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Project Profile – Reservoir in the Italian Alps

Overview

The Pont Ventoux hydroelectric plant is located in the Susa Valley (Western Alps, Italy) and has been built by the Pont Ventoux Consortium (JV Astaldi Spa, Roma and Effaiges SA, Paris) for the AEM Torino Spa, at a total cost of approximately €62M.

The project includes:

- The main diversion structure constituted by a dam on Dora Riparia River, a water intake structure and all ancillary works.
- A free surface off-take canal constructed in tunnel for a length of 14 km and a peak flow of 30 m^3/sec.
- A regulating reservoir in Val Clarea of 560,000 m^3 capacity, constituted by a 33m dam and bypass canal.
- Pressure tunnel of 2.75 km in length connected to a pressure steel pipeline of 685m in length and 2.8m diameter.
- Electric power plant of 388 GW.
- Ancillary works such as access roads and tunnels, restitution canal etc.

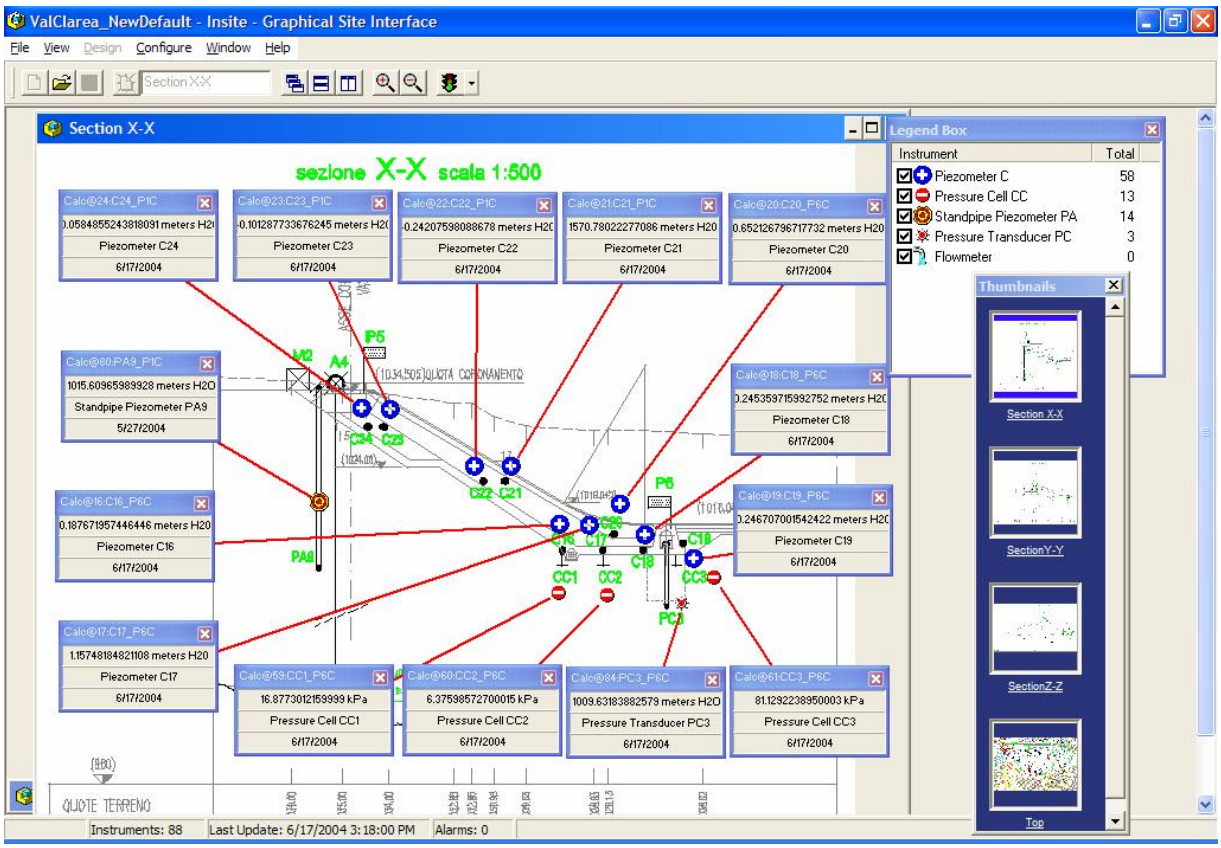
A measurement system was installed at the Val Clarea reservoir by Sisgeo Srl. to read (58) vibrating wire piezometers, (13) vibrating wire pressure cells, (10) vibrating wire standpipe piezometers, (3) vibrating wire pressure transducers, and (5) 4-20mA pressure transducers. All of the vibrating wire instruments were manufactured and supplied by Sisgeo Srl. with vibrating wire gage elements manufactured and supplied by Geokon, Inc. of Lebanon, New Hampshire, USA. The 4-20mA sensors were manufactured and supplied by Sisgeo Srl. The instruments and measuring system provide pore pressure data, water levels and flow data, this provides for evaluating the capacity of the reservoir as well as long-term stability of the liner and dam used to contain the water.

What We Did

We were tasked with installing our MultiLoggerDB software system to facilitate easier data management by the site personnel, this included extraction of formulas from numerous Excel worksheets previously in use, import of historical data and creation of customized report and chart outputs. Additional works included an on-site evaluation of the measurement system and investigation into several instrumentation problems.

Installation of MultiLoggerDB provided the site personnel these functions:

- Automated collection of data from the measurement system.
- Management of the measurement system programming.
- Easy-to-use graphical interface to the project data (example shown below).
- Management of complex calculations including barometric and temperature corrections.
- Easy creation of various report, chart and spreadsheet outputs of instrumentation data.
- Management of alarms, including messaging capability, to provide notification of alarm conditions.



Who to Contact

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