

## STORAGE TANK DECOMMISSIONING PROJECT

A Teeside based Waste Management and Remediation Company had been awarded a contract to remove solidified Formaldehyde from a Stainless Steel Storage Tank at a timber processing facility in Stirling. Over time the product had settled in the tank and solidified to such an extent that the tank shell had serious buckling and structural damage rendering it totally inoperable for future use. After the product had been removed the tank was to be demolished and removed from site. Once the product had been removed the tank was to be demolished due to it's poor state. The facility owner placed the full responsibility of the tank demolition and initial tank isolation with the waste remediation company as part of their contract. As the demolition was not something the waste remediation company had the expertise in (or the resources), Unit Engineers & Constructors Ltd (UECL) were invited to support them with their project.



During an initial site visit UECL (part of the Unit Birwelco group) risk assessed the impact of demolishing the tank in it's position surrounded by live plant and constant moving traffic such as tankers (significant hotwork would have been required). UECL advised against in situ demolition in favour of removing the tank as a whole and demolishing offsite. Due to the site layout a large 500T rated crane would be required to reach the tank, however following the cost analysis and risk assessment presented by UECL this solution was now the much favoured option from the facility operator. To enable tank lifting, some issues



had to be solved by UECL. The lower section of the tank shell had peeled away from the sub frame that supported the tank and there was a risk of this peeling completely when the tank was lifted. Another problem would be the amount of windows that were to be cut from the tank shell for cleaning access, there was a risk of the tank buckling once top and tailed onto the trailer plus a question of structural integrity of tank during cleaning. UECL provided the solutions for these hurdles following discussions and the issue of calculations and detailed method statements. The remediation company submitted the RAMS and design proposals to the facility operator for approval. At the remedial company's request UECL mobilised a squad of skilled and experienced mechanical resources, to safely and efficiently carry out:

Phase 1 (cleaning enabling works)

- ① Supply of MEWP and crane to remove ancillary items from the tank—caged ladder, existing pipework
- ① Isolate tank from 4 " import lines



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Phase 2 (following cleaning)

- ④ Supply and welding of straps for tie - ing the subframe back to the tank—to prevent it peeling from the tank when lifted
- ④ Supplying and welding of bracing around the access windows that had been cut into the tank—to prevent the tank buckling during top and tailing
- ④ Mobilisation of 500 T crane supplied from the Heavy Lift Division of UECL ' s approved and trusted crane operator
- ④ Lifting and removal of the tank from it ' s bund
- ④ Final siting of crane onto waiting trailer and removal from site for demolition
- ④ Removal of all structural steel and assisting with full demobilization

Throughout the 3 days it took to prepare and remove the tank from site there were minimal disruptions for the facility operator. This was major plus for the waste remediators ' client who had originally anticipated 2 weeks of in situ demolition with potential disruptions from hotworks, cranes and vehicles.



Both the remediation company and facility operator were delighted with UECL ' s professional approach and delivery.

For the facility operator the reduction of interfaces and removal of exposure to a loss of production, for getting the tank emptied and removed from site , was of great benefit.

For the waste management company the additional capability of providing safe, professionally executed mechanical services through UnitBirwelco to compliment their own core services, is an attractive and unique service proposition.