

Marine Hydrokinetic Technology Testing on the Outer Continental Shelf Offshore Florida

Overview of the Environmental Review Process

Public Information Session

May 9, 2012

Office of Renewable Energy Programs
Bureau of Ocean Energy Management



Outline

- Environmental Assessment
 - Proposed Action and Scenario Analyzed
 - Environmental and Socioeconomic Resources
 - Alternatives to the Proposed Action
- Consultations
- How to comment
- Next steps
- Questions

Environmental Assessment

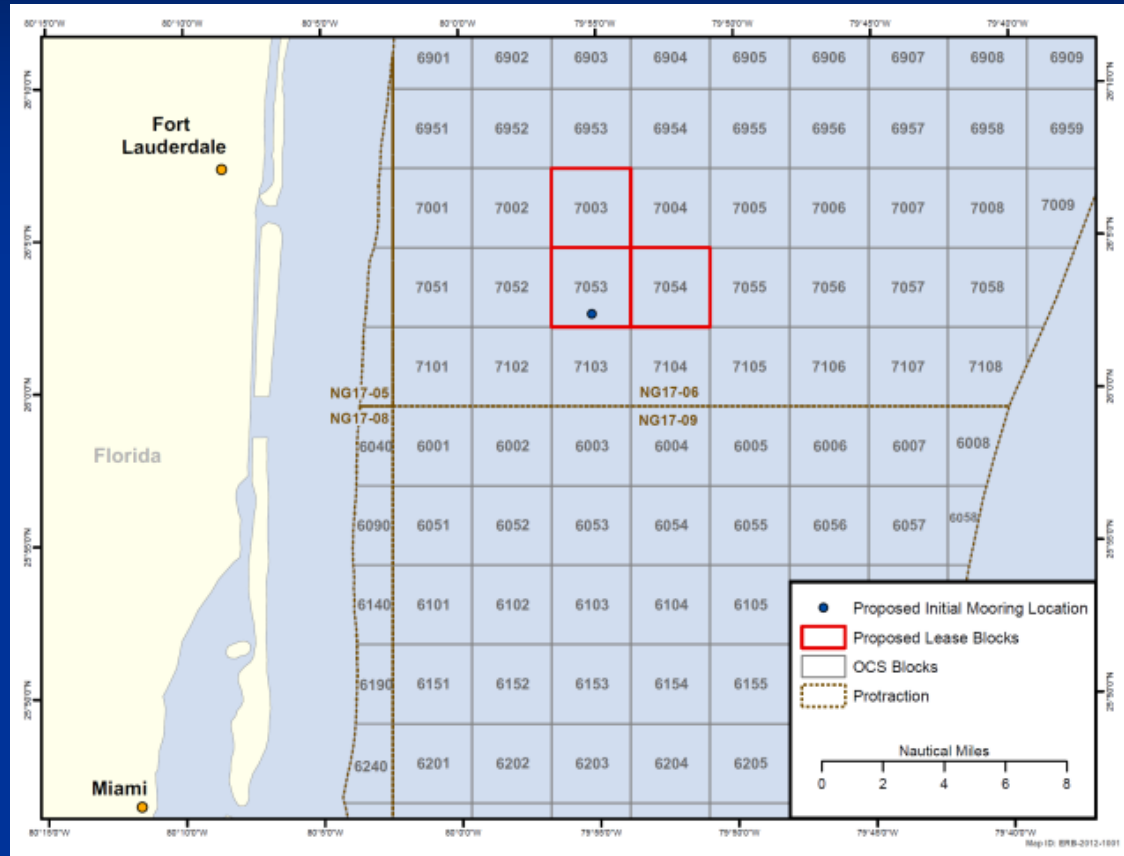
- National Environmental Policy Act (NEPA)
 - Requires assessment of the environmental effects prior to decisions
 - Public involvement
 - Better informed decision making
 - Integration of other environmental laws
- *Lease Issuance for Marine Hydrokinetic Technology Testing on the Outer Continental Shelf Offshore Florida - Environmental Assessment*
 - Notice of Availability published April 25, 2012
 - Comment period closes May 25, 2012

Proposed Action and Alternatives

- Alternative A – The Proposed Action
 - Scenario Analyzed: Onshore Activity, Vessel Traffic, Surveys, Mooring System, and Testing
- Alternative B – Removal of High Vessel Traffic Area
- Alternative C – No Action

Alternative A – The Proposed Action

- Issuance of a lease to FAU SNMREC
- 5-year lease term
- OCS Blocks 7003, 7053 and 7054
- 9 -15 nm offshore
- Deploy 3 single-anchor moorings attached to Mooring and Telemetry Buoys (MTBs)
- Test equipment designed to use the Florida Current to generate electricity



