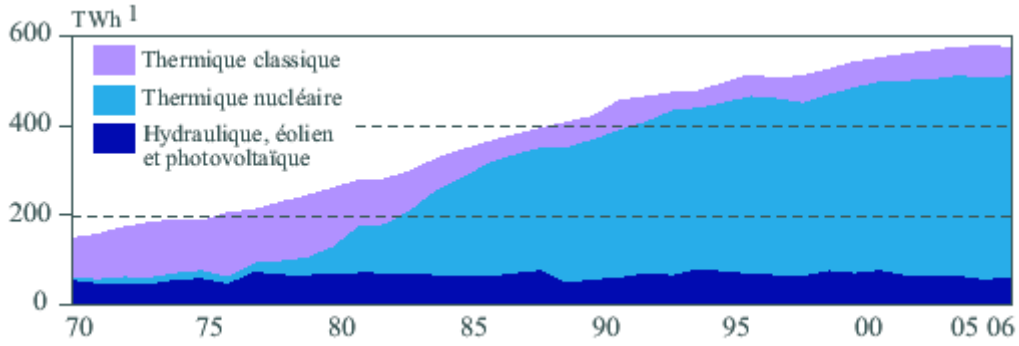
Commercial utilisation of nuclear power in France started in 1959 and by 2007 there were 59 nuclear reactors (58 industrial reactors belong to EdF, the French utility, and the Phenix FBR, a CEA research reactor). In 2006, they generated 428.7 TWh of electricity, 78.1% of the total net electricity generated in that year (574 TWh). Out of this total production, the balance between importation and exportation is positive with a net of 63 TWh (slight decrease when compared to the previous years).

The last nuclear power (NPP) plant to be commissioned was the Civaux NPP (with its two 1540 MWe N4-type reactors connected to the electricity grid in 1999). The average availability factor of French nuclear power plants is slightly above 80%.

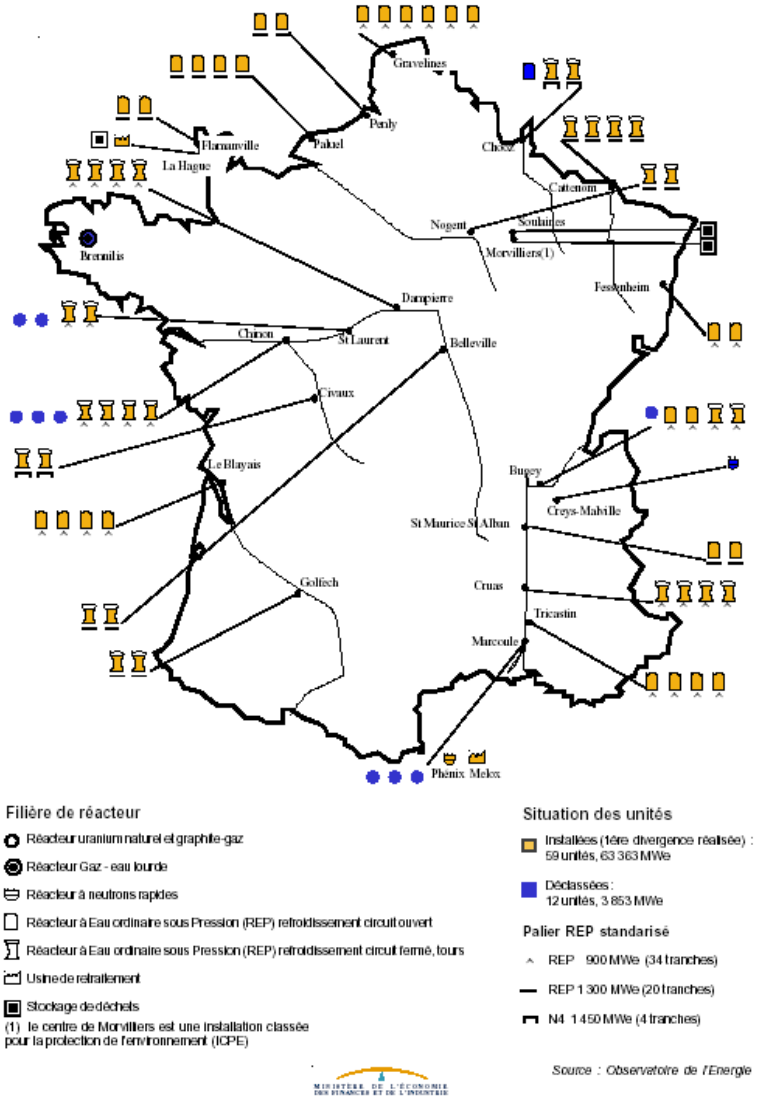
As far as new NPP development is concerned, EdF was granted in 2006 a building licence for an EPR type reactor to be sited at Flammanville (near the two currently existing PWRs). Construction is under way and commissioning is expected by 2012.

