



## ABB Safely Dismantles Units, Removes Asbestos from Site

Atofina's polyethylene linear (PEL) units were so outdated, no one remembered the original technology. They turned to ABB for the expertise they needed to completely dismantle the units and remove 40 tons of asbestos.

**Client:** Atofina  
**Location:** Gonfreville, France  
**Scope of Work:** Dismantling of chemical process units and removal of asbestos

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M. Sylvain Nisseron  
 Project Manager  
 Atofina



**Atofina recognized the risks in removing three PEL units, a vulcanization tower and four storage tanks from their site. They knew they lacked the in-house skills to handle a project of this size and difficulty. But ABB's technical, demolition, management and communications skills kept this demolition safe and efficient, protecting people, the environment and the plant.**

Over the last thirty years, Atofina has erected four polyethylene linear (PEL) units at their site in Gonfreville, France, where they manufacture polystyrene, polypropylene, olefins and aromatics, as well as polyethylene. Each PEL unit incorporated a more advanced technology. As each new unit was built, the previous units were abandoned.

With the erection of the latest PEL unit in 1996, the company decided it was time to dismantle all of the old units. In addition, they had no further use for a vulcanization tower, 70 meters high, or four 300-tonne storage tanks. The demolition would remove unnecessary process units, equipment and asbestos from the site, while giving Atofina much needed space for expansion and for increased production capacity.

There were three major obstacles to the plan. First, the four PEL units overlapped, sharing common access to the control room--and no one at Atofina remembered the original software and hardware configuration associated with the old units. It seemed almost impossible to undertake the project without shutting down the new PEL unit and interrupting production. But that's what Atofina hoped to do.

Second, the old units contained asbestos and remnants of dangerous chemicals such as hexen, hexane and waxes. Atofina's highest priority was to prevent these chemicals from contaminating people, the plant and the environment. Third, while the demolition contractors were highly experienced, they were relatively new to disbuilding techniques, especially in assessing explosion, safety and environmental hazards. They would be working close to pipe racks, flare vessels and volatile chemicals.

ABB possessed three areas of expertise that overcame every one of these obstacles: a strong technical background, knowledge of safety and environmental procedures and regulations, and experience in similar projects throughout the chemical industry. "The ABB team showed commitment, determination and professionalism during the critical phases of the dismantling, despite tight constraints and a difficult environment," says M. Sylvain Nisseron, Project Manager at Atofina. "Working together, the ABB team and the Atofina project team always managed to find the right solutions to solve difficult problems."

The ABB team studied the four PEL units. Drawing on ABB's decades of experience in process engineering and control, the team figured out how to remove the three abandoned units without affecting operations of the fourth unit. Production continued uninterrupted.

As the main contractor on the site, ABB coordinated the efforts of the subcontractors and the Atofina project team. This effort included establishing a consensus with the demolition company to make sure that realistic safety precautions were taken, and goals were met in a timely and cost-effective manner. Despite the hazardous site and the inexperience of the demolition company, ABB prevented any risk to people, the environment or the plant. "Many new difficulties arose as the work proceeded. It took a long time to settle on the right procedures for removing the asbestos," says Nisseron. "ABB accelerated the entire process."

## Benefits

- Safe, efficient demolition of unused, antiquated process units
- Safe, efficient removal of asbestos and other dangerous substances
- Uninterrupted production during demolition
- Availability of site for future expansion



When the PEL units, vulcanization tower and storage tanks were dismantled, 40 tons of friable and nonfriable asbestos were removed, along with 8,970 tons of structural material, including pipes and equipment. Under ABB's stringent environmental and health standards, the demolition site was cleared of dangerous products.

Nisseron particularly praises ABB's availability and responsiveness. He adds, "We highly appreciated ABB's involvement on the site during the whole project."

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# ABB

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