

## Pierrelatte : dismantling the enrichment plant



On 22 February 1996, France announced it was putting a final halt to its production of fissile materials for nuclear weapons. At the end of June of the same year, the Pierrelatte plant stopped producing highly enriched uranium.

The dismantling program started immediately, with the goal of disassembling and destroying all enrichment process equipment, cleaning up the facilities and removing the resulting waste.

The program had specific technical characteristics that determined how the operations were run :

- large size of the plant ;
- series configuration, making it possible to optimize cost and timeframe ;
- a commitment to completing the operations within around ten years ;
- contamination of some systems by enriched uranium, calling for studies on criticality risk ;
- a large estimated volume of waste, requiring appropriate management.

### Preparation

Conducted from 1996 to 2002, the preparation phase aimed to evaluate the various dismantling scenarios based on technical performance, the fate of the radioactive waste, cost, and timeframe.

Studies and tests on a pilot unit made it possible to :

- finalize the technical aspects of waste management ;
- start investing in grinding metal waste and cementing

diffusion barriers. In particular, the resulting installations reduced the volume of waste to be disposed in the repository located in the department of Aube.



*Waste conditioning after metal parts have been ground down*

Also during the preparation phase, application documents were drawn up to get permission from the safety authority to proceed with clean-up then dismantling operations, namely :

- the safety file for dismantling works ;
- the predicted final state of the site following dismantling ;
- the dismantling risks and environmental impact study and the conditions of waste management.



## Implementation

The dismantling operations began in 2002 and included disassembling of the diffusion stages and treating, conditioning and removing the waste. There was periodic tracking of progress, technical changes, conventional and radioactive waste management as well as a safety-security assessment.



*Diffusers in operation (1996)*



*Current state: the equipment has been destroyed and the waste is ready to be removed*

Now in its final stages, the dismantling of the Pierrelatte gaseous diffusion plant will be completed by the end of 2010. In total, 4000 diffusers, 1300 tonnes of diffusion barriers, 1200 km of pipeline and 20,000 tonnes of waste will have been treated. The program's cost is around 600 million euros.