Onshore Activity and Vessel Traffic

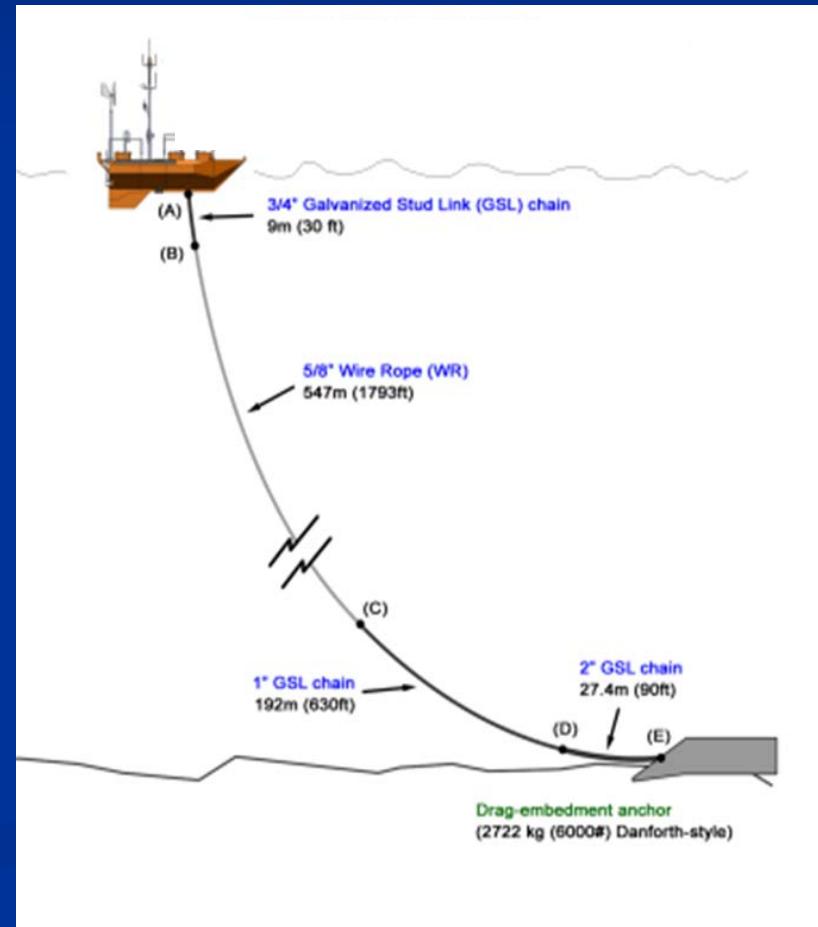
- Port Everglades and the Port of Miami
- Vessel traffic is associated with: surveys, the installation, operation, relocation and removal of MTBs, and technology testing activities
- Total vessel trips would range from 273 – 472
- Lease stipulations for vessel strike avoidance similar to those outlined in “*Vessel Strike Avoidance and Injured/Dead Protected Species Reporting*” (NTL 2012-JOINT-G01)

Surveys

- 73 – 86 vessel trips
- Archaeological
 - Acoustic (side scan sonar) and/or remotely operated vehicle (ROV)
 - To identify potential archaeological resources
 - Lease stipulations – Include a “Chance Finds” clause
- Biological
 - Area contains sensitive benthic habitat
 - Acoustic – to evaluate surface sediments, seafloor morphology and potential surface obstructions
 - ROV – to verify bottom types and identify potential coral habitats
 - Lease stipulations – Reduce ship strike potential and acoustic harassment

