In 2012 a unique solution was introduced by ABB on an offshore wind farm. Power Transformers manufactured by ABB Factory in Lodz had been already installed and were fully operational on the offshore platforms and the owner wanted to ensure the maximum reliability and safety of the wind farm. ABB was approached to propose a tailored engineering solution for an on-site substation upgrade incorporating surge arresters on the HV transformer outputs. Such an electrical system enhancement is feasible in theory and can easily be achieved on most onshore transformer locations, however the complexity is considerably greater when delivered offshore. The risk of seawater contamination, access limitations and the harsh platform environment as well as the changeable work schedule due to weather variations are just some of the factors which can significantly impede project execution.
To comply with the customer’s requirements, HV transformer terminals were redesigned so as to allow space for surge arresters to be installed on every phase. Turrets were given additional cylinder boxes and the new design comprised several detachable elements which had the advantage of being lighter and easier to manoeuvre during the installation process. After three months of hard work offshore, the project was successfully completed in July 2012 and is a testament to the competence of the ABB Transformer Service engineers in the field of offshore activity.

With firm R&D capabilities in place as well as the required certifications and offshore-tailored working procedures developed directly at sea, ABB Transformer Service is well prepared to face the challenges of offshore work ranging from regular maintenance to complex upgrade projects.

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