Spray 1

Huge milestone for ANDRITZ HYDRO in Canada

▲ Downstream view

On 24 October 2012, ANDRITZ HYDRO achieved a significant milestone in the Canadian market with the signing of a Master Service Agreement (MSA) with TransAlta for their hydro fleet modernization and Life Extension Program (LEXT), an upgrading program of 13 plants and 20 generation units. TransAlta is Canada's largest publicly-traded generator and marketer of electricity and renewable power.

The first success under this MSA was the award of the Spray unit 1 rehabilitation project on 15 May 2013. The hydroelectric facility is close to Canmore in Alberta (Canada). A three-phase approach to Service and Rehab was key to securing Spray order. At first, ANDRITZ HYDRO carried out a detailed condition assessment on the existing unit. Based on this work, a budget proposal was prepared to support TransAlta's financial evaluation of the rehabilitation. ANDRITZ HYDRO then prepared a detailed scope of work and pricing that served as the basis for the contract.

▼ Draft-tube cone and lower cover before refurbishment

Since HPP Spray is primarily used to provide electricity during periods of peak electrical demand, one of the requirements was to operate the turbine at a minimum power of no more than 18% of rated maximum for long periods of time. This project is consequently technically challenging because it goes against conventional Francis design practice to consistently operate turbines inside the part-load operating zone.

ANDRITZ HYDRO's scope of supply includes the cover and bottom ring, new guide vanes, a shop tower assembly, a new generator stator core, coils and winding, a brushless excitation device, and the refurbishment of several other components including the main inlet valve.

The go-ahead for this contract work could not have been successful without the cooperation and open communication between engineers and managers of each respective company. Vigilance in keeping this relationship strong will help ensure that future projects may be secured under this strategic MSA.

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TECHNICAL DATA
Output: 56 MW / 62.2 MVA
Voltage: 13.8 kV
Head: 266.7 m
Speed: 450 rpm
Runner diameter: 1,575 mm