

MK1

Name of person filing the form

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Project name: Mk1

Company: Oceanlinx Ltd.

Project description:

Project Developer: Oceanlinx Ltd.

Technology type: Floating device, Oscillating Water Column.

Resource: wave

Project scale: single device

Installed capacity (MW): 0.5

Additional Description: The Oceanlinx Mk1 full scale prototype was fitted out and first deployed in 2005. The approximately 500 tonne device used a parabolic wall to concentrate the wave energy into its 100 square metre Oscillating Water Chamber (OWC). The device made use of a Dennis-Auld turbine. The Mk1 Full Scale prototype was one of the first full scale wave energy devices in the world. Its operation between 2005 and 2009 has provided invaluable test and operational data guiding the development of subsequent designs.

Location: The device was located at Port Kembla, approximately 100km south of Sydney, Australia.
34°27'S 150°54'E

Process status: Tests completed. Turbine testing certified by Llyods Register. Currently being decommissioned.

Licensing information:

As the device was located below the high water mark, the licensing for the device fell outside the jurisdiction of the local and state authorities. It was determined that authorisation of the project was required from NSW Fisheries, Maritime Authority of NSW and Dept. Of Lands.

A license for the area was granted by the State Dept. Of Lands. This has rolled over from 2004 to 2011 to cover deployment of M2 and Mk3PC.

Environmental survey issues:

Baseline and project effects studies: Oceanlinx Mk1 project				
General description		Environmental Statement		
Receptor	Study description	Design and methods	Results	Status
Physical environment	Water and sediment quality		Was not affected by the installation of the device.	
	Coastal processes (sediment fluxes, waves and tidal currents)		No perceptible effect as the site is a low energy environment (10kW/m) and the device is positioned in front of the breakwater.	
	Onshore physical environment		Onshore physical environment consists of several breakwaters surrounding a large industrial site.	
Biological environment	Impact on designated sites		No designated sites in the area	
	Marine ecology	Aquatic Ecology Assessment	Low fish and fauna count on seabed, increasing amongst blocks that form breakwater.	
	Fish		Low fish and fauna count on seabed, increasing amongst blocks that form breakwater.	
	Electromagnetic fields		N/A	
	Marine mammals		Low fish and fauna count on seabed, increasing amongst blocks that form breakwater.	
	Onshore and intertidal ecology		the site is on the edge of a large industrial port, N/A	
	Birds		the site is on the edge of a large industrial port, N/A	
Human environment	Landscape and seascape		the site is on the edge of a large industrial port, N/A	
	Archaeology and cultural heritage		It was determined that there was no effect on archaeology and cultural heritage	
	Socio-economics		As a test platform this was N/A	
	Noise		Acoustic tests determined that there were low noise levels with no predominant tone. Positioned in front of a large industrial port with a Coal hopper in the background, so the device was located in an existing high acoustic	

			industrial environment.	
	Commercial fisheries		No commercial fishing in the area, some coastal angling from the adjacent breakwater.	
	Navigation: detailed navigation risk assessment		The device sits on the seabed very close to the breakwater and in relatively shallow water, it was deemed that there would be no risk to local navigation.	
	Other relevant projects			
Reports or papers				
Research projects				