Energy

Tractebel Engineering

Diagnosis of a giant drain valve

In connection with the in-depth examination of the Génissiat dam drain valve, Tractebel called on Cetim to carry out non-destructive tests requiring expertise in various types of inspections and specialised measurement and analysis equipment.

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OUR CUSTOMER

Corporate name
Tractebel Engineering

Workface
Approximately 4,400 people worldwide

Business activity
This Engie (former GDF Suez) subsidiary operates in over 30 countries and has been providing engineering and consultancy services in the fields of water, energy and large-scale infrastructure for over 125 years.

The Génissiat dam (01 - France) was built over the Rhône River in 1948 and recently underwent large-scale renovation works by its operator CNR.
Significant attention was focused on the drain valve, whose gate leaf alone weighs 40 tons. The studies and technical specifications for the work relating to the drain valve were entrusted to Tractebel, which commissioned Cetim to carry out the inspections serving to assess its condition as well as that of the metal pipeline located downstream and upstream. *"We called on Cetim further to the positive feedback from a similar project carried out by its teams on a Moroccan dam"*, stated Nicolas Crocheton, hydromechanical engineer at Tractebel.

Three groups of specialists involved

Such a large-scale project requires the contribution of many technical experts. Therefore, Cetim brought in several of its teams to fulfil this assignment. Its experts in measurements, inspection and connected objects were tasked with visual inspections, thickness measurements and non-destructive testing of the welds. The non-destructive chemical analysis of the steels was carried out by the metallurgy experts using a portable optical emission spectrometer. Finally, another dedicated team performed the dimensional measurements and the flatness measurement of the parts guiding and sealing the gate leaf. Following an initial inspection campaign, additional measurements were conducted a few months later, once the valve had been disassembled and stripped. These on-site operations were supplemented by 3D modelling of the valve based on the available drawings and measured values. Finite element calculations were then used to ensure that the valve still met the safety and operating requirements.
"Cetim's work was professional and highly qualified", stated Nicolas Crocheton.

Cetim's asset

Cetim boasts many inspection processes required for the diagnosis of dam equipment. It leverages on the combined skills of its specialised experts to draw up and implement the optimum inspection strategy.

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