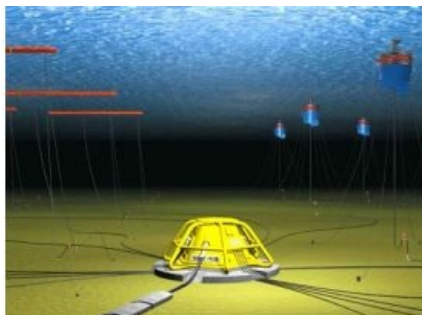


WERA System to Monitor Effects Wave Hub



The Wave Hub is to be developed approximately 10 miles off Hayle, on the north coast of Cornwall, UK. The hub is a 'socket' sitting on the seabed for wave energy converters (WEC) to be plugged into. The extraction of energy by the devices will by definition change the physical environment at the Wave Hub site. Radar systems are sought in order to determine the magnitude of this change and to assess the nature and magnitude of far field changes present in the shadow area in the lee of Wave Hub.

Radar devices will provide the offshore wave boundary conditions for numerical simulations of nearshore and shoreline change in the Wave Hub shadow, particularly high-resolution directional wave spectra. It is also expected that Wave Hub, with its large

collection of in-situ sensors will provide an optimal site for proving the reliability of high-frequency radar systems for wave measurements.

From Hayle, a cable will be taken through a duct beneath the sand dunes and then across the sea bed to an eight square kilometre area within which the devices will be moored. This area will be indicated with navigational markers. A cable from the hub to main land will take electrical power from the devices to the electric grid.

To monitor the influence of these devices on the ocean environment, the Peninsula Research Institute for Marine Renewable Energy (PRIMaRE), a joint venture of the University of Plymouth and the University of Exeter will install two WERA systems at the north Cornwall coast to receive current and wave data on the sea area leased to the device developers. The landbased radar systems will be able to deliver valuable real-time data on ocean currents for 110 km and wave data up to 50 km.

Thus, the renewable energy sector has discovered the usefulness of HF radar for their purpose to measure wave energy resource potential and to judge the influence of the marine renewables on the ocean environment.

<https://www.hydro-international.com/content/news/wera-system-to-monitor-effects-wave-hub>
