ABB Brazil has been awarded the order for 14 TEC units that will be installed on the Three Phase step-up Transformers 111MVA, 525kV in UHE Governador Ney Aminthas Barros Braga plant.

The story
UHE Governador Ney Braga, the second largest hydroelectric plant from COPEL is located in Parana state, Southwest, Brazil. In 1991 the plant began supplying 1260 MW of energy. In the last year, COPEL the main Distribution, Transmission and Generation Utility of Parana state, decided to make a provision to their hydroelectric plant to include on-site repair on their step-up transformers. The transformer scope included full winding replacement, core rework and the installation of a monitoring system.

As a public limited company, COPEL legally needed to specify at least two brands of monitoring systems. In this particular project the only specification requested was a Treetech monitoring system. In view of this, ABB Brazil requested a meeting with COPEL to present their TEC Monitoring System, showing advantages of the product over the Treetech product. After this meeting COPEL decided to update their specification and accepted the ABB product. Today, COPEL include ABB monitoring products in all their specifications.

Customer needs
- Improved performance
- Greater reliability

ABB Response
- Supply TEC
- Supply gas sensors
- Supply all installation materials
- Installation and commissioning

Customer Benefits
- Prognosis
- Trends of failed report send by e-mail
- Efficiency of transformer operation
- Overloading and aging forecast on-line
- Friendly interface
- Fingerprint concept by ABB TEC
ABB Monitoring Systems

ABB offers three different systems to ensure our customers receive the optimal solution corresponding to their specific needs:

I) The “Basic System” recommended by ABB consists of a minimum supervision for your strategic units and includes:
- Gas and Moisture in Oil supervision.

II) The “Standard System” is the ideal solution for the supervision of your transformer and consists of:
- Basic On-line Monitoring System;
- Transformer status;
- Winding hot-spot temperature calculation;
- Cooler control;
- Thermal aging;
- Overload capacity;
- Loading forecast;
- Transformer temperature balance;
- Event handling;
- OLTC Supervision (Optional);
- Number operating cycles;
- Position;
- Contact wear;
- Temperature balance;
- Revision forecast.

III) To ensure maximum reliability, ABB’s “Enhanced System” provides the adequate response with:
- Standard On-line Monitoring System, complete with options,
- Bushing Supervision - Insulation deterioration in condenser core / core surface / porcelain inner surface & detection of capacitance / power factor variation.

ABB TEC System Features

With the Standard and Enhanced Systems, ABB proposes its TEC “Transformer Electronic Control”. This equipment combines innovative on-line monitoring features, high capacity intelligent data storage and specialized diagnostic features.

The main features of ABB TEC system are the following:
- Integrated Web client-server architecture;
- Updated technology components: sensors, transducers, transmitters, data acquisition platforms, standardized data transfer protocols using TCP/IP, and connection to SCADA System using IEC 60870-5-101/104, IEC 61850 or DNP 3.0 via TEC server.
- Flexible and suitable configuration to the customers’ needs.
- Permanent installation and independent operation.
- Human Machine Interface - Graphs for data presentation results, trend, interpretation, etc. using a standard web page.
- No special computer required.

For more information please contact:

ABB Ltd.
Transformer Service
Affolternstrasse 44
P.O. Box 8131
8050 Zurich, Switzerland

www.abb.com/transformers

Note:
We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB AG does not accept any responsibility whatsoever for potential errors or possible lack of information in this document. We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in part – is forbidden without prior written consent of ABB AG.