



# Cathodic Protection Anode Installation and Inspection

ENGIE Fabricom delivers complete retrofit of Sacrificial Anode Cathodic Protection (SACP) systems to offshore wind farms to prevent corrosion inside monopile foundation

Over recent years, one of the biggest risks for offshore wind farms is the unexpected corrosion of the monopile foundation causing significant lifetime safety implications.

Corrosion has largely been caused by two design flaws; a lack of corrosion protection installed on the internal face of the monopile which would normally comprise of internal anodes; and the leakage of seals installed between the monopile and the J-Tubes.

In response to this challenge, leaders in offshore wind engineering, ENGIE Fabricom has developed a complete solution which is already proving successful over 60 monopile foundations.

ENGIE Fabricom offers a complete solution involving:

- A fully optimised solution led by experienced project management teams and offshore wind technicians all highly qualified in monopile corrosion mitigation;
- A complete installation solution including full risk assessment and method statement development;
- The seamless installation of anodes from initial site mobilisation into the confined space to completion;
- Complete arrangement of the foundation and



- confined space including rescue equipment, manual handling and lift plans;
- Connection between the anode string and the main foundation structure;
- Completion of CP & pH monitoring prior to, during and after anode installations;
- Exchange of internal water to increase pH level and maintain anode efficiency;
- Quantitative risk assessments ensuring total safety from commencement through to completing the offshore works;
- Installation from loading onto the offshore platform through to mechanical and electrical completion;
- A dedicated testing and commissioning team who conduct this rigorous programme, onshore and offshore;
- Vessel charter and refuelling with associated on shore support;
- Punch out and client hand over;
- Dedicated onshore management and engineering support teams.

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## Our approach:

- Collaboration is key and, as such, we work in partnership with our clients and their design teams from the very offset;
- Attention to detail is of paramount importance and is adopted by all staff at ENGIE Fabricom. We ensure safety is met at every level of a project from consideration of safe access and egress to the turbines being available at all times, right through to certifying robust rescue procedures are in place before work commences;
- During the early stages of projects, we offer experienced engineering input to develop a safe system of work and ensure a smooth and suitable installation process for the project type taking into consideration the high-risk working environment;
- As highly experienced experts in procurement and fabrication, we ensure that all anode installations meet stringent international standards;
- Our technicians verify all solutions onshore ensuring they meet all quality and safety standards;
- Compliance to inspection is carried out prior to delivery to offshore locations;
- All quality documentation is handed over to clients within two weeks of mechanical completion;
- Adopting a streamlined approach to operations, our one team approach – with a positive safety culture – means that we can complete tasks as quickly and efficiently as possible without compromising quality, safety and optimised performance.

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## Additional support services

- Where required, we have our dedicated facilities comprising a large open plan workshop to carry out any onshore trials.

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## Why ENGIE Fabricom

- Dedicated management team with a proven industry track record;
- Over 200 employees experienced in the offshore wind industry;
- Team of highly trained personnel with an extensive skillset to deliver any anode installation project;
- Range of specialist skills including, but not limited to: project management, engineers, HSE, planners, riggers, platers, welders, mechanical fitters and painters;
- A proven and developed methodology in completing anode installation works;
- An unrivalled safety record within a demanding and challenging environment, recognised by the award of the ROSPA Patron's standard – 26 consecutive Gold awards – and presented only to those organisations demonstrating a consistent commitment to health and safety management, leadership and workforce collaboration;
- Ability to deliver a one stop solution with a 100% successful track record of cathodic protection installation.



To discover more about how we can support you, please visit our website:

[engie-fabricom.co.uk/offshore-wind](http://engie-fabricom.co.uk/offshore-wind)