

Ensuring reliable, maintenance-free offshore monitoring with the Vaisala Optimus™ OPT100

Three Gorges New Energy Dalian Power Generation Co. Ltd (Dalian Company), Zhuanghe City, China, was looking for a reliable, maintenance-free solution to monitor transformer health at its offshore wind plant. Two Vaisala Optimus™ OPT100 DGA monitors were installed on key transformers to provide accurate, real-time condition updates, helping to safeguard the company's offshore power generation assets without time-consuming and expensive maintenance.



Like all power utility companies, Dalian Company wanted to secure the operation of its transformers to avoid any non-scheduled outages, which can result in equipment damage, revenue loss, and extensive reputational damage. Although around half of all transformer faults can be prevented by using online monitors, many give false alarms and require regular maintenance.

Dalian Company had previously had some challenges with their gas and moisture-in-oil monitoring, including data accuracy problems and software issues. Because of this they were looking for an extremely reliable solution that could measure fault gases and moisture in oil for the transformers

at their offshore plant. Their previous solution had also required regular maintenance, which for an offshore plant costs a lot in both time and money.

A maintenance-free and reliable choice

To address these two challenges, Dalian Company chose Vaisala's OPT100 to monitor the transformers in real time, impressed by the monitor's reliable reputation and maintenance-free operation. The OPT100 is Vaisala's most advanced monitoring solution – it assesses a transformer's condition by measuring the transformer oil for the presence of moisture and all relevant fault gases. The

two OPT100 monitors were installed on the offshore platform in September 2018, with full operation beginning in January 2019 after a pilot run.

“Vaisala is a global leader in industrial measurement products, and their reputation for safety and reliability made the OPT100 an easy choice – in fact, when we compared it with several global and local brands it offered some outstanding advantages,” explains the person in charge at Dalian Company. “The OPT100 offers real-time, trouble-free fault gas monitoring with no false alarms or maintenance – just what we needed for our offshore transformers.”



Simple to install, easy to maintain

Installation took less than one hour thanks to the OPT100's simple installation process, with a browser-based user interface meaning no other software is required. And because the OPT100 doesn't use any consumables, it doesn't need regular servicing or part replacements – a great advantage for an offshore plant. “What we like most about the OPT100 is the fact that it's maintenance free,” the person in charge points out. “Because our transformers are offshore, it isn't easy to get to them regularly to check their status, especially in extreme weather conditions when it can become impossible; it is also expensive to make the trip.” Whatever the weather, thanks to its robust design the Vaisala OPT100 ensures excellent performance even in extreme environments.

The OPT100 is also extremely reliable, further reducing operational and maintenance costs. “We have compared the data from the OPT100 with our third-party professional offshore testing report and it has proven to be very accurate, so we know we can rely on its performance,” explains the person in charge. “The OPT100 is saving us a lot of time and money and making our work easier. Now we seldom go to the wind plant to check it because of the OPT100's accurate and stable performance.”

Training and expert support

“Throughout the project, working with Vaisala's China team was a pleasure; they were easy to communicate with, helpful and efficient – even working through the night when necessary,” shares the person in charge. “I really appreciated the professional work they provided, their quick response to our questions, excellent attention to detail, and their in-depth technical knowledge.”

Challenge

- A reliable solution was needed to monitor the health of two offshore transformers
- As the assets were offshore, a low-maintenance solution was important

Solution

- Two Vaisala Optimus™ OPT100 DGA monitors

Benefits

- Real-time, fault-free, continuous gas monitoring
- Requires no consumables or regular maintenance

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