

**Type of project:**

Brownfield

Location:

Heera Field, Mumbai, India

Materials:

25Mt NaX® Q140-E UHPC

Client:

Larsen & Toubro Hydrocarbon
Engineering Limited Ltd /
ONGC

Project date:

December 2021

HORIZONTAL MEMBER RE-PAIR

DISCIPLINES:

- Engineering Design
- Clamp Design
- Grouting

In December 2021, Nautec carried out Horizontal Member repair services for Larsen & Toubro Hydrocarbon Engineering Limited using Nautec's proprietary NaX® Q140-E UHPC grout.

SCOPE OF WORK

- Engineering services and provision of manpower, equipment and consumables for the repair and rectification of damaged HM Jacket horizontal bracing for Heera Re-Development Phase III Project.

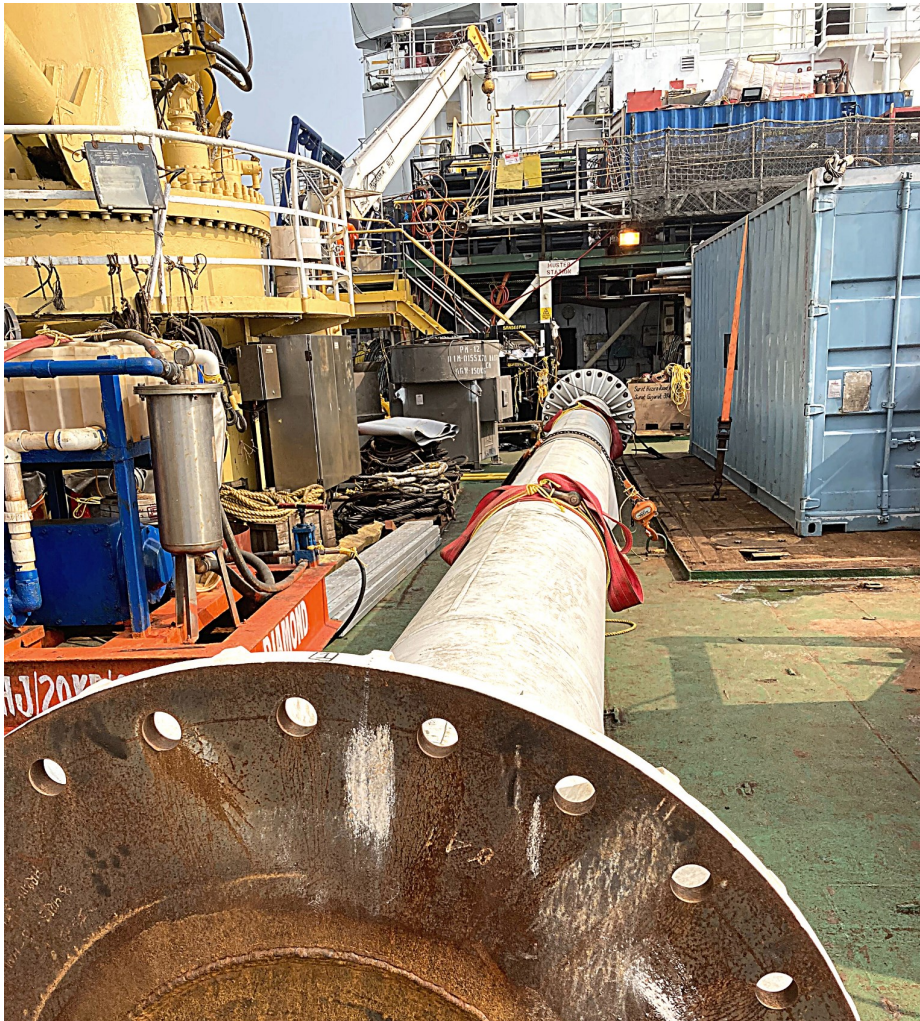
SERVICES

- Analysis of damage
- Engineering and design of clamps
- Grout supply and grouting services
- QC checks
- Close out report

CHALLENGES & SOLUTIONS

- The Member was broken and bent upward due to pulling impact
- The affected member was replaced with a new member using grouted clamp.





UHPC, or Ultra High Performance Concrete and Composites are our business. We develop and produce UHPC products and we offer UHPC based solutions for multiple industries including the Renewable, Civil Construction, Ports, Offshore and Energy Industries.

We have documented the technical performance of our UHPC products through a large test program at MPA (Germany) which included creep and fatigue testing and we have carried out large-scale trials at low (European conditions) and high temperatures (Tropical conditions) to demonstrate the performance of our materials under severe weather conditions.

Our NaX[®] Premix Grouts are a portfolio of ultra high performance concrete and composites with strength and durability 10 times better than that of ordinary cement products.

PROJECT HIGHLIGHTS

- This was the first time a member was replaced by hinged grouted clamp technology at (-30.00) meter water depth, in Indian waters.

PROJECT PERFORMANCE

- All deliverables were achieved with high quality and customer acceptance.

CLIENT BENEFITS

- Grouted clamp technology is one of the best methods available for under water strengthening; it takes less diving and vessel time compared to other traditional repair solutions, which in effect significantly lowers the repair cost.

