Case study

Commtest vbOnline systems integrated with Bently Nevada system

vbOnline™

"This ambitious project addressed the management of a remote 130MW Hydroelectric Plant, installed 300km away from Lima, Peru."

Marco Ortiz, ISO18436.2 CAT III

vbOnline™

Project details: vbOnline / EnerSur-Suez Energy Perú / Lima, Peru

Commtest's permanent condition monitoring vbOnline™ system was successfully integrated with a Bently Nevada™ 3500 system in a recent collaborative project.

EnerSur-Suez Energy Peru is a 130MW hydroelectric plant. As the largest energy provider in Peru, EnerSur also provides a substantial amount of energy to neighboring Brazil. The company wanted to add vibration analysis of their hydro generators to their protection system. Installing a permanent online system would ensure scheduled readings were regularly monitored and analyzed.

The machinery being monitored is among some of the most remote in the world, located high up in the Andes mountain range near the edge of the jungle district. After flying into Lima, Commtest's Customer Success Engineer Shane Smith and local channel partner Marco Ortiz drove 300km up the steep and often winding road. The facility's inherent lack of accessibility was a key driver in the decision to install a system that could remotely monitor EnserSur's machinery and transmit the data off-site.

Two 32 channel vbOnline systems were set up to take 39 readings from buffered outputs of a Bently Nevada 3500 rack.

These signals correspond to 18 radial proximity probes, 6 axial probes, 3 keyphasor® and 12 airgap sensors. All sensors were pre-installed in three hydro generators of 44.5MW each. Reliable seismic readings were critical. Eighteen low frequency sensors with dual output (measuring vibration and temperature) were installed, in a radial direction and aligned with the probes. The first vbOnline system was installed to take measurements from the seismic sensors, making sure that not only the vibration from the shaft is taken, but also vibration measurements from the journal bearing structure were collected.

The second vbOnline system was installed to take measurements from 12 critical oil pumps and 2 air compressors, connecting to 32 general purpose accelerometers distributed over the oil pumps and compressors. These readings are taken twice a day. Both vbOnline systems combine with Commtest's award winning Ascent® software, providing remote diagnostics and analysis where it is most needed.

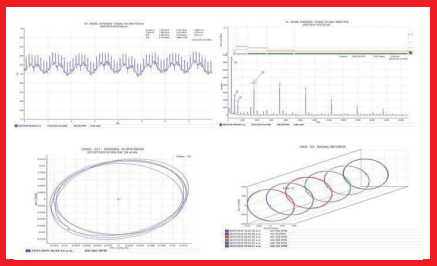

Figure 1. Data from EnerSur proximity probes

Figure 2. Integrating Commtest's vbOnline and Bently Nevada TM 3500 systems

Figure 3. EnerSur hydroelectric plant

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