

## ENVIRONMENTAL EFFECTS METADATA SURVEY FORM

Name

Xuwei

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Project name: BaiShakou Tidal Power Station

Planned

In Operation

Completed

Project description:

*Project Developer:* Chinese Government

*Technology Developer:*

*Technology type:*

*Resource (wave, tidal):* Tidal

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

*Installed capacity (MW):* 960 kW

*Project Website:*

*Launch Date:* August 1978

*End Date:* Before 2012

*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.

Location:

*Ocean/Water body:* Shandong Peninsula

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

*Country:*

*Coordinates (please use Mercator):* 36°44'42.99"N, 121°34'59.77"E

*Depth:*

**Process status:** Since the sediment transport processes are changing, the advantage of the physical environment of the tidal power station has been changed.

**Licensing information (brief description):**

*Please provide a brief description listing the organizations involved, licenses needed and duration of consent process. One paragraph should suffice.*

**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:** *link to project official environmental webpage (if available)*

<b>Baseline studies and project effects studies: BaiShakou Tidal Power Station</b>				
<b>General description</b>				
<b>Receptor</b>	<b>Study description including question and/or objective (several can be listed per receptor)</b>	<b>Design and methods (brief description)</b>	<b>Results (brief description)</b>	<b>Status (planned, underway, completed, with dates)</b>
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 slat-	<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	Completed

		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.	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.	
Other* (can be named)				
Other* (can be named)				
Other* (can be named)				
<b>Reports or Papers</b>	<ul style="list-style-type: none"> <li>• Xiaohua Liu, Liu Fagong. The practice of comprehensive silt proof measures in tide power stations</li> <li>• 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 &amp; Dam Construction.</li> <li>• Evaluation on geomorphological conditions of site of the Baishakou tidal power station</li> <li>• China ocean energy power generation market analysis</li> </ul>			
<b>Research Projects</b>	N/A			

### Monitoring and adaptive management: BaiShakou Tidal Power Station

<b>General description</b>				
<b>Receptor</b>	<b>Monitoring program description including question and/or objective (several can be</b>	<b>Design and methods (brief description)</b>	<b>Results (brief description)</b>	<b>Status (planned, underway, completed, with dates)</b>

	listed per receptor)			
Physical environment				
Benthos				
Fish and fisheries				
Large vertebrates				
Birds				
Marine uses/ users				
Other* (can be named)				
<b>Reports or Papers</b>	(Key papers on the areas addressed should be listed here; when possible the files themselves can be made available in downloadable PDF format, alternatively links to the files or project website can be provided when available e.g. SeaGen.)			
<b>Research Projects</b>	(past or on-going environmental research projects at the site)			