

A Ten-Mile Storage Battery

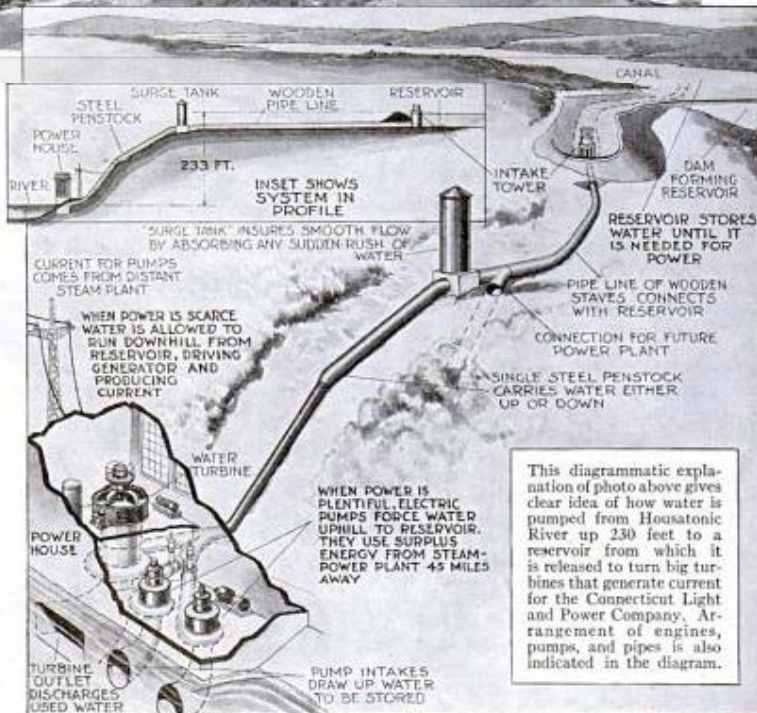


Big reservoir takes load off electric company's engines. Only system of the kind in this country.

HOW to store reserve power for daily peak loads and seasonal shortage of water was a problem the Connecticut Electric Light and Power Company solved by erecting a unique plant near New Milford, Conn.—a sort of gigantic electric storage battery. By pumping water uphill and then letting it flow down again through a water turbine and generator, this power station can store more electricity than all the storage batteries of all the automobiles in the United States put together. It is the first large plant of its kind ever built in this country, although the idea has been applied successfully in Germany (P.S.M., Apr. '30, p. 50).

Surplus electricity from a steam-power plant at Devon, Conn., forty-five miles away, charges this giant storage battery by pumping water into a reservoir. When power is abundant, the Devon plant runs two 8,100-horsepower pumps that raise water from the Housatonic River, beside the power station, to the storage reservoir, 230 feet above.

A tapering pipe starts at the power house as an eleven-inch penstock and widens to a fifteen-foot conduit of wooden staves. Up this pipe line the water travels to fill the reservoir, ten miles long.



This diagrammatic explanation of photo above gives clear idea of how water is pumped from Housatonic River up 230 feet to a reservoir from which it is released to turn big turbines that generate current for the Connecticut Light and Power Company. Arrangement of engines, pumps, and pipes is also indicated in the diagram.

When Connecticut needs more power, gates at the reservoir are opened. The water rushes downhill through the same penstock that raised it. At the power house, valves divert it through a water turbine that drives a 44,000-horsepower generator.

Thus at "peak" hours, electricity from the dynamo is fed back into the power network that supplies the state. Not

only at certain times of day, but from week to week this "power storage" produces startling economies. Many of the power stations of the state use water power, which varies considerably with the seasonal flow of the rivers.

So efficient is this great "storage battery" that it delivers sixty-one horsepower for every hundred horsepower that is used to pump water.