

XCT System for harvesting in-current hydrokinetic energy from low-velocity sites

\$4.4 million collaborative award with U.S. Department of Energy Water Power Technologies Office (DE-EE0008628), with additional \$0.25 million supplied by MA Clean Energy Center

Timetable: August 2019 - present

Principal Investigators: D. Duquette & D. Torrey, Ph.D.

Summary: The kinetic energy in river, tidal and ocean currents is an abundant resource that could support a huge global market; however, an estimated 80% or more of this potential is locked up in slow-moving waters where currents flow at 2 m/s or less for most of the year. To address this, LPS preliminarily developed its “Crosscutting” (XCT) turbine. The goals of the project are to (i) improve on the baseline design of the XCT turbine to increase power and reduce cost, (ii) mature the design by retiring the chief technical risks to commercialization, and (iii) test a fully integrated sub-scale prototype that is ready for pilot site installation.

Team members:

- LPS
- GE Research
- Turbo Solutions Engineering LLC
- Alden Research Laboratory
- Florida Atlantic University
- Alaska Center for Energy and Power – Tanana River Test Site

