

CASE STUDY ROOSECOTE POWER STATION

Project: Complete Decommissioning and Demolition
Client: Centrica Energy
Date: September 2014 - March 2015

Following an extensive tendering process, Ron Hull Demolition Limited were appointed as principal contractor by Centrica Energy to undertake the asbestos removal, decommissioning and demolition of a gas and steam turbine power station. The site consisted of an 800te HRSG boiler and secondary steam generation. The station was surrounded by coastline, with the decommissioning aspect of the project designed to have minimal effect on the wildlife and nearby nature reserve, including regular vibration testing.

Throughout the project Ron Hull Demolition Limited monitored pH levels daily, whilst taking water samples around the site to ensure there was no contamination of the water course beyond the site boundary. With the Power Station being located just 200 metres from Morecambe Bay this was critical to the project. RHDL were monitored by the EA and Centrica Energy to ensure all checks were carried out thoroughly.

The project was undertaken in 4 main stages:-

- Water tanks and water treatment plant.
- Above ground gas installation. (AGI)
- Fuel oil tanks, pumps and pipe ranges.
- Turbine hall.

Initial works on site involved establishing an environmental management plan, identifying potential risks and forming monitoring strategies for air, soil and water.

Decontamination involved removal and disposal of the founding materials which included;

- Notifiable and non-notifiable asbestos.
- Lubricating oil and fuel oil.
- Laboratory chemicals and water treatment chemicals.
- Inert gas cylinders.
- Transformer oils.
- Glycol (anti-freeze) from AGI.



Approximately 600te of transformers were removed by jacking and skating methods. In particular, two transformers weighing 85te & 80te were situated in a live Electricity North West substation. After close liaison with ENW, which included the submission of RAMS and on site meetings, the RHD team safely removed both transformers without any disruption to the site.

All the transformers were transported, along with all scrap and waste materials, to the Ron Hull Group's state of the art recycling centre in Rotherham.

