

Press release

One hoist instead of three – new boom system on the LR 11000 delivers greater efficiency

- **LR 11000 with SL8F2 system installs wind turbine generator in a single hoist**
- **Simple, safe assembly of the generator on the ground**
- **Low cost erection of wind turbines without the need for a derrick system**
- **Buckner now has 17 LR 11000 cranes operating in the USA**

The Nordex Delta 4000 wind turbine with a rotor diameter of 149 metres is the latest generation onshore system in the four to five megawatts power class. In the past, three hoists were required to install the generator at its hub height of 108 metres – the nacelle, drivetrain and hub were hoisted separately and assembled at the top of the tower. American crane specialist Buckner Heavy Lift Cranes has now demonstrated that the work can be carried out more quickly, more easily and more economically – with one hoist rather than three.

Ehingen / Donau (Germany), 27 October 2020 – The whole thing is made possible by the new, more powerful SL8F2 boom system, which Liebherr has developed in collaboration with Buckner for the LR 11000 crawler crane. This system is so powerful that it can hoist the completely assembled generator – the eighth version of the SL boom with the second version of the fixed F jib delivers a lifting capacity of 253 tonnes with a hook height of 114 metres, enough to hoist the 230 tonnes made up of the complete generator and load handling equipment up to the hub height of 108 metres. Another advantage is that assembling the nacelle with the drivetrain and hub on the ground is easier and safer than at high altitude.

The configuration of the LR 11000 with SL8F2 for modern wind turbines on towers around 100 metres high is particularly economical because the crane can operate without a derrick system. This saves crane contractors logistics work and set-up time because fewer parts have to be transported and erected.

Buckner completed the first Nordex Delta 4000 generator to be installed with a single hoist at a wind farm in Northern Oklahoma in the centre of the United States. The LR 11000 was set up with the 108 metre SL boom and 12 metre fixed jib. 130 tonnes of central ballast, 250 tonnes of slewing platform ballast and a further 80 tonnes on the slewing platform extension provided the required stability to hoist the gross load of 230 tonnes to a hook height of 114 metres. This successful premiere will mean that this assembly process will now become standard procedure for this particular wind turbine. Five of 17 LR 11000 cranes, which Buckner is now operating in the USA, feature this new boom system.

Daniel Ives, Engineering Product Support & Analyst at Buckner, explains: “As we are convinced by the performance of the new SL8F2 system, we suggested to our customer, Wanzek Construction, Inc, and the owner of the wind farm, Duke Energy Corporation, that we should attempt to install the complete generator in a single hoist. As a result of the possible cost savings and the reduced risk posed by wind and weather, Nordex was then also quickly convinced to develop the load handling equipment for the job.”

Buckner used several Liebherr cranes for this wind farm project. LTR 1220 telescopic crawler cranes were responsible for unloading the components and assembling the nacelle, drivetrain and hub on the ground. Liebherr LR 1500 crawler cranes installed the bottom sections of the towers using a main boom system and were then converted to a luffing boom system to assist with the installation of the rotor blades. Two LR 11000 cranes installed the top tower sections and the generators.

About Liebherr-Werk Ehingen GmbH

Liebherr-Werk Ehingen GmbH is a leading manufacturer of mobile and crawler cranes. Its range of mobile cranes extends from 2-axle 35 tonne cranes to heavy duty cranes with a lifting capacity of 1200 tonnes and a 9-axle chassis. Its lattice boom cranes on mobile or crawler crane chassis deliver lifting capacities of up to 3000 tonnes. With universal boom systems and extensive additional equipment, they can be seen in action on construction sites throughout the world. The Ehingen site has a workforce of 3,500. Extensive, global service guarantees the high availability of Liebherr mobile and crawler cranes. In 2019, the Liebherr plant in Ehingen recorded a turnover of 2.1 billion euros.

About the Liebherr Group

The Liebherr Group is a family-run technology company with a widely diversified product range. The company is one of the largest manufacturers of construction machines in the world, but also supplies technically advanced, user-focused products and services in many other sectors. The group currently comprises more than 140 companies based in every continent of the world, has a workforce of over 48,000 and recorded a consolidated total turnover of more than 11.7 billion euros in 2019. Since it was founded in 1949 in Kirchdorf an der Iller in

southern Germany, Liebherr's aim has been to win customers by supplying high quality solutions and to contribute to technological progress.

Photographs:



liebherr-lr11000-buckner-sl8f2-motive01.jpg
230 tonne power lift – the complete gondola with the drive system and hub is installed in a single hoist.



liebherr-Ir11000-buckner-sl8f2-motive02.jpg

No need for a derrick system – with a 108 metre SL main boom and 12 metre fixed jib on a 108 metre tower. An 18 metre fixed jib is also available as an option.

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