

Transportation and Erection of Replacement Hydrocracker Unit

Client: Exxon Mobil, Beaumont Refinery, Texas, USA



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PETROCHEM 14

The vessel was manufactured by Nouvo Pignoni at their factory in Massa in Southern Tuscany. Fagioli PSC began the transportation by collecting the reactor at the factory and transporting the 8.5 kilometres to the port of Marina de Carrara on public roads using 32 double width axles of self propelled modular trailers (SPMT) with a capacity of 2048 tonnes, the large number of axles being necessary to satisfy the varying ground bearing limitations to be encountered during the transportation.

At the port, the reactor was rolled on to a 91m long barge owned by Fagioli PSC and the barge ballasted down to allow the reactor to be rolled onto the ocean going vessel 'Clipper Cheyenne' which would perform the sea transport of 6000 miles across the Atlantic Ocean to the Port of Beaumont in the Gulf of Mexico. For the voyage the reactor was securely restrained using a carefully designed and installed system of steel ropes, chains, welded supports and bracing members.

The reactor is the heaviest load ever off loaded in the Port of Beaumont and ground loading from the trailers exceeded the 1200 psf allowable loading of the Ports brand new RO-RO jetty. The jetty area was therefore carpeted with 12" thick hardwood crane mats to spread the wheel loads until the reactor was clear of the pile supported jetty.

The route to the refinery would allow higher ground loading from the trailer, therefore the reactor was moved into a temporary storage area behind the jetty and the trailer configuration reduced from the 32 axles to 24 axles to allow the trailer to negotiate the tight turns to be encountered from the port to the refinery.



The one mile journey through the town of Beaumont was completed in a single day and the reactor was delivered under the Fagioli PSC Tower lift system where it was jacked using the trailer hydraulic suspension onto temporary steel supports. The trailer was then removed and then reconfigured into the 10 axle long three wide configuration required to perform the tailing operation during the raising of the reactor from the horizontal to the vertical. For this operation the trailer was fitted with the Fagioli PSC tailing system which bolted to the reactor skirt. When the reactor was vertical, the tailing system was released from the skirt and the trailer withdrawn. The reactor was now rotated to its final orientation and lowered by the Towerlift System onto its foundation bolts.

An additional project sheet is available for the vessel lifting operation.

