Abu dhabi pumped hydro storage

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Hitachi Energywill supply ANDRITZ Hydro with state-of-the-art technology for grid connection and stabilization for a unique pumped storage hydroelectric power plant, under construction in the Hajar Mountains, 140-km southeast of the city of Dubai, UAE.

The Hatta pumped-storage power station is a first-of-its-kind project in the UAE and the Arabian Gulf region. It is being developed by the Dubai Electricity & Water Authority (DEWA) and will provide up to 250 MW of clean, renewable and flexible energy when commissioned in early 2024. Leveraging its extensive know-how in grid connections and power electronics,Hitachi Energy will deliver two AC excitation systems, based on power electronic converters. The systems will ensure variable speed operations of the reversible rotating units.Hitachi Energy will also supply an integrated solution to connect the plant to DEWA"s 132 kV network.

This strategic project will help to diversify the energy mix in the UAE in line with goals set out in the Dubai Clean Energy Strategy. This supports the goal of transforming Dubai into a global clean energy center by 2050 and increasing the clean energy portion of Dubai"s energy mix to 75 percent by 2050.

"We are honored to be part of the development of the Arabian Gulf"s first hydropower plant," said Niklas Persson, Managing Director ofHitachi Energy Grid Integration business. Niklas continued, "Hitachi Energy can deliver engineered packages as well as advanced solutions to support the Emirate"s sustainability goals, accelerating the energy transition towards a carbon-neutral future with technologies that will benefit society."

The pumped-storage hydroelectric power station comprises of a lower reservoir near the Hatta (Al Hattawi) dam with 1,716 million gallons of water capacity, and an upper reservoir built into the mountain about 300 meters higher with up to 880 million gallons of water storage capacity. During off-peak hours turbines will pump water about 4 km from the lower to the upper reservoir, using power drawn from the Mohammed bin Rashid Al Maktoum solar park. Stored water will be released to the lower reservoir during peak-load hours, driving turbines to quickly generate electricity to meet peak demand.

The state-of-the art technology provided to ANDRITZ Hydro, uses a PCS8000 converter for the AC excitation, enabling the machine to run at variable speed. This ensures optimal operational efficiency and variable power operation in pump mode without compromising transient behavior of the machine.

The International Renewable Energy Agency (IRENA) and the International Hydropower Association (IHA) collaborate to tackle climate change

Abu Dhabi, United Arab Emirates, 3 February 2021 - In recognition of their shared objectives to increase the uptake of renewable energy, the International Renewable Energy Agency (IRENA) and the International Hydropower Association (IHA) have today signed a formal partnership agreement.

Hydropower is the world"s largest source of renewable energy, contributing over half of global renewable energy installed capacity, and directly employing around two million people.

The agreement sets out IRENA"s and IHA"s joint ambition to accelerate the development, financing and deployment of sustainable hydropower. This will involve future policy and market initiatives aimed at better rewarding hydropower for the clean storage and flexibility services it provides to the energy system. Cooperation will facilitate public-private dialogue, strengthen international cooperation and promote sustainable hydropower through the development and dissemination of knowledge.

Francesco La Camera, Director-General of IRENA, said: "IRENA"s Global Renewables Outlook estimates that an additional 850 GW of hydropower is required by 2050 for the world to stay on a climate-safe track in line with the Paris Agreement. There is therefore an urgent need to boost sustainable hydropower."

"The Covid-19 crisis has shown beyond doubt the unique flexibility and resilience provided by hydropower compared with other energy sources", he added. "IRENA has always considered hydropower an essential and central element of the renewables power mix."