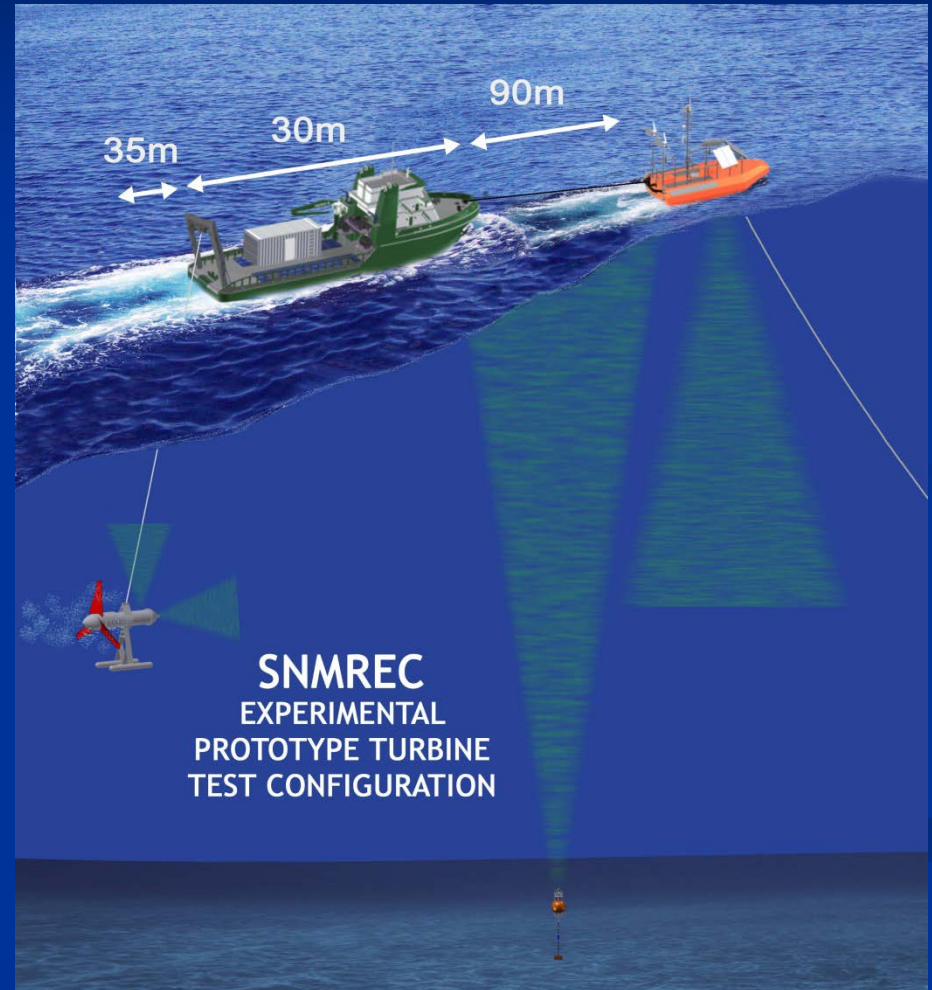
Mooring System

- Installation
 - Requires the submission of an adequate Project Plan that includes survey results
 - 3 MTBs
- Lease Stipulations
 - Avoid benthic habitats and archaeological resources
- Relocation and Removal
 - 7 – 10 relocations (10 – 13 total)
 - A work vessel and a ROV will be used to recover the anchor
 - The ROV will dive to the anchor and attach recovery gear to it



Testing

- A vessel will be used to ferry the devices from Port Everglades to the mooring location(s)
- Test turbine rotor diameters of 3 m - 7 m
- 12 – 24 test sessions per MTB location
- 180 – 360 vessel round trips over the 5 year lease term



Testing

- Operation
 - The device will remain attached to the deployment vessel by cable
 - Test sessions 1 – 5 days each (3 – 33 % of time)
 - Operate at depths of 5.0 m to 50.0 m
 - Current speeds would average 1.7 to 2.0 m/s
 - Devices would average 20 rpm – 70 rpm depending on rotor diameter length
 - Power generated would be dissipated through an air-heat exchanger located on the vessel

Testing

- Device Recovery
 - The deployment vessel would remove the device from the water
 - All cables would be recovered
 - Decommissioning and site clearance will be in accordance with BOEM's Renewable Energy Regulations at 30 CFR Part 585 and Interim Policy
- Lease Stipulations – Comply with NOAA's sea turtle and sawfish construction conditions

Environmental and Socioeconomic Resources Analyzed

- Physical
 - Air Quality
 - Water Quality
- Biological
 - Coastal Habitats
 - Benthic Habitat
 - Marine Mammals
 - Sea Turtles
 - Avian Resources
 - Bats
 - Fish and Fishing
- Socioeconomic
 - Cultural Resources
 - Commercial and Recreational Fishing Activities
 - Recreational Resources
 - Demographics and Employment
 - Environmental Justice
 - Other Uses of the OCS

Air and Water Quality

- The impact producing factor for Air and Water Quality is vessel traffic.
- No significant impacts to onshore air quality or Class I areas are expected due to:
 - Low emissions associated with vessel traffic
 - Prevailing westerly winds preventing emissions from drifting to onshore areas
 - The existing volume of vessel activity in ports
- No significant impacts to water quality are expected:
 - Vessel discharges would be minimal, if detectable
 - Due to the limited nature of the proposed activities, litter, trash and debris are unlikely
 - In the unlikely event of a diesel spill, impacts would be minimal since the spill would be small and would dissipate and biodegrade within a short time

