



Engineering Capabilities

Aqualis Offshore is a global engineering and marine consulting firm. The company was set up in December 2012 to service the growing demand for quality offshore engineering and marine consultancy.

The Transportation & Installation (T&I) department within Aqualis Offshore is primarily based in the Singapore with representatives worldwide. It consists of project managers, naval architects, structural engineers, field engineers and master mariners, who have many years of experience within the offshore industry. The department is led by Mr Phil Lenox (Director Asia Pacific) who has 40 years of experience as an offshore structural engineer and floatover installation specialist.

Our expert team has extensive experience in T&I in many countries and offshore locations, including:

- China/ Korea/ Malaysia/ Thailand
- Middle East
- Nigeria

T&I Feasibility Study

A feasibility study on the aspects of T&I is recommended during early stages of a project for good planning. The study looks into:

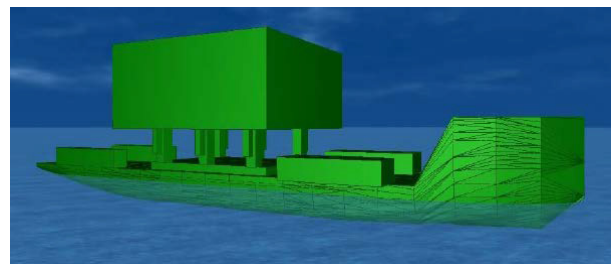
- Fabrication yard location with respect to quay height, water depth and tidal range
- Transportation vessel selection
- Transportation route planning
- Jacket and topside dimensions
- Loadout support frame concept
- Grillage / seafastening concept
- Floatover installation requirements and clearances

Loadout Engineering

We perform engineering for topside loadout by different methods - lifting, SPMT or skidding. The engineering carried out consists of:

- Quayside strength
- Quayside mooring analysis
- Lifting analysis - rigging design, lifting arrangement, padeye design, crane capacity, lifting radius
- SPMT specification, load spreader design
- Skidbeam and link beam designs
- Vessel global and local strength checks
- Ballasting calculation with stability check
- Fender design
- Loadout procedure

Transportation Engineering



Transportation engineering assesses all aspects of transportation during voyage from departure port to the offshore site. The areas of assessment consist of:

- Vessel global and local strength checks
- Vessel motions and stability
- Stowage plan
- Grillage and seafastening design
- Transportation route and criteria
- Transportation manual
- Towing arrangement

Floatover Installation Engineering

Installation by floatover method requires careful analyses, specification of hardware and manuals. They include:

- Topside mating analysis
- Docking guide design
- Fenders (surge and sway) design
- Leg Mating Unit (LMU) specification
- Deck Support Unit (DSU) specification

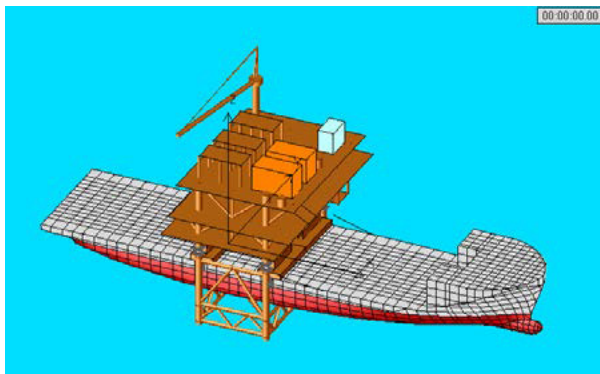
- Mooring analysis
- Vessel DP capability assessment/ FMEA review
- Vessel outfitting design
- Position, motion and environmental monitoring system specification
- Weather forecasting service specification
- Floatover Installation manual
- Marine spread specification
- Floatover sequence (docking to undocking)



Jacket Launching and Lifting Installation Engineering

Calculations include:

- Jacket launching and upending analysis
- Rocker arm design
- Lifting design – rigging arrangement and design, crane capacity, lifting radius
- Padeye design
- Ballasting calculations
- Mooring analysis
- Crane barge motion analysis
- Ballasting calculations
- Jacket launching and upending manual
- Lifting installation manual



Inspection and Supervision

Aqualis team of field engineers and mariners are able to provide inspection and supervision to assist client in marine operations at onshore and offshore locations.

- Vessel suitability survey
- Topside readiness inspection
- Grillage and seafastening inspection
- Loadout supervision
- Floatover supervision
- Installation supervision
- Pre-lay anchor marine supervision

