

RENEWABLE ENERGY SECTOR

Involved for more than twenty years in offshore industry, PRINCIPIA takes advantage of its expertise for Marine Renewable Energies projects, such as Ocean Wave Energy Conversion, offshore and Onshore Wind Turbines, Ocean Thermal Energy Conversion.

Possible activities of Principia at different stages of life cycle service :

Verification of design basis :

Analysis of environmental conditions with respect to expected performances, in compliance with guidelines and standards.

Feasibility study and design optimisation :

- Hydrodynamic analysis and floater sea-keeping
- Optimisation and verification of the complete mooring systems (mooring lines layout, types of anchors, connection systems to the floater)
- Structural analysis for new concepts designs (fatigue, extreme conditions)
- Verification of load and response : fully coupled modelling of the whole integrated system (consisting for example of wind turbine, tower, platform and mooring systems)
- Verification of the electrical power performance
- Definitions and verification of installation procedures
- Specifications, follow-up of model tests and post-treatment of experimental results

Installation survey :

Monitoring and supervision at this phase for detecting possible defects

Commissioning survey :

Monitoring and supervision to check if the relevant system is practicable, in accordance with approved procedures.



ETM PROJECT



SEAREV PROJECT



ONSHORE WIND TURBINE

References

Sample of projects Principia worked for :

- ▶ SEAREV (wave energy convector)
- ▶ Vergnet SA (onshore wind turbine)
- ▶ DCNS Ocean Thermal Energy Project
- ▶ Offshore Floating/Fixed Wind Turbine projects.

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