Two large mercury cell chlorine production facilities were decontaminated, asset stripped and demolished to ground level over an 18 month period.

The client ceased mercury cell production and looked to demolish the assets so that the land could be used for a new plant.

The challenges of the project included:

- Severe mercury contamination of the plant and ground
- The stringent health requirements surrounding mercury exposure
- The need to re-route many site services and power supplies
- Working adjacent to live operating plants and residential housing

ABB were involved through the life of the project from early project definition to completion.

Benefits

- HSE performance - Project delivered to all environmental, health and safety KPI’s with no accidents
- Project delivered on time and cost
- Optimal demolition and decontamination approached defined - balancing health and safety risk
- Minimising offsite disposal of contaminated waste
- Minimising disruption to other production plants

Solution

ABB’s demolition strategy involvement started with the front-end project definition and developed the electrical power re-engineering / diversion scope. ABB provided ongoing support to carryout the site diversions of all services, primarily in the area of electrical power.

Following major decontamination by the client operating team, ABB formed a site team which included a number of specialists from ABB and the client’s operating team.

This approach of working with the client and involving personnel with the detailed site knowledge into the site team delivered enormous benefits in the demolition phase.

Demolition was completed under a strict HSE regime with personnel, atmospheric, groundwater and material monitoring for mercury. The close proximity of residential housing and live operational plant impacted significantly on the speed of demolition to ensure mercury in air levels outside the demolition site did not exceed pre-set levels.

Emergency procedures and response were developed to ensure a correct rapid response to any environmental issues off site. The material arising was recycled where possible, the remaining being disposed of off site in a licensed landfill site. Special transport skips were developed to ensure no spillage of mercury on the public highway.

ABB then managed the following project stages, inline with our proven demolition methodology:

- Project definition and detailed plans - covering HSE schedule cost, execution and contact strategies
- Procurement - including tender preparation, tendering and contractor selection
- Onsite management - including contractor progress, HSE auditing and handling technical queries etc.
ABB Consulting provides technical and engineering services to improve performance in the areas of compliance, operations and engineering to customers in the chemical, petrochemical, oil & gas, power, pharmaceuticals, metals and consumer industries worldwide.

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