The current capacities for nuclear fuel fabrication are 750 tonnes heavy metal per year (HM/year) of uranium fuel for light water reactors and 140 tonnes HM/year of mixed oxide (MOX) fuel also for use in light water reactors. Spent fuel storage capacity is 24,450 tonnes HM, and the yearly amount of spent fuel is approximately 1,135 tonnes HM.

In France, spent nuclear fuel is not considered as ultimate waste and is reprocessed for recovery of reusable materials. Commercial reprocessing is carried out at the La Hague plant operated by AREVA. The two facilities at this plant have the combined capacity to reprocess up to 1,700 tonnes HM/year of spent fuel and they supply commercial services to national and foreign customers.



Evolution of electricity production in France, showing the progress of nuclear electricity among years (source DGEMP 2007)



Map of decommissioned, commissioned and under-construction nuclear facilities in France

SOURCES, TYPES AND QUANTITIES OF WASTE

Most of the radioactive waste in France is generated as a result of electricity production. The remainder arises from the use of radioactive materials in medical, research, defence and industrial applications. To meet the requirements for its safe management, waste classification considers four categories according to activity level. Then each waste category is subdivided according to half-lives of the radionuclides it contains (see table page 9).

Starting by the lowest levels of activity, these four categories are: very low-level waste (VLLW), low-level waste (LLW), intermediate-level waste (ILW) and high-level waste (HLW). For each of these four categories, a further distinction is made between the waste containing radionuclides with a short half-life (less than 30 years) and those with a long half-life (more than 30 years). The very specific case of very-short-lived waste (mainly medical use) is not considered in this document as it is managed through radioactive decay and then disposed of as current waste.

The rate of generation of VLLW is estimated to range from 15,000 to 40,000 m^3/year for the next 10 years (which means an average of 25,000 t/year). This waste contains various radionuclides and has an average activity of around 10 Bq/g. It is disposed of in a new surface repository (commissioned in 2003), the CSTFA, located at Morvilliers, a few kilometres from the existing CSFMA disposal facility (for low- and intermediate-level short-lived radioactive waste) in the Aube district. This repository has an initial total capacity of 650,000 m^3 and is planned to operate during 30 years.

The short-lived, LLW and ILW waste are disposed of in engineered, surface disposal structures at the CSFMA disposal facility, located at Soulaisnes in the Aube district. More than 80% of these wastes are generated by front-end cycle plants, nuclear power plants and reprocessing plants. About 15% comes from the research centres of the *Commissariat à l'énergie atomique* (CEA – Atomic Energy Commission), and the remainder from "small-scale nuclear" activities such as hospitals, universities, industry and sometimes particulars (the so-called "house-hold" radioactive waste). The amount of waste disposed of at the CSFMA facility in 2005 was 15,114 m^3. At the end of 2005 and since its commissioning, the CSFMA has received approximately 183,000 m3 out of a total capacity of 1,000,000 m^3.

