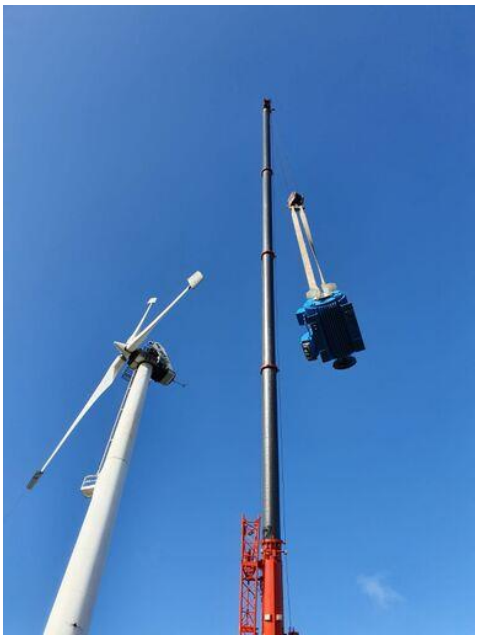
Case Study – Major Component Repair

- Location: Magherafelt, Northern Ireland
- Turbine: Bonus B23 150kW
- Client: JE Wind

Realise Energy Services were approached by owner of a Bonus B23 (150kW) stall regulated turbine to inspect and report on the condition of the turbine with a view to taking over the operation and maintenance contract.



Prior to the arranged inspection taking place we were informed by the turbine owner that it had experienced a major breakdown, and, at the owner's request, a service team was dispatched to site to investigate the fault. On inspecting the generator, it was found that the insulation on the generator windings had suffered a failure and, as a result, the windings and terminals had suffered considerable heat damage rendering the generator inoperable. It was subsequently found that the cause of this failure was due to a major failure where the windings had been overloaded and had, as a result, burnt out. With storm conditions ongoing at the time of the failure and a number of grid spikes, it is likely that the cause of this failure will have been due to a storm event causing a generator overload and subsequent burnout. Our engineers provided the owner with a detailed inspection report and Realise Energy Services were asked to quote for the removal, repair and re-installation of the generator.

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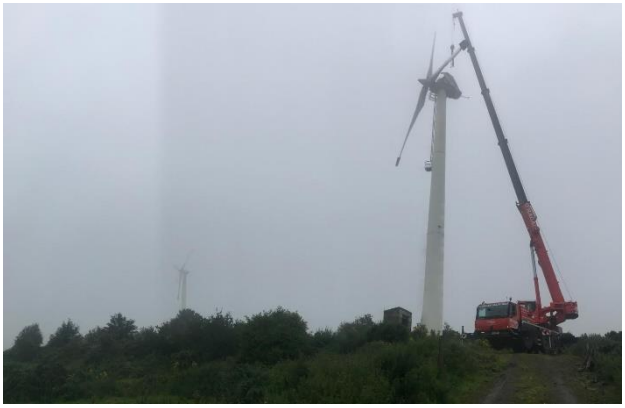
Realise Energy Services are highly experienced in major wind turbine component repair or replacement with a proven track record. We have extensive experience in the removal, repair and reconditioning and re-installation of gearboxes, generators and other major components. Subject to the scale of the issue, repairs can be carried out either onsite (in situ) or at our premises or those of one of our trusted specialist component repair partners.



Having been appointed to carry out the works, our operations team set about planning the engineering and logistical process in order to ensure that the component could be removed, repaired and re-installed in a timely manner to minimise downtime and loss of revenue for our customer as much as possible.

The Generator was removed from the turbine and delivered to an accredited generator repair facility. It was completely stripped down, rewound with new windings, new bearings, seals and terminal block. The windings were dipped in the epoxy resin primer for protection and rebuilt. On completion, the generator was fully tested, passing all tests successfully.

Following final testing at the repair facility, the generator was returned to site, reinstalled and recommissioned. The turbine was then re-energised and the necessary function tests were carried out. On completion, the turbine was fully operational, and the turbine is now maintained by Realise Energy Services under a Standard contract and has continued to run well since the major repair.

To find out more contact us on:

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