

ENVIRONMENTAL EFFECTS METADATA SURVEY FORM

Name of person updating the form

Xuwei

Date submitted

July 24, 2014

Project name: Wanxiang-I Project

Planned

In Operation

Completed

Project description:

Project Developer: Harbin Engineering University (HEU)

Technology Developer: Harbin Engineering University (HEU)

Technology type: Vertical-axis tidal turbine

Resource (wave, tidal): Marine currents

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

Installed capacity (MW): 70 kW

Project Website:

Launch Date: 2001

End Date: 2004

Additional Description: Wanxiang-I was the first floating moored tidal current turbine in China. The device consists of two vertical axis rotors, driven systems, control mechanism and floating platform. Each 2.2 m diameter rotor consists of four vertical blades with variable pitch. Thin spokes in tension connect the blades to the hub for the purpose of transferring torque. A shaft connects the hub to the gearbox coupled to the generator forming the driven systems. The rotors, driven systems and control mechanisms are supported by a floating platform, which is kept floating by a pair of hulls. The floating platform then moored to the seabed through a mooring system, which includes four gravity anchors and light chains.

Location:

Ocean/Water body: Guishan Channel

Closest city: Near Daishan in the Zhenjiang province

Country: China

Coordinates: 0.223442°, 122.202591°

Process status:

Current status of the project implementation and future developments

Expected operation date (if project is under way please indicate the start date)

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: *brief description on the most important environmental issues raised by the project (e.g. Sensitive species/habitats/areas that were of particular concern and/or received special protection) and how they were addressed.*

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

Baseline studies and project effects studies: Wanxiang I				
General description				
Receptor	Study description including question and/or objective (several can be listed per receptor)	Design and methods (brief description)	Results (brief description)	Status (planned, underway, completed, with dates)
Physical environment				
Benthos				
Fish and fisheries				
Large vertebrates				
Birds				
Marine uses / users				
Other* (can be named)				
Reports or Papers	<ul style="list-style-type: none">• China Funds Development Of New Tidal Current Energy Devices• 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.			
Research Projects	N/A			

Monitoring and adaptive management:

General description				
Receptor	Monitoring program description including question and/or objective (several can be listed per receptor)	Design and methods (brief description)	Results (brief description)	Status (planned, underway, completed, with dates)
Physical environment				
Benthos				
Fish and fisheries				
Large vertebrates				
Birds				
Marine uses/ users				
Other* (can be named)				
Reports or Papers	(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.)			
Research Projects	(past or on-going environmental research projects at the site)			