STABLE AND RELIABLE FOR YEARS

Brazil – ANDRITZ Hydro has signed a contract with Companhia Hidrelétrica do São Francisco (CHESF) to execute the complete modernization and digitalization of the Sobradinho hydropower plant.

In commercial operation since 1979, the power plant has a total installed capacity of 1,050 MW provided by six vertical Kaplan turbines with a diameter of 9.5 m and an output of 175 MW each. Located on the São Francisco River in Bahia state some 50 km from Petrolina in the northeast of Brazil, the Sobradinho reservoir is one of the largest surface waters in the world. The reservoir regulates water flows in the São Francisco River Basin, providing water to maintain the downstream hydropower plants.

Founded in 1948, CHESF is a subsidiary of Eletrobrás and is one of the largest power generation and transmission utilities in Brazil. CHESF owns 12 hydroelectric power plants, two photovoltaic plants and two wind farms for a total 10,670 MW of installed capacity concentrated in northeastern Brazil.

Following the renewal of its concession until 2052, CHESF's main goal with this modernization project is a complete technological upgrade of Sobradinho. By implementing state-of-the-art technologies, CHESF aims to ensure safe and reliable operation, thus guaranteeing reliable energy supply to its customers.

ANDRITZ Hydro's contractual scope comprises the supply of new electromechanical equipment such as the automation and control systems for the powerhouse, spillway and water intake, conditioning monitoring system, HIPASE technology for synchronization, excitation, turbine governor and protection. In addition, instrumentation, complete medium and low voltage cubicles, complete direct current system, surge/grounding cubicles, repair services for station-services and step-up transformers, cooling system, air compressors, and ventilation system are also included. The contract is rounded out with a complete overhaul of all six Kaplan turbines, as well as the intake gates.

TO KNOW:

The São Francisco River "Old Frank"

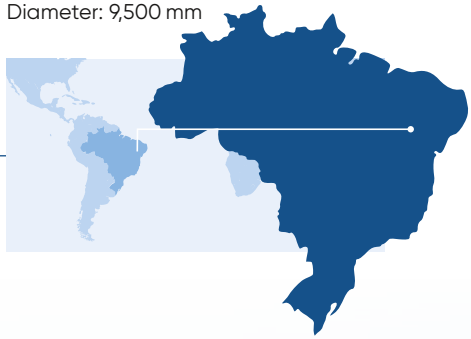
The São Francisco River – also known as Velho Chico (Old Frank) – is a Brazilian river named after Saint Francis of Assisi following its first discovery by Europeans on his feast day (October 4) in 1501. With a length of 2,914 km (1,811 miles), it is the longest river entirely within Brazil. It is also the fourth longest river in South America after the Amazon, the Paraná and the Madeira. The river collects water from 168 tributaries and is of strategic importance, crossing regions of significant climate, environmental and social diversity.

The São Francisco River Basin encompasses the states of Minas Gerais, Bahia, Goias, Pernambuco, and Sergipe and Alagoas. It carries about 64 billion m³ of water annually to the semi-arid region of northeastern Brazil. This corresponds to some 69% of the surface water in the northeastern region of Brazil and represents an annual accumulated potential of about 51 billion m³. The total hydroelectric potential available within this basin is approximately 26,320 MW.

TECHNICAL DETAILS

Sobradinho:

Total output: 1,050 MW
Scope output: 6 × 175 MW
Head: 31.8 m
Voltage: 13.8 kV
Speed: 75 rpm
Diameter: 9,500 mm



The Sobradinho reservoir is one of the largest surface waters of the world, regulating the water flows in the São Francisco River Basin.

The scope of supply also includes engineering (basic and detailed design), overall project management, supply of equipment and installation materials, field installation services, training and other activities. Completion of this modernization contract is scheduled for 2025.

ANDRITZ Hydro is one of the few global suppliers that has reference projects and the necessary expertise to execute modernization projects of such magnitude. The award of this contract is a very important milestone for ANDRITZ Hydro that has once again confirmed its position as a leading company to supply electromechanical equipment and solutions for the hydropower industry.

AUTHORS

Marcelo Malafaia
Sergio Gomes
hydronews@andritz.com

ENERGY TO COME