



GEP: Pluralist Expertise Group on uranium mining sites in Limousin (France)

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Gera - WISMUT Symposium - 10 September 2007



SUMMARY

Background

- Uranium mining, post-mining and concerns

Setting Up

- Mission, organisation and means of GEP

Addressing Issues

- Priorities and current work of GEP

Achievements / Prospects

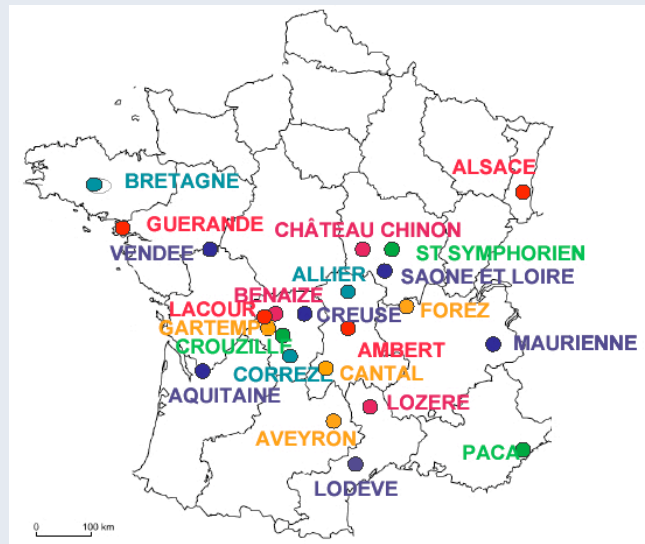
- "Balance sheet" and follow-up



BACKGROUND

Uranium Mining in France

- 50 years of operation
 - Once a strategic activity
 - Started in 1948, ended in 2001
 - More than 200 sites in 23 mining zones
 - 76 000 tons of uranium produced
 - From scattered owners to a major operator Cogema (now AREVA)



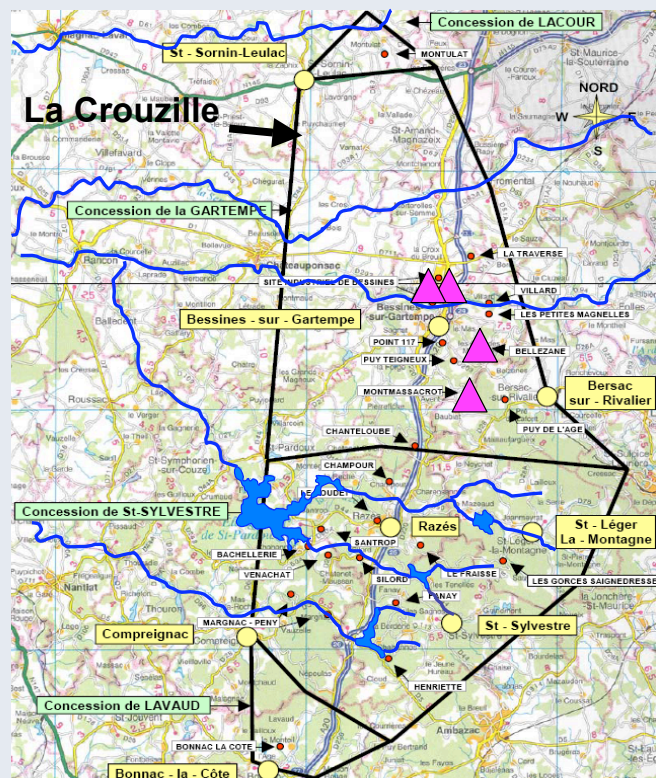
Uranium mining zones in France



BACKGROUND

Uranium in Limousin

- The core of uranium mining in France
 - From the first mine to the last closure
 - 40% of French production
 - 30 mining sites, 2 milling sites, 5 tailings disposal sites
 - Division La Crouzille: 24 mining sites, 23 324 tons uranium from 12,8 million tons





BACKGROUND

Post-Mining Activities

- ❑ Scattered and complex legacy
 - Legacy of more than 200 sites, 52 million tons of mill tailings, > 200 million tons of waste rocks
- ❑ Closure work completed at most sites
 - now monitoring and control plus some water treatment
 - issue of sustainability of the systems implemented