Coastal Habitat

- Impacts to coastal habitats would be negligible
 - Vessel traffic may cause a small increase in wake erosion
 - Existing speed restrictions and current coastal traffic levels would prevent significant impacts

Benthic Habitat

(Hard Bottom and Deep-Sea Coral)

- The lease sites are located on the Stetson-Miami Terrace HAPC.
- The mooring system is the only likely impact producing factor for benthic habitat.
- Lease Stipulations:
 - The lessee would be required to survey potential mooring sites prior to deployment.
 - Hard bottom and deep-sea corals are required to be avoided.

Marine Mammals and Sea Turtles

- Potential impact-producing factors for marine mammals and sea turtles include:
 - Vessel traffic
 - Turbine operation
 - Survey and turbine noise
- Lease Stipulations - Standard operating procedures (vessel strike avoidance measures, operational monitoring, etc.) would be required to reduce potential impacts.

Avian Resources

- No significant impacts to birds are expected from onshore activities
- Impact of lighting from deployment vessels and buoys would likely be negligible compared to other sources of light
- Buoys and deployment vessels would provide perching opportunities, however direct harm to birds is unlikely
- Proposed Mitigation Measures and Lease Stipulations:
 - Leave non-hazard/navigation lights on only when necessary and hooded downward.
 - Install anti-perching devices on the buoys to discourage diving birds from using the general area

Bats

- No significant impacts to bats are expected from onshore activities.
- In the rare event that bats are attracted to the offshore area to forage at night, any effects on bats would be negligible.

Fish and Fishing

- Potential impact producing factors for fish include:
 - Mooring and telemetry buoy and mooring (benthic and pelagic fish aggregators)
 - Turbine operation
- Potential fishing impacts would occur during operational testing activities (3 – 33% of time)

Recreational Resources

- The proposed action would require various support services within Broward County and Miami-Dade County, Florida
- Impacts to coastal recreational resources are considered to be unlikely due to:
 - The distance from shore
 - No new coastal infrastructure
 - Relatively small amount of vessel traffic
 - Limited timeframe of proposed activities

Demographics, Employment and Environmental Justice

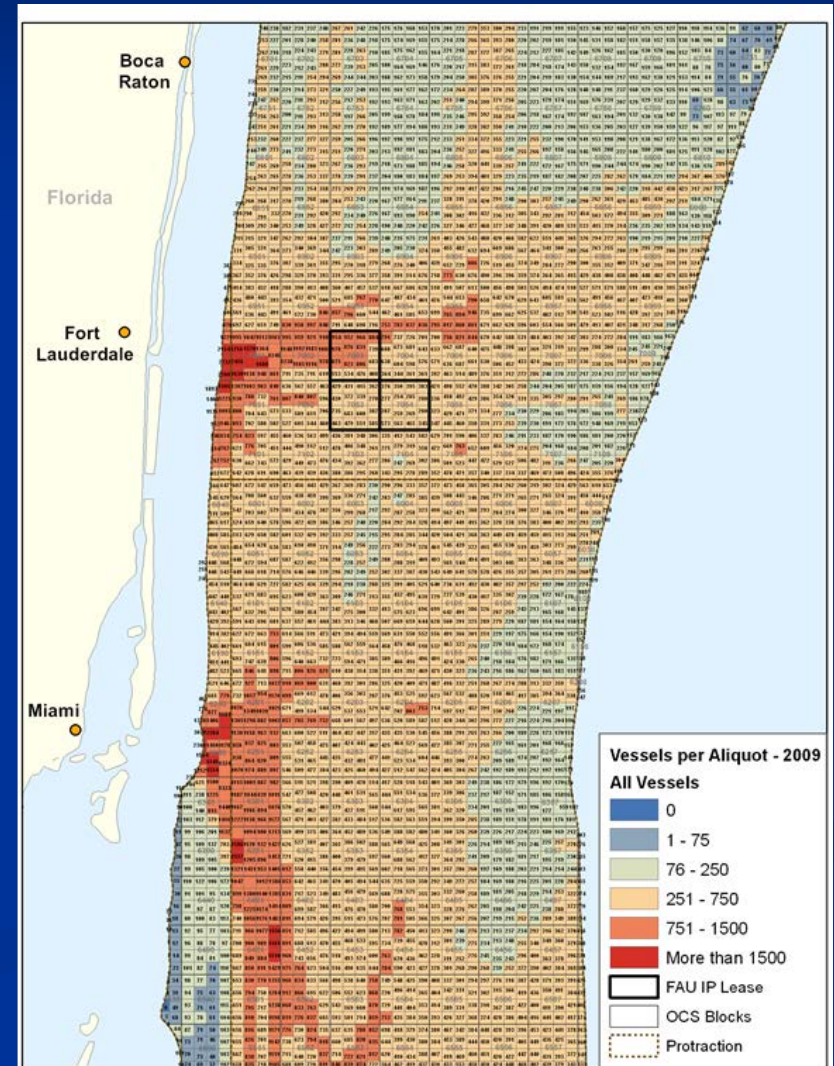
- In 2008, tourism and recreation involving ocean related activities employed 296,914 in Florida, 22,656 in Broward County, and 42,964 in Miami-Dade County
- Negligible but positive impacts on the population and employment through support services for the proposed action are likely
- Due to the distance from shore and the use of existing facilities, the proposed action is not expected to have disproportionately high or adverse environmental or health effects on minority or low-income populations.

