

Media Release

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Modernisation of the historic small-scale hydroelectric plant in Windisch completed

In the past weeks, Axpo has successfully completed extensive modernisation work on the historic small-scale hydroelectric plant in Windisch (Canton of Aargau). Work included the replacement of a machine group in the powerhouse, new gates in the headwater canal, as well as the installation of a flushing pipe in the boat ramp at Gebenstorf. The entire project took about 12 months. The total investment volume for modernisation amounted to CHF 5.4 million.

The Windisch small-scale hydroelectric plant is located on the Reuss River between Unterwindisch and the neighbouring town of Gebenstorf. It has been supplying the Brugg region with eco-friendly electricity since 1910. Previously, the Kunz spinning mill used the water to operate its machines for some 90 years at this same location. Over time, the power plant components had become out-dated. Last year, Axpo carried out extensive remodelling and renovation work in order to bring the plant, which is located about two kilometres above the Reuss/Aare river confluence, up to the latest technological standards. The plant's maximum annual power production has been increased from about 10 GWh to 11.7 GWh.

More efficient turbines and a more powerful crane

One of the three machine groups in the powerhouse was replaced. A modern, double-controlled Kaplan turbine was installed in place of the existing Kaplan propeller turbine (built in 1928) with a discharge capacity of 18 m³/s. Machine group 3 is now much more efficient (max. 25 m³/s), and the concessionary water volume as well as the gradient of the Reuss can be better utilised. Turbine replacement required extensive remodelling in the powerhouse. Axpo also used this opportunity to install a new crane with a load capacity of max. 16 tonnes. The old crane with a load capacity of 7.5 tonnes no longer fulfilled the new requirements.

Intelligent canal gates prevent a water level increase

The canal gates in the headwater canal were replaced because they no longer fulfilled the static requirements in the case of flooding. The aim was also to maintain the appearance of the canal gates for aesthetic reasons. As a result there are still four canal gates in operation. The new gates primarily serve to regulate the water level in the headwater canal. During an emergency turbine shut down, the gates now close without using power, and prevent an undesirable water level increase in the headwater canal.

In addition, a flushing pipe with a continuous water supply was installed between the existing roller bearings in the boat ramp at Gebenstorf. This will prevent sand deposits from hindering boat access to the ramp.

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Close cooperation with local residents

The location of the plant presented a special challenge: The power plant is located on the site of the former Kunz spinning mill. The property is a cultural asset of national significance owing to its historic, technical and architectural value. In the past years, the industrial buildings have been remodelled into condominiums. As a result, all the construction measures were carried out in close cooperation between Axpo and the residents. For example, the colour scheme and look of the new canal gates was defined together with some 30 condominium owners from the "Kunzareal".

The wet spring of 2016 also made construction work challenging: Owing to the high ground water table and frequent high water levels, water penetrated the construction site several times, which, in turn, led to additional costs. On the positive side, machine groups 1 and 2 were back in operation thanks to optimal planning after the dismantling of the old turbine. This minimised the interruption of production.

The open day next Saturday, 6 May from 10.00 a.m. to 1.00 p.m. offers the local population an opportunity to take a first hand look at the renovations at the small-scale hydroelectric plant in Windisch.

Further information

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About Axpo

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