The first Israeli Hydro-Electric Pumped Storage Power Plant Gilboa PSPP

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The Israeli Public Utilities Authority (PUA) has decided to increase the instantaneous power available on the grid by adding Pumped Storage Power Plants (PSPP) to the existing generation capacity. PSPP Investments Ltd. is a private investor that has decided to develop the GILBOA PSPP. The capacity of the GILBOA PSPP is 300MWe. The project performance has to comply with PUA regulation for PSPP, and with all relevant Israeli laws and standards. The GILBOA PSPP is located at the Gilboa Mountain, at the north of Israel, near the Town of Beit Sha’an (about 120 Km North of Tel Aviv). The GILBOA PSPP consists of: an upper reservoir of 2.4 m\textsuperscript{3}; a High Pressure HP vertical shaft; an horizontal HP waterway tunnel and a steel lined bifurcation to feed the two penstocks; an underground powerhouse composed of two caverns: one cavern housing the two pump turbines and generator-motors, the Main Inlet Valves and associated equipment, one cavern housing the two main power transformers and the common starting equipment (Static Frequency Converter and associated equipment); a low pressure LP waterway tunnel; a lower reservoir of 2.4 m\textsuperscript{3}; a 161 kV outdoor substation for connection to the Israel Electric Corporation (IEC) grid and operating buildings, one inside the premises for the substation, one at the entrance of the site to serve also as visitor center. This presentation will give an overview of the GILBOA PSPP through short descriptions of chosen electromechanical components, and will cover different items from feasibility studies to installations on site including model tests and manufacturing process.

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