HYDRO MOBILE USED FOR CONCRETE POST-TENSIONING

The import terminal for liquefied natural gas in the Mediterranean port of Sagunto, Valencia - Spain began commercial operations in 2006. The terminal hosts two reservoirs that are capable of stocking seven million cubic feet of gas each, which is equal to 20% of the country's natural gas supplies. The reservoirs, or silos, are 170' high and have an inner diameter of 245'.

Dywidag Systems International (DSI), a company specialized in the installation of post-tensioning material, was involved in the construction work.

To place the strand tendons in the outside wall of the tanks, DSI used several pieces of equipment including hundreds of feet of strand rolled up on a reel weighing 10,000 lb in total, a hydraulic pump with a generator weighing 2,000 lb, and a 350-lb hydraulic pushing device used to insert the strand into the duct.

For this type of work, a work platform is traditionally used to access the work zone and a tower crane is normally used to hold the cable coil and the pump during the whole process. However, on this particular jobsite the contractor went creative and decided to explore new access solutions. Hydro Mobile's distributor in Spain, UMESA, was the right company to ask for advice. Together, they decided to use mast-climbing work platforms to replace both the crane and the work platform.

As the strands had to be installed and tensioned at each cardinal point, four M-Series platforms were used. Being 7' wide and benefiting of a load capacity of up to 22,000 lb, the M-Series decks hosted the reel, the hydraulic generator and three workers. Outriggers were used on the side of the M-Series to set the pushing device and the jacks to tension the cables below the reel.

With this new method, the whole process of placing, stressing and grouting the strands lasted 10 weeks instead of two months and the overall cost was cut by nearly 30%.