

Juntola power plant's centenary in 2021

The hydropower potential of the Juntola Rapids, located on the River Paimionjoki near Paimio's northern border, has been utilised since the late eighteenth century, first for a mill, then a sawmill, and finally a power plant. Lounais-Suomen Sähkö-Osakeyhtiö became interested in the rapids in the late 1910s after the electricity production of the Juva power plant, completed in 1916, proved to be insufficient at times. It was also considered almost certain that electricity consumption would continue to increase. Consequently, the company purchased the rapids in 1919, and just two years later, on 8 November 1921, the Juntola power plant was fully commissioned. This autumn therefore marks the centenary of the Juntola power plant. The plant became the main supply point of the electricity network, transmitting not only its own electricity but also the power generated by the Juva power plant and the Askala power plant, completed in 1936.

Throughout the twentieth century, the dam was improved and modernised, machinery was replaced, and operations were increasingly automated. Among the most significant developments were the installation of a new turbine in 1963, which substantially increased the plant's generating capacity, and the introduction of remote control and monitoring equipment in 1958, enabling both the Juva and Askala power plants to be supervised from Juntola. Juntola was the first site within Lounais-Suomen Sähkö-Osakeyhtiö to be equipped with this type of remote operation. Automation and remote control advanced even further during the 1970s when a central control centre was completed next to the company's headquarters in 1978, allowing all power plants on the River Paimionjoki to be monitored from a single location.

Electricity is still generated at Juntola today. Production is managed by Koskienergia Oy, which purchased the power plant in 2012 and owns a total of 29 hydroelectric power plants across Finland.



Residential buildings for the employees of the Juntola power plant – photograph from 1929

Timeline

1796 Customs inspector Jakob Ahrenberg was granted permission by the Swedish Board of Trade (Kammarkollegium) to build a mill at the Juntola Rapids. The mill was soon destroyed by fire.

1864 Klaus Reinhold Limnell, a master dyer from Turku, received a licence to establish a small sawmill for local use at the Juntola Rapids.

1917 The company Aktiebolaget Jundola was established to operate the Juntola sawmill. Its principal shareholders included members of the board of Lounais-Suomen Sähkö-Osakeyhtiö.

1919 Lounais-Suomen Sähkö-Osakeyhtiö purchased the Juntola Rapids and the neighbouring manor estate from A.B. Jundola for one million Finnish marks in order to construct a power plant. The company sold the manor later that same year for 800,000 marks.

1921 The Juntola power plant was officially inaugurated on 10 November, although it had already been partially operational during the previous year. At its highest point, the dam measured 18 metres. Three generating units were installed, and the plant's normal annual electricity production reached approximately 2.6 million kilowatt-hours, tripling the company's total electricity production.

1928 New housing was built beside the power plant for the plant operators, who had previously lived more than one kilometre away. The new residential complex included two houses, a sauna with a baking room, and an outbuilding.

1936 Following the commissioning of the Askala power plant, the reservoir above the dam was drained so that the dam could be sealed and coated with asphalt concrete.

1942 The largest generating unit remained out of operation throughout the winter because of a shortage of water. The severe winter caused the turbine gate and its cells to crack from freezing. When the gate was inspected before the spring floods, it broke, allowing water to rush into the turbine hall. The water rose approximately one metre above floor level, soaking the machinery, which then had to be dried.

1953 Heating equipment was installed on the dam gates.

1958 Remote control and monitoring equipment was installed.

1961 The residential buildings underwent a complete renovation.

1962 The largest turbine was dismantled.

1963 A more efficient turbine was installed in its place, increasing average annual electricity production to approximately four million kilowatt-hours.

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1965 A radio station providing communication across the entire distribution area was installed.

1966 An exceptionally severe spring flood occurred.

1971 Equipment required for the remote operation of the Askala power plant was installed.

1976 The floodgates were renewed. Two of the three spillway openings were converted to mechanical operation.

1977 The Askala and Juva power plants were connected to the remote operation system, and remote operating capability for the large generating unit was installed at Juntola.

1978 Around-the-clock shift supervision at Juntola ended, with operations transferred to the remote control centre.

1994 The two original Francis turbines installed in 1921 were taken out of service.

1995 Lounais-Suomen Sähkö-Osakeyhtiö became Länsivoima Oy.

1999 Fortum acquired the entire Länsivoima company.

2012 Koskienergia Oy purchased the power plants on the River Paimionjoki from Fortum, including Juntola. In September, the second bottom outlet gate of the dam failed, causing the water level to fall rapidly. The level dropped all the way upstream from Juntola to the Juva power plant, a distance of approximately eight kilometres, by as much as 15 metres.



The Juntola power plant and reservoir in the 2020 s. Photograph by Oskari Summanen.