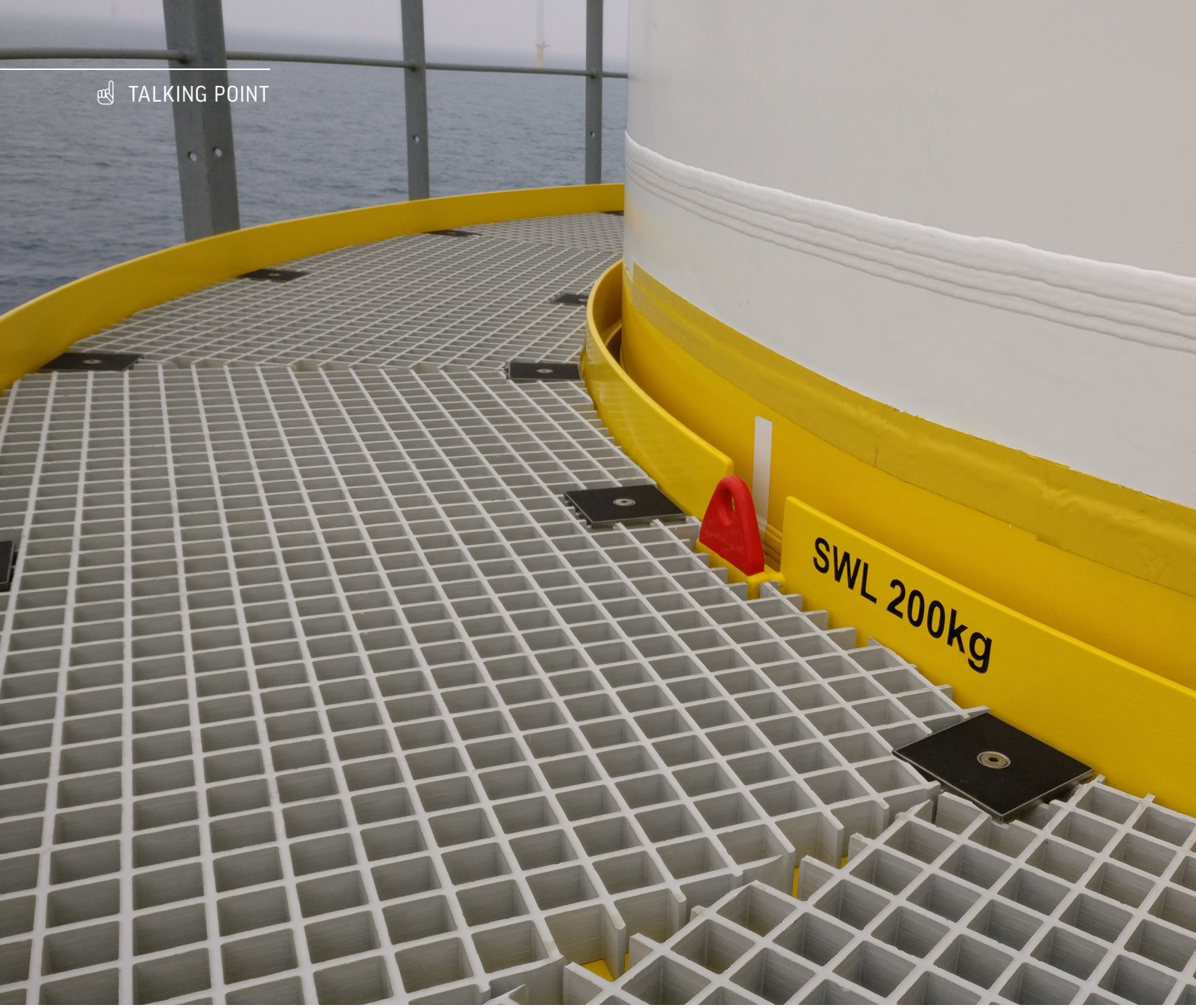
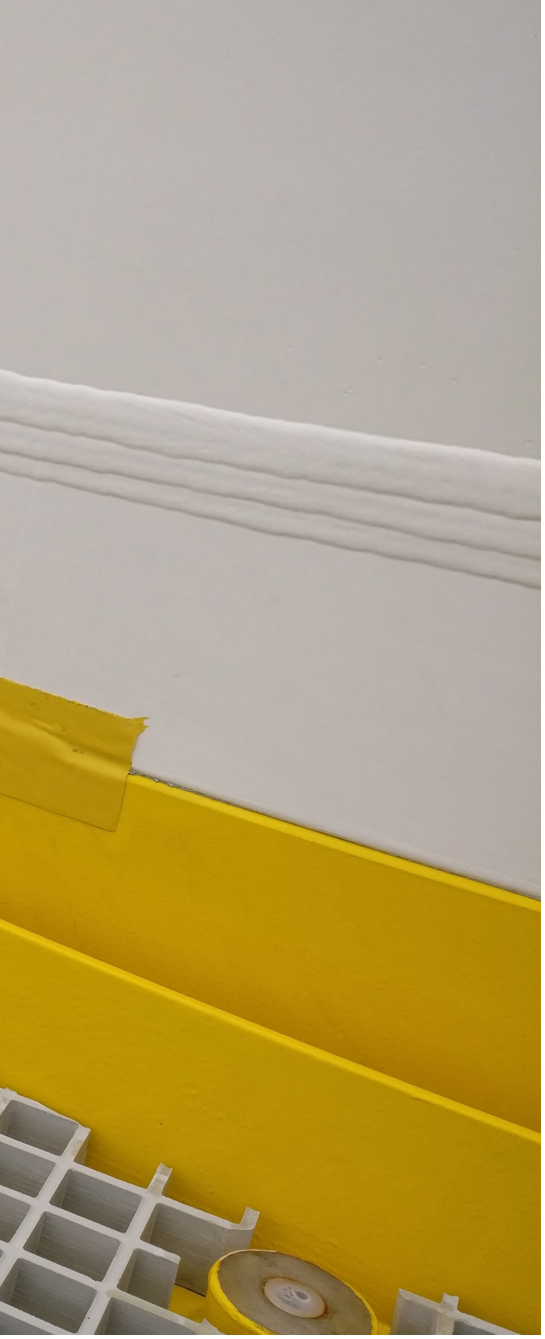