Mill tailings storage site after rehabilitation (MCO 68 - 105, Bellezane)



BACKGROUND

Local and National Concerns

- ❑ Controversies on rehabilitation / local pollution particularly in Limousin
 - actions of environmental NGOs
 - independent counter-assessment of risks
 - media coverage
 - juridical trials opposing NGOs and AREVA
- ❑ National policy on long term management of radioactive residues and contaminated sites
 - 2006 Act on radioactive waste management
 - Programme for long term management of mill tailing disposals to be prepared by 2008



SETTING UP

Origin and Mission

□ Creation of the GEP:

- Joint letter by 3 French Ministers: Environment, Industry, Health
- Commissioned in the end of 2005, started work in June 2006

□ Objectives of the GEP:

- *participate in the orientations of the public expertise conducted by the French technical support organisation IRSN*
- *advise the administration and the industrial operator AREVA on options to manage and monitor the installations*
- *produce recommendations towards the minimisation of the impacts on populations and the environment*
- *propose medium and long term management perspectives*
- *contribute to the information of local and general public*



SETTING UP

Pluralistic Composition

□ Composition of the GEP:

- Around 30 experts gathered
- Various technical fields:
e.g. earth sciences, metrology of radioactivity, radioecology, radiation protection, nuclear safety...
- Representatives from IRSN, AREVA, local/national authorities, local/national NGOs, independent experts, foreign experts

Public Institutes and Administration	NGOs and independent	Industry	Foreign experts
- IRSN, InVS - Academics - Authorities	- Independent experts - Local NGOs	- Areva NC	- UK, Switzerland, Belgium, Luxemburg, Israel...
16 experts	5 experts	3 experts	5 experts



SETTING UP

Organisation and Means

- Means for pluralism
 - Plenary Group + Working Groups open to more members
 - Shared animation of groups: IRSN / independent or academics
 - Public funding, including for independent / foreign experts work
- Integration of expertises
 - Environmental assessment by the operator AREVA
 - Third-part assessment by the public institute IRSN
 - Relevant work from other sources (academics, independent, foreign bodies...)
 - Further studies could be recommended if needed



ADDRESSING ISSUES

Priorities / Working Groups

- Priority themes
 - Rehabilitation status of disposal sites for tailings
 - Environmental impacts (primarily related to liquid releases) and relevance of the actions taken or planned
 - Broader approach to address:
 - health and environmental monitoring
 - regulatory concerns and long term issues
- Issues addressed by 3 working groups
 - WG 1: Source term and releases to the natural environment
 - WG 2: Impacts on populations and the environment
 - WG 3: Regulatory framework and long term issues...Plus a working group being set up on measures



