

Liebherr LR 11350 crawler crane moves giant ring liner in India

May 2014 – A Liebherr crawler crane LR 11350 erected a complete pre-formed ring liner during the construction of reactor block 3 at the Kakrapar Nuclear Power Plant in Western India in the State Gujarat. A unit owned by Nuclear Power Corporation of India Ltd (NPCIL), the Government owned company for nuclear energy and nuclear power plants in India. With a diameter of around 50 m, a height of 5 m and a total weight of approx. 170 t including the weight of the ring, the spider type lifting tackle fitted with evener beam, the ring was probably the dimensionally largest single structure ever to have been hoisted by a crane in India. The Liebherr crane LR 11350 is owned by NPCIL.

Initial plans called for the 16 ring segments to be hoisted individually on to the inner containment structure at a height of 50 m where they would be assembled and welded. This procedure is complicated and becomes even more difficult as the height increases. Since a Liebherr LR 11350 was already in use on the site, NPCIL decided to change its plans. As a result of the LR 11350's enormous load capacity and extremely sensitive control, the erection plans changed, the ring was assembled on the ground and then simply lifted into position with a single hoist. This procedure meant that the quality of welding was improved which in turn enhanced the safety of the power plant and also saved a good deal of material and time.

The Liebherr crawler crane has a maximum load capacity of 1,350 tonnes and was fitted with an S main boom, a luffing jib, derrick system and a ballast trailer. The heaviest load moved by the LR 11350 on the site was the generator which weighed in at 400 tonnes at a radius of 44 m. Lifting it through the openings whilst maintaining a safe distance from the surrounding walls was particularly challenging.

The Indian company NPCIL has three Liebherr LR 1650, two LR 11350, three LTM 1140 and one LTM 1250-6.1 and only uses its own cranes for major hoisting work.

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