Sealing the future of asset integrity in the renewable sector

As offshore wind farm developers continue to drive down the installed cost of their assets, there is great focus on maximising the efficiency of the installation process. Charlie Watt, Business Development Manager for EasyQote at Seal For Life Industries gives PES his views on the role of maintenance in the future of the renewables sector.



Larger turbines, slicker installation procedures, harnessing newer technologies, greater experience being gained in the sector, are all factors helping to drive forward this efficiency. The future of the renewable sector is very bright indeed.

But what about the other end of the asset life cycle? How much maintenance planning goes into asset integrity?

Other than regulatory or statutory inspections, most of the work associated with asset integrity tends to be reactive. Planning for an asset life cycle of 20 to 25 years and beyond from day one, has many obvious, and also hidden potential benefits, but tends to be at the lower end of the priority scale. These benefits include, improved structural integrity, less personnel mobilisation offshore, reduced breakdowns, increased turbine availability, improved health and safety record, lower risk of environmental discharges or emissions. Turbine or substation unplanned outages can easily cost £250,000 in lost revenue per day.

Poor maintenance planning or design in the project development stage, will undoubtedly lead to increased maintenance costs, contractual penalties, inefficiently executed maintenance programmes, reduced turbine availability, personnel exposure to unnecessary health and safety risks by additional visits offshore, ever increasing plant & equipment failures and costly breakdown repairs.

To retrospectively fit a lifting pad eye for removing gearboxes or pumps in some offshore installations has been known to cost up to £250,000, where if included in the original design, manufacture and installation process the same lifting pad eye may be installed for around £200.

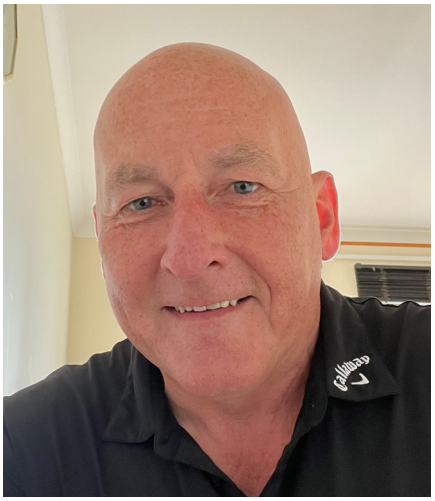
It is not uncommon to cut out and remove the sides of ships to carry out generator changeouts. The side of the ship is then welded back in place once the maintenance has been carried out.

