Best practice guidelines in the offshore wind energy industry

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The last decade has seen a dramatic increase in the development of the global offshore wind energy sector. Northern Europe has been leading the charge towards a global offshore wind capacity of 130GW by 2020, in line with ambitious European targets to source 15% of all energy from renewable sources within the same deadline.

Wind energy can be described as the harnessing of moving air by wind turbines to produce electricity, and it is predicted that the North Sea will be transformed into the global centre of the offshore wind industry. To sustain the enormous growth phase the offshore wind energy industry is experiencing, the supply chain and regulators have had to adapt quickly. A number of leading operators have developed new ship types that are dedicated to offshore wind farm installation and maintenance operations. These ships are characterised by large deck cranes that are capable of lifting considerable weight at extended reaches and large stable deck space; these criteria have made conversions based on jack-up platforms an obvious choice.

Health and safety procedures specific to what is a largely self-regulated industry have been slow to catch up and there have been several preventable accidents during construction, installation and maintenance. The typical injury claims the club is seeing tend to arise from hazards resulting from working at height, slips and trips, dropped objects and crush injuries.

Initially, the industry implemented its existing shore-based Safety, Health, Environmental and Quality standards and legislation to the offshore wind environment. However, it soon became apparent that the same standards do not always readily integrate with marine activities and maritime legislation. The industry has responded with the production of best practice guidelines tailored to the offshore wind industry, such as those produced by the International Marine Contractors Association and RenewableUK.

The offshore wind and energy industry must also respond to the need for appropriately qualified and experienced personnel. According to the EU's Wind Energy Technology Platform report (TPWind), the European on and offshore wind industry faces a deficit of 5,500 appropriately qualified personnel, which might increase to 18,000 by 2030. The industry has acknowledged that there will need to be a drive towards recruiting and training suitably skilled personnel to carry out the work required to meet the global wind farm targets. TPWind has highlighted the issue and set out recommendations to meet the industry's personnel demands.

While the offshore wind industry is aware of the need for further development of specific safety guidelines and legislation, this will take some time. The industry is not in a position to wait for the legislation to catch up and, in the meantime, this will mean drawing on the best practices from other industries, such as oil and gas and port and marine, as well as developing bespoke health and safety solutions to the unique challenges of offshore wind development.