

A unique design in the world

The patent for the Salto de Chira power station puts Gran Canaria at the forefront of hydroelectric technology

- The Patent and Trademark Office has granted the design patent for the pumped-storage hydroelectric power station

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The Spanish Patent and Trademark Office has granted the design patent for the Salto de Chira pumped-storage hydroelectric power station, of Red Eléctrica de España, due to the technological innovation it provides for the flexible storage of energy and the safe integration of renewables into electricity systems.

The Salto de Chira power station, the first large-scale energy storage project in the Canary Islands for electricity system operation, involves the construction, on the island of Gran Canaria, of a 200 MW pumped-storage hydroelectric power station (equivalent to approximately 37% of the peak demand of Gran Canaria) and an energy storage capacity of 3.6 GWh, a seawater desalination plant and the associated marine works, as well as the necessary infrastructure for connection to the transmission grid.

The innovative solution to the power station's technical proposal has been developed with the aim of ensuring the guarantee of supply in Gran Canaria by equipping the island with a high-power hydroelectric system and high energy storage capacity, providing this system with great flexibility, an essential function in the island's electricity system that allows for the reliable integration of renewable energy.

The patented design provides the energy storage facility with a regulate and control capacity of power to continuously throughout all its operating range, from the maximum in turbine mode to the minimum in pumping mode. The technical design and operating capacities of the power station are adapted to the needs and, specifically, address the configuration in a weak and isolated electricity system, such as the island system, which has more difficulties in controlling power imbalances and tends to be less stable. These difficulties are growing due to the increase in the presence of renewable energy.

The granting of this patent confirms that this is a unique design in the world that will place Gran Canaria at the forefront of hydroelectric technology.