PRESENT SITUATION AND ISSUES FOR THE FRENCH RADIOACTIVE WASTE MANAGEMENT AGENCY

M.C. DUPUIS Andra - CEO

JOINT CONVENTION MEETING –
VIENNA – 13th May 2009

Andra
French National Radioactive Waste Management Agency
Content

Planned disposal facilities
- LL-LL
- HL & IL-LL

Operated disposal facilities
- LIL-SL
  - Centre de la Manche
  - Centre de l'Aube
- VLL
  - Morvilliers facility

Public missions
- Collection of radioactive items
- Remediation of polluted sites
- Inventory of radioactive waste

PLANNED DISPOSAL FACILITIES

Low level long lived waste (LL-LL)

High level & Intermediate level long lived waste (HL & IL-LL)

LL-LL WASTE : GRAPHITE WASTE AND RADIUM BEARING WASTE

2011: public debate, site selection 2013: application 2019: start up

Facility design

Graphite waste
22 900 t
100 000 m^3

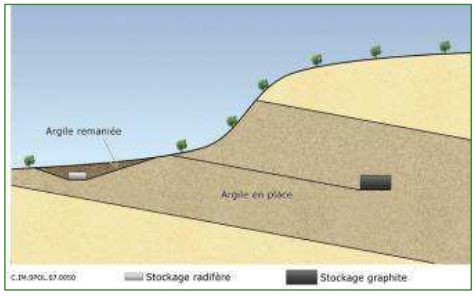


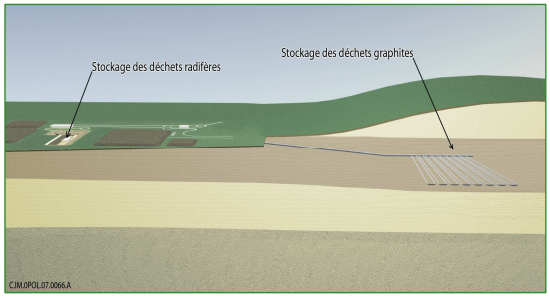


Radium bearing waste
~30 to 60 000 t
~35 to 70 000 m^3

Implementation within a shallow clay formation (between 15 and 200 m in depth)

- For graphite waste, a "repository with an intact cover" as a reference option
- For radium-bearing waste, a "repository with a reworked cover" under investigation



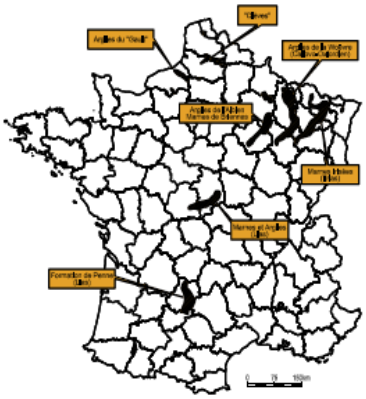


The required footprint on ground surface is in the order of 100 ha

LL-LL WASTE
2011: public debate, site selection 2013: application 2019: start up
Siting approach



- June 2008, the 2nd : letter from the Minister of State to the Chairman of Andra
- June 2008 : file addressed by Andra to the mayors of 3,115 communes
- Until the end of October 2008 : expression of interest by local communities.
  Possibility to confirm their application in late 2010
- December 2008 : assessment report by Andra and proposal of ranked zones to the government
- Beginning of 2009 : government decision concerning the pre-selection still pending
- 2009-2010 : geological surveys, consultations, territorial projects



HL & IL-LL WASTE
Preparing disposal in a clay formation
The Meuse Haute Marne Underground Research Laboratory