ADDRESSING ISSUES

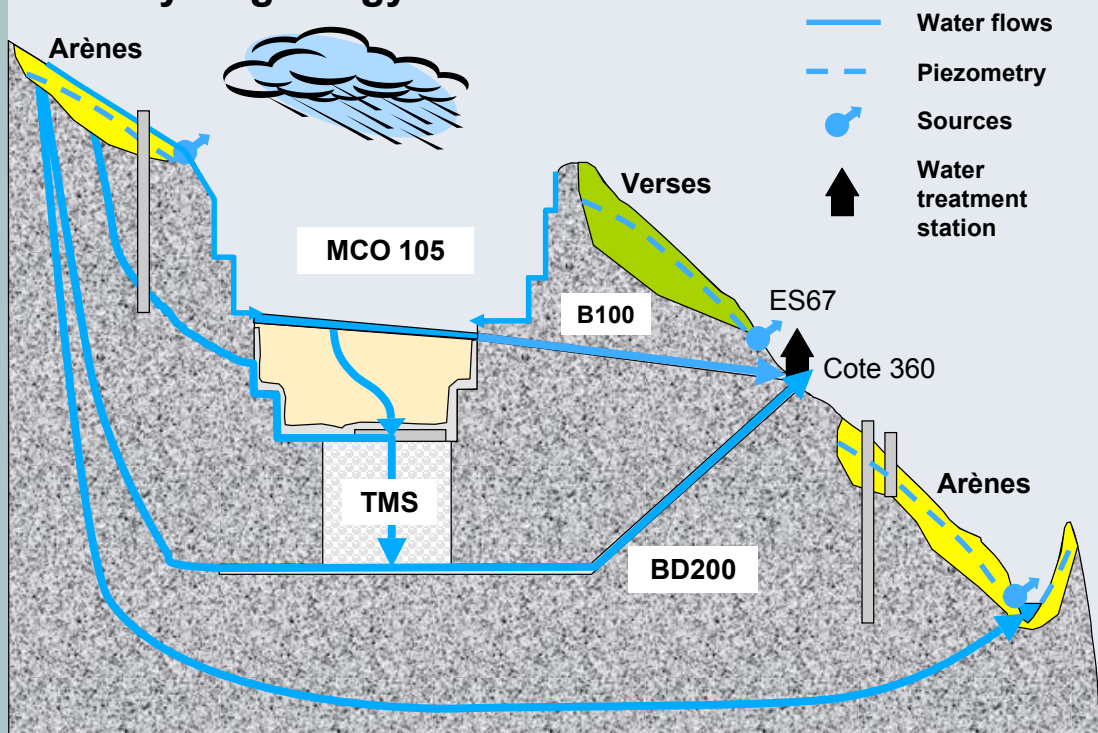
WG 1: Transfers to the Environment

- Rehabilitation status of disposal sites
 - Site by site approach - Focus: Bellezane
 - Studies:
 - hydraulic characteristics of the site (hydrogeology)
 - monitoring efficiency for waterborne transfers
 - efficiency of the cover for airborne transfers
 - Understanding current level of efficiency
Assess future efficiency in various scenarios
- Transfers to the environment through liquid releases
 - Approach by catchment basin - Focus: Ritord
 - Studies:
 - sources of radioactivity added to natural
 - efficiency of water treatment
 - retaining reservoirs and clay sediment deposition
 - Adapt water treatment and target activities to impacts



ADDRESSING ISSUES

Ex.: Hydrogeology of Bellezane





ADDRESSING ISSUES

WG 2: Environmental and Health Impacts

- Go beyond health and environmental impact assessment set forth in regulations

1 **Environmental Impact**
radiological and chemical

2 **Health Impact**
radiological and chemical

3 **Health monitoring**

- First application of an innovative method to evaluate impact of radioactive substances on local ecosystems
- Feasibility of quantitative evaluation of radioactive risk other than additional effective dose to reference groups
- Health monitoring: reviewing public health surveillance
- Plan to consider chemical risk



ADDRESSING ISSUES

WG 3: Regulatory Issues and Long-Term

- Link technical analysis with:
 - Changing priorities in the area of environmental protection
 - Sustainability of rehabilitation works
 - Stakeholders involvement
- Current investigations:
 - Legal qualification of the materials and sites
Discuss the most appropriate implementation of the regulatory framework for long-term management
 - Long-term aspects of monitoring
Timescale and scenarios to consider
Move towards less active monitoring and features



ACHIEVEMENTS / PROSPECTS

Interim “Balance Sheet”

- Operational
 - 1st report after 6 months, 2nd report before end of 2007
 - first specific and local recommendations implemented
 - started reporting to local commissions in Limousin
 - website in preparation, on-line before the end of the year
- Added value
 - playground for broader technical and scientific dialogue
 - multiple approach, enhanced methodology
 - interlinking technical and societal analyses to address long term issues
- Planned extension of scope and mission



ACHIEVEMENTS / PROSPECTS

International Perspective

- International return of experience
 - Not much REX, especially regarding long term issues
 - Less shaped international doctrina than expected
- International openness
 - Participation of foreign experts
Participation of IAEA
 - Visit to Germany - WISMUT (March 2007)
 - Different in size and context
 - Convergent in general options, with some technical differences
 - Confronted to similar issues mostly linked to long term
 - Projected visit to Spain, return visit of WISMUT to France
- Looking forward to further international exchanges



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