

Specification

Vau i Dejës HPP is of the dam and lake type. Three separate dams were built to create its lake: Qyrsaqi dam is 46.4m high and 440m long. The type is partly gravitational, made of concrete and partly earth filled with local materials of limestone formation. 4 spillway with radial gates are installed on the concrete part of the dam, as well as the intake unit with double segmented gates, from which 5 penstocks merge to bring water into the plant's generation units. The maximum discharge capacity of the spillways is 3500 m³/s, while the units' water processing capacity is 4 X 113 m³/s. Zadeja dam, with a height of 60m and 390m in length, is of earth filling type, with local limestone material. This dam also contains a discharge tunnel with segmented gate, with a discharge capacity of 3200 m³/s. Rragami dam has a height of 34m and a length of 320m. This dam is filled with local materials of limestone and flysch formation. There are no hydro works in this dam. It only serves as a barrier for water retention. The maximum volume of Vau i Dejës lake is 580 million m³. Its surface is 25km² and it climbs from the Vau i Dejës Gorge for about 27km upstream the Drin River valley, near the HPP Koman. The maximum top water level of the lake is 76m a.s.l., while the minimum operational level is 61m a.s.l.. The plant has a 54m head and the active volume of the lake is 263 million m³. As part of the cascade, Vau i Dejës HPP is designed as a first-class work in terms of the risk bearing level. The safe maximum flow for 1 in 10,000 years was calculated at 10000 m³/sec. The total discharge capacity of the HPP at the 76m level is 7500 m³/sec. The generation units installed in the plant have "Francis" vertical turbines, with 50MW power each; 3-phase synchronous generators and lifting transformers for connecting with the substation. The total installed power of the HPP is 250 MW. Auxiliary and control-monitoring devices are also located in the Plant's building. The average annual production is 1000 Gwh. The plant was constructed using Chinese equipments and technology, but it went through a full rehabilitation in the years 2003-2007; mechanical equipments from Andritz and electrical and control installations from Alstom. The substation with its transmission, control and protection equipment enables the connection with the Power System via 220 Kv lines (Vau i Dejës-Tirana, Vau i Dejës- Koman and Vau i Dejës-Elbasan).