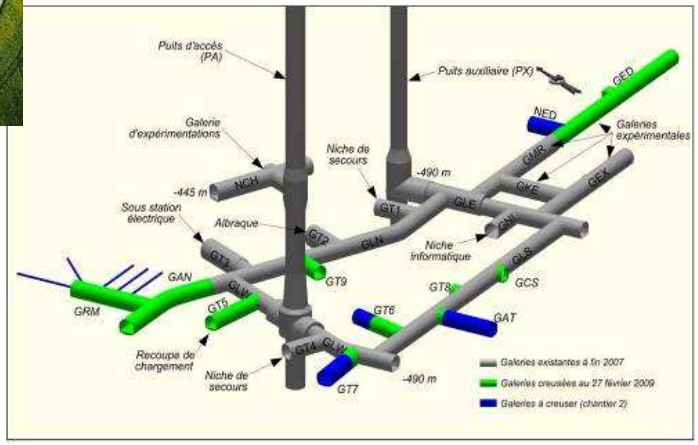








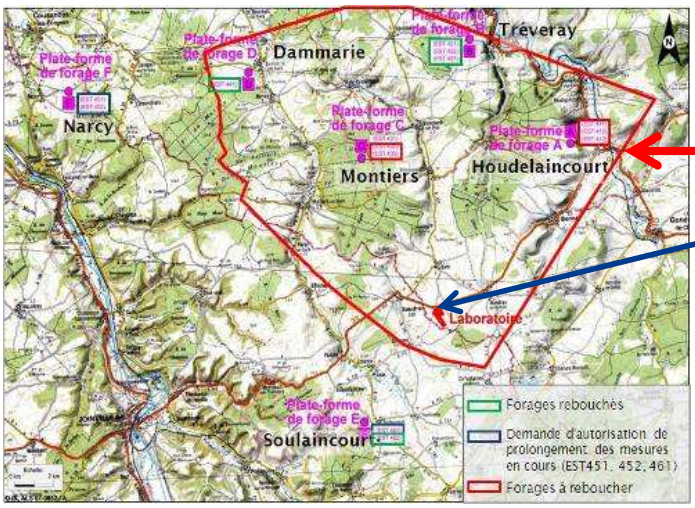




HL & IL-LL WASTE: PREPARING DISPOSAL IN A CLAY FORMATION

2012: public debate 2013: site selection 2015: application 2025: start up

Siting the disposal facility: drilling campaigns



« transposition zone »
250 km²

Underground laboratory

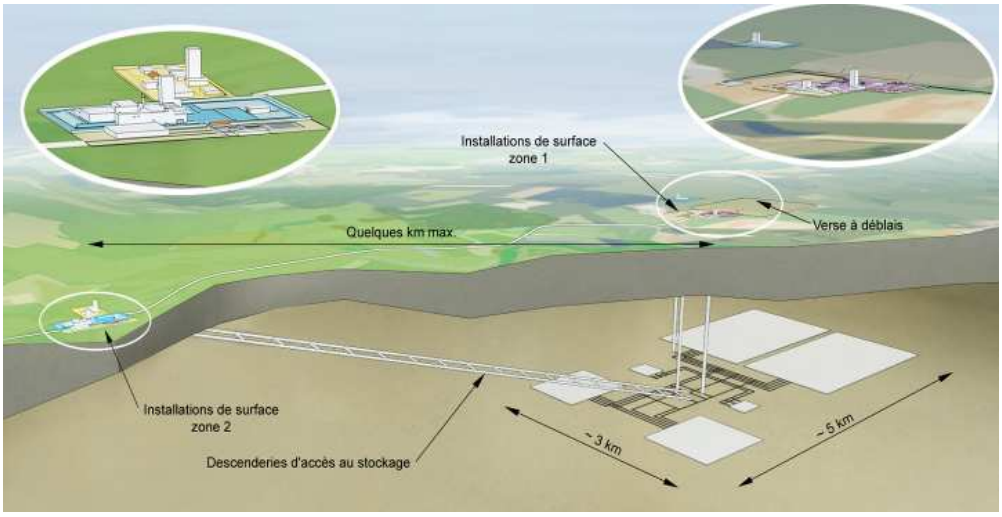


2007-2008 drilling campaign

HL & IL-LL WASTE: PREPARING DISPOSAL IN A CLAY FORMATION

2012: public debate 2013: site selection 2015: application 2025: start up

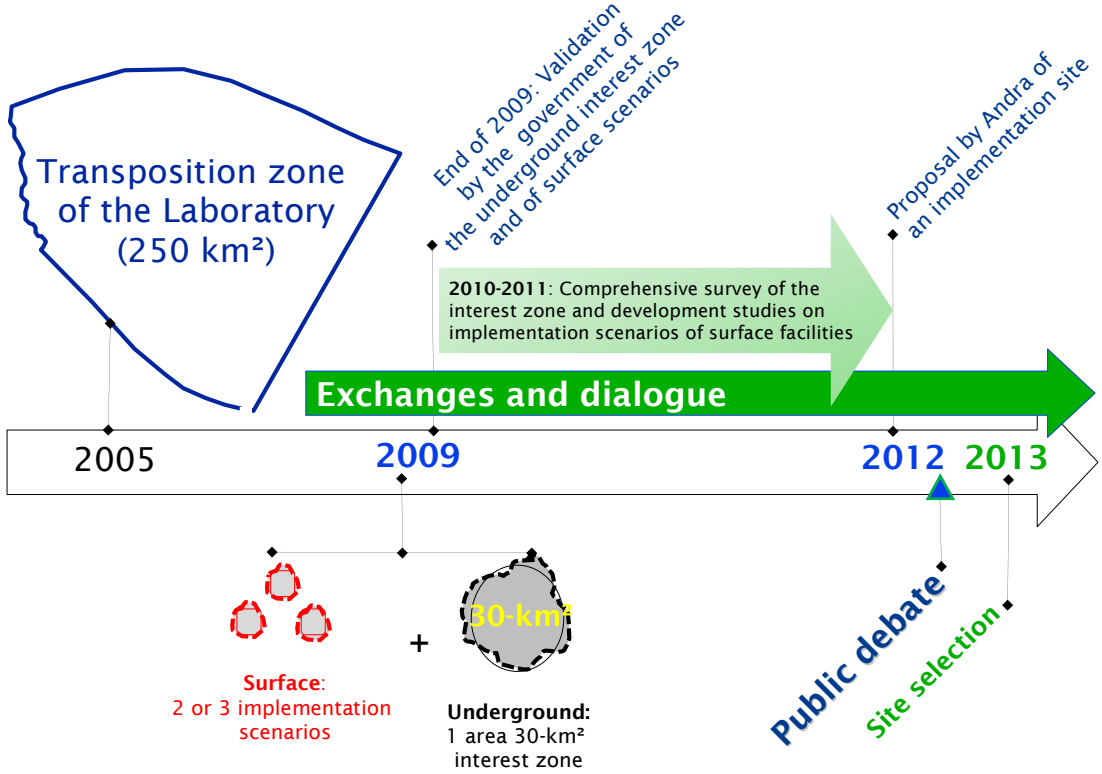
Siting the disposal facility: surface installations and underground installations



HL & IL-LL WASTE: : PREPARING DISPOSAL IN A CLAY FORMATION

2012: public debate 2013: site selection 2015: application 2025: start up

Siting the disposal facility : first steps for facilities location in 2009



HL & IL-LL WASTE: PREPARING DISPOSAL IN A CLAY FORMATION

2012: public debate 2013: site selection 2015: application 2025: start up

Technical exhibition center





Construction of **a Visitors' Centre** designed to present the waste-repository project and its technological aspect.
Inauguration scheduled in June 2009

OPERATED DISPOSAL FACILITIES

Low and intermediate level short lived waste (LIL-SL)

Very low level waste (VLL)

LIL-SL WASTE: CENTRE DE LA MANCHE DISPOSAL FACILITY

1969: start up 1994: end of operation 2003: institutional control period

INSTITUTIONAL CONTROL PERIOD MONITORING

Disposed volume (1969-1994) : 527,000 m³



Radiological and chemical monitoring

Discharges
Underground water
Surface water

Capping system monitoring

Water-tightness performances
Rainfall water distribution
Membrane sampling
Topographic measurements

