

ICorr London October Meeting

Date :- Thursday 13th October 2022

Title: Corrosion Protection considerations for offshore wind foundations.

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Abstract

Offshore wind industry growth is accelerating as the world is pushing towards renewable energy sources. These wind turbines would need to be installed on foundations which are in aggressive environments and would be prone to corrosion if not protected and / or designed with corrosion in mind. There are various offshore wind foundation types, such as, monopiles, jackets, tetrabases, gravity bases and floating structures.

This presentation will primarily focus on monopile foundations and the design considerations that would need to be taken onboard. Monopiles have both internal and external surface needing protection. What level of protection needed, what are the options and how would all of this impact to the structural integrity throughout the design life, and how fabrication, transport and installation limitations would affect the corrosion protection design.

Coating requirements and different cathodic protection systems (i.e. galvanic and ICCP) will be discussed for the internal and external of the MP. Challenges regarding positioning of the CP system and installation concerns need to be taken into account along with any simultaneous operations that are needing to happen offshore during the installation phases.

The first and foremost in terms of consideration is how the structure would behave with and without corrosion protection, especially the fatigue critical components such as the girth welds. The other consideration would be the site condition which will vary across the site and in some cases, a clustering strategy may be needed as not one size fits all. A corrosion protection strategy needs to be developed and agreed in advance, which then needs to be followed through to completion, including input to Operation and Maintenance Strategy to ensure that the structure integrity is not compromised throughout design life.

Schedule

18:00 – Arrival at venue

18:30 – Presentation

19:15 – Q&A followed by refreshments / networking

Venue:

Lancaster Hall Hotel

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Nearest Tube / Train Station: Paddington Station (approx. 5 mins walk)