

ENVIRONMENTAL EFFECTS METADATA SURVEY FORM

Name of person updating the form

Teresa Simas

Date submitted

July 4, 2012

Project name: Enermar Project

Planned In Operation Completed

Project description:

Project Developer: Ponte di Archimedes International S.p.A.

Technology Developer: Ponte di Archimedes International S.p.A.

Technology type: Kobold vertical axis turbine

Resource (wave, tidal): Marine currents

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

Installed capacity (MW): 50 kW

Project Website: <http://www.sinoitaenvironment.org/ReadNewsex1.asp?NewsID=2963>

Launch Date: February 2011

Additional Description: The Kobold turbine is a rotor mounted on a vertical shaft which produces mechanical energy by exploiting marine currents. The system is moored by four anchoring blocks where the water depth is 18-25 m and the expected current velocity is about 2 m/s. The system consists of a buoyant support platform and the patented Kobold turbine. The platform, designed by the Ponte di Archimede Company, houses the gearbox, a 160 kW synchronous generator and the necessary electrical equipment. The Kobold turbine (cross flow rotor, 6 m in diameter, equipped with three blades with a span of 5 m) is placed under the platform.

Location:

Ocean/Water body: Strait of Messina, Sicilian coast

Closest city: Ganzirri, Messina

Country: Italy

Coordinates (please use Mercator): 38.245885°, 15.651455°

Depth: 18-25 m

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: Enermar Project				
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)
Acoustics	Underwater acoustic environmental characterization - Kobold turbine noise assessment	Underwater noise measures were taken in two days (10th and 11th July 2007) at 16 and 30 m. The sensor was set tight to a mooring cable towards east (day 10) and NE (day 11). An ITC 8073 calibrated hydrophone was used as an underwater sensor while surface acquisition and recording was carried out using a Sinus Messtechnik Samurai workstation. The system acquired signals for about 20 hours.	The Strait is cyclically involved in a massive water flow from the South Mediterranean up to the Tyrrhenian sea and back and the low frequency component (up to 20/40 Hz, most of which comes from flow noise) is normally the most intense part of the signal. The device noise intensity and frequencies of both turbines (k16 and k18) are described in the report.	Completed

Landscape	To evaluate the landscape impact of the Kobold prototype in the Strait of Messina	Semi-quantitative method to model a landscape assessment	The site where the plant is positioned at a distance of about 150 – 200 m from the shore. The results allow us to state that the measure of the impact landscape has been a huge success. In fact, the fuzzy variable representing the impact is 98% below the tolerance threshold.	Completed
Reports or Papers	<ul style="list-style-type: none"> Bergamasco. A., Giuntab, G., Marinoc, D., Pandolfod, S., Sindonie, G. Fuzzy impact assessment on the landscape: the Kobold platform in the Strait of Messina case study. NAUTA-rccs, 2007. Underwater noise assessment in the Messina Strait, Italy - An underwater acoustic environmental characterization from the Kobold turbine 			
Research Projects	N/A			

Monitoring and adaptive management: Enermar Project

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)
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