The management of long-lived LLW (especially with radium-bearing waste and graphite waste) is currently the subject of studies performed by Andra. Long-lived ILW is presently kept in at the sites where it is generated, awaiting the availability of a dedicated disposal facility.

HLW arising from spent fuel reprocessing is vitrified. The resulting canisters are stored in dedicated facilities at the production sites, at La Hague and Marcoule. They will remain there for a few decades, until their disposal. The related vitrified HLW production to be derived from French reactors spent fuel is about 600 glass canisters per year out of the La Hague plant as the Marcoule plant has stopped its reprocessing activity.

Spent fuel, as it contains recoverable materials is not considered as final waste according to the French regulation and, as such, cannot be disposed of.

Quantities of waste presently in interim storage facilities

The volume of radioactive waste in the interim storage facilities at the end of 2004, by individual category, was as follows:

Short-lived ILW (tritiated waste): 2,143 m^3;

Long-lived ILW: 45,518 m^3;

Vitrified HLW: 1,851 m^3.

These figures exclude any waste either originating from a foreign country or arising from the reprocessing of foreign spent fuel, which, in compliance with the Environment Code, is to be returned to the foreign owners after the necessary storage period. They also exclude long-lived LLW containing radium and graphite, which amounts by end 2004 at 47,724 m^3 but all graphite from former UNGG (natural-uranium gas-graphite) reactors has not been yet dismantled; radium-bearing waste (originating mainly from chemical industry dealing with rare earths) needs as well to be taken into account. The total volume of radium-bearing and graphite waste, including its conditioning, can be expected to reach approximately 105,000 m^3.

Radioactive waste inventory

An observatory of radioactive waste in France has been published on a yearly basis by Andra from 1993 until 2003. This observatory listed all the sites on which radioactive waste was present, including contaminated sites.

In 1999, the government decided to widen the objectives of this inventory by including the so-called committed (or pending) waste and all recoverable radioactive materials. The first edition of this inventory was issued in 2004 with the status of radioactive waste and recoverable materials at end 2002 and a prospective forecast until 2020. An updated version was issued in 2006, with the status at end 2004, but this second edition extended the prospective beyond 2020 with some comments about future trends. This document is due to be updated every 3 years and therefore the next issue is due by 2009.

Current estimates of the annual quantities of waste produced and total quantity expected by 2010 and 2020 are shown in the table below. This is based on the assumptions of 59 power reactors operating, 21 of which use MOX fuel, and the reprocessing of 850 tonnes HM/year of spent fuel. As above, these figures exclude those wastes arising from the reprocessing of foreign spent fuel.

	VOLUMES EXISTANTS 2004 STOCKES OU ENTREPOSES	VOLUMES PREVISIONNELS 2010 STOCKES OU ENTREPOSES	VOLUMES PREVISIONNELS 2020 STOCKES OU ENTREPOSES
HA	1 851	2 511	3 611
MA-VL	45 518	49 484	54 884
FA-VL	47 124	48 432	104 997
FMA-VC	793 726	928 989	1 193 001
TFA	144 498	300 279	581 144
TOTAL	**1 032 717**	**1 329 675**	**1 937 637**

Currently existing stored or disposed and forecast volumes of waste by category in 2004, 2010 and 2020

RADIOACTIVE WASTE MANAGEMENT POLICIES AND PROGRAMMES

Waste management policies

Management of radioactive waste and other industrial waste, is subject to the general legal framework prescribed by Act n° 75-633 of 15 July 1975 (article L.541 of the Environment Code), and the associated decrees about recycling of materials and disposal of waste. The basic principles enshrined in this Act are prevention of waste production, the responsibility of waste producers for their waste until it is safely disposed of, the traceability of waste, and the need for public information. In addition it is only when waste cannot be reused or recycled under current technical and economic conditions that it may be disposed of (concept of final waste).

