SLIM® transformer inside the world's highest wind turbine

Pauwels Trafo Belgium has delivered a 2.7MVA SLIM® transformer for the highest wind turbine in the world. The FL 2500/2.5MW turbine, developed by the engineers of W2E Wind-to-Energy for SeeBA GmbH and Fuhrländer AG, is situated in Laasow, about 20km west of Cottbus, Brandenburg, Germany. The tower, with a height of 160 meters, is ten meters higher than Berlin's tallest building, the TV tower at Alexanderplatz, and measures 205 meters to the blade tip. Inside the nacelle is the 2.7MVA Pauwels SLIM® transformer, painted white to match the colors of the turbine. The estimated output of about 7 million kWh corresponds to the consumption of about 1,800 four-person households. The hub height enables it to reach steady and regular winds. The Pauwels SLIM® transformers have now been installed in the highest as well as in the biggest wind turbines in the world.

SeeBA builds lattice towers with heights between 65 and 117 meters. The framework fans thus hold a niche in the wind power tower market, which is dominated by steel and concrete designs. That is because these towers are delivered in segments just a few meters long and weighing only a few hundred kilos, allowing considerable logistic advantages.

The tower design is modular. To reduce the height, the lowermost segment can be omitted – resulting in a tower with a height of 141 meters. Omitting two segments reduces it to 117 meters. The benefits of "series" production compensate for material costs. Type tests have only to be conducted once.

Several other manufacturers are also planning higher towers to harvest wind at less than ideal locations in Germany. For 2008, Enercon is offering customers a tower with a height of 136 meters. CEO Aloys Wobben announced taller towers at the Hanover Trade Fair in April 2007. Contracted by SeeBA, Geo Net Umweltconsulting GmbH has calculated that a 160 meter inland tower would supply 35% to 45% more wind power than a 100 meter one. Both Fuhrländer and SeeBA are securing their positions in a niche market as small companies. According to SeeBA, many countries have shown their interest. The company has been commissioned to build 150 160 meter turbines for northern Poland. 30 turbines are expected to be erected next year and Fuhrländer estimates more than 250 machines will be built by the end of 2008.

Fuhrländer also plans to offer the FL2500 in heights between 85 and 160 meters with a rotor of between 80 and 100 meters across, depending on the wind circumstances.

The increasingly restrictive height limits make it difficult to predict the size of the German market for such towers.

More orders for the future are to be expected. One thing is certain though: the Laasow turbine has brought the SLIM® to new heights.

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> SLIM® performs at altitudes never seen before