

BAISHAKOU TIDAL POWER STATION

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

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Project name: BaiShakou Tidal Power Station

Project description:

Project Developer:

Technology type:

Resource (wave, tidal, wind): tidal

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

Installed capacity: 960 kW

Additional Description: The tidal station is the second largest in China. The power station in China was put into operation on 1 August 1978 when the first two generators were commissioned. In 1987 another two generators went into operation, followed by a further two in 1987 and it was put into use on 1st August 1978 with the first two generators began to operate in 1984.

Project Website:

Location:

Ocean/Water body: Shandong Peninsula

Closest city: is located 20km away from the southeast of Rushan County

Country: China

Coordinates (please use Mercator):

Depth:

Process status:

Not available

Licensing information (brief description):

Not available

Key Environmental issues: efficient measures were implemented to stop sand deposition in the lagoon where the tidal power station is sited, preventing the lagoon from getting old so as to prolong the life of use of the station. A comparative study on devising silt-proof systems was carried out using data from the Baishakou Tide Power plant and envisioned environmental protection to control sedimentation in the tallwater channel and reservoir. Through analysing the data measured out of Baishakou Tide Power Station, reasonable measures were proposed on controlling sediment in tall-water channel and reservoir area and comprehensive management. Engineering facilities, mechanical sand-proof methods, and environmental protection were also considered (Xhikui Zu, 1992; Zhikui Zhu, 1992).

Environmental management actions were implemented to deal with sediments deposition. A large area of plants, divided into three parts in different levels: high, middle and low, was planted on the big complex sand dam which is 3km in the east of the eastern sand proof dam.

Environmental webpage: not available

Monitoring and adaptive management				
General description				
Environmental management measures in the site where the tidal plant is located				
Receptor	Monitoring program description including question and/or objective	Design and methods	Results	Status
Geomorphology of the basin	Implementation of measures to stop sand deposition in the lagoon where the tidal power station is sited, preventing the lagoon from getting old so as to prolong the life of use of the station	A large area of plants, divided into three parts in different levels: high, middle and low, was planted on the big complex sand dam which is 3km in the east of the eastern sand proof dam. On the 1.0–2.0m low beach and dam field, the growing fast and flood and silt-resistant plant <i>Spartina anglica</i> was planted; on the 2.5m middle beach (the supposed level is 1.55m), reed was planted and on the high beach, trees were planted. In addition, west to the sea entrance of the newly built Baishakou mouth, a short hook-shaped dam has been built as a barrier.	<i>Spartina anglica</i> in the low beach and dam fields not only prevents sediment from being washed away by wave and wind, but also provides feed for cow and sheep, and bait for fish. Furthermore, it accelerates the growing period of reed in the middle beach, which is used as building materials and fuel, and forms a green scenery environment together with the dense trees on the high beach. Such kind of engineering facilities and biological measures coordinates in harmony, preventing the sediment of Baishakou River to obstruct the sea entrance of the new river route and the sediment to silt up far away from the tide power station.	Completed
Reports and papers	<ul style="list-style-type: none"> Xiaohua Liu, Liu Fagong. The practice of comprehensive silt proof measures in tide power stations http://www.iahr.org/e-library/beijing_proceedings/Theme_E/THE%20PRACTICE%20OF%20COMPREHENSIVE%20SILT%20PROOF%20MEASURES.html Liu, Yunchen. 2004. Silt-proof measures: following analysis of data measured out of Baishakou tidal power station, measures were proposed to control sediment in the reservoir. International Water Power & Dam Construction. http://business.highbeam.com/542/article-1G1-115308645/siltproof-measures-following-analysis-data-measured Evaluation on geomorphological conditions of site of the Baishakou tidal power station. http://en.cnki.com.cn/Article_en/CJFDTOTAL-HBHH198703004.htm China ocean energy power generation market analysis http://www.reportsfromchina.com/report.aspx?rid=15234 			
Research projects	Past or on-going environmental research projects at the site			