Other Uses of the OCS

- Marine Transportation
 - Increased vessel traffic from project related activities (~2 % increase)
 - USCG navigational safety requirements and guidelines will be followed
 - MTBs would be equipped with navigational lights, radar reflectors, active radar transponders, and an AIS beacon transmitter
- Dredging Activities - Port Everglades Expansion Project
- Military Activities
 - The U.S. Navy's South Florida Test Facility is located in Port Everglades
 - Department of Defense (DOD) has identified that there is some risk that there could be interference with the Navy's activities
 - The U.S. Navy stated it would monitor the project
- Proposed Mitigation Measures and Lease Stipulations
 - Although no significant impacts to other uses of the OCS are expected, BOEM, in consultation with USCG, proposes some mitigation measures

Alternative B – Removal of High Vessel Traffic Area

- Vessels frequent the northern 12 aliquots of OCS Block 7003
- 25 percent reduction in lease area
- 8 (1 – 3 percent) less survey vessel trips



Alternative C – No Action

- The lease would not be issued
- Any potential environmental and socioeconomic impacts would not occur or would be postponed
- Activities necessary to inform the future deployment of commercial-scale MHK energy production on the OCS using the Florida Current would not occur or would be postponed under this alternative

Consultations

- National Historic Preservation Act
- Endangered Species Act
- Magnuson-Stevens Fishery Conservation and Management Act (EFH)
- Coastal Zone Management Act

National Historic Preservation Act

- Section 106 of NHPA
- Avoidance is the primary strategy to ensure that historic properties are not impacted
- Lease stipulations
- *Finding of No Historic Properties Affected* – shared with the Florida State Historic Preservation Officer and the Advisory Council on Historic Preservation

Endangered Species Act

- Several species of ESA-listed marine mammals, sea turtles, and birds may occur in the project area.
- BOEM would require the Lessee to abide by several standard operating procedures in order to minimize potential impacts.
- BOEM initiated ESA consultations with NMFS and FWS in April.
- BOEM concluded that the impacts are expected to be discountable and insignificant and thus not likely to adversely affect ESA-listed sea turtles, marine mammals, and birds. BOEM also concludes that the proposed action will have no effect on ESA-listed fish and bats.

Magnuson-Stevens Fishery Conservation and Management Act

- The project sites have been identified as containing EFH for several species in the Snapper –Grouper, Golden Crab, Shrimp; and the Coral, Coral Reefs, and Live/Hardbottom Fishery Management Plans.
- The sites are also on the Miami-Stetson Terrace Habitat Area of Particular Concern
- Consultations were initiated with the National Marine Fisheries Service in April.
- The primary impact to EFH would be from the placement of the mooring system.
- BOEM concluded that impacts would not be more than temporary and not substantially affect the quality and quantity of EFH and the populations of fish in the area.

How to Comment

Electronically at: <http://www.regulations.gov>. In the entry entitled “Enter Keyword or ID,” enter BOEM–2012–0011-0001, then click “search.”

or

Mail to: Program Manager, Office of Renewable Energy Programs, Bureau of Ocean Energy Management, 381 Elden Street, HM 1328, Herndon, Virginia 20170-4817.

Comments must be received or postmarked no later than May 25, 2012.

Next Steps

- Conclude consultations
- Consider public comments on EA in determining whether to:
 - Issue a Finding of No Significant Impact
 - Or conduct additional NEPA analysis (e.g., revise EA or prepare an environmental impact statement).

Questions

<http://www.boem.gov/Renewable-Energy-Program/State-Activities/Florida.aspx>