

# SVENDBORG BRAKES RESURFACING IMPROVES YAW BRAKE PERFORMANCE

## PROBLEM

Engineers from the Wood Group identified a damaged yaw brake disc on the Offshore Renewable Energy (ORE) Catapult's Samsung 7MW wind turbine based in Levenmouth, on the east coast of Scotland. The damaged disc was causing increased and uneven wear on the brakes' caliper pads, forcing turbine operations and maintenance specialists to purchase new pads and replace them more frequently.

If the yaw disc were to fail, the repair would require removing the nacelle of the turbine to access the yaw system. This would be very expensive, requiring the use of a crane, additional labor, and increased downtime. ORE Catapult was also concerned about the environmental impact of continued waste.

## SOLUTION

Experts from Svendborg Brakes™, a Regal Rexnord™ brand, joined local partner Renewable Parts Ltd to resurface the damaged yaw brake disc uptower. Inside the turbine's nacelle, one of the yaw brake calipers was removed and replaced with a specialized measuring tool to check the extent of the damage, including depth, runout and overall flatness of the turbine's yaw brake disc. A Svendborg Brakes DRT gen2 tool was mounted to mill the damaged disc surface. Once the surface was milled back, the brake pad contact area was repaired, and the removed caliper was reattached. The complete yaw brake disc system was tested to ensure that it met Regal Rexnord quality standards and fulfilled the customer's needs.



## HIGHLIGHTS

- Svendborg Brakes DRT gen2 tool remilled the damaged disc surface.
- The turbine nacelle did not need to be removed to resurface, resulting in a major cost savings.
- Remilling discs on-site significantly lowers downtime, maintenance costs, and environmental impact.



The patented caliper lifting tool reduces service time by up to 50% while simultaneously improving personnel safety and reducing technician fatigue.



**SVENDBORG BRAKES™**

# SVENDBORG BRAKES RESURFACING IMPROVES YAW BRAKE PERFORMANCE ON ORE CATAPULT'S TEST TURBINE IN SCOTLAND

The turbine nacelle did not need to be removed to resurface the yaw brake disc, leading to three major areas of cost savings: no lifting equipment required to remove the nacelle, no supply vessels needed to complete a replacement project, and no purchasing and installing of a new yaw brake disc.

The reduced risk of damage to the yaw brake pads means they will need to be repurchased less frequently in the future, significantly lowering future downtime and maintenance costs. Replacing the pads less often also reduces overall waste and carbon emissions for the turbine.



Svendborg Brakes DRT gen2 tool was mounted to mill the damaged disc surface.



Top: Disc surface before milling.  
Bottom: Disc surface after DRT gen2 milling.

## SVENDBORG BRAKES™

### Regal Rexnord

[svendborg-brakes.com](https://svendborg-brakes.com)

Jernbanevej 9

5882 Vejstrup - Denmark

+45 63 255 255

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

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