Information/Communication

A public report issued every year
Local Information Commission





Water collected under the disposal vaults 21,000 m³ in 1991 309 m³ in 2008



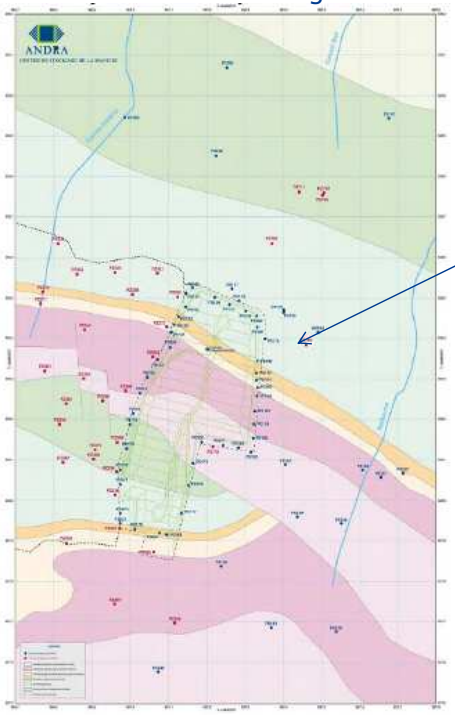
Consolidation of slope

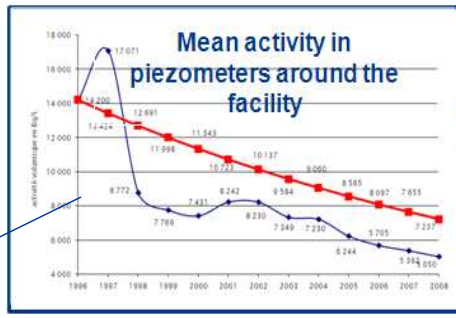
LIL-SL WASTE: CENTRE DE LA MANCHE DISPOSAL FACILITY

1969: start up 1994: end of operation 2003: institutional control period

TOWARDS A MORE PASSIVE SAFETY

Groundwater monitoring boreholes





A groundwater contamination by tritium in 1976
- Low impact
- Waste removed
- Contamination decreasing
- but still a communication issue.

➔Impact of the facility ~0,65 µSv/year (2008)

A safety report submitted in January 2009
- to improve the capping system
- for a more passive long term safety

LIL-SL WASTE: CENTRE DE L'AUBE DISPOSAL FACILITY

1992: start up By 2040-2050: end of operation

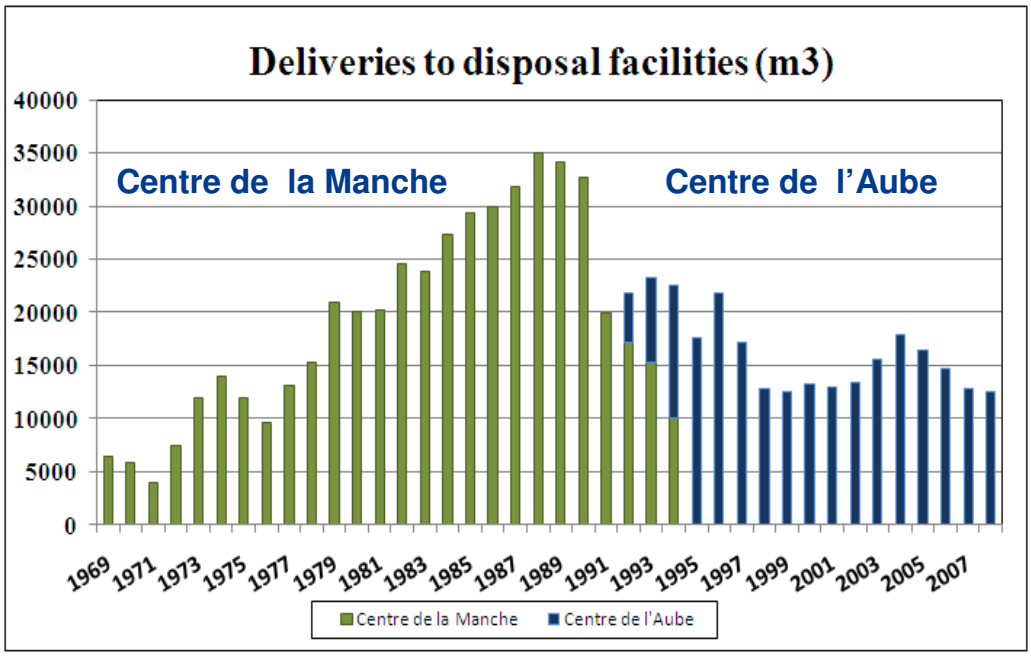
18th YEAR OF OPERATION

Disposed volume : 220,000 m³ (end of 2008)
22 % of the capacity





LIL-SL WASTE: CENTRE DE L'AUBE DISPOSAL FACILITY
1992: start up By 2040-2050: end of operation
A SIGNIFICANT WASTE GENERATION REDUCTION



