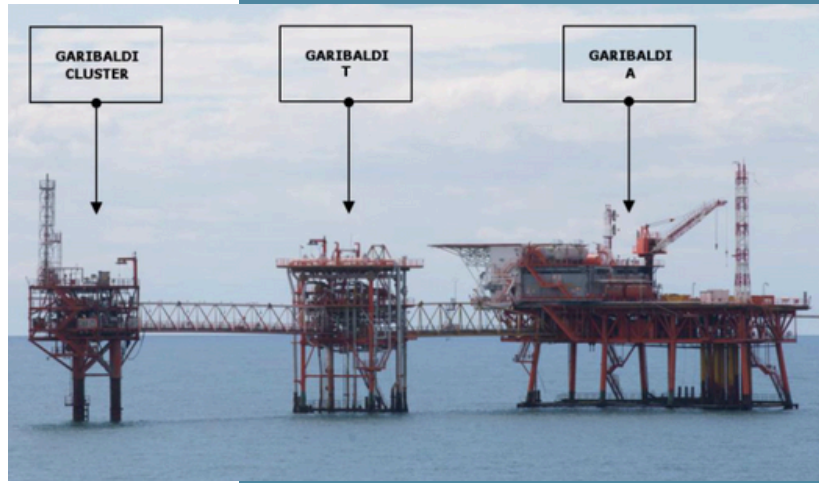


STRUCTURAL DECK VERIFICATION – ELEVATION +19500: ELECTRICAL CRANE REPLACEMENT



Sector: Oil&Gas

Year: 2021

Location: Garibaldi Cluster Platform, Mar Adriatico

Direct client: Rosetti Marino

Final client: ENI S.p.a.

OBJECTIVES

The objective of the project was to assess the structural capacity of the deck of the Garibaldi Cluster platform after replacing the old hoist with a new crane, identifying possible local reinforcement systems to adapt the deck to the new design loads.

ACTIVITIES

- Modeling and calculation using finite element software;
- Structural design and verification;
- Creation of detailed graphic drawings related to the current and future state of the deck.

SOLUTIONS

Although the installation of the new crane produces local effects and limited to the supporting deck, in order to correctly capture and simulate the structural behavior of the deck, the entire F.E. modeling of the platform had to be used.

A static and a seismic study of the entire structure were conducted, using information deducible from the construction drawings and calculation reports prepared during the design of the platform.

Simulations were performed with Sap2000 calculation software, while the evaluation of design actions and verifications of the various structural elements were conducted considering the following reference standards:

- ANSI/AISC 360-16: Specification for Structural Steel Building;
- API Recommended Practice 2A-LFRD: Planning, Designing, and Constructing Fixed Offshore Platforms - Load and Resistance Factor Design;
- DNV-RP-C205: Environmental Conditions and Environmental Loads.

