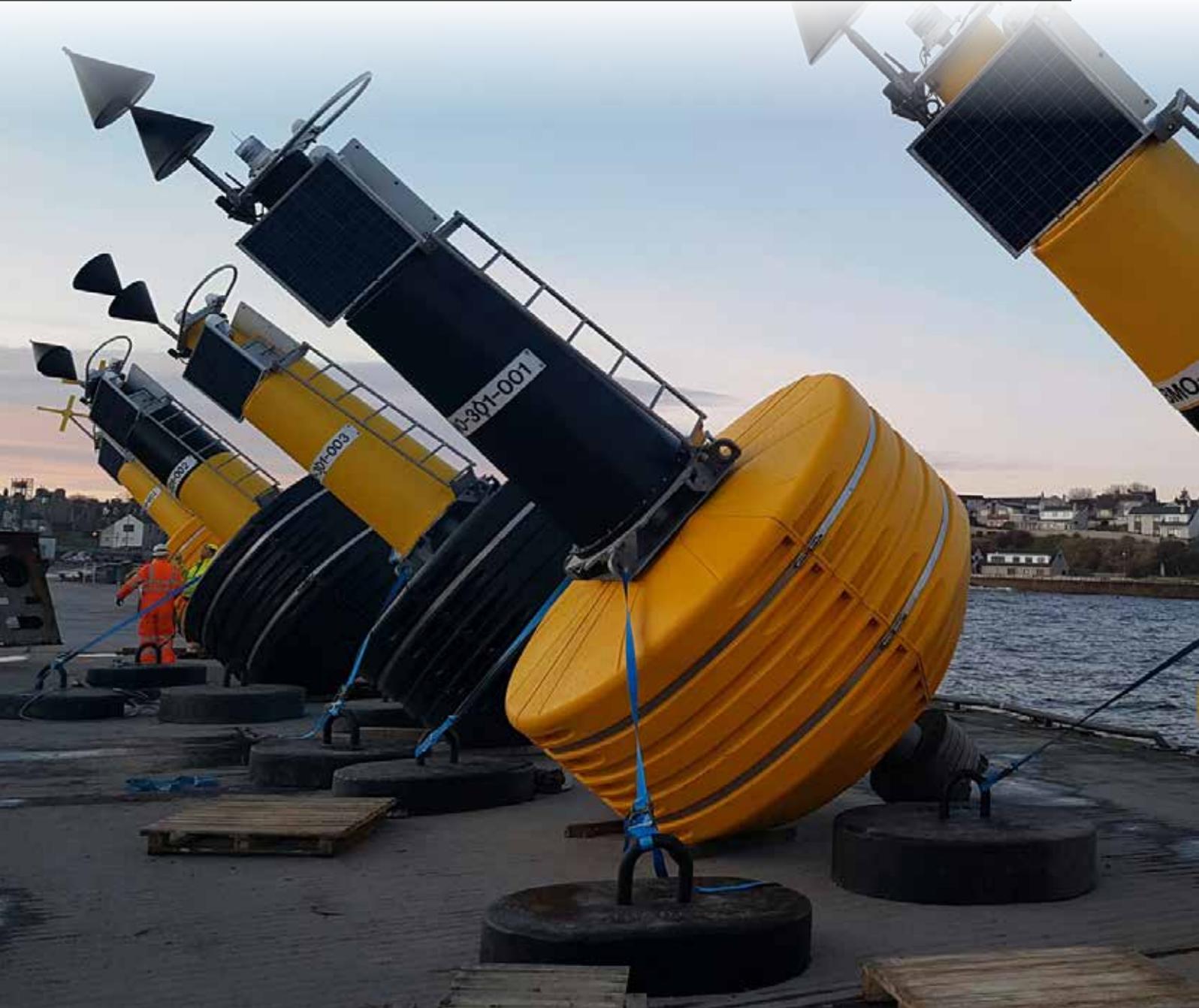


Wind Farm Perimeter Marking

Turnkey supply, installation, maintenance and recovery of Construction Phase Marker buoys for Beatrice Wind Farm.

Beatrice Wind Farm, Offshore Wick, Scotland.



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Project Overview

Application:

Turnkey supply, installation, maintenance and recovery of Construction Phase Marker Buoys for Beatrice Wind Farm.

Product:

Sealite Trident-3000 buoys, SL125-1 marine lanterns, Solar system, AIS, Satellite monitoring & Wave Rider buoys.

Date:

March, 2017

Location:

Beatrice Wind Farm, Offshore Wick, Scotland.



Sealite's Trident-3000 buoys provides safe wind farm perimeter marking of Beatrice Wind Farm in Scotland.

Background

The £2.6bn Beatrice Offshore Wind Farm Ltd (BOWL) project has been given the green light for construction by owner's SSE, Copenhagen Infrastructure Partners (CIP) and Red Rock Power Limited, after reaching financial close on 23 May 2016. The project will be one of the largest private investments ever made in Scottish infrastructure.

The 588MW, 84 turbine wind farm will be situated in the Outer Moray Firth in Scotland and is expected to power approximately 450,000 homes (around three times the number of homes in the Moray and Highland regions combined). Offshore construction will begin in 2017 with the wind farm expected to become fully operational in 2019.

The wind farm is being developed with a tier 1 supply chain comprising of Seaway Heavy Lifting, Subsea 7, Nexans and Siemens. Beatrice wind farm is expected to deliver c. £680m into the UK and Scottish economy via employment and supply chain opportunities during the construction phase and c. £400m- £525m during the wind farm's 25-year operational life.

