

HAISHAN TIDAL POWER PLANT

Name of person filing the form (can opt to omit from on-line form)

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Date submitted

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Project name: Haishan Tidal Power Plan

Project description:

Project Developer:

Technology type:

Resource (wave, tidal, wind): tidal

Project scale (test site, prototype, array, commercial):

Installed capacity: 0.25MW

Additional Description: The Haishan TPP is noteworthy as it is the only linked-basins plant in existence in the world - a plant featuring a high and a low-basin with the power plant in between these two basins, generating energy from water flowing from the high into the low-basin generating the power in only one direction. The inlet gate was set up at one projecting beach on a sea island. The station was placed at the link-up of the high and low reservoirs. The water outlet gate was set up at the southeast of the low reservoir. The area of the upper reservoir is 22.9 hectares and 0.8 hectares at lower reservoir. The average tidal range is 4.91m. The plant serves an isolated community of 760 families. This unit operated continuously. The energy was used partly to pump fresh water for domestic and irrigation use into the community reservoir.

Project Website: Not available

Location:

Ocean/Water body: Maoyan Island

Closest city: Zhejiang Province

Country: China

Coordinates:

Depth:

Process status: This power station was completed and put to use in 1972. The plant was designed for two 75kW units of which only one was installed and commissioned in 1975. The plant has since been upgraded to an installed capacity of 0.25 MW, producing 0.34GWh per year.

Licensing information (brief description): Not available

Key Environmental issues: The mud and sand conditions of this power station are similar to that of Jiangxia power station. Yet its inlet was placed at the shallow shoal on projecting shore, where the two streams converge, carrying more sand and mud, more easily to be silted up. So when this power station is in operation, its sedimentation is so serious that it has silted up 63cm during eight years.

One would expect however that, like most other seas, the Yellow and East China Seas are host to migratory fish species which need access to coastal bays, estuaries and rivers for their feeding and procreation. To what extent this has been taken into account by China's TPP engineering community is not clear.

Environmental webpage: Not available

Literature:

- Wang S., Yuan P., Li D., Jiao Y., 2011. An overview of ocean renewable energy in China. Renewable and Sustainable Energy Reviews, 15, 91-111.
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