

DEME SAVES CRITICAL VESSEL TIME WITH GROUTING SOLUTION

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Project Name: SeaMade Offshore Wind Farm

Location: Belgium

Region: Europe

Client: DEME Group

Work Scope: Installation of high-performance grout on 58 monopile WTG foundations and two offshore substation foundations on the SeaMade offshore wind farm in the Belgian North Sea.

THE PROBLEM

With a 487 MW capacity, SeaMade is the largest offshore wind farm in Belgium and will feature 58 Siemens Gamesa Renewable Energy (SGRE) SG 8.0-167 DD wind turbines. DEME needed high performance grout material to be installed in the MP/TP skirt on each monopile. The amount of grout per structure was approximately 22m³, requiring 44 tonnes of grout material to be mixed and pumped during each of the 60 operations. DEME required this grout to be installed at a consistent rate, with minimal maintenance time between operations to ensure grouting activities were kept off the critical path.

Grouting was also a key activity in terms of critical path vessel time and project scheduling, resulting in a high rate of installation.

THE SOLUTION

Core Grouting Services, now part of LDD, was contracted by DEME and mobilised their newly developed bulk-batch mixer to the project. This unit was designed in-house by Core engineers to combine the advantages of bulk-supplied material with the robustness and reliability of mechanical mixing systems. This innovation allowed the team to mix and pump grout at a consistent rate during each operation and reduce maintenance time to a minimum.

The equipment was tested with high performance grout material prior to mobilisation to ensure compatibility.

THE RESULT

The 22m³ of high-performance grout was pumped into each of the 60 foundations in less than the allotted time. The low level of maintenance required resulted in Core being able to operate when required, allowing the project team to take advantage of good weather windows and improving cycle times. No unplanned delays or stoppages to grouting operations were experienced on the project.

All grout samples achieved the required strengths as per the project specification. Critical to offshore wind farm grouting, cube results were consistent between each operation. This can be attributed to the design of Core's mixing system and grout constituent proportioning components.

Nick Dale, Managing Director of LDD, said "The team was able to offer a consistent and reliable delivery on this fast-paced project. This is a testament to the suitability of our newly developed bulk-batch mixer to meet our client's needs, as well as to the team's expertise and professionalism."



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