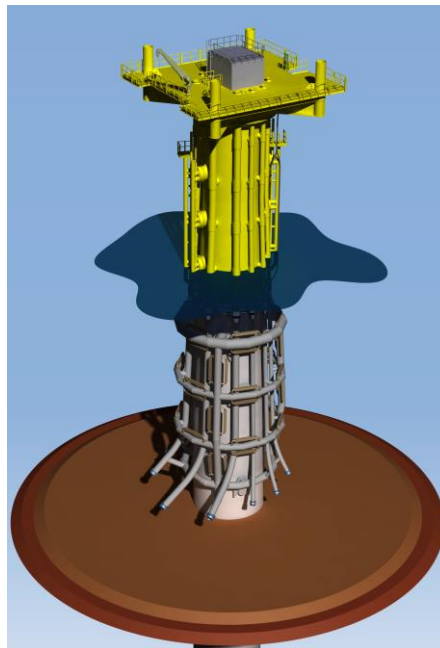


# Rentel Offshore Wind Farm

Offshore transformer substation

Customer	STX Solutions France	
Period of Execution	Design:	2016-2017
	Implementation:	2018



## Description of the Supply

Rentel NV is developing the 300 MW Rentel Offshore Wind Farm (REN) located on the Belgium Continental Shelf approximately 40 km from Oostende on the Belgium coast. The offshore substation is delivered by STX France under an EPCI contract to Rentel NV.

STX Solutions France commissioned ISC to perform the complete detail design of the primary and secondary structures, foundation design including monopile, J-Tube cage, Transition piece (TP) and topside cable deck, scour design, driveability analysis, temporary installation guides and supports, run-up protection, sea fastening design.

Located on a water depth of 33 meters, the substructure including topside cable deck supports the topside with a weight of 1100 tons. The substructure accommodates 7 J-tubes for array cables, 2 J-tubes for export cables and 1 j tube for inter-platform coupling cable.

## Consultant's Role

- FEED, Concept, layout arrangement followed by detail design of complete substructure including auxiliary systems.
- Complete detailed structural engineering and foundation design in place, sea transport, installation and lift, corrosion protection. Hereunder deterministic and transient dynamic fatigue analysis, operational vibration analysis, ship impact.
- Process, Piping & Mechanical
- Certification Packages for Topside and Substructure for Bureau Veritas verification.
- Project follow-up fabrication and installation

## Supplementary Information

Monopile diameter 5.6-7.8 meters.

Installation: Monopile is driven to target - J-Tube cage is lowered onto supports on MP. Finally TP is installed and grouted to MP. No diver operations required for cage installation and no mechanical fastening of cage.