

The Pontecosi dam in Italy, originally constructed in 1925, and now to be refurbished.



Pontecosi dam, Italy, to be refurbished

Studio Pietrangeli has been appointed by Enel Green Power to carry out the engineering for the rehabilitation of the Pontecosi dam, which impounds the Serchio river, in Italy's

central region of Tuscany. The assignment includes both the detailed assessment of the conditions of the concrete gravity dam, including stability and seismic studies, and the design of the rehabilitation works required to meet modern safety standards. The 33 m-high dam, which was commissioned in 1925, is still in reasonably good condition, according to the Italian engineering consultancy, but rehabilitation works are required to upgrade it to comply with modern safety standards. The planned rehabilitation works include grouting and a drainage screen, instrumentation on the dam body, and some specific works on the appurtenant structures.

Designed by Prof. Omodeo, a renowned Italian dam designer, the Pontecosi dam comprises a gated

spillway and is equipped with bottom outlet gates in the middle blocks. The dam crest is at el. 314 m, and has a length of 140 m. The current total reservoir volume, at its maximum regulation level of el. 311 m, stands at around 837 000 m³, while the reservoir volume at the date of commissioning was about 2.95×10^6 m³, according to Enel.

The dam, which has operated almost continuously since construction, regulates water for the Castelnuovo Garfagnana hydropower plant, which is around 2.5 km from the dam. The plant, which was built between 1922 and 1925, is equipped with three vertical axis Francis turbines, with a combined installed capacity of 8.2 MW, and produces average annual output of around 14.77 GWh.