ELGENIO

Case Study

Client: Transmission System Operator

Project: New Helideck Installation

Background

Following a series of investigations regarding faults to an existing helideck structure and extensive negotiations regarding the technical possibilities of repair and restoration, it was agreed between the end client and contractor to provide a completely new build helideck and associated sub-structure.

Task

Elgenio was tasked with providing a fully engineered solution for the transport and installation of the replacement helideck and support structure including mechanical and electrical hook up.

Our team was responsible for delivering all engineering documentation relating to the transportation and installation campaign including procedures, inspection test plans and as built reports. Engineering support was provided throughout the offshore campaign.

Challenges

The project took place during covid across multiple European locations, when much of Europe was in lockdown, making travel for site visits and inspections impossible.

Working within a consortium, where the overall helideck and sub structure design was being progressed at the same time as the installation engineering. This resulted in some fundamental changes to the substructure design that moved away from using bolted connections to a fully welded solution. In turn, this saw the need for last minute changes to the installation scope to capture the additional equipment and labour required to prepare, weld and coat the connection locations.

The project included complex lifting and installation methods, with tight design tolerances for fit up of welded connections.

There were restrictive wind limits due to sail area of helideck structure during lifting operations.

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The Solution

Elgenio took an active role in leading the installation engineering within the consortium and ensuring that the structures were designed with the installation phase considered.

During the offshore campaign, Elgenio provided engineering support to the site management team to adapt the programme of works and minimise potential downtime due to weather restrictions ensuring progress was maintained.

The ability to take a full system approach to the design, analysis, and engineering requirements of this project, rather than viewing each element of this complex problem in isolation, provided an optimal solution for the installation contractor and end client.

Results

Having a small well aligned engineering team focused on the project engineering delivery, helped to provide significant cost savings. This gave us the ability to react to changing requirements and specifications from the end client and consortium partners.

The ability to provide engineering solutions while on site to adapt the program of works to shifting priorities helped maintain the installation vessel schedule and minimise the impact of weather during a lump sum campaign.