Press Release

Type certification 08 September 2021

TÜV SÜD provides certification of wind turbines for regions impacted by tropical storms

Munich. Offshore wind energy is playing an increasingly important role worldwide. In regions impacted by tropical storms, wind energy converters (WECs) are exposed to extreme weather conditions. TÜV SÜD has developed a computer model to demonstrate suitability for these regions based on the international IEC 61400 standard within the scope of type certification.

As a crucial prerequisite for the expansion of offshore wind energy in regions with tropical cyclones, wind turbines must be able to withstand extreme climate conditions. Using the international IEC 61400 standard as a basis, TÜV SÜD has developed a computer model enabling the impacts of such extreme wind situations on wind turbines to be simulated. “The standard defines requirements for the use of WECs at specific sites, which are taken into account in ‘type approval’”, says Florian Weber from the Wind Service Center at TÜV SÜD Industrie Service GmbH. To this end, the standard defines several wind classes. Edition 4 of the standard now introduces the new wind class T1 for tropical cyclones – also known as typhoons or hurricanes, depending on the region.

“Our computer model enables us to simulate even the most extreme wind conditions in regions impacted by tropical cyclones, and to use our simulation as a basis to verify whether a wind turbine is suitable for such regions”, explains Thorsten Weidl, risk management expert at TÜV SÜD Industrie Service GmbH. “Furthermore, our computer model provides far more precise predictions than the ‘Gumble method’, which is not recognised by most countries in the Asian-Pacific region.” TÜV SÜD documents the suitability of a WEC for wind class T1 in the relevant type approval, which generally forms the basis for the regulatory approval of a WEC and is also required by international investors.

Wind-turbine manufacturers and wind-farm managers alike benefit from TÜV SÜD’s extensive areas of expertise and experience with onshore and offshore wind energy, and from the international network of the service provider. “We are represented in all major wind-energy regions of the world”, emphasises Florian Weber. “This makes us a one-stop shop offering ‘made in Germany’ quality for all our services – a major advantage.”

TÜV SÜD at Husum Wind 2021

Further information on the modelling of extreme wind speeds and TÜV SÜD's comprehensive range of services for wind-turbine manufacturers, wind-farm managers and investors and insurance companies can be found at the TÜV SÜD stand at Husum Wind 2021 (Hall 2, Stand 2C46) from 14 to 17 September 2021, or on the Internet at www.tuvsud.com/windenergy.

Note for editorial staff: The press release is available on the Internet at www.tuvsud.com/newsroom.

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