Water Treatment Plant

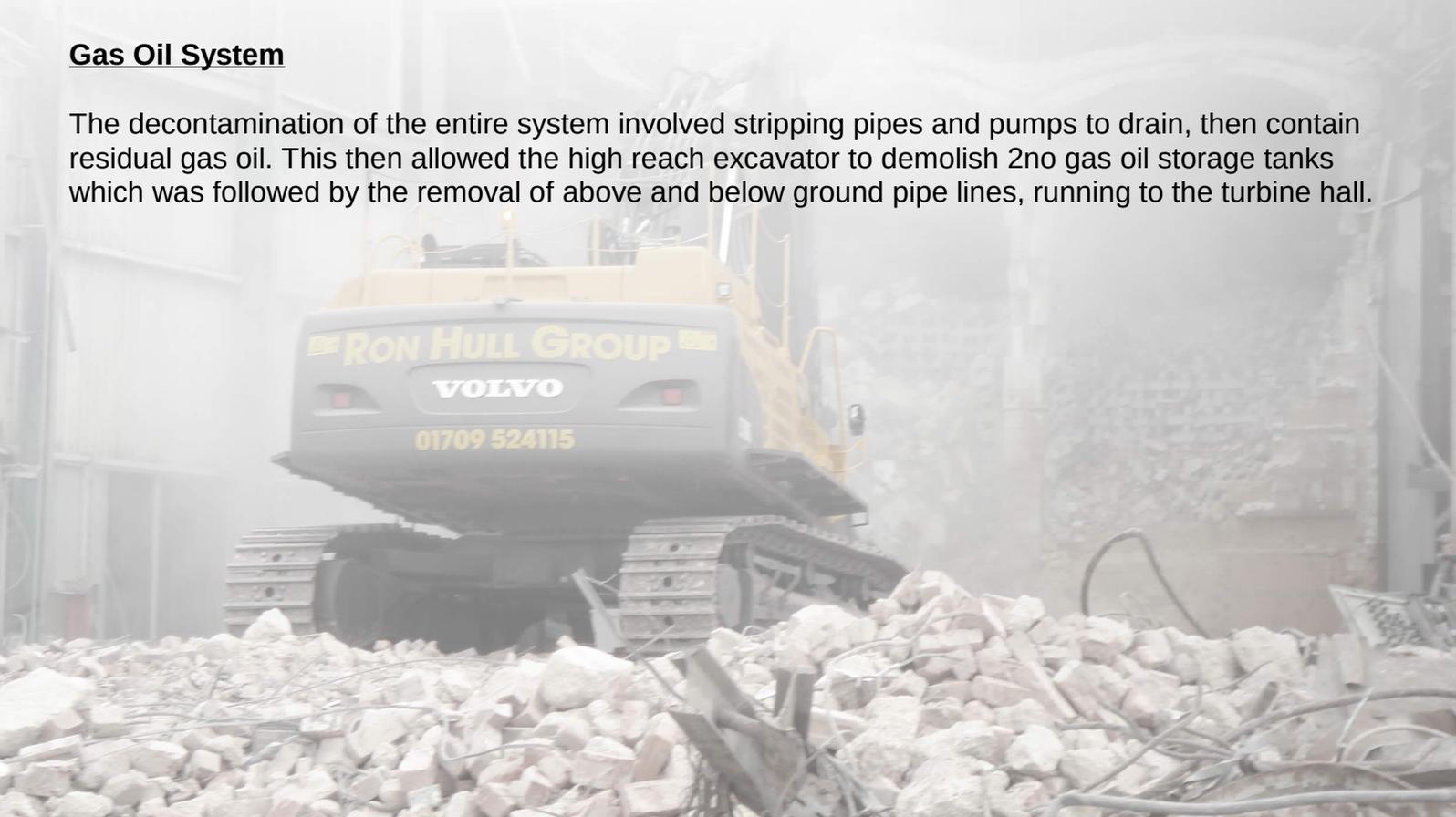
Firstly, Ron Hull's specialist team removed, contained and disposed of filter medium in the vessels. Next, 2no main water storage tanks were demolished using a combination of excavators/shears, followed by the dismantling of the water treatment plant's internal equipment. This allowed the remaining areas of the water treatment plant and engineering workshop to be demolished.

Above Ground Gas Installation (AGI)

After physically disconnecting the inlet pipe from the Gas Terminal and feed pipes to the station, Ron Hull's operatives commenced the decontamination of glycol from water bath heaters. Once completed, the Demolition team moved in, to successfully demolish structures above and below ground. RHDL worked closely with Centrica's neighbouring gas terminal to ensure there was no interference with the site.

Gas Oil System

The decontamination of the entire system involved stripping pipes and pumps to drain, then contain residual gas oil. This then allowed the high reach excavator to demolish 2no gas oil storage tanks which was followed by the removal of above and below ground pipe lines, running to the turbine hall.



Turbine Hall

Next, and arguably the most critical point of the project, was the dismantling of the Steam Turbine (120te), Gas Turbine (370te) and GT generator (230te). These were removed section by section from a top down approach, utilising a combination of oxy/propane cutting and dismantling and utilisation of internal cranes. Using hydraulic power packs to manually turn the turbine, RHDL operatives were then able to detach and dismantle. Heavy sections were loaded onto low loaders and transported back to RHDL's recycling centre. An explosives demolition event was programmed for the main steel structure and exhaust stack. Extensive communication with the local residents, and adjacent businesses, as well as managing the local media was undertaken in the preparation of the works. Strict controls were placed on RHDL not to undertake the explosive event at below 5 degrees centigrade due to the number of migratory birds. Once the main structure was on the ground, the remaining works included processing including all brick and concrete which was crushed and tested, to meet strict protocol, and used to infill the former tank farm and various ducts and pits across the site.

The Project was completed on time, incident free, aided by an excellent working relationship with the Client. Ron Hull Demolition also achieved 97% of KPI's set at the beginning of the project.

