

# Florida Atlantic University

## Southeast National Marine Renewable Energy Center

Web Site Link: <http://snmrec.fau.edu>

Director: Sue Skemp

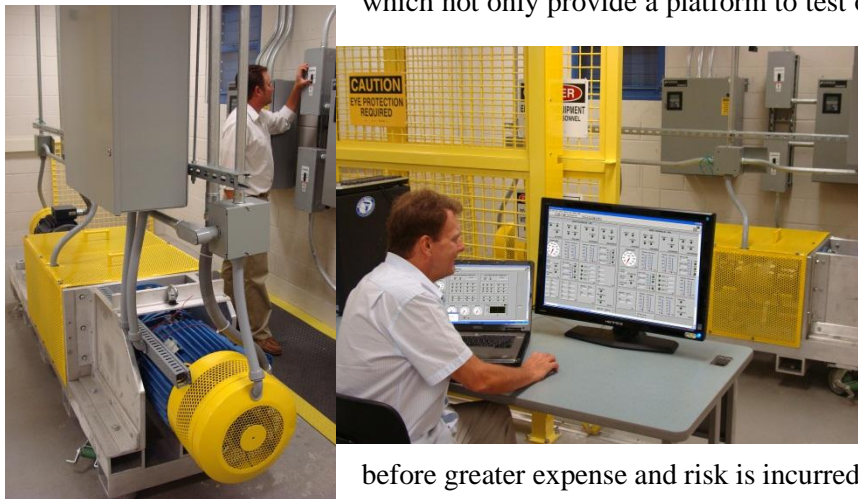
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### Description

The Southeast National Marine Renewable Energy Center (SNMREC) at Florida Atlantic University is investigating the challenge of harnessing the power of the Gulf Stream for the generation of base load electricity, a unique contribution to a broadly diversified portfolio of renewable energy for the nation's future. Working in a systematic fashion toward the implementation of a full-scale, at-sea testing facility for industrial prototypes, current work includes developing testing infrastructure and protocols for components and complete generating systems and, in the process, fielding critical environmental monitoring systems so that the nature and sensitivity of the resource itself can be understood and effects of single-system deployments can be examined before commercial-scale arrays are designed. The SNMREC's strategy to accelerate commercial development of Marine & Hydrokinetic (MHK) projects includes technology R&D, testing, environmental research and measurement, policy, regulatory, and economic research, and education and outreach.

**Lab Capabilities:** In-lab technology testing is underway with scaled generator dynamometer capabilities which not only provide a platform to test offshore electrical systems before



use, but also simulate offshore grids. Corrosion and bio-fouling facilities allow for investigation of new materials and coatings which will be necessary to ensure the efficacy of long term commercial device array deployments, and a recirculating flume tank is used to determine early-stage proof-of-concept and to test mooring and device dynamics before greater expense and risk is incurred testing offshore at larger scales.

**Open Water Capabilities:** An offshore scaled device test berth (approximately 12 nm offshore of Ft. Lauderdale, FL) is under construction and will be installed for up to 100kW max instantaneous power production and/or 7m rotor diameter turbine testing. This initial group of industrial devices will provide insight into individual device extraction methods, dynamics, and basic system operability. A generic 20kW experimental research turbine is also under construction which will allow for subsystem or component testing and development. In addition, it will provide methodology and support infrastructure available for commercial 1:20 scale prototype device testing.

Fee Schedule

Facility use is negotiated on a per-proposal basis and can include analysis and test design/planning services.

