

Field Trip to Frades Power Station 29th June 2013

Located in Northwest Region of Portugal (Minho), at the outskirts of the Peneda-Gerês National Park, Frades is the second power station of Venda Nova hydro power plant, on the left bank of Cávado river, with a capacity of about 192 MW, that initiated industrial service in 2005. Frades Station is equipped with two reversible Francis turbines and the power house is an impressive cave, located about 350 meters below the ground surface, accessed by a tunnel with about 1,7 km long and an average diameter of 8 meters.

The visit of Frades Power Station will be preceded by a small presentation of its main characteristics and also of a brief description of a second power reinforcement of the hydro plant, Venda Nova III, now in construction, really nearby (side by side). It will be the biggest hydroelectric power station in Portugal, with a total capacity of about 750 MW (2 asynchronous variable speed reversible units, giving the possibility of pumping managing until about 20% of the maximum capacity), expected to start industrial service in the second half of 2015. The technical visit to the station will be finished with a lunch, in the “transformers cave” of Frades power station (by 13h30).

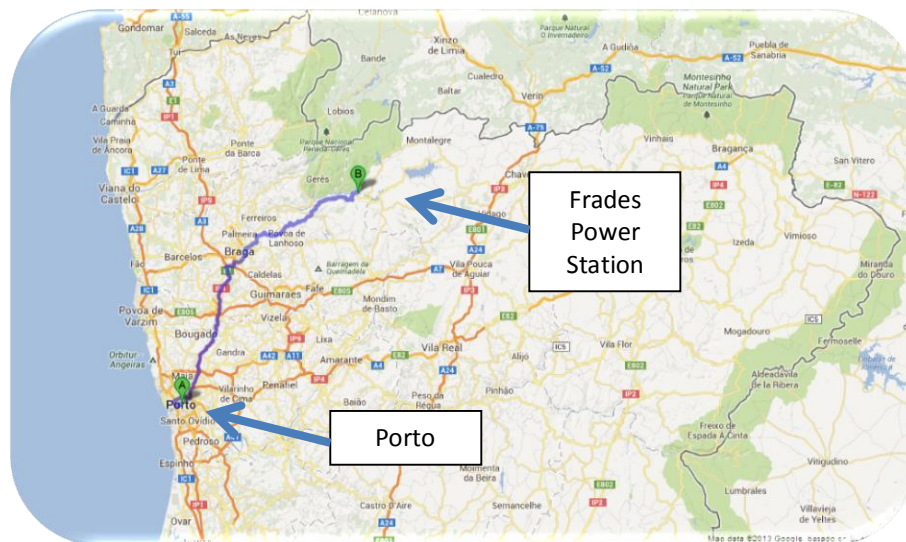


Figure 1 – Location

The Frades Power Station is located about 110 km from Porto, on the border of the Peneda-Gerês National Park. The bus will depart from Porto at 8h30, from “Fundação Eugénio de Almeida” and the expected trip time until Frades Power Station is about 1h45m.

The arrival time at Porto is by 17h00 - 17h30.



Figure 2 - Venda Nova dam



Figure 3 - Venda Nova reservoir



Figure 4 - Frades powerhouse