



# CASE STUDY

## QHSE MANAGEMENT FOR BELWIND BLIGH BANK OFFSHORE WIND FARM IN BELGIUM

In July 2009, SGS was awarded a contract to conduct Quality, Health, Safety and Environmental (QHSE) Management for the Belwind Bligh Bank Offshore Wind Farm in Belgium. The key objective of QHSE Management is to optimise the revenue generated by any wind farm project over its life span, by assuring high quality standards and safe project execution during the development and realisation phase.

### PROJECT CASE BELWIND BLIGH BANK

Offshore wind farms involve many risks and challenges due to a variety of climatic factors such as wind, the location's water depth, soil, wave, current and icy conditions. To assure high quality and safe practice during the project development and realisation phase, owners, investors, operators and insurance companies look for an independent third party company, which can optimise the generated revenue by conducting Quality, Health, Safety and Environmental Management.

Due to SGS's specialised competency and quality experts, in combination with the local and global knowledge regarding regulations and requirements, the owner of Belwind Bligh Bank Offshore Wind Farm in Belgium assigned SGS Renewables a contract to conduct QHSE Management during the development and realisation phase of the wind farm project.

The offshore wind farm project Belwind Bligh Bank is located on Bligh Bank, approximately 46 km from the Belgian coastline. The development of the project is split in two phases. The first phase of the wind farm, which began in July 2009, comprises of 55 wind turbines and has a production capacity of 165 MW. The wind turbines are installed on monopile foundations and are connected via 6 strings to an offshore high voltage station (OHVS) where the 33 kV current from the turbines is transformed to 150 kV. Upon completion, the Belwind Bligh Bank Offshore Wind Farm is expected to have a production capacity of 330 MW and an estimated annual output of 1.1 TWh.

### QHSE MANAGEMENT FOR BELWIND BLIGH BANK OFFSHORE WIND FARM

In July 2009, SGS received a contract to carry out Quality, Health, Safety and Environmental Management for the Belwind Bligh Bank Offshore Wind Farm until the completion of the project.

SGS is responsible for the planning and conducting Quality as well as Health, Safety and Environment (HSE) Management during the development and realisation phase, which includes manufacturing, construction and commissioning of the Belwind Bligh Bank Offshore Wind Farm project.

The key objective of the QHSE Management is to optimise the revenue of the wind farm by assuring high quality standards and a safe project execution during the realisation phase, including supply, construction and commissioning of wind turbines, sub-structures as well as the electrical systems.



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To ensure that all QHSE insufficiencies and other abnormalities are identified and documented, SGS established a flexible and practical QHSE Management system for the Belwind project including tools and procedures as a means to support the effective QHSE organisation for the wind farm project.

The SGS team, which consists of a QHSE manager, a QHSE site manager, offshore and onshore QHSE representatives and various quality experts in foundations, wind turbines and electrical systems, manages and monitors all QHSE activities in the project and reports to the project management and shareholders.

The owner of the Belwind Bligh Bank Offshore Wind Farm project is very pleased with SGS's excellent performance, and its extensive experience, professionalism and know-how. SGS has not only developed a practical and flexible QHSE Management system, but also has the global specialised competence of quality experts coupled with local and global knowledge of QHSE regulations and requirements. SGS provides QHSE Management activities during the design, manufacturing and installation phases of the wind farm project and is likely to continue the cooperation with Belwind during next phases of the project's development.

## **SGS QUALITY, HEALTH, SAFETY AND ENVIRONMENTAL (QHSE) MANAGEMENT**

To reduce risk and maintain quality, SGS Competence Centre Renewable Energy developed a functional plan to carry out effective Quality Management as well as Health, Safety and Environmental (HSE) Management activities during the planning, realisation and commissioning phases of the wind farm project.

SGS developed a specific project quality plan describing the scheduled activities for each quality management system of the wind farm project cycle during the various phases from the manufacturing stage through to the final acceptance stage. Once the quality system has been established, internal audit activities are planned to monitor the fulfilment of the defined procedures, and corrective and preventative actions are initiated, where applicable.

Health, Safety and Environmental Management focuses on maximising the prevention of personal injury, and avoiding any adverse impact on the environment from the design through to the construction and operating phase.

SGS Quality and HSE Management services help to optimise the revenue produced by any wind farm over its life span and to assure that the potential areas of concern are dealt with in an organised and effective manner.

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