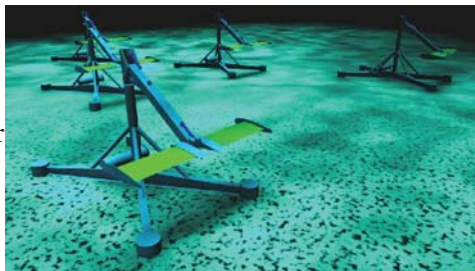


SonTek/YSI in Action

Application Note - June 2006

Argonaut-MD Used in Stingray Generator Farm

As part of the United Kingdom Government's Sustainable Energy Program, The Engineering Business Limited designed, constructed, and deployed what is believed to be the world's first full-scale tidal generator - "the Stingray" (photos courtesy of Shetland Islands Council).



The Stingray is proposed to be one of many such systems employed as part of a tidal generator farm

As part of the project, a SonTek Argonaut-MD was attached to the side of the Stingray (photos on right) to measure

tidal currents so that engineers can accurately correlate water current velocity with the effects of tidal loading on the generator.

The Stingray was deployed near the Shetland Isles, UK. If you have more interest in this project, please contact us.

This project being fully tested in the sea is a landmark achievement. It is the first major step which will take this potentially huge technology from the laboratory to large scale power generation.

*UK Minister of State for Energy and Industry,
Brian Wilson, MP*

● *About SonTek/YSI Inc.*

SonTek/YSI, founded in 1992 and advancing environmental science in over 100 countries, manufactures affordable, reliable acoustic Doppler instrumentation for water velocity measurement in oceans, rivers, lakes, harbors, estuaries, and laboratories. Headquarters are located in San Diego, California. Additional information can be found at www.sontek.com.



A YSI Environmental Company

WORLD LEADER FOR WATER VELOCITY MEASUREMENT

Current Monitoring at Shinnecock Inlet Long Island, New York

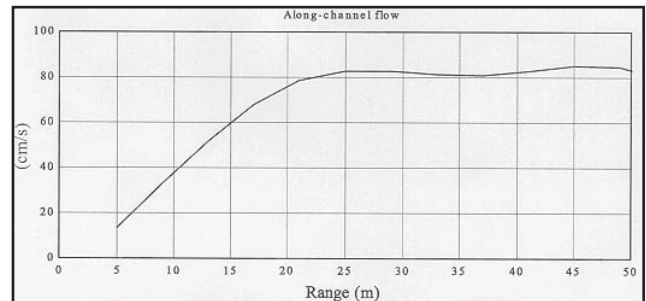


A 0.5-MHz Side-Looking Acoustic Doppler Profiler (ADP) is presently monitoring currents at Shinnecock Inlet on Long Island in New York. The project features an array of SonTek/YSI instruments, and is a cooperative partnership of the U.S. Army Corps of Engineers, the State of New York, SUNY Stony Brook, and Offshore and Coastal Technologies, Inc.

The ADP is mounted off the east jetty, and was chosen for this job to profile currents into the channel and determine the predominant flow patterns.

The large-diameter transducers in SonTek ADPs produce extremely narrow beams, offering distinct range advantages for horizontal profiling. Additionally, the use of a transducer shading technique minimizes side lobe interference, further increasing the maximum horizontal range of the system.

The graph shows the actual performance of the side-looking ADP. Note that when the instrument was deployed 1.2 m below the surface, it was able to accurately measure currents out to 50 m. This represents a phenomenal aspect ratio of over 40 (i.e., the SL-ADP achieved a horizontal range that was at least 40 times its distance to the nearer boundary). This suggests that placing the ADP at a depth of just 2-3 m may allow a 0.5-MHz side-looking ADP to achieve its full profiling range of 70 to 110 m.



This graph shows the actual performance of the side-looking ADP at Shinnecock Inlet, New York. Note that the main along-channel flow was reached at a distance of about 20 m from the ADP. What is astonishing here is that the ADP was submerged just 1.2 m below the surface and was able to accurately measure current data out to 50 m!

Live data from the Shinnecock Inlet project can be viewed at <http://www.lishore.org/shinnecock/latest.htm>.

In addition to the side-looking ADP, the Shinnecock Inlet Field Monitoring Project is also using the following SonTek systems for the listed purpose. The locations of these systems can be found at <http://www.offshorecoastal.com/GaugeDescript.htm>.

SonTek/YSI
9940 Summers Ridge Road
San Diego, CA 92121
Tel: +1 858 546 8327
Fax: +1 858 546 8150
Email: inquiry@sontek.com
Web: www.yisi.com