



Organisme de recherche

## Andra

Andra, the French National Radioactive Waste Management Agency, is supervised by the French Government Departments of Energy, Research, and the Environment. The agency is completely independent from radioactive waste producers.

We are in charge of developing, implementing and operating safe solutions for the management of all types of radioactive waste in France in order to protect current and future generations from the hazards posed by such waste.

### Research and development

Within this framework we undertake scientific research and develop technologies to design and implement sustainable solutions for the management of high-level waste (HLW), intermediate level long-lived waste (ILW-LL) and low-level long-lived waste (LLW-LL) placed in temporary storage. We also perform all R&D in support to existing disposal facilities for low-level and intermediate-level short-lived waste (LIL-SL) and very low level waste (VLL).

### Industrial activities

We have industrial activities disposing of radioactive waste produced by the nuclear sector, the non-nuclear power industry, national defense operations, research and the healthcare sector on our sites; operations include the monitoring of radioactive waste disposal facilities so as to protect people and the environment.

### Public service and information

Our public service activities include retrieving radioactive objects from private individuals and local authorities; cleaning up and remediating radioactive orphan sites; drawing up and publishing a national inventory of radioactive waste and materials in France; providing clear and verifiable information on the management of radioactive waste; promoting meetings and dialogue with all stakeholders.

### Promoting the french expertise in France and abroad

We also develop scientific collaboration throughout France and the world; promote Andra's entire range of services throughout France and the world; and disseminate experience, scientific knowledge and technical know-how as widely as possible.

## Training

### Andra's training solutions and capabilities

Andra has developed various training programs in the field of radioactive waste management and welcomes trainees who wish to complete their initial theoretical training with practical training in various fields, including operations and R&D. Over the past years, Andra has provided training to professionals at the request of IAEA, institutional organizations, and companies in the radioactive waste management sector. Benefiting from our experience, trainees gain helpful means enabling them to reduce costs and delivery times whilst minimizing risks for their own projects.



#### Key figures

**675** employees

**45** years of international excellence in surface disposal facilities

**4** sites

**3** waste disposal facilities

**1** site hosting a deep underground research laboratory, a technological exhibition hall, a permanent observatory of the environment, an extensive data bank comprised of samples taken when monitoring the environment, referred to as Ecotheque.

## Customized training lectures and operational training

Andra can supply specific and generic waste management courses designed for specific customers. We have training programs on safety, repository design, operation, capping and closure. Our trainees have operational use of Andra facilities and R&D resources.

## Services in Andra's field of scientific and technical expertise

We offer to help our customers develop and implement their radioactive waste management plans. Our wide range of services includes:

- Project definition, program & management;
- Establishing detailed inventories for existing as well as for future radioactive waste;
- Defining plans and strategies for your radioactive waste management;
- Site investigation, processing and databases;
- Disposal concept development;
- Specification of waste & packaging (Waste Acceptance Criteria);
- Waste tracking;
- Design, construction, operation, capping and closure of your waste repositories;
- Safety assessments and safety cases;
- Expertise and consultancy, including on economic aspects;
- Facility and environment monitoring;
- Communication and public information;
- Relationship with stakeholders.

## Research training

As part of our mission, we conduct extensive research and first-rate studies to design disposal facilities for radioactive waste, especially for the most radioactive and long-lived waste. Andra provides an opportunity for PhD students to contribute to the research undertaken in our laboratories. Each year, research laboratories and academic institutions – such as universities – are invited to submit proposals for PhD projects. At the end of the call for proposals, Andra awards 3-year PhD fellowships to the selected candidates. PhD students can then start their research in their host laboratories. In early 2016, 14 French and international PhD students were undergoing their research theses under Andra supervision. The subjects of their theses are varied, ranging from the study of the behavior of radionuclides, to optical fiber measurements, to the study of hydro-mechanical properties of storage materials, and corrosion in clay-rich environments.

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