The underlying concept is that facilities should be designed with all aspects of waste management in mind, from generation to reuse, recycle or safe disposal, and with regard to the interactions between inter-dependent waste management operations. In this way a system may be created that is optimised as part of an overall approach to waste management and which takes account of safety, traceability and volume reduction issues.

As regards the policy for waste management, broad guidelines were set out in article L.542 of the Environment Code, following the Waste Act of 30 December 1991 and the Planning Act concerning the sustainable management of radioactive materials and waste of 28 June 2006, as follows:

- The sustainable management of radioactive materials and waste, resulting notably from the operation and dismantling of nuclear facilities using radioactive sources and materials, shall be carried out with a concern to protect human health, safety and the environment. Relevant means to ensure the final safety of radioactive shall be developed and implemented with a view to preventing and limiting the responsibilities to be borne by future generation. Any producer of spent fuel and of radioactive waste shall be liable for these substances, without any prejudice to the liability of their holders as people responsible for nuclear activities;

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- More specifically:

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- A National Radioactive Waste Management Agency, Andra, with the status of commercial and industrial public establishment was created on order to take care of the management of all radioactive waste produced in France[1]; this status gives it more independence from waste producers and places it under the supervision of the Ministry of Ecology and Sustainable Development (which resulted from the merge in 2007 of the Ministry of Environment, the Ministry of Industry and the Ministry of Transport) and the Ministry of Research;

- A National Plan for the management of radioactive materials and waste (PNGMDR) is implemented and defines management objectives for waste without an existing disposal system (for instance radium-bearing and graphite waste);

[1] The so-called foreign waste, as for instance waste arising from foreign spent fuel reprocessing, is to be returned abroad according to the French legal framework.

- In the specific case of HL and LL-ILW, 3 three complementary venues with milestones have been prescribed:

- Partitioning and transmutation of long-lived radioactive elements, with notably an assessment of industrial prospect by 2012 and a transmutation pilot facility by 2020. This venue is entrusted to CEA;

- Reversible geological disposal with a licence application filed by Andra in 2015 and, subject to that licence, a commissioning of the repository by 2025;

- In term of storage, creation or modification of the current facilities by 2015 to meet future requirements. This venue is entrusted to Andra.

Programmes and projects

Radioactive waste treatment, packaging and tracking

In the interests of optimising the management of short-lived LLW and ILW, both technically and economically, Andra and the waste generators have jointly developed an integrated waste management system that covers all phases of waste processing and conditioning, transportation and disposal. In this context, and for compliance with safety regulations, Andra has a further responsibility to develop technical specifications for waste packages. Under this arrangement, waste generators are required to submit, for Andra's approval, a waste acceptance file on each type of package they plan to produce.

A major component of this integrated waste management system involves tracking the waste from its production through to its final disposal. This is based on a computer network linking waste generators to the Andra headquarters, which records the characteristics of each package, checks compliance, authorises shipment, and then tracks the packages to their final location.

Radioactive waste disposal facilities

The CSM waste disposal facility located in the Manche district and adjacent to the AREVA La Hague reprocessing plant, was commissioned in 1969 for surface disposal of short-lived LLW and ILW and received 527 000 m^3 of waste up until June 1994 when disposal operations were terminated. It was covered with a multi-layer, engineered cap and has been actively monitored since 1997. In January 2003, it was licensed to enter its post-closure phase of institutional control. The transition from operation to institutional control was the subject of a licensing process similar to that for construction and commissioning of a nuclear installation, including a set of public inquiries. Nevertheless, the inventory of waste disposed of in the CSM is not so well known as QA procedures in the operating period of this facility (in the years 70's and 80's) were not implemented and therefore it includes some long-lived radioelements. It means that the institutional monitoring period may last at least 500 years instead of the planned theoretical 300 year period.

