Demolition of buildings and laboratories

Full decommissioning and demolition with no accidents, incidents or disruption to neighbouring properties.

The 80 year old engineering plant, consisting of a factory and large testing lab, in Tyneside, had come to the end of its useful life.

Its owner, had taken the difficult decision to close the UK site due to its age and increased foreign competition.

All buildings and process equipment would need to be removed down to slab level. This would involve full isolation, decommissioning, asbestos removal, dismantling and full demolition.

ABB were engaged to manage the project, which included acting as CDM coordinator, demolition project managers, consulting engineers and providing a full time site presence to steward the isolation, demolition and decommissioning activities.

Solution
The project was tendered and executed in two separate phases.

- Phase 1 comprised; The British Short Circuit Testing Station
- Phase 2 comprised; former Trench buildings and Clothier building

The project was very complex as the buildings varied in age and complexity of design. Each part of the plant had its own hazards; extensive asbestos bearing materials, mechanical, chemical, physical and biological etc., that needed to be overcome. Process equipment and pipework were also subject to residual contamination of oils.
The project was further complicated by the site's proximity to neighbouring residential properties, live services and the Metro railway network. It was essential that neighbouring businesses were not disturbed, impacted by vibration, noise or dust.

There was a challenging timescale as the project needed to hit a 'window of opportunity' on a number of packages of work to allow co-ordination of simultaneous demolition and on-going site projects. Despite the time constraints the project had to be delivered to high standard of environmental and safety compliance.

ABB followed their proven five stage decommissioning process based on experience of managing similar large scale projects over a number of years. ABB staff have expert working knowledge of the latest demolition and remediation techniques, current legislative requirements and working within both redundant and live plant environments.

ABB provided the following services during the life of this project:
- Overall project management and coordination with live plant operations and service providers
- Acted as CDM coordinator
- Full time on-site management / supervision
- Procurement support
- Leading HAZards of Demolition (HAZDEM) studies
- Leading feasibility studies on proposed demolition methods
- Prepared Pre-Construction Information Pack (PCIP)
- Completed structural assessments
- Waste management advice
- Safety auditing and monitoring
- Planning and progress meetings and reporting
- Cost management

The testing lab building (shown overleaf) was a local landmark and could be seen from tens of miles around. Demolishing it called for some specialist complex demolition activity which required extensive planning and structural analysis, which ABB oversaw.

The project was completed on programme and within budget, without reportable incident or injury and to the satisfaction of the HSE, Environment Agency and the client.

Benefits
- Demolition completed in an effective way, with no disruption to neighbouring properties
- Potentially severe risks managed successfully
- Project safety, health and environmental issues and project progress well controlled
- Work carried out to a high standard and in line with legal requirements
- Credit paid back to company
- Issues resolved quickly to keep work on schedule by a full-time ABB presence

“The project had a number of commercial queries raised due to unforeseen circumstances with the principal contractor, the advice provided by ABB to help resolve such issues allowed for a speedy and reliable assessment to be made to allow work to continue as planned. This resulted in a healthy credit back to us. The support provided resulted in the project being completed in a timely, cost effective manner and more importantly without any accidents or disruption to neighbouring properties.”

Facilities Manager, Engineering Company