… that will facilitate decommissioning waste manageme

LIL-SL WASTE: CENTRE DE L'AUBE DISPOSAL FACILITY
1992: start up By 2040-2050: end of operation
ENVIRONMENTAL MONITORING AND LOCAL INFORMATION



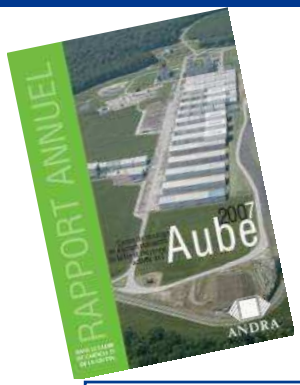


Comme toute démarche d'un genre nouveau, celle-ci a d'abord nécessité un engagement politique de la part des membres de la CLI, et de son président, ainsi que du représentant des élus locaux, pilote de ce projet, monsieur DALLEMAGNE (Président de la communauté de communes). Mais elle a également impliqué que cet engagement soit partagé par l'industriel. L'ouverture des portes du site nucléaire assortie de la possibilité de prélever « au pied » des ouvrages de stockage des déchets, dénote la volonté de la direction de l'ANDRA d'accompagner la CLI dans la construction de sa propre information, et ce malgré une attitude que nous avons ressenti, au départ, comme de la défiance.



Data from ACRO report

Independent environmental monitoring by the Local Information Commission including measurements inside the facility



Impact 0,003 µSv/year



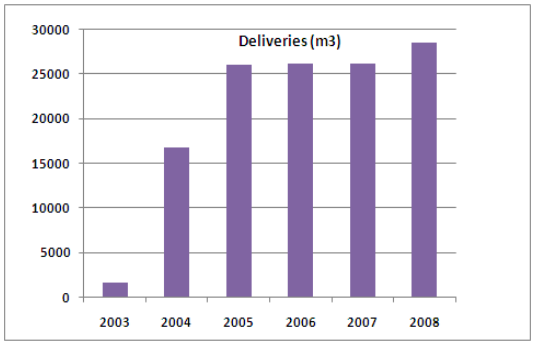
VLL WASTE: MORVILLIERS DISPOSAL FACILITY (AUBE DISTRICT)

2003: start up By 2030: end of operation

A MATURE FACILTY

Area : 45 ha
Capacity : 650,000 m³
Start up : October 2003

Disposed volume (end 2008) :~115,700 m³

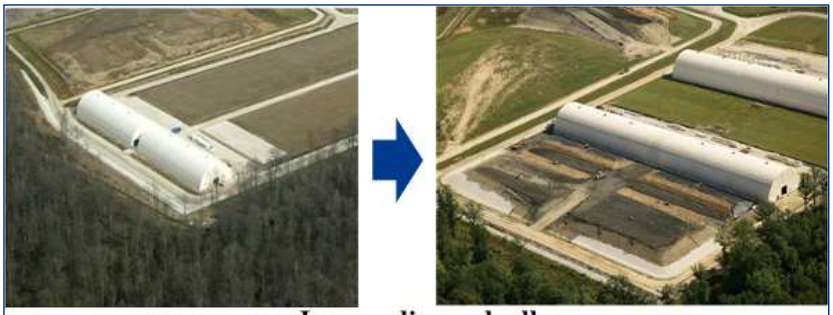




VLL WASTE: MORVILLIERS DISPOSAL FACILITY (AUBE DISTRICT)

