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ORPC Proves Design of Its Future Tidal Energy Power System

U.S. Dept. of Energy Funded OCGen® Module Mooring Project a Major Success

Portland, Maine, October 29, 2014 – ORPC is pleased to announce it has concluded its highly successful OCGen® Module Mooring Project at its federally licensed Cobscook Bay, Maine project site. This first-of-its-kind project, funded partially by the U.S. Dept. of Energy and Maine Technology Institute, proved the stability of the prototype OCGen® device in reversing tidal currents and confirmed the loading and performance of its innovative tensioned mooring system.

Power generation equipment that can be located at a prescribed depth, such as the OCGen® device, has the potential to access the more energy dense current resources typically found in the upper portions of the water column. The prototype OCGen® device consisted of a buoyancy pod attached to a chassis with two turbines placed in the water column 35 feet below mean low water. The objective of the project was to determine the stability of the OCGen® device under various loading and current conditions and the effectiveness of the tensioned mooring system. Data collected was well within expected ranges and proved the design concept of ORPC's OCGen® Power System.

"We believe the prototype OCGen® device is the first installation anywhere of a floating hydrokinetic device held at a fixed location in the water column using a tensioned mooring and anchoring system," said ORPC President & CEO Chris Sauer. "The lessons learned are a significant step forward in ORPC's development of a full-scale OCGen® Power System that will reduce the cost and footprint of tidal energy systems while enhancing performance. We are indebted to the Town of Lubec and City of Eastport, our local contractors, and our Maine-based project team for making this project such a success."

"The continued technological advances performed by ORPC in Maine will have a long lasting benefit on the local economy and development of the global renewable energy market," commented Paul Williamson, Director of the Maine Ocean & Wind Industry Initiative. "We are fortunate to have a company that shows such leadership in innovation in our state. We need to continue to do all we can to support their work."

"We are happy that ORPC's success with the OCGen® Project will be shared at the International Conference on Ocean Energy in Halifax, Nova Scotia next week," noted Chris

Continued

Campbell, Executive Director of Marine Renewables Canada. "The OCGen® Project aligns with project developments in Nova Scotia to make New England and the Maritimes a nucleus in the worldwide development of tidal energy."

Other highlights of ORPC's OCGen® Module Mooring Project include:

- Collection of significant data under various operating conditions of the OCGen® device over a three-month period, including device movement (pitch, yaw and roll), tidal current speed and direction, turbine rotational speed, and loading on the mooring lines
- Important contributions to the understanding of marine hydrokinetic mooring system dynamics that will help to validate and improve computational models
- Monitoring of fisheries interactions with the device, funded by a separate Energy Department grant, which was conducted by the University of Maine and is contributing to the growing knowledge base of aquatic interactions with ORPC's power systems
- Scour monitoring of the mooring anchors that indicated minimal changes in vertical elevation of the seabed as well as horizontal movement of the anchors themselves

ORPC is one of very few companies in the world to take a hydrokinetic power system project from an idea to a successful operation delivering power to the grid. In 2012, ORPC made history with its Cobscook Bay project, the first commercial, hydrokinetic tidal energy project to deliver electricity to a utility grid anywhere in the Americas. In the summer of 2014, ORPC installed its first river power system in the remote Alaskan village of Igiugig and successfully demonstrated the performance of it. Because of these unique experiences, ORPC is offering strategic expertise and support to other river and ocean energy projects through its subsidiary, ORPC Solutions.

Since 2007, ORPC has invested more than $25 million into the Maine economy and created or retained more than 100 jobs statewide. In Alaska, where ORPC has a project development office, the company has invested over $2.6 million since 2009, and has over 50 partners and contractors.

Celebrating its tenth anniversary in 2014, ORPC is a privately-held world leader in river, tidal and deep-water ocean current power generation systems and projects. ORPC's hub at Eastport and Lubec, Maine, has become an internationally recognized center for tidal and river energy development. For more information, visit www.orpc.co.

For still images of the OCGen® Project which may be used in media reports, see:
www.dropbox.com/sh/er4pc8ben77ozh8/AAD5X1kr_W6bjJLW3Yi6_eBka?dl=0