READY FOR RENEWA ENERGY GRO

Peru – The first evidence of a power industry in Peru dates back to 1884 with the implementation of the first hydroelectric power station for a mining company in Huaraz. Only a couple of years later, there is evidence of the first public lightning. Not long after, ANDRITZ successfully installed its first hydroelectric turbines in Peru during 1913 at the privately-owned Caxias I and II plants.

Since then, ANDRITZ has delivered or rehabilitated more than 190 generating units in Peru with a total combined capacity of more than 3,800 MW. Among these plants are large references which are still essential for Peruvian electricity generation, including Cerro del Águila (540 MW), Cañon del Pato (240 MW), Chimay (144 MW), Santa Teresa (118 MW), and Yuncán (134 MW). More recently, ANDRITZ has successfully participated in numerous small hydropower projects including Manta, Angel 1, 2, and 3, Carhuac, 8 de Agosto and Rucuy. To consolidate its leading position in the country, about 20 years ago, ANDRITZ decided to establish a local entity in Lima. Our specialized team supports customers in Peru, as well as other ANDRITZ divisions.

Peru's installed generation capacity is almost equally divided between thermal and hydroelectric power sources. Beyond hydropower, other renewable energy resources are still limited to less than 7% of the total. Peru has abundant natural resources for energy production, including solar and hydropower potential. The country's geography and climate make it particularly suitable for renewable energy projects that could shift the country's energy matrix towards a greener footprint.

With several of Peru's main hydropower plants reaching the end of their natural useful life, ANDRITZ Peru has completed many successful modernization and rehabilitation projects in recent years. A key focus here has been on extending their operational life and utility with renewed equipment reaching higher efficiencies. Among these are the hydropower stations Cañon del Pato, Platanal, Callahuanca, Huanza, and the Rio Mantaro complex. In parallel, long-term integrated operation and maintenance contracts have been developed, for example for the Cerro del Águila and Santa Teresa hydropower plants, or predictive monitoring systems for the equipment fleet of one of our customers. In addition, these businesses are supported by our customer support and service for scheduled and emergency maintenance of their equipment, spare parts, and recovery of damaged components.

Unit hall, Cerro del Águila hydropower plant

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Total population: 34.05 mio
GDP per capita: 7,158 USD

Total installed hydro capacity: 5,515 MW
Hydro capacity under construction: 230 MW
Share of generation from hydropower: 50.7%
Hydro generation per year: 28,486 GWh
Technically feasible hydro generation potential: 360,000 GWh

All figures concern 2022;
Sources: TheWorldBank, IMF, IHA, Hydropower & Dams World Atlas 2023

50.7% Share of electricity generation from hydropower in total production

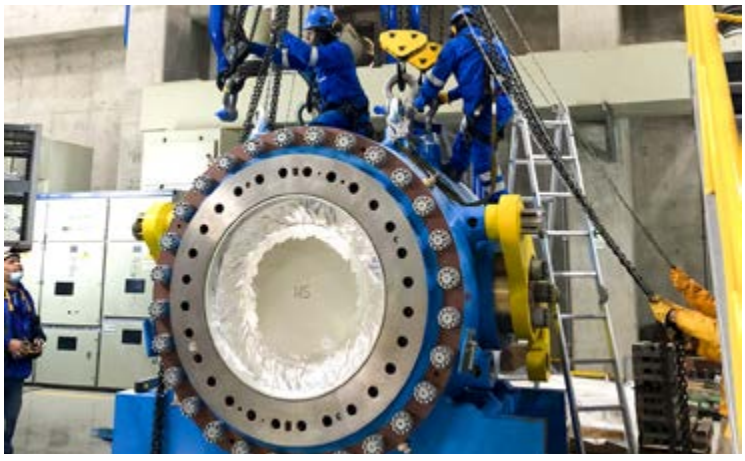
PROJECT REFERENCES

Recent project references include a contract for special erosion-friendly injectors for the Pelton units of the 260 MW Canon del Pato hydropower plant, the supply of new runners for the 227 MW Platanal power plant, two new spherical valves for the Huanza hydropower station and the rehabilitation of the Callahuanca hydropower plant after it suffered flood damage, including a new generator.

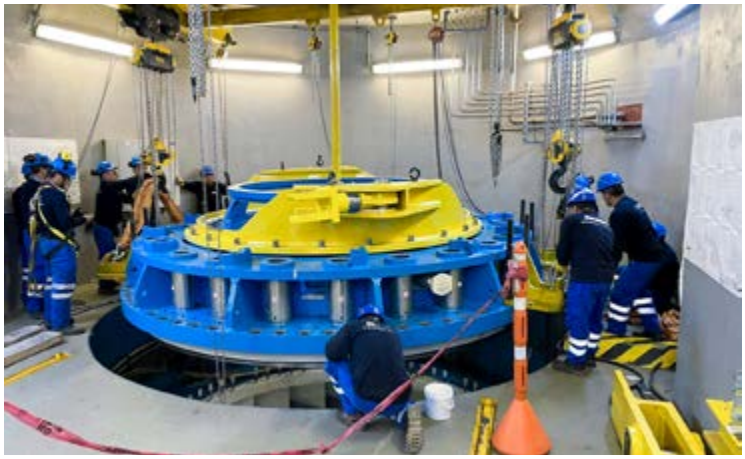
For the 592 MW Cerro del Águila hydropower station on the Río Mantaro, ANDRITZ signed a 10-year contract for integrated maintenance including repowering of units, erosion prediction, innovative Metris DiOMera digital predictive services, and global control center remote monitoring and assistance. Especially noteworthy is the innovative business model based on an 'efficiency guarantee'. In this case ANDRITZ guarantees a maximum efficiency reduction between the first and the second major overhaul due to erosion. Contract remuneration is aligned with the generation from the power plant with the price based on unit generating hours over the year.

AUTHOR

Diego Pigozzo
hydronews@andritz.com



Installation of spherical valve at Huanza hydropower plant



Installation of guide vane apparatus at Cerro del Águila hydropower plant