2003: start up By 2030: end of operation

INCREASE OF DELIVERIES BUT A NEED TO PRESERVE A RARE RESSOURCE



Longer disposal cells
Disposal capacity : 24,000 m³ → 30,000 m³ per year

But a need to improve density of waste

and to recycle nuclear waste within the nuclear industry



PUBLIC MISSIONS

The collection of radioactive items

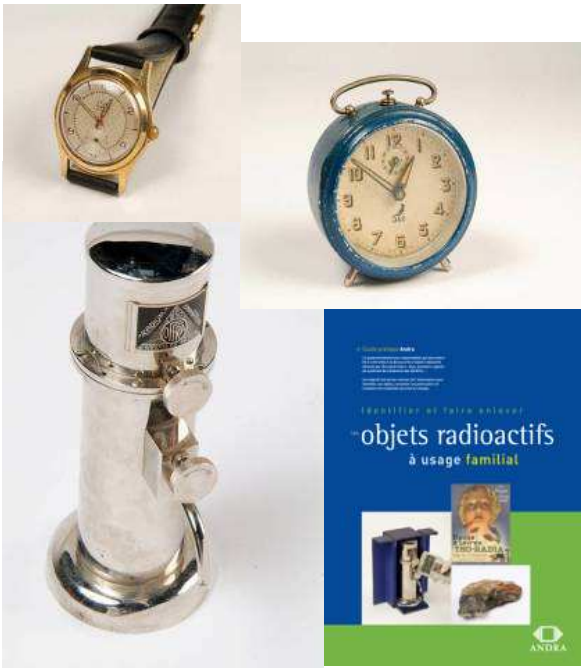
Remediation of polluted sites

Inventory of radioactive waste

COLLECTING RADIOACTIVE ITEMS « THAT YOU MAY FIND IN THE ATTIC »

An information booklet sent to all mayors on radioactive items that may be found in houses.

In certain circumstances some items may be collected freely



REMEDIATION OF POLLUTED SITES WITH RADIOACTIVE MATERIALS
A PUBLIC SERVICE DELEGATION

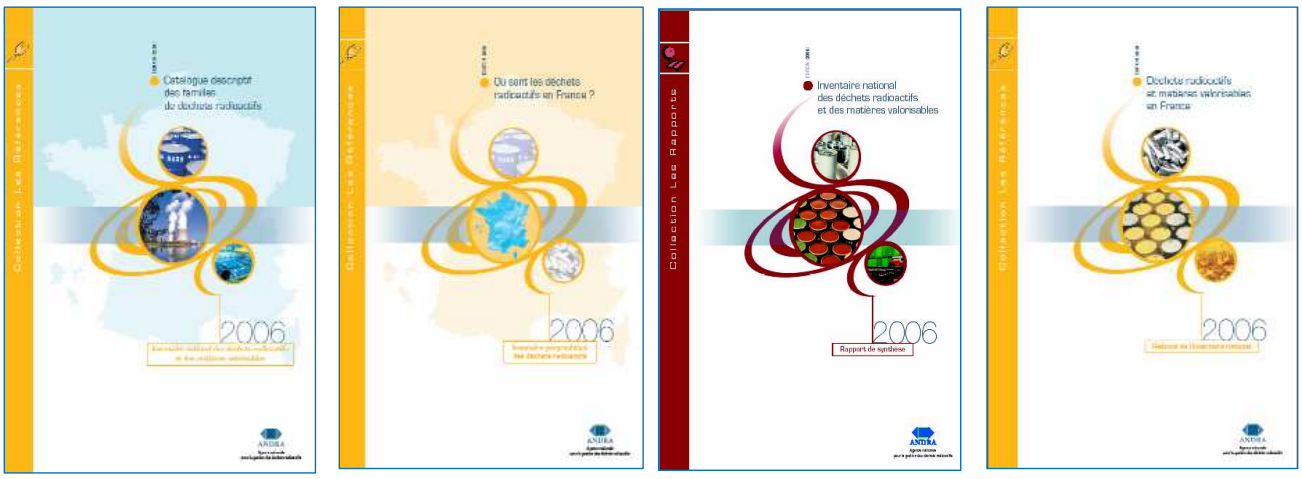


Public fundings : 4.5 M€ in 2009
A steering committee (CNAR)

15 sites under investigation or remediation
13 remediated

THE NATIONAL INVENTORY
A TOOL FOR THE NATIONAL PLAN (PNGMDR)

Description **Location** **Existing quantities and arising**



Different formats for different publics

WWW.ANDRA.FR

AN UPDATE WILL BE PUBLISHED IN JUNE 2009

40 years of disposal facilities operation experience
A work program defined by 28th June 2006 Waste Act

