

NEWS

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ORBINOX S.A. successfully installs and commissions a 14m wide and 4m high radial gate under complex access conditions

ORBINOX S.A. has successfully installed and commissioned a 14m-wide, 4m-high and 21 t radial gate and a stop gate composed of three independent 14m-wide and 1,4m-high logs with a total weight of 23 t in a hydro power plant in the north of Spain.

The Camporredondo dam, a curved gravity dam with a capacity of 70 million m³ of water, is located in the village of Velilla del Río Carrión, in the northern Spanish province of Palencia and it was built in 1930. The dam has a total height above its foundations of 75,5m and a crest with a width of 3,3m and a length of 160m. The dam is equipped with two turbines with a total installed power capacity of 11,6 MW and an annual average energy production capacity of 24,5 GWh.

The complex accessibility of the spillway where the radial and stop gate must have been installed has added an extraordinary additional challenge to the installation of the valves. This spillway cannot be accessed by tracks and mobile cranes and can only be reached by taking the valves all along the dam crest from the other side of the dam.



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Orbinox has therefore also developed a special-purpose transportation system to transport both valves along the dam crest from the dam end that can be accessed with tracks and mobile cranes to the other end where the spillway is located. This transportation system is composed of a special-purpose cart to carry the radial and stop gates and a rail system on which this cart travels. At the same time, a special metallic structure mounted on top of the spillway has also been designed to position the gates for final installation, performed with the use of an overhead crane.

This special-purpose transportation system and the metallic structure on top of the spillway have been removed once the gates have been installed and commissioned. Only the overhead crane will remain for maintenance purposes.

The successful completion of this project shows the capacity and potential of Orbinox S.A. to manage complex hydro power plant projects, covering all the phases of the projects, from the engineering stage to the final installation and commissioning of the valves.