How much could have been saved in these situations if regular maintenance or preventions had been put in place?

Having 38 years of engineering experience across various sectors, including pulp and paper, oil and gas, water and wastewater, nuclear and renewables, Business Development Manager, Charlie Watt, brings a wealth of knowledge and experience to the renewable sector.

From experience across all sectors, to help drive down costs when new projects are developed, the focus tends to be process-process-process. Priority is given to making sure assets are operational at the earliest and most convenient opportunity. How assets are maintained in the future tends to be of a lower priority and takes a back seat. In this area maintenance priority tends to be given to Original Equipment Manufacturers or their subcontractors, and providers of statutory inspections.

Imagine how simplified the process of repowering could become, if the asset integrity had been managed throughout the asset life cycle from day one.

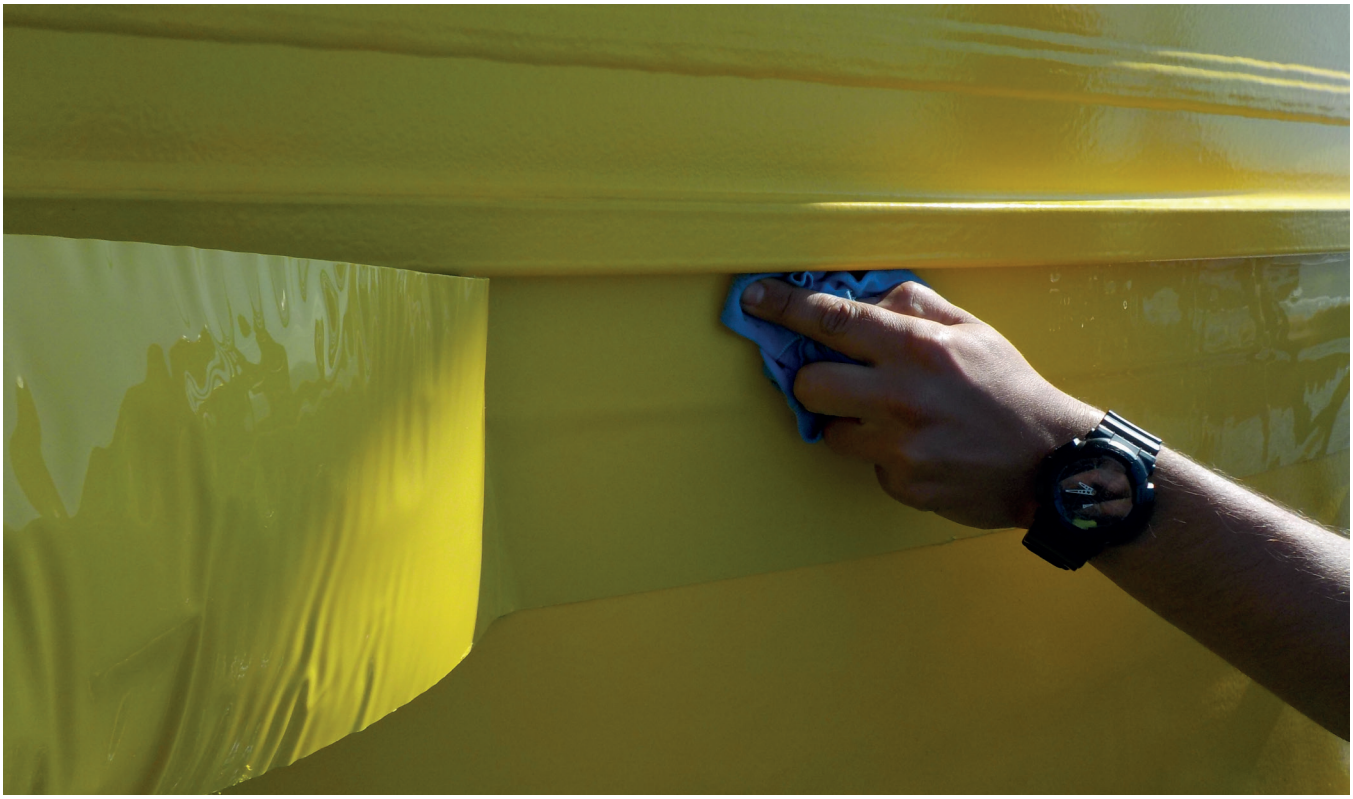


Charlie Watt

Corrosion protection is one example where the same rules tend to apply. Due to priorities elsewhere, clients are underestimating the importance of dealing with corrosion at source. Small pieces of damage from the installation process, condensation build ups inside the towers, poor material specification during procurement, materials damaged by routine maintenance, UV degradation of structures, materials damaged by the harsh environmental conditions. All these aspects will have a detrimental effect on asset life, with spiralling costs for repair if they are not tackled at source.

