

Media Release

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Eglisau-Glattfelden power plant: Elevator and ladder to facilitate fish migration

After a two-year construction period, Axpo has successfully completed the last remodelling work for two new fish migration systems at the Eglisau-Glattfelden power plant. A new fish ladder on the Swiss bank and a fish elevator on the German bank facilitate upstream passage. The new systems are state-of-the-art. Total costs for the project amount to about CHF 9.3 million.

Ensuring that fish can access watercourses is a requirement in Switzerland since the introduction of the revised Water Protection Act in 2011. In this area, Axpo, as the largest producer of hydropower in Switzerland, can benefit from the long-standing experience with its plants. Every power plant is a unique case based on its architecture and topography. Solutions are tailored to the swimming behaviour of the fish and the respective plant situation according to state-of-the-art technology and in close cooperation with the responsible authorities and environmental organisations. Owing to the topography on the Swiss and German banks, two solutions with different migration systems were realised at Eglisau-Glattfelden. The facility has been under historic preservation since 1988, and structural changes to the plant are prohibited, which presented a huge challenge during remodelling.

Fish ladder for weak swimmers

A new fish ladder with two courses connected with a horizontal canal was installed at mid-pier on the Swiss bank. The ladder is 354 metres long. A 15-metre long concrete structure was placed on the mid-pier of the power plant. Walls within the structure ensure that the fish swim through the ladder in a serpentine manner. The length of the ladder, the placement of the walls and slots, as well as the serpentine routing decreases the height of the individual stages so that weak swimmers as well as entire schools can master the total height difference of maximum 11.4 metres. Pools measuring 2 metres in width and 2.85 metres in length have been installed in the ladder and ensure that large fish such as salmon have enough room in the serpentine corridors.

Migrating fish have three entry points depending on their route. One is located on the bank side and two at the mid-pier. Fish always look for the strongest current, which lures them to the ladder entrances. Depending on where the fish enters, it has to cover a distance of 206 to 254 metres at the Eglisau-Glattfelden plant.

Elevator on the German side

Owing to the tight space situation and steep banks on the German side, it was not possible to realise a fish ladder. Instead a fish elevator was installed using the existing lock. An artificially created lead current

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lures the fish from the lock into a chamber where they are raised with a weir and released in the headwater. Fish transports take place automatically from four to twelve times per day depending on the time of year and spawning season.

The remodelling measures at the Eglisau-Glattfelden power plant take into account the swimming behaviour of some 30 fish species and make an important contribution to fish migration in the Rhine River. The new migration systems replace the old fish ladder that was installed nearly 100 years ago in the form of small water basins.

Monitoring success for a year

The success of this investment for the benefit of fish migration is now being monitored extensively since March 2017. For one year, the fish that use the ladder on the German and Swiss side will be directed into pools where they will be manually counted and recorded according to species and size. The pools are emptied at least once a day depending on the number of fish. Axpo is conducting the fish count with the support of local fishing associations on the Swiss and German side. The results are expected in the summer of 2018.

Additional Information

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About Axpo

The Axpo Group produces, trades and distributes energy reliably for more than 3 million people and several thousand companies in Switzerland and in over 30 countries throughout Europe. Around 4500 employees combine the expertise from 100 years of climate-friendly power production with innovative strength for a sustainable energy future. Axpo is an international leader in energy trading and in the development of tailor-made energy solutions for its customers.

