



REFERENCE PROJECTS

HelWinBeta PLATFORM

System Identification Campaign

The objective of the monitoring system is to identify the performance of the structure and the interrelation of piles and jacket. For this purpose a system identification campaign is proposed. It consists of:

- Measurement of the dynamic response of the platform by a mobile system
- Work out a structural model and perform a dynamic analysis
- Compare measured frequencies with computed frequencies
- Adjust the model to the measured characteristic
- Draw conclusions on performance
- Work out recommendations
- Explain the findings in detail

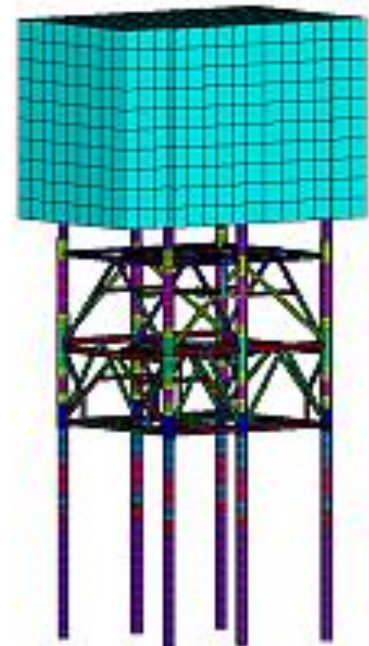
CLIENT: TenneT TSO GmbH

LOCATION: North Sea, Germany

SERVICE PERIOD: since 2015

SERVICES: Condition Monitoring, Lifetime Assessment, Environmental Influences, Risk Assessment

ELEMENTS:
1000 1000



DolWinAlpha PLATFORM

Development of a SHM Concept

The scope of work included the development of a comprehensive monitoring concept for the platform and the drafting of a design document for life-time monitoring. The special focus was on the dynamic behavior of the structure, the welded joints and the grouted joints.

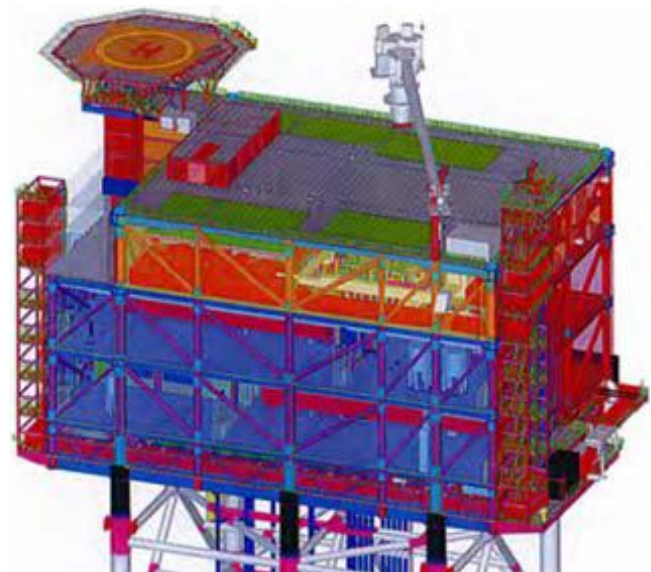
The concept also included the estimation of implementation costs for all monitoring services.

CLIENT: TenneT TSO GmbH

LOCATION: North Sea

SERVICE PERIOD: 2014

SERVICES: Condition Monitoring, Lifetime Assessment, Environmental Influences, Risk Assessment



DolWinAlpha PLATFORM

Motion Analysis

The platform DolWin alpha was experiencing unexpectedly high motions in the topside, even in moderate weather/sea conditions, which are having a detrimental effect on the platform's electrical equipment and may also result in premature fatigue damage.

The scope of work included a motion analysis of DolWin1 platform split up into two phases. In the first phase, measurements of the platform movements were taken and an analysis of the data was performed. Within the second phase, the achieved data was compared with the expected structural response of the platform derived from a dynamic structural model. The final step was to propose a technical solution to reduce the motions.

CLIENT: TenneT TSO GmbH

LOCATION: North Sea

SERVICE PERIOD: 2015

SERVICES: Condition Assessment, Condition Monitoring, Rehabilitation Planning, Quality Control, Lifetime Assessment, Environmental Influences, Risk Assessment



AmirKabir SEMI-SUBMERSIBLE DRILLING UNIT

On-board Calibration and Adjustment of Mooring System

The mooring system of the AmirKabir semi-submersible drilling unit, which is located in the Caspian Sea, was calibrated. Therefore the cable (chain) forces of a total of 8 winches were measured for different loads and compared against the winch load monitoring system. In case of unacceptable deviations the winch system was adjusted to match the cable (chain) force readings.

