PES: How did Castrol Industrial Lubricants & Services get involved in wind energy?

Kirsten Tschauder: Our involvement dates back to the 1980s, when we started working with OEMs supplying wind turbine manufacturers. They were looking for products to overcome some of the problems that were seen at that time, and micro pitting was a particular issue. This phenomenon is still one of the main concerns today in gearbox-driven units. Using experience we had gained in other industries, coupled with the special additive systems in our gear oils, we were able to improve gear life, leading to improved reliability and operating uptime.

PES: How are you organised to serve the wind energy industry?

KT: To meet the needs of the wind energy industry, which operates worldwide, we have a global network of experts able to ensure a consistently high level of products, service and support around the world. This global team supports local staff in the major operating economies. Our main product development is centred in Mönchengladbach, near Dusseldorf in Germany, and we also have technical centres in Naperville, IL, USA, Nagoya in Japan, and Thailand. All these centres have the capability to develop, test and support our products used for wind turbine lubrication.

PES: How does being part of the BP group affect what you can offer the wind energy industry?

KT: BP has a large and rapidly growing Alternative Energy division in which wind energy plays a significant part. The division has aggressive expansion plans as witnessed by the acquisitions of Greenlight Energy Inc, Clipper and Orion Energy in the USA. We see our activities as being totally synergistic with BP’s Alternative Energy business, thus enabling the BP Group to provide a complete solution, from the design and construction of wind farms, through to their operation and lubrication.

PES: What products and services do you currently supply?

KT: Although the perception may be that our focus is on gear oils, we do in fact have a full range of products for servicing wind turbines, e.g. hydraulic oils, brake fluids, fluids for couplings, bearing greases, open gear greases, mounting pastes, suspensions and corrosion protection fluids. We place great importance on product development and acting ahead of the marketplace through creating a pipeline of next-generation product developments to take the industry to even higher levels of operating reliability and efficiency.

On the service front, we offer: a choice of standard oil testing and analysis programmes (Castrol LabCheck); particle counting; advanced condition monitoring and predictive maintenance testing using ferrographic analysis (Castrol Predict); lubrication equipment; and customised training programmes on tribology, lubrication and product applications. Finally, we should not forget that we have long established applications expertise in metalworking fluids and lubricants for bearings, gearbox and turbine manufacturing.

As the wind energy industry sees sturdy growth, businesses are gearing up for surging demand. Amid what is likely to be an increasingly competitive global market, manufacturers and suppliers will need to show consistently high levels of products, services and support in order to keep a strong client base. Kirsten Tschauder of Castrol Industrial Lubricants & Services explains why her company is well positioned to take on the challenge.
PES: What benefits are you able to deliver?

KT: In essence, we aim to minimise maintenance and therefore maximise the operational availability of wind power plants. This is achieved by carefully formulating products to reduce friction, provide excellent wear protection and demonstrate extended life. Reducing the frequency of costly oil changes enables both the end customer and the operator to benefit from the cost savings achieved. Our latest product, Castrol Optigear Synthetic X, has demonstrated excellent wear protection across a wide range of lubricating conditions and has an extremely low tendency to form insoluble ageing products that can cause filtration problems.

PES: How well connected are you with OEMs and how important are these relationships?

KT: Strong relationships with OEMs and component suppliers of items such as bearings, filters and elastomeric seals are hugely important as they often dictate the products that will be used in the wind turbine when it enters service. To ensure that we remain abreast of the current and future development needs of these companies, we have a global team strongly focused on developing and maintaining these relationships. With several OEMs we have joint development projects covering product development, product evaluation and test procedures.

PES: Can you explain how you work with bearing and gearbox manufacturers?

KT: Gear and bearing manufacturers invariably set the most demanding requirements for lubricants. The relationships we develop are more than just delivering test results of our products to show we meet their requirements. It is a joint effort to develop solutions for the new, upcoming opportunities from this very fast developing industry. With our knowledge and expertise we want to be the partner to help them make their products more cost effective and reliable.

PES: How important is product quality to your operation?

KT: Quality is of the utmost importance in everything that we do and is particularly important for products used in wind turbines due to the very high service and repair costs that can result from product non-compliance. Therefore, we have stringent quality controls and procedures to ensure that quality is never compromised.

Products used in the wind energy industry are manufactured in a number of dedicated Castrol plants around the world. This ensures that raw materials, blending and processing procedures and quality-control criteria remain consistent worldwide.

In addition, those products with a major focus on reliability are produced in dedicated blending vessels using dedicated lines and filters, etc. Our plants are very used to this and we are certified according to ISO TS 16949, ensuring this high quality level is maintained.
PES: What do you see as being the greatest challenges posed to a lubricants supplier by the wind energy industry and how will you overcome them?

KT: Firstly, the ever-tougher specifications to receive an approval or recommendation mean that testing regimes (both the number and types of tests that have to be passed) are becoming very onerous. There are now a huge number of long-term and expensive lab tests and field test evaluations that must be satisfied, this sometimes slows down the development and implementation of new technology. This is the reason why OEM-relationships are vital to provide a “heads up” on future requirements. Secondly, the wind energy business is globalising, which means it operates in a variety of countries where infrastructure may differ considerably, yet consistent support is required. To meet such demands, we ensure that local resource is committed to the industry, a global network of experts provides training and support, and best-practice sharing takes place. We also regularly review our supply-chain base to ensure it remains aligned with wind industry requirements.

PES: How do you view the future of wind energy and what role would you like to play in this?

KT: The future of wind energy is very exciting. Its ability to compete with conventional energy sources, coupled with the growing concern about the environment and the commitment to tackle global warming through renewable resources, all serve to create a huge demand for wind power, which the industry is working hard to meet. The technological developments over the last 20 years have been stupendous and there are more to come. So, what better industry is there in which to be a major energy player, to operate at the forefront of technology, and to contribute towards its continued growth?

“The technological developments over the last 20 years have been stupendous and there are more to come”

Kirsten Tschander is OEM Manager, Lubes & Greases at Castrol, the world’s leading provider of lubrication solutions. For more information, visit www.castrol.com/industrial

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