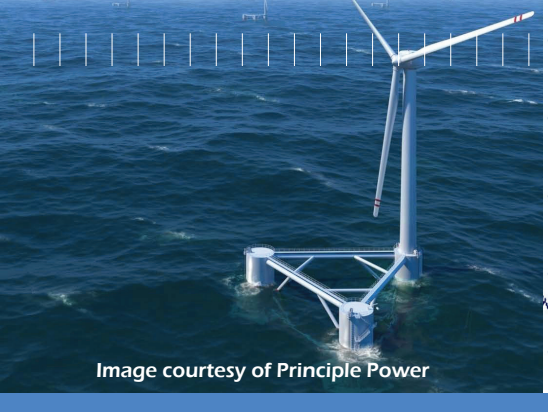

Image courtesy of Principle Power

PROJECT PROFILE:
RENEWABLE ENERGY

Study Unveils Risk Matrix for Deepwater Floating Turbine Support Structure

Risk Management

Situation

Principle Power's WindFloat is a floating support structure for large offshore wind turbines. The structure offers three advantages for offshore wind farms, including stability design, size and mooring system. Because the structure functions in water depths of more than 50m, WindFloat eliminates current deepwater limitations and enables wind turbines to be sited in previously inaccessible areas.

Approach

The designers at Marine Innovation and Technology, which developed WindFloat for Principle Power, treated the floating concepts as an offshore structure. Drawing on experience with floating offshore structures and wind energy, ABS Consulting conducted a hazard identification study (HAZID) as the first step in the Preliminary Planning and Advice stage for WindFloat in several lifecycle phases, including design basis, installation and operational stages.

Result

The HAZID evaluated all aspects of WindFloat operations from design basis to transport and normal and extreme operations. The study looked critically at safety, as well as possible environmental and ship impacts.

Benefits

With the study showing the risk matrix, Principle Power can operate its WindFloat structure with increased uptime and reduced high-cost corrective maintenance. The data supports informed decision-making, which in turn will help Principle Power maximize the return on its renewable energy investment.