In the mid-1980s, in preparation for closure of the CSM, Andra designed a new surface disposal facility, the CSFMA, located 250 km east of Paris in the Aube district. Its design took stock of the lessons learnt at the CSM and it was commissioned in January 1992. It comprises waste conditioning facilities and a disposal area covering about thirty hectares. It is licenced to dispose of one million cubic metres of packaged, short-lived LLW and ILW and is expected to meet France's needs until at least 2040.

Andra subsequently proposed creation of a separate surface repository specifically for disposal of VLLW. After all necessary site investigations and public enquiries, the CSTFA, located at Morvilliers in

the Aube district, was commissioned in August 2003. The repository has a capacity for 650 000 m^3 of VLLW and an expected operational lifetime of 30 years. It represents another essential component of France's overall system for radioactive waste management and will accommodate most of the waste resulting from the dismantling of facilities in which radioactive substances have been used.

Development of new disposal systems

Andra is required to carry out investigations with a view to proposing the means for disposal of those waste categories for which no permanent solution currently exists. These include long-lived LLW, such as radium-bearing residues, graphite and tritiated waste. They also include HLW and long-lived ILW.

These projects are carried out according to the objectives and milestones prescribed in the article L.542 of the Environment Code, following the Waste Act of 30 December 1991 and the Planning Act concerning the sustainable management of radioactive materials and waste of 28 June 2006 (see § waste management policies). The National Plan for the management of radioactive materials and waste has been created to precise and follow up these objectives, with a regular updating according to research programme results and implementation plans.

Geological disposal of HLW and long-lived ILW is today Andra's major project. In 2006, at the end 15 year period prescribed by the December 1991 Waste Act and the following the results[2] achieved notably through the experimental programme carried out at and around the LSMHM underground research laboratory at Bure (Meuse district), basic feasibility of the reversible geological disposal in the Callovo-Oxfordian argillite near Bure (Meuse district) was confirmed.

As per the Planning Act concerning the sustainable management of radioactive materials and waste of 28 June 2006, reversible geological disposal of such waste is now the reference solution and Andra is entrusted to file a licence application for a geological repository by 2015 and, subject to the granting of this licence, to have the repository commissioned by 2025.

The reversibility issue will be submitted to the Parliament through a bill setting up reversibility conditions to be voted before licence granting.

Finally, a national public debate will be held as well before the licence application is filed by Andra. This debate is expected to take place by 2012.

Other venues concerning this type of waste are described briefly in § waste management policy

Summary of programmes and projects

The results of the work described above are depicted in the table below, which shows the disposal routes, or "channels", for the main categories of radioactive waste.

[2] The results of R&D programme concerning reversible geological disposal in a clay formation were compiled in a report "Dossier 2005 Argile", which was reviewed by the Nuclear Safety Authority (ASN) and its technical support (IRSN), the National Review Board (CNE) and a Group of International Experts under NEA aegis (the latter through a Peer Review process upon the French government's request).

Existing or future disposal systems for the main solid waste and residues resulting from radioactive effluent treatment

<table>
<tr><th>Activity/period</th><th>Very-short-lived</th><th>Short-lived</th><th>Long-lived</th></tr>
<tr><td>Very-low-level</td><td rowspan="4">Management by radioactive decay</td><td colspan="2">CSTFA waste disposal facility (Morvilliers in the Aube district) (*). Recycling channels (under investigation)</td></tr>
<tr><td>Low-level</td><td rowspan="2">Surface disposal at the CSFMA waste disposal facility (Aube district)

Tritiated waste: under study (see Planning Act 2006-739 of 28 June 2006)</td><td>Dedicated subsurface disposal facility designed for radium-bearing and graphite waste under study (see Planning Act 2006-739 of 28 June 2006)</td></tr>
<tr><td>Intermediate-level</td><td>Waste management solutions under study in the framework of Planning Act 2006-739 of 28 June 2006</td></tr>
<tr><td>High-level</td><td colspan="2">Waste management solutions under study in the framework of Planning Act 2006-739 of 28 June 2006</td></tr>
</table>

(*) Waste residue from uranium ore processing has its own specific disposal facilities provided for in the vicinity of the production sites.

