

# AGING WIND TURBINES

## REGAL REXNORD'S AFTERMARKET EXPERTISE GIVES NEW LIFE

Many of the wind turbine generators (WTGs) installed across Europe as a result of the EU's Renewable Energy Directive 2009/28/EC are beginning to run out of maintenance warranty. This deadline doesn't have to be a burden on WTG operators: it can turn into an opportunity to increase wind turbines' service lives and improve performances, further reducing their carbon footprint.

Steven Olsen, Managing Director for Svendborg Brakes at Regal Rexnord, looks at how aftermarket solutions can benefit the wind power industry.

WTGs operate in particularly harsh environments, which places considerable challenges on the equipment during operation. For example, strong and unsteady winds and gusts can cause skidding or excessive loads, while ambient moisture can create a corrosive atmosphere and lubricant degradation.

This is one of the reasons why WTGs, when installed, are covered with a warranty and service contract that often lasts 10-15 years. However, as the equipment ages and its warranty expires, maintenance becomes a key issue. Major and expensive components start to reach the end of their service life and need to be refurbished or replaced.

The inspection and maintenance activities on WTGs are particularly laborious and costly, as the defective equipment may be located over one hundred meters above the ground, exposed to changing winds. For offshore wind farms access becomes an even greater challenge.

Furthermore, the warranty and service contract often prevents WTG operators from thoroughly understanding their equipment and how to effectively inspect and maintain it, as these tasks are performed by the contractor appointed under warranty. As a result, at the end of the warranty period, operators will often find themselves exposed to high maintenance costs and prolonged downtime as service contracts are no longer valid. In these cases, many operators may feel resigned to decommissioning WTGs or at the very least undergoing expensive repair operations.

However, there is an alternative to these costly options, if the WTG operator is able to find an aftermarket partner. Aftermarket products can provide a highquality, cost-effective solution to obtain spare parts or to completely repower these aging wind turbines. In this way, it is possible to extend the service life of WTGs, improving the overall performance and reducing maintenance or decommissioning costs.



### HIGHLIGHTS

- Aftermarket products & solutions to satisfy complex requirements
- Designs based on as few as moving parts as possible
- Minimizing life cycle O&M costs
- In-house testing facilities enabling bespoke upgrade solutions
- Training and guidance and responsive field support

*Continued*

 **RegalRexnord™**

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*Continued from front*

Svendborg Brakes, a brand division of the Regal Rexnord Corporation, provides technically advanced aftermarket products to satisfy the complex and challenging needs of the wind power industry and have extensive experience in engineering and manufacturing integrated solutions for the wind energy sector.

The aftermarket products provided by Regal Rexnord Corporation are designed with as few moving parts as possible in order to simplify and reduce maintenance. Also, the components can be customised to address the specific needs of each WTG project and improve the overall turbine performance. In addition, when specialist equipment is necessary, the company is able to design, manufacture, test and supply brand new apparatuses, thanks to in-house facilities and experts.

Choosing Regal Rexnord's aftermarket solutions does not only mean purchasing high-quality, customisable aftermarket components that can be easily maintained. Once the aftermarket products are delivered, Regal Rexnord provides fundamental support, providing WTG operators with training and guidance on how to perform preventive and responsive maintenance for onshore wind turbines. In this way, the personnel have the chance to understand their equipment and learn to repair its parts in the event of failure.

The most challenging and highly regulated WTG applications are found offshore. Here WTG operators cannot easily conduct maintenance operations themselves as the training and certification required to authorise access to the site is restrictive. In these situations Regal Rexnord offers onsite maintenance services. These are performed by highly specialised, certified engineers from Svendborg Brakes.

The specialists are able to react promptly and reach offshore sites worldwide. There, their advanced expertise allows them to quickly identify the issues and conduct the maintenance tasks accurately and in accordance with governing standards.

### **A 360-DEGREE SOLUTION FOR WIND POWER GENERATION**

10-15-year-old wind turbines pose a number of issues to their operators. They are at risk to failure and their maintenance is both challenging and expensive, especially as often they are no longer covered by warranty and service contracts.

Therefore, in order to keep them operational and maximise their costeffectiveness, it is necessary to find experienced manufacturers of aftermarket solutions that can provide economical, reliable components. In addition, having highly-skilled professionals that can maintain the WTGs components in the challenging offshore conditions is fundamental in ensuring optimal performance and minimal downtime.

Regal Rexnord brings together different industry-leading brands and combine their expertise in order to provide optimal aftermarket solutions for WTGs around the world. In addition, Regal Rexnord is committed to offer a comprehensive service. The company doesn't only provide high-quality parts, but also support its customers with certified maintenance services for offshore wind turbines. In this way, Regal Rexnord acts as a single point of contact for the design, manufacture, supply and maintenance of drivetrain equipment for WTGs.



#### **Regal Rexnord**

[regalrexnord.com/wind-solutions](https://regalrexnord.com/wind-solutions) | [svendborg-brakes.com](https://svendborg-brakes.com)

Svendborg Brakes ApS  
Jernbanevej 9  
5882 Vejstrup, Denmark  
+45 63 255 255

[regalrexnord.com](https://regalrexnord.com)

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