

The Sarens SGC-120 super heavy lift crane on its first job in Europe, lifting the nuclear reactor head at Flamanville in France



Super nuclear lift

International lifting and transport specialist Sarens from Belgium used its 3,200 tonne capacity SGC-120 super heavy lift crane for a lift weighing hundreds of tonnes – at well over 100 metres radius – on a nuclear power plant project in France. *IC* reports

For its first job in Europe, Sarens' SGC-120 super heavy lift crane completed a heavy and long radius lift at a nuclear power site in Flamanville, France.

International lifting and transport specialist Sarens, based in Belgium, used the 3,200 tonne capacity giant crane to install a reactor head on top of a new building on site. The nuclear reactor head weighed 350 tonnes and was lifted at a radius of 140 metres.

For Sarens the main challenge was getting the crane to the site. The crane was shipped from China, where it had been working on a Cosco oil platform project (*IC* December 2012, pages 17 and 20). It landed at the port of Cherbourg in France before being transported on trucks by road to the Flamanville site. In total 160 containers were used to transport the components of the crane, including several which were then filled with around 3,000 tonnes of local ballast material, for

example, rock and sand, once at the jobsite. This method of creating counterweight without having to transport it is used to reduce transport weight and save money.

With the crane components delivered to the job site it took six weeks to assemble the crane. The SGC-120 was assembled in a space measuring 50 x 200 m. It has a base of 44 x 44 m and was configured with a 170 m boom. A new heavy duty jib was built especially for this project to lift up to 1,500 tonnes at 40 m radius. Two auxiliary cranes, a Terex Demag CC 2800, configured with a SH/LH 78 m boom and a 250 tonne Sumitomo SCX2500 crawler crane, were used during the assembly.

"A number of smaller hydraulic cranes were also used," explained Steven Sarens, Sarens sales manager. "We also had some forklifts and a 100 tonne telescopic crane."

Other challenges that had to be taken into consideration included slinging, which had to be pre-engineered due the size and shape of the reactor head.

Main job

With the crane assembled the team carried out a test lift before completing the main lift. Other lifts for the crane included the installation of all the internal overhead cranes for the reactor building.

"After setting up the crane we installed the girders and the trolleys of the overhead cranes inside the reactor – these were the small lifts. The main lift was the reactor head that had to be installed," explained Steven Sarens.

Because of the location of Flamanville, on the coast, wind speed was a primary concern and the team had to wait for perfect conditions before the lift could be carried out. With the weather on their side the lift took one day to complete.

The crane has already been disassembled and is due to be transported back to the port of Cherbourg where it will be shipped to a site in Indonesia. There the crane will be used to install a vessel at a petrochemical project.