

A first for AMEC SPIE Thermatome

Dismantling the Creys-Malville power station

AMEC SPIE Thermatome specialists are dismantling the turbine hall at the site of the "Superphénix" nuclear power station, which has been shut down since 1998. This operation, which began in March after six months of engineering studies and preparatory work, is scheduled to last 16 months.

Removing insulation waste. The tangle of pipework is visible in the background.



➤ "Dismantling is not the same as demolition" could be the motto of the team assembled by AMEC SPIE Thermatome and its partners, currently hard at work in Creys-Malville. "Dismantling a nuclear facility involves a series of complex operations," explains Christophe Fongarland, AMEC SPIE Thermatome's dismantling project manager. Calling for new skills and an innovative approach; it is a job best left to specialists, who must take into consideration a whole range of constraints relating to nuclear safety, quality, security and environmental concerns. For this contract, our subsidiary led a consortium formed with two co-contractors: Stips (an industrial demolition specialist) and Orys (a mechanical engineering firm specialising in the nuclear industry). In a nutshell, this first step involved dismantling and removing almost 8,000 tonnes of inert waste (e.g. concrete, insulation materials, etc.) and finding commercial outlets for 22,000 tonnes of metal (enough to build three Eiffel towers), while complying with many stringent requirements despite the fact that none of the waste at this stage of dismantling is radioactive.

A meticulous cutting and sorting operation

Both inside the vast building (which measures 100 m x 75 m and stands 40 m high) and out, 70 people are working amid an extraordinary tangle of equipment. "In some places, it's a real jungle and organising the work can be a pretty complicated job", stresses Daniel Mugniery, project manager at the site. "The various tasks must be assigned so that they do not overlap, which would be dangerous, and it is often difficult to enter the building because some of the workspaces are extremely cramped, especially in the lower sections of the structure." Smaller components

such as electric cables are stripped and sorted inside the building. Other items are cut free or disassembled and then removed using travelling cranes and the site's tower crane, before being cut into smaller sections in outdoor cutting areas. "Some pipes are to remain in place, such as the fire extinguishing system, for example; this makes the job more complicated because these pipes obstruct access to other equipment that must be removed", points out Daniel Mugniery, adding "in this situation, you can imagine how the safety manager, Gérard Croizet, watches us like a hawk.". The list of large equipment includes two massive 650 MW generators, each weighing 440 tonnes, and four transformers representing a total of 970 tonnes that must be removed, not counting all the equipment, structures and pipes that make up this machinery's environment. To give an idea of the volume of work involved, the steel must be cut into "chunks" no larger than 50 cm x 50 cm x 150 cm, which is the maximum size that can be re-smelted in accordance with European standards. The sorting operation is a tightly controlled and carefully supervised activity. There can be no question of mixing copper with steel or concrete! Although classed as conventional waste because it is non-radioactive, every item, right down to the canteen dustbin is subject to rigorous traceability requirements because it has come from a nuclear facility. Amélie Rognon is responsible for removal and traceability operations for the 80 tonnes of material that leave the site every day, and ensures that work is carried out in accordance with the customer's requirements and statutory obligations. Even more surprising, and somewhat paradoxical, is the need to build temporary industrial facilities. "In all, the dismantling process will take twenty



years, during which the site will remain active," explains Christophe Fongarland, "and we need to build new facilities, including, for example, a complete plant that will spend four years processing the 5,400 tonnes of sodium contained in the reactor systems."

Repeat business

This dismantling contract is AMEC SPIE Thermatome's second such order at Creys-Malville. The new contract is concrete proof of the degree of trust and satisfaction of EDF, which was pleased with the way the reactor building's chimneys and exterior pipe systems were dismantled last year. "Working with Orys, we removed 48 chimneys, the heaviest of which weighed 25 tonnes and stood 100 m tall. We had to use a 500-tonne crane and a team of steeplejacks whose job was to cut and 'unhook' the chimneys", explains Christophe Fongarland. In all, 1,000 tonnes of steel and 40 tonnes of lagging were

removed in the course of this project. With this second contract, worth a total of €6.3 million, AMEC SPIE Thermatome is proving its ability to secure and successfully handle major dismantling projects. This order provides the company with a first-rate reference. ■



Centre photo: Overall exterior view of the turbine hall and cutting areas.

Top: Main transformer before and during dismantling.

Opposite: Gas stripper and feed tank after removal of the insulating lagging.