RESEARCH AND DEVELOPMENT

As described under “Programmes and projects”, Andra is carrying out two major R&D programmes as per the National Plan for the management of radioactive materials and waste:

- The implementation of a geological repository for HLW and long-lived ILW in the 250 km^2 transposition zone located around the LSMHM sited in Bure (Meuse district). This involves i) geological *in situ* surveys as seismic campaign, boreholes ii) scientific and technological experiments and programmes carried out in the LSMHM or in surface facilities and iii) modelling code developments and nuclear safety approach studies;

- Studies and siting for a radium-bearing and graphite waste subsurface repository.

Although it does not refer *stricto sensu* to R&D, Andra is as well entrusted in term of HLW and long-lived ILW storage, to the creation or modification of the current facilities by 2015 to meet future requirements.

Another major R&D programme is entrusted to CEA and concerns the partitioning and transmutation of long-lived radioactive elements, with notably an assessment of industrial prospect by 2012 and a transmutation pilot facility by 2020.

DECOMMISSIONING AND DISMANTLING POLICIES AND PROJECTS

Current status

Most of the French decommissioning projects are concerned with either civilian nuclear facilities or those associated with defence activities.

There are three major civilian nuclear operators in France, running Basic Nuclear Installations (INB[3]):

- Électricité de France (EdF) operates the nuclear power plants. All of its 8 UNGG (natural-uranium gas-graphite) nuclear reactors and one HWGCR (Heavy-water gas-cooled) have been definitively shut down, as have the Superphenix fast breeder reactor and one Chooz (Ardennes) PWR reactor.

- AREVA operates nuclear fuel-cycle plants including chemical reprocessing facilities, uranium production facilities, gaseous diffusion plants, and other facilities.

- CEA operates most of the nuclear R&D facilities. Many installations such as research reactors, laboratories, pilot plants, etc. have already been dismantled, are presently being dismantled, or are on a waiting list for dismantling. CEA is as well entrusted with the technical support of nuclear activities for National Defence.

It is up to the nuclear operator to present to the regulator its dismantling plan for the concerned decommissioned facility as the regulator does not prescribe any timetable. Nevertheless, and in agreement with the regulator recommendation, the current plans so far implemented aim at a quick dismantling without waiting for long decay period, in order to take advantage of the facility knowledge by the current operating staff. A deferred dismantling schedule, of 50 years or so, would obviously mean a safer reduced-radioactivity environment, but as drawback, the loss of the facility memory since the operating staff would not anymore be involved.

Accounting for dismantling costs

See § on financing.

[3] The term « INB » covers basically all major nuclear installations such as commercial or research reactors, nuclear fuel cycle plants and nuclear-related National Defence plants (for the latter the term is INBS).

Transport

French legislation for the safe transport of radioactive materials is based on the Regulations for the Safe Transport of Radioactive Substances recommended by the International Atomic Energy Agency in 1985. Transport safety is secured by classifying materials according the hazards associated with radiotoxicity, nuclear criticality and dispersability, and by providing appropriate packaging and shipping arrangements. Radioactive waste shipment programmes are drawn up in discussion with all relevant bodies and authorities, and with due regard to the different recycling or disposal routes available. After notification of the shippers, subsequent shipment of waste is monitored by the authorities.

Radioactive waste is generally transported by road or rail from its site of production to an appropriately authorised facility, such as the melting and incineration SOCODEI plant operated by CENTRACO, or the disposal facilities operated by Andra. The aim is to dispose of waste through an appropriate route, or channel, as soon as possible, in order to minimise the amounts of waste stored at their production sites.