The services were carried out by the VCE from 26 April to 08 May 2014.

The cable (chain) forces were determined by the BRIMOS® 12.1 based method developed by applying the BRIMOS® Recorder with an external 3D-accelerometer. This equipment has been applied worldwide for measurement of cable forces at more than 7,500 cables since 2001. The recorder captured the vibration behaviour of cables with accuracy better than 0.1 %. The cable force was determined from the geometry of the cable, the cable properties and the fundamental frequencies.

CLIENT: The North Drilling Company

LOCATION: Caspian Sea, Azeri Continental Shelf

SERVICE PERIOD: 2014

SERVICES: Condition Assessment, Risk Assessment



OSS BALTIC 2

Development of a SHM Concept

The scope of work included the development of a comprehensive monitoring concept for the platform and the drafting of a design document for life-time monitoring. The special focus was on the dynamic behavior of the structure, the welded joints and the grouted joints.

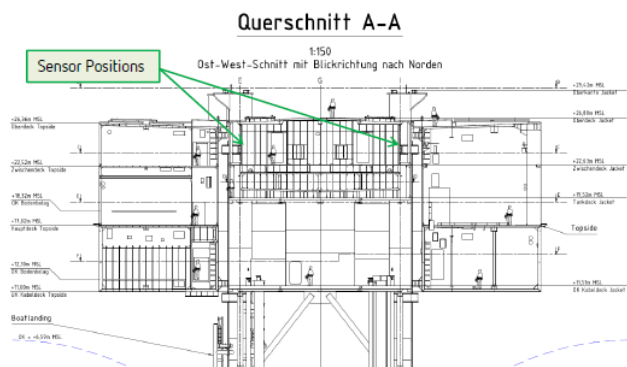
The concept also included the estimation of implementation costs for all monitoring services.

CLIENT: Weser Wind GmbH

LOCATION: Baltic Sea

SERVICE PERIOD: 2013

SERVICES: Condition Monitoring, Lifetime Assessment, Environmental Influences, Risk Assessment



BorWinAlpha PLATFORM

Development of a SHM Concept

The scope of work included the development of a comprehensive monitoring concept for the platform and the drafting of a design document for life-time monitoring. The special focus was on the dynamic behavior of the structure, the welded joints and the grouted joints.

The concept also included the estimation of implementation costs for all monitoring services.

CLIENT: TenneT TSO GmbH

LOCATION: North Sea

SERVICE PERIOD: 2014

SERVICES: Condition Monitoring, Lifetime Assessment, Environmental Influences, Risk Assessment



OSS BALTIC 2

Supply of Sensors for the Permanent Monitoring

The OSS Baltic 2 was equipped with a comprehensive monitoring system including different types of sensors for the permanent monitoring of the structure. The main focus was on motion analysis of the platform and the assessment of the life-time behavior and conditions.

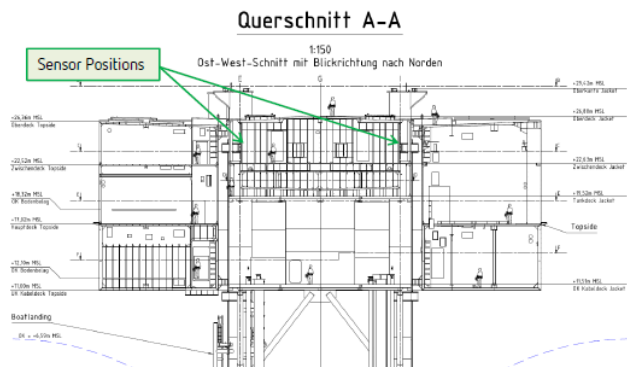
VCE supplied the high sensitive 3D-accelerometers for the installed monitoring system. The contract also includes long term guaranty and maintenance for the equipment.

CLIENT: Weser Wind GmbH

LOCATION: Baltic Sea

SERVICE PERIOD: 2014

SERVICES: Condition Monitoring, Lifetime Assessment, Environmental Influences, Risk Assessment



OSS BALTIC 2

Development of a SHM Concept

The scope of work included the development of a comprehensive monitoring concept for the platform and the drafting of a design document for life-time monitoring. The special focus was on the dynamic behavior of the structure, the welded joints and the grouted joints.

The concept also included the estimation of implementation costs for all monitoring services.

CLIENT: TenneT TSO GmbH

LOCATION: North Sea

SERVICE PERIOD: 2014

SERVICES: Condition Monitoring, Lifetime Assessment, Environmental Influences, Risk Assessment

