POWER GENERATING STATIONS

Electricity from Under the Ground

Engineers at the S.Ya. Zhuk Gidroproekt (Hydraulic Design) Institute consider the Panajarva site in northern Karelia to be rare gift of nature for creating an integrated energy-producing system.

Without building a dam, and using an almost two-hundred-metre natural drop in elevation between two lakes, engineers can build a water-storage power station approaching the output the of Ust'-Ilim Hydroelectric Power Plant. Specialists have completed a feasibility study for the Panajarva Water-Storage Power Station.

Power engineers have long tried to find a reliable key to the problem of load "peaks". At night, power is available in abundance, with nowhere to go, while we cannot "slow down" the basic (thermal and atomic) power plants: they ultimately do not pay. The mobility of hydroelectric power plants --units producing enormous power-- and the opportunity that they offer of switching on or stopping in a matter of minutes, have prompted the creation of water-storage power plants. And until now we have not had a better instrument for leveling out "peaks".

It is no accident that the total power of water-storage plants has already exceeded 20 million kilowatts in the USA, 10 million in Japan, and 5 million in France. Even as small a State as Luxembourg has a water-storage station producing a