A particular feature of radioactive material transport in France is the trans-boundary movement of spent fuel and radioactive waste associated with spent fuel reprocessing operations carried out at La Hague on behalf of foreign utilities (for instance German, Japanese, Belgian, Swiss and Dutch customers). The reprocessing contracts with foreign utilities contain a clause stipulating return of the waste to its country of origin. This waste is packaged in a form suitable for safe transport and storage, while protecting public health and the environment. These trans-boundary movements are carried out in compliance with the comprehensive international, European and national regulations, and related international conventions, regarding safety, security, physical protection and public order. Trans-boundary movements within Europe are mainly by rail. Transport to Japan is by sea and port infrastructures complying with the requirements of nuclear safety have been built in France and Japan. There has been no significant incident compromising safety, security or radiation protection during these transport shipments in recent years.

COMPETENT AUTHORITIES

Regulatory bodies

The “Transparency and Security in the Nuclear Field” Act of 13 June 2006 (or TSN Act) creates a nuclear safety authority, the ASN, as an independent administrative body, in replacement of the former DGSNR which was under the governmental supervision. This has been implemented in 2006.

Apart from the usual missions of regulation and control, the ASN is as well in charge of public information for nuclear-safety related issues and of the National Plan for the management of radioactive materials and waste (PNGMDR).

The main technical support organisation of the ASN is the *Institut de radioprotection et de sûreté nucléaire* (IRSN), created in February 2002. IRSN is constituted by the former Institute for Nuclear Safety and Protection (IPSN) and by part of the former Office for Radiation Protection (OPRI).

According to the 2006 Planning Act on the sustainable management of radioactive materials and waste, a National Review Board (CNE) is entrusted to assess, on a yearly basis, the progress of research

and studies on the management of radioactive materials and waste[4] with reference to the National Plan for the management of radioactive materials and waste (PNGMDR). The CNE cannot be considered *stricto sensu* as a regulator as it cannot grant licence and is only an advisory body, but its conclusions are very often followed by decision-makers.

Radioactive waste management organisation

The implementing organisation is Andra, the National Radioactive Waste Management Agency.

It was established by the December 1991 Waste Act as a public body in charge of the long-term management of all radioactive waste, under the supervision of the 'today" Ministry of Ecology and Sustainable Development (which resulted from the merge in 2007 of the Ministry of Environment, the Ministry of Industry and the Ministry of Transport) and the Ministry of Research.

Its 3 basic missions defined initially by the December 1991 Waste Act, were extended and their funding secured through the 2006 Planning Act:

- a R&D mission to propose safe long-term solution for radioactive waste without current disposal system; this mission includes as well long-term storage for HLW and long-lived ILW;

- an industrial mission concerning design, construction, operation, closure and monitoring of waste repositories. This mission includes as well a public service mission in terms of i) collection of waste of the "small-scale nuclear activities" producers or owners (including the so-called "household" radioactive waste, ie waste owned by private individuals) and ii) clean-up and rehabilitation of orphan polluted sites;

- a public information mission about radioactive waste issues and programmes. It includes notably the regular publication of the National Inventory of radioactive waste and recoverable materials. This National Inventory is as well an important basis of the National Plan for the management of radioactive materials and waste (PNGMDR).

Waste generators

Électricité de France (EdF) is the electricity utility that owns and operates all nuclear power plants in France. Created with a public status in 1946, it was privatised in 2004 in line with the EU directives concerning the liberalisation of electricity markets.

The Commissariat à l'Energie Atomique (CEA) is a public body created in 1945 to carry out the implementation of civilian nuclear activities (energy, industry, research and health) and to provide the necessary support to the development of National Defence activities (as Nuclear Deterrent Forces).

AREVA (formerly COGEMA) is a private company, whose main shareholder is CEA, and is involved in all stages of the fuel cycle (from mining to fuel manufacturing and reprocessing), which makes it a major waste generator.

It is as well an international leader in nuclear reactors engineering and construction.

