

Kuehne + Nagel always finds a way

In the course of their work, project logistics experts are often faced with enormous challenges. As, for instance, in the transport of a reactor from Japan to South Africa which Kuehne + Nagel recently carried out for Sasol Technologies

Sasol Technologies, South Africa's second largest industrial undertaking, employs 28,000 people all over the world and is one of the market leaders in the field of coal gas liquefaction for the production of gasoline and components for the chemical industry. In 2007 Kuehne + Nagel was entrusted with carrying out a feasibility study for the transport of a liquefaction reactor from the works at Nagasu in Japan to the Sasol plant in Secunda, South Africa.

On a visit to the Japanese producer, the African project division of Kuehne + Nagel inspected the two enormous reactor components under construction (a bottom section weighing 419 tonnes and measuring approximately 22 x 9 x 9 metres, and a 252-tonne upper section measuring 18 x 9 x 9 metres) and examined the shipping possibilities at different ports on Japan's west coast. It soon became clear that due to shipping capacity restraints, it was necessary to

book a suitable ship as soon as possible although shipping was not scheduled to take place until mid-2009. Further research showed that suitable trailers for post-shipment transport were not available in Africa and would have to be imported from France.

At the end of 2008 a task force team was put together with members representing the customer, the maritime carrier and the haulage company. It also included representatives of a company specialising in route analysis and road clearance for heavy load transport, and a consultant for the calculation of the required trailer configuration based on the maximum allowed road load of 27.5 kilonewtons.

In February 2009 the preparations were held up by an unexpected event. Without prior announcement the Ministry of Roads and Works started to upgrade a part of the route from the port of Richards Bay to the site. Immediate talks with the road construction firm showed that an interruption of the work would involve excessive costs. Furthermore, there was no guarantee that the six-metre-wide trailers would be able to pass through the road construction sites. Since no alternative routes were available in South Africa, it was decided to transport the reactor through Swaziland

where a route was found which could be suitable – if certain repairs and modifications were made. So Kuehne + Nagel appointed a contractor to effect the necessary alterations at the two border posts, to strengthen bridges and enlarge roundabouts, as well as raising a pedestrian footbridge.

In June 2009, after loading had been completed under the supervision of Kuehne + Nagel specialists, the chartered heavy lift freighter sailed from the Japanese port of Shimonoseki with all the parts of the reactor (total weight 990 tonnes or 4,950 seafreight tons). The voyage to South Africa went very smoothly, as did the unloading operation in Richards Bay, where the two trailers and twenty-eight trucks were efficiently positioned alongside the ship.



AFRICA



At the border with Swaziland, where power and telephone cables had to be raised, the passage of the imposing convoy blocked the customs post for all other traffic for no less than six hours. Further challenges were presented by bad weather, which resulted in two days of delays, and a 13 per cent gradient for which five additional prime movers had to be hired. The second frontier crossing back into South Africa at Mahamba had already been found so "unsuitable" in the route analysis that the customs buildings had to be largely demolished after tough negotiations with the customs authorities of the two countries (and, of course, rebuilt afterwards). It was also necessary to redirect fibre optic cables, widen roads and move fences so that the loads could follow a tricky slalom route back into South Africa.

On the final stage to Secunda there was a further surprise for all concerned. On the last kilometres of the route, further unanticipated road works had begun. Thanks to the fast reaction of those in charge of the project, these works were stopped for the time the convoy took to pass. After four weeks of "highly eventful" overland transport, the reactor parts reached their destination safely and on schedule - to the complete satisfaction of the customer and to the great relief of the Kuehne + Nagel South Africa project division team.

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