WANXIANG-I PROJECT

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

Teresa Simas | 03-07-2012

Project name: Wanxiang-I Project

Project description:

Project Developer: Harbin Engineering University (HEU)

Technology type: vertical-axis tidal turbine

Resource (wave, tidal, wind): marine currents

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

Installed capacity: 70 kW

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.

Project Website: Not available

Location:

Ocean/Water body: Guishan channel

Closest city: Daishan, Zhejiang province

Country: China

Coordinates (please use Mercator):

Depth: 40 to 70 m

Process status:

In January 2002 Wanxiang-I was installed 100 meters from the coast, and it has since been providing power to a small area. This deployment has shown the Wanxiang-I infrastructure to be successful and easily installed and maintained.

Licensing information (brief description):

Key Environmental issues:

Environmental webpage: Not available

Information collected from:

- China Funds Development Of New Tidal Current Energy Devices http://www.sea-technology.com/features/2011/0411/tidal_current.php
- 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.