Power storage technology using seawater, generating peak electricity.

Seawater pumped-storage power plant

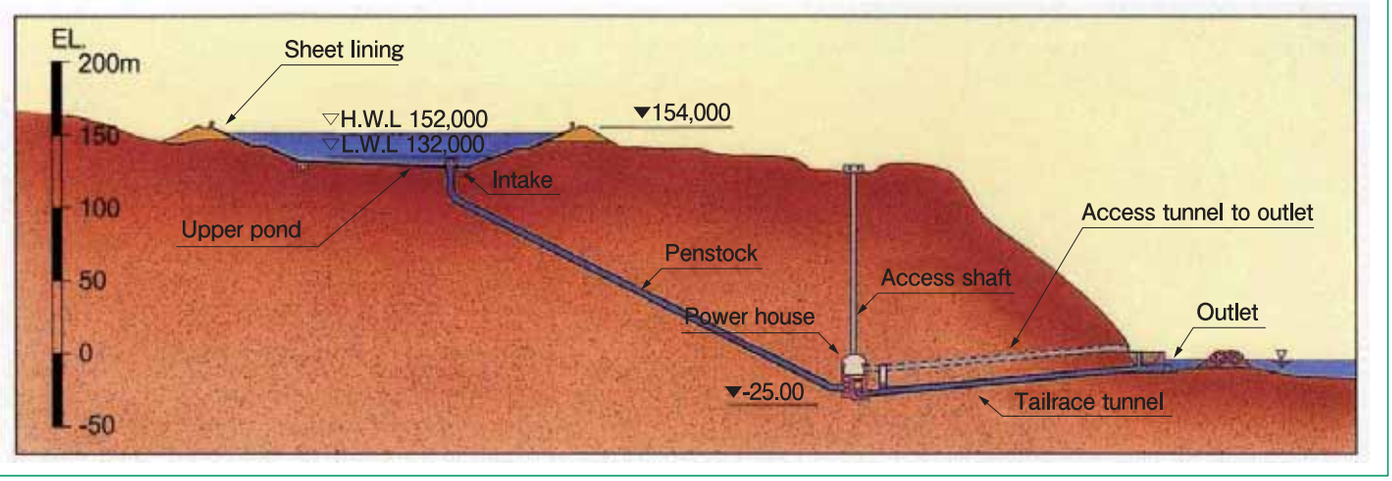
Feature

- Pumped-storage power plant generally needs to have lower and upper ponds. Seawater pumped-storage power plant, using sea as a lower pond, is able to reduce environmental impacts and construction costs.
- If an upper pond of sufficient capacity can be constructed, a huge capacity power plant can be built with inexhaustible seawater resources.
- If a plant site is topographically appropriate, a plant can be constructed near the area where electricity is needed, as well as near other power sources, whether thermal or nuclear. Thus, the system has a considerable advantage in transmission and power system operation.

Okinawa seawater pumped-storage power plant

Overview (Technical principles, actions, etc.)

A seawater pumped-storage power plant does not need to have lower a lower pond constructed, leading to cost reduction and lesser environmental impact. The system pumps up seawater using nighttime surplus power obtained from other power sources to store it in an upper pond. The stored seawater is used to generate power in correspondence with the electricity demand. It flexibly and promptly deals with considerable demand fluctuations like existing pumped-storage power generation systems. J-Power is seeing good results in operation and maintenance of the world's first seawater pumped-storage power plant in Okinawa(Max. Output: 30,000 kW).



Seawater pumped-storage power plant

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