

DALSFOS, NORWAY

From old to new

ANDRITZ Hydro has received an order from Skagerak Kraft AS for a "from water-to-wire" package for the Dalsfos hydropower plant in Telemark County, Norway.

In 2017, the Norwegian Water Resources and Energy Directorate granted approval for a new power plant in Dalsfos. The new hydropower plant, located in Kragerø Municipality, will be built inside a mountain on the opposite side of the river to the current Dalsfos hydropower plant on the Tokevannet Lake at the top of the Kragerø watercourse. Over a century old, this plant is still in daily operation, and even one of the original turbines

from 1906 is intact and working. However, the facility is worn down and has low efficiency by today's standards. Conservation authorities have proposed placing the power plant under a preservation order as the machine room is unique with its art nouveau style, the roof trusses are open and visible and there are many decorative elements in the form of stairs, railings and windows. Also, the generating unit's rotating parts are visible, unlike those found in more modern power plants.

ANDRITZ Hydro was chosen for the electro-mechanical delivery with Skanska conducting the civil works. Three old Francis turbines will be replaced with one top-notch Compact Axial Turbine (CAT). The scope of supply comprises a complete "from water-to-wire" electro-mechanical package including the turbine, generator, automation and electrical power systems, intake gates, and trash rack. Commissioning is scheduled for the end of 2021.

The river Kragerøvassdraget has a population of migratory eels, therefore, fish-friendly



facilities will be built to enable continued migration for eels to safely get past the new power plant.

The modernization of Dalsfos hydropower plant is a further step towards a modern and sustainable energy supply for this Norwegian region, and ANDRITZ Hydro is proud to be part of this project.

AUTHOR

Kristian Glemmestad
hydronews@andritz.com

TECHNICAL DETAILS

Total output: 7.3 MW
Scope: 1 × 7.3 MW
Head: 20.21 m
Voltage: 6.6 kV
Speed: 230.77 rpm
Runner diameter: 2,350 mm

DA NHIM UPPER 3, VIETNAM

First CAT project in Vietnam

ANDRITZ Hydro has signed a contract for the electrical and mechanical works of the Da Nhim Upper 3 hydropower project with Toan Thang Dat JSC (Vietnam). The scope of supply comprises design, engineering, manufacture, supply and supervision of installation, as well as commissioning of the complete electro-mechanical equipment.



basin is in Lam Dong province in Vietnam's Central Highlands (Tay Nguyen) region.

Da Nhim Upper 3 project will be the first Compact Axial Turbine (CAT) project to be developed in Vietnam. In comparison with the originally planned Francis turbine, the CAT solution is more efficient and provides better part-load performance under the natural conditions found at the plant. This results in better annual energy generation and higher revenue for the customer.

With an output of 9.35 MW, the run-of-river power station on the Da Nhim River

This project is a repeat order following ANDRITZ Hydro's successful execution

of the customer's first hydropower project (Da Cho Mo 2 HEPP, 5.5 MW), which has been in commercial operation since November 2019.

TECHNICAL DETAILS

Total output: 9.35 MW
Scope output: 2 × 4.67 MW
Head: 24.05 m
Voltage: 6.3 kV
Speed: 428.57 rpm
Runner diameter: 1,770 mm

AUTHOR

Itishree Mohanty
hydronews@andritz.com