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## **Alstom awarded €125 million contract to supply cutting-edge technology to Switzerland's new Nant de Drance hydropower station**

Alstom has been awarded a €125 million contract to equip the new Nant de Drance hydropower station, near Finhaut in the southwestern Canton Valais of Switzerland, with its first variable speed pump storage power plant\*. This partner project, between Swiss energy provider Alpiq, Forces Motrices Valaisannes (FMV) and Swiss federal railways SBB, demonstrates the first ever use of this type of technology in Switzerland. With a total power generation capacity of 628 MW the new plant will eventually supply an average power consumption equivalent to over 600 000 homes.

Alstom will supply four 157 MW vertical Francis reversible turbines, four 170 MVA vertical asynchronous motor/generator units and further key equipment to the new plant, as well as handling complete site delivery, erection, supervision and commissioning.

The new installation integrates two state-of-the-art technologies: a conventional pump turbine and a variable speed pump turbine. The former pumps the water into a reservoir located in the higher lake during periods of low energy demand and releases it to produce energy during peak times, while the latter regulates the level of energy it consumes, thus contributing to better grid regulation.

Alstom Hydro's\*\* facilities in Grenoble, France and Birr, Switzerland will be in charge of the engineering and manufacturing of the equipment, to be delivered until 2017. Civil works on this project began in 2008.

*"We are very proud to contribute to Switzerland's goal to provide clean and cost-effective energy for everybody. This project proves once again the strength of innovation of Alstom Hydro as it allows the preservation of the natural environment while increasing global power efficiency,"* says Philippe Cochet, President of Alstom Hydro.

Switzerland produces about 66 000 GWh of energy per year, with hydroelectricity making up more than 50%. Due to increasing demand and an ageing fleet, some 25 000 to 35 000 GWh per year will need to be replaced or renewed by 2035, representing about 50% of today's installed capacity. With about 20% of the Alps located in Switzerland, the country's geography is particularly adapted to the use of pump storage power plants, which take advantage of existing altitude differences.

### Editor's Notes

\*Pumped storage power plants use only 2% of their energy production to pump the water into the reservoir. Conventional pump-turbines can only operate on a fixed quantity of energy whereas variable-speed pump-turbines can regulate the level of energy they consume. As a result they continue to function even at lower energy levels. Consequently they assure a steady refilling of the reservoir while contributing to the stabilization of the network.

\*\*Alstom Hydro, a joint venture between Alstom and Bouygues, has over 400 GW of turbines and generators installed worldwide which represent more than 25% of the total global hydropower installed capacity. As the world leader in supply of hydropower equipment & services, Alstom Hydro offers products and turnkey solutions that cover all hydropower schemes, from large to small, from run-of-river to pumped-storage. With more than 6000 employees in 19 countries Alstom Hydro offers the broadest range of products and services for new installations, refurbishment, upgrading and services

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