

Edinburgh wave company gathering real-time wave data



Edinburgh's wave energy pioneer, Aquamarine Power, is now gathering real-time wave data at their Oyster 800 test site in Orkney, which is helping the wave energy firm produce more accurate energy forecasts, optimise production and drive the design of their future Oyster 801 machine.

The data is being gathered by two devices, an acoustic doppler current profiler (ADCP) and an acoustic wave and current profiler (AWAC), which collect and transmit detailed wave information.

"As far as we are aware, this is a world first, streaming real-time data from both ADCP and AWACs simultaneously from this very energetic near shore environment," said Aquamarine Power CEO Martin McAdam.

"Although these devices are used commonly in deep water, there is a real challenge in ensuring reliable operation in the highly energetic near shore area, where Oyster devices are located.

"These two devices are giving us a tremendous amount of information about the wave climate at our EMEC site. We now have very detailed wave by wave information which we are streaming in real time to our offices in Orkney and Edinburgh and to our team at Queen's University Belfast.

"The data is helping us improve our hydrodynamic models, giving us a much better understanding of the actual impact of waves on the Oyster machine and how it behaves in all sea states. We can then use this to maximise the power production from Oyster 800 at our current site and replicate real sea

conditions more accurately in the wave tank at Queen's University Belfast.

"This will help us optimise the design of our next-generation Oyster 801, which will be located adjacent to the Oyster 800 at EMEC.

"The information also allows us to gain a better understanding of the power capture of the Oyster 800 and provide more accurate power production estimates for our EMEC test site and our commercial sites in the Western Isles and Orkney," McAdam concluded.