[4] Before the 2006 Planning Act, the CNE was entrusted only with the evaluation of the 3 R&D venues prescribed by the December 1991 Waste Act and concerning HLW and long-lived ILW management (i.e. partitioning and transmutation, geological disposal, waste conditioning and long-term storage)

Financing

In France, operators are responsible for financing the management of their waste and the dismantling of their nuclear installations. It is important that financial resources (funds) will be sufficient and available when needed, notably to ensure a satisfactory safety level of the future operations as prescribed by the 2006 Planning Act on the sustainable management of radioactive materials and waste.

Each nuclear operator (EdF, AREVA, CEA) of Nuclear Basic Installations (INB) manages its fund which stays inside the company as provisions backed by assets of sufficient security and liquidity.

They shall transmit every three years to the administrative authority a report describing the assessment of the costs, the methods applied for the calculation of these costs and the choices adopted with regard to the composition and management of the assets earmarked to cover the reserves.

The first reports were issued mid 2007. They included a plan for constituting the assets. Every year operators shall transmit to the administrative authority a note updating this report and inform it without delay of any event likely to modify its content.

A national financial evaluation commission is created to assess the funding of the costs in dismantling nuclear installations and managing spent fuel and radioactive waste. This commission will issue a report which will be made available to the public.

Apart from this scheme which concern only long-term liability of INB waste producers both in terms of dismantling and waste management cost, the necessary R&D HLW and long-lived ILW programme is financed through an additional INB tax, which is transferred to a fund, as prescribed by the 2006 Planning Act.

A similar scheme than the previous one with another additional INB tax, has been implemented, as prescribed by the 2006 Planning Act, to fund the economic development scheme of the local municipalities and districts concerned by the project of geological repository for HLW and long-lived ILW, through their respective Public Interest Groups (GIP).

As far as waste arising from installations without INB status, the owner must still comply with the "polluter pays" principle, but the above specific regulations do not apply.

Specific public funding has also been implemented in the framework of the 2006 Planning Act for the collection and management of waste from the "small-scale nuclear" activities, including "household" waste (owned by private individuals). This scheme is mobilised when financing cannot be fully supported by the waste owner or holder and as well to address the issue of clean-up and rehabilitation of orphan polluted sites (usually from former industries).

Public information

For more information, the websites of the relevant authorities and organisations are listed below.

Government and Parliament
Ministère de l'Ecologie, du Développement et l'Aménagement durables, MEDAD
Website: http://www.developpement-durable.gouv.fr/
Ministère de l'Enseignement Supérieur et de la Recherche
Website: http://www.recherche.gouv.fr/
Ministère de la Santé, de la Jeunesse et des Sports
Website: http://www.sante.gouv.fr/
Ministère du Travail, des Relations Sociales et de la Solidarité
Website: http://www.travail-solidarité.gouv.fr
Ministère de la Défense
Website: http://www.defense.gouv.fr
Direction générale de l'énergie et des matières premières (DGEMP)
Website: http://www.industrie.gouv.fr/energie
Office Parlementaire des Choix Scientifiques et Technologiques, OPECST (Parliamentary Office for the Evaluation of Scientific and Technological Choices)
– Sénat (Website: http://www.senat.fr)
– Assemblée Nationale (Website: http://www.assembleenationale.fr)

Regulator and related
Autorité de Sûreté Nucléaire, ASN (Nuclear Safety Authority)
Website: http://www.asn.gouv.fr
IRSN
Website: http://www.irsn.org
Commission Nationale d'Evaluation, CNE (National Review Board).
Reports are available in French at the website: http://www.ladocumentationfrancaise.fr/rapports-publics/074000493/index.shtml

Research
Commissariat à l'Energie Atomique, CEA (Atomic Energy Commission)
Website: http://www.cea.fr
Andra
Website: http://www.andra.fr

Industry
AREVA
Website: http://www.areva.com
EdF
Website: http://www.edf.com