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CUSTOMER CASE

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The Vaisala MHT410 Proves Itself to SEWA in the Arabian Desert and Wins an Award in the Process

Sharjah Electricity and Water Authority is looking to move towards a condition-based system of maintenance for their transformer fleet. Issues with harsh local conditions have been an issue.

SEWA then trialed Vaisala's MHT410 online Hydrogen, Moisture and Temperature Monitor, which proved itself able to withstand the harsh climate conditions while returning reliable continuous information on the health of their power transformers.

هيئة كهرباء ومياه الشارقة
Sharjah Electricity & Water Authority

Sharjah Electricity & Water Authority (SEWA) is an independent utility catering to customers residing in Sharjah, UAE. The organisation also maintains a fleet of power transformers and is currently looking to move towards a programme of condition-based maintenance, which will improve their understanding of the health of their transformers, and facilitate better performance. To do this SEWA will monitor transformer health via online data feeds direct from their assets. While SEWA has piloted other online devices, previous experiments with online solutions identified reliability and cost issues due to the harsh environmental conditions, and as such, they could not proceed with the monitoring program.

"We asked Vaisala to demonstrate the quality of their online monitoring solution in practice by installing an MHT410 transmitter in our 60 MVA transformer at SEWA substation" Shankar Narayanan, Engineer, Testing & Commissioning at SEWA, explained. "The MHT410 was easy to install, and demonstrated true reliability in tough conditions. We are extremely pleased with the results after this live trial period and plan to expand the utilization of MHT410 in our substations."

Challenge

- Extremely demanding climate conditions due to high temperature, high humidity, sand storms and the presence of corrosive chemicals
- Need to find a reliable online monitoring device that gives real-time information to the asset management team

Solution

- Vaisala MHT410 online single gas DGA and Moisture monitor
- Real time detection and measurement of Hydrogen, Moisture and Temperature for the oil

Benefits

- Capable of handling all kinds of weather conditions
- Maintenance free device
- Five-year warranty

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Recognition for the Results

The pilot program with MHT410 online monitoring also resulted in the SEWA HV maintenance team being honored with an initiative award from SEWA. The award recognized that online monitoring when performed correctly could provide valuable data and assistance for the maintenance team and therefore save time and money.

Assistance During Piloting

Vaisala assisted SEWA in installation of the device, and later on during the evaluation period, by providing analysis based on the online monitoring results, and comparing the online sampling data with manual oil sampling results. Vaisala was also able to help the maintenance team improve the execution of their overall maintenance activities.

Vaisala MHT410

The design and technology of the Vaisala MHT410 Moisture, Hydrogen and Temperature Transmitter enabled it to succeed in this environment. With direct and continuous measurement of dissolved gasses and moisture in a representative sample of transformer oil, it provided both a reliable overview of the hydrogen trend and moisture data.

This is achieved by using an in-situ probe that continuously monitors hydrogen and moisture levels within transformer oil, allowing the MHT410 to provide a continuous stream of health indicators in the transformer being monitored.

Moreover, it is easy to install and built to last, with no parts that will wear out, such as membranes, pumps, hoses or batteries. It also requires no supporting maintenance program of its own.

With the MHT410 installed, clients can reliably examine key fault indicators and analyze the health trends of the transformer over time, making it possible to identify developing faults very early on, and develop operational and maintenance plans to prevent their developing into more serious and costly problems.

In this way, the MHT410 helps to extend asset lifespan, prevent revenue losses due to unexpected downtime, reduce the need for costly unplanned maintenance and lower the total cost of ownership.

In sum, the MHT410 offers a solid return on investment and long term reliability.

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