Type Certification of Wind Turbine for PowerWind Limited in India

As the wind turbine manufacturer PowerWind Limited required comprehensive design evaluation services for a PowerWind 56 turbine (900 kW), the company sought the expertise and full range of certification services provided by TÜV Rheinland.

| Basic Facts          | PowerWind Limited India  
|----------------------|---------------------------|
| Client               | Turbine type: PowerWind 56 (900 kW)  
| Timeframe            | June 2013 - June 2014  
| Project location     | India and Germany  
| Main services        | - Wind turbine design evaluation  
|                      | - Type testing  
|                      | - Manufacturing evaluation  
|                      | - Additional ISO 9001 management system certification  
| Involved regulations/standards | - IEC 61400 standard series for individual wind turbine components  
|                      | - ISO 9001 requirements for quality management systems  

Initial situation and requirements

PowerWind Limited is one of the leading wind power solution providers and manufacturers of onshore wind turbines in India. The company was established to meet the needs of the growing wind energy market globally and supply price-competitive wind energy equipment. In June 2013, PowerWind Ltd. India requested for comprehensive certification services and design evaluation for a 900 kW wind turbine with the requirement of a short lead time for the process. As various turbines had already been sold to worldwide customers, our client solicited TÜV Rheinland expertise and its comprehensive portfolio of services for the wind energy sector to provide expeditious certification.

As a leading testing company and service provider for the wind energy sector with a strong brand reputation and the ability to provide prompt support in matters of time-to-market issues, we were entrusted by the Indian company branch for this project. Around 15 TÜV Rheinland wind energy experts were mobilized to conduct design assessment and manufacturing evaluation of the wind turbine.

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Solutions, results

Design assessment was conducted in Germany and manufacturing evaluation at the client’s premises in India. In addition, type testing services for the wind turbine were carried out with the support of an accredited testing laboratory in the USA. Based on the international standard IEC 61400 series and additional codes and standards targeted to specific components, our one-stop-shop services for wind turbines helped our client throughout the entire certification process to market a safe and compliant product.

Moreover, the manufacturing location in India was newly established, implementing new staff and manufacturing processes. Processes required special attention and were thoroughly revised and monitored. In addition to wind energy-related services, our experts at TÜV Rheinland India were contracted by PowerWind Ltd. to perform management system certification locally according to the international ISO 9001 requirements. This certification is a prerequisite needed to fulfill the manufacturing evaluation module.

Upon completion of these comprehensive services for wind turbines and management certification, PowerWind Ltd. expressed great satisfaction with TÜV Rheinland experts and the overall result of the type certification process. This project illustrated our company’s intention and strategy to act as a one-stop service provider for any challenge and all requirements in the sector of renewable energies.

Did you know?

Wind power has been exploited for thousands of years. Primarily used to pump water or crush grains, wind turbines are now used for renewable and clean power generation.

Benefits for the client

TÜV Rheinland supported PowerWind Limited India with:

- Extensive type certification of wind turbine from design assessment to manufacturing evaluation.
- Quick and reliable solutions despite short time-to-market.
- Additional ISO 9001 management system certification.
- Local presence and one-stop-shop services for all needs and requirements.

About TÜV Rheinland:

Founded more than 140 years ago, TÜV Rheinland is a global leader in independent inspection services, ensuring quality and safety for people, the environment, and technology in nearly all aspects of life.

We inspect technical equipment, products and services, oversee projects and help to shape processes for companies around the world. Since 2006, we have been a member of the United Nations Global Compact to promote sustainability and combat corruption.

TÜV Rheinland can support wind energy projects at every phase with a comprehensive range of services – from acceptance testing and construction to operation and periodic inspections. We ensure that your wind project is a complete success.

For investors, operators and manufacturers of wind farms or wind turbines, we can help ensure safety, quality and compliance with applicable standards and regulations to ensure high efficiency, reliability, and profitability.

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