The high cost of corrosion repairs and the increased risk to personnel during the multi-visits, required to carry out the repairs using conventional materials, are further exacerbated by weather delays and operational priorities.

Imagine how much efficiency could be made by carrying corrosion protection at known areas of risk prior to installation; or by carrying out reactive corrosion repairs in single visits.



As we have said before, preventative action will always be the best action.

At Seal For Life we are committed to protecting the future, through innovative coating technologies. Home to 14 brands we offer a range of products to provide corrosion protection for all the assets of our clients whether onshore of offshore. These products can be applied during the manufacturing phase, or retrospectively offshore when turbine or substation components have been damaged during the maintenance programmes or through environmental wear and tear. They will increase asset life, helping to maximise the possibility of turbine repowering at the end of the anticipated asset life cycle.

One new innovative corrosion protection product making waves across industry sectors in Europe is from EasyQote.

EasyQote is a polymeric coating that was developed based on the idea a corrosion solution could be applied simply as a patch rather than painting or spraying. It is a self-cleaning corrosion preventive patch designed for single-layer application, touch-up and spot-repair of existing coating systems.

As well as being an environmentally and worker-safe alternative to traditional coating systems with no VOCs it can be applied at a wide range of temperatures from -10 to 48'C

This coating is being used on a variety of wind farm structures, stopping corrosion in its tracks in one single application. This installation is carried out with minimal surface preparation to ST2 standard. a wire brush or abrasive pad will do the trick. After surface preparation, the repair patch is simply cut to the required size from the base roll, the backing is removed, and the patch is applied to the damaged area. Pressure is then applied to the patch, removing the possibility of oxygen penetrating the damaged area: protection complete.

Our product design and the installation process avoids the requirement of having to carry out multi-site visits to carry out coating repairs on turbines / foundations, e.g. surface preparation, base coat, mid coat, top coat, etc. Installation can also be carried out with the minimal workforce to either help drive down maintenance costs, or free up personnel to carry out other maintenance activities or duties. Imagine having spare personnel available to begin to eat into maintenance backlogs.

The EasyQote range can be used on a wide variety of surfaces including ferrous and non-ferrous substrates, coated substrates, polymeric substrates like PP and PE, but also on dry concrete and asphalt when abrasive blasting preparation or grinding is not an option.

Picture having a roll of this repair material stored in each turbine, or on each offshore substation; Anytime any damage occurs, simply cut a patch to the relevant size, apply the patch; and the corrosion can be cut off at source.

We currently have offshore installations in European waters, where EasyQote has been installed for over 5 years, and it's as good as the day it was installed. The corrosion has been halted, and there is no UV or environmental degradation. Across Europe our patch products are currently protecting rotor shaft grooves & ladder stubs, performing tower repairs, have repaired platforms and walkways, is acting as a flange sealant, is protecting ICCP connections and internal tower sensors, is sealing off voids in the T-Pieces and slip joints. In fact, anywhere corrosion exists, or has been causing issues.

It's very simple to train personnel to install the EasyQote range of products, and can be carried out at our clients' facilities, or at one of our training centres across the globe. We can either train our clients own personnel, or we are just as happy to train our clients' subcontractors to carry out the repairs.

This flexibility in training requirements also helps to enhance the use of personnel and drive down maintenance costs.

The products also comply with ISO 12944-9 and are very much a cost-effective competitor against traditional coating products currently being used.

EasyQote has been designed to offer long term corrosion protection to increase productivity, longevity and the sustainability of renewable energy. Together with the growing number of brands at Seal For Life, we are protecting the future.

For any potential clients, industry contacts, connections, or budding renewable stars of the future; EasyQote/Seal For Life will be exhibiting at stand B7.314 at Wind Europe in Hamburg between 27 and 30 September 2022.

www.easyqote.com