The Challenge

With wind farms now becoming a more prominent part of everyday marine life, it is vital the wind farm is clearly and accurately marked for navigation safety within the timeframe required, to enable construction to commence. Rules state that the perimeter of the wind farm construction must be clearly marked for safety 4 weeks before construction begins to ensure enough time is allowed for mariners to familiarise themselves with the site.

Key factors for the safe marking of wind farms are the IALA Maritime Buoyage System and the General Lighthouse Authority (Trinity House in UK waters) availability category. In this case all floating AtoN's (Aids to Navigation) must meet category 1 availability - 99.8% (this equates to 17.52 hours' downtime per annum).

With the client wanting to urgently start the construction phase, consideration to the above rule regarding marks to be in place 4 weeks prior to commencement, resulted in a very short timeframe for implementation. Sealite had a very small delivery window in which to both manufacture the buoys and deploy them in winter, especially when contending with the hostile weather environment of northern Scotland, to meet the strict deadline.





The Solution

Sealite proposed eight Trident-3000 ocean buoy with SL-125 marine lanterns and AIS monitoring. The Trident-3000 is one of the largest rotationally moulded, polyethylene buoys available, with a diameter of 3 metres and a lantern focal height of up to 5 metres. The enhanced poly-tower design provides a huge visible area for navaid recognition and consists of two sealed, rotationally moulded tower sections. The lower section incorporates a battery access hatch which houses batteries, controllers and any ancillary electronic payload. The top section of each buoy incorporates a 5-7NM+ SL-125 complete marine lantern assembly with an internal radar reflector, solar, AIS & satellite monitoring mount facilities, for a complete solution to safely mark the perimeter of the wind farm.

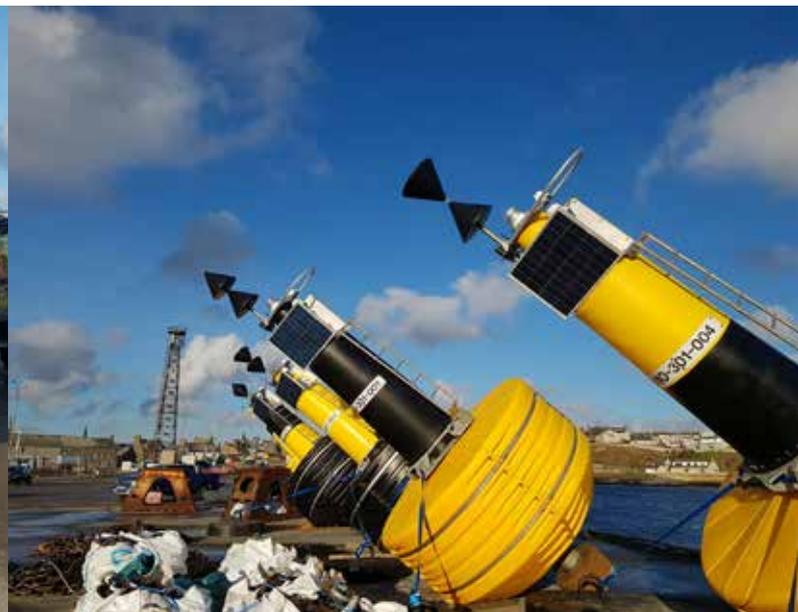
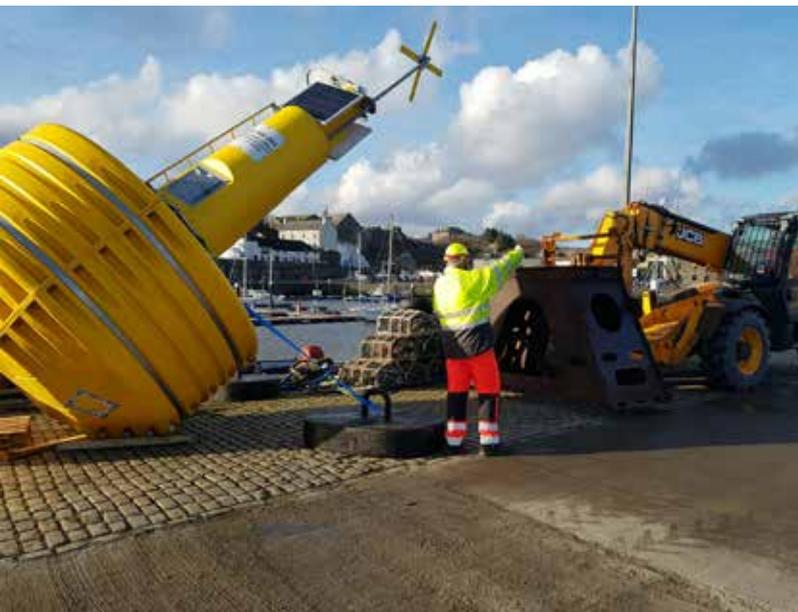
Utilising a dedicated project team, Sealite successfully managed all aspects of the project logistics including planning and contractor management, whilst being able to manufacture the buoys and assemble them on site in Wick, Scotland, and deploy them successfully within the required delivery window.

The expert Sealite project team were in continuous communication with the client and contractors, ensuring everyone involved on the project was well informed and able to make educated real-time decisions. The high-level focus on safety by all, resulted in the project having zero accident or incidents.

Outcome

The Beatrice Wind Farm project was delivered safely, within the required delivery time, and in accordance with the client's requirements and expectations.

The Wind Farm is now safely marked for all mariners whilst the construction phase of the project continues. In keeping with IALA recommendations, there will be an annual maintenance visit and the installed nav aids undertaken by Sealite and its trained & certified personnel will be removed once construction has completed.



All Sealite products are manufactured to exacting standards under strict quality control procedures. Sealite's commitment to research and development, investing in modern equipment and advanced manufacturing procedures has made us an industry leader in solar marine lighting.

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