FERC’s Hydrokinetic Program

Marine Energy Regulatory Framework
July 15, 2010
Regulatory Approach

- The Commission:
  - supports the development of hydrokinetic projects
  - recognizes the conundrum of need for real-world testing, yet limited information to prepare application

- Tailored existing program to meet the needs of new technologies
  - Test projects (Verdant rule)
  - Preliminary permits (strict scrutiny)
  - Licenses
    - Pilot projects
    - Commercial
Test Projects
(no FERC permit or license needed)

- **Verdant Declaratory Order- April 2005, July 2005**
  - Roosevelt Island Tidal Energy Project, P-12178

- **No license required if:**
  - Experimental technology
  - Short term installation for conducting studies
  - Test project does not transmit into, or displace power from, the national electric energy grid
Device Testing (without grid connection)
Maine Maritime Academy

Declaratory Order on Castine Harbor and Bagaduce Narrows Hydrokinetic Project No. 12777 (March 2010)

- Proposal meets Verdant criteria:
  - Experimental technology
  - Test individual units for short term
  - Educational/technology testing
  - Charge batteries and heat water on research vessel
Preliminary Permit Review
Strict Scrutiny – February 15, 2007

- Applications
  - Appropriately sized area
  - Details of proposed technology

- Post-issuance administration
  - Schedule of activities, including NOI/PAD
  - Semi-annual progress reports
  - Cancel permit if no progress
Interest in Hydrokinetic Development

- Gold rush on wave and tidal preliminary permits has slowed
- Increasing number of applicants doing prefiling
**Pilot Project License**

**Whitepaper – April 14, 2008**

- Allows testing of technology and sites and monitoring environmental effects while generating electricity
- Protects the environment
  - short license term and small footprint
  - not in sensitive area
  - strict monitoring
  - project shutdown or removal if needed
  - removed, with site restored, unless licensee opts to build out and obtains new license
- Complete licensing in as few as 6 months
### Pilot Project

**Licensing Procedures**

- **From the Integrated Licensing Process (ILP)**

<table>
<thead>
<tr>
<th>Prefiling</th>
<th>Postfiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Draft License Application and Waiver Request</td>
<td>• Final application filed</td>
</tr>
<tr>
<td>• Comments on draft including monitoring plans</td>
<td>• Request comments on application</td>
</tr>
<tr>
<td>• Public meeting if needed</td>
<td>• Environmental Assessment</td>
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<tr>
<td>• FERC determination on waivers</td>
<td>• FERC License Order authorizing project (if appropriate)</td>
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Pilot Project License Status

- Six applicants have filed draft applications and are developing final applications (13 MW)
  - ORPC Alaska, Cook Inlet Tidal Energy Project (P-12679)
  - Public Utility District No. 1 of Snohomish County, Admiralty Inlet Pilot Tidal Project (P-12690)
  - Pacific Gas & Electric Co, Humboldt WaveConnect™ Project (P-12779)
  - ORPC Maine, ORPC Eastport Tidal Energy Project (P-12680)
  - Verdant Power, Roosevelt Island Tidal Energy Project (P-12611)
- Waivers issued for Roosevelt Island Tidal Energy Project (May 2009)
- No final pilot project license application filed as of July 2010
**Commercial Project**

**Licensing Procedures**

- **Standard Licensing Processes**
  - Integrated Licensing Process (ILP) *Default*
  - Traditional Licensing Process (TLP)
  - Alternative Licensing Process (ALP)

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</tr>
</thead>
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<tr>
<td>Consultation on issues and studies</td>
<td>Seek comments on license application</td>
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<tr>
<td>Public meeting(s)</td>
<td>Prepare and issue EA/EIS for comment</td>
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<tr>
<td>Conduct approved studies</td>
<td>Weigh record of information for Commission decision</td>
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<tr>
<td>Prepare license application</td>
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Commercial Project Status

- Three applicants are doing prefiling (6,300 MW)
  - Ocean Power Technology, Coos Bay Wave Project (P-12749)
  - Douglas County, Douglas County Wave Project (P-12743)
  - Free Flow Power, Mississippi River Projects (46 projects)

- Two applicants have filed applications
  - Ocean Power Technology, Reedsport Wave Park Project (P-12713)
  - Tideworks Tidal 5-MW Exemption (P-13656)

- One operating inland hydrokinetic project
  - City of Hastings, Mississippi Lock and Dam No. 2 (P-4306)
One turbine in the water, operating, and generating

Avg annual generation of 364 megawatthours

Fish entrainment studies completed - show little fish mortality associated with the hydrokinetic turbine

Photo: Courtesy of Hydro Green Energy, LLC
Distributed Decision Making

U.S. Fish & Wildlife Service
- Endangered Species Act
- Migratory Bird Treaty Act

NOAA
- Essential Fish Habitat
- Marine Mammal Protection Act
- Endangered Species Act

State Review
- Coastal Zone Management Act
- Clean Water Act
- National Historic Preservation Act

U.S. Coast Guard
- Ports and Waterways Safety Act
Coordination with State and Federal Agencies

- **State Agency MOUs**
  - Oregon (March 2008)
  - Washington (June 2009)
  - Maine (August 2009)
  - California (May 2010)

- **Federal Agency MOUs** (relevant to hydrokinetics)
  - US Army Corps of Engineers (1981)
  - Dept. of Interior (MMS) (April 2009)
Looking Ahead

- **Pending MOUs**
  - Updated Corps MOU
  - Coast Guard MOU

- **Need successes in technology testing**

- **Smart site selection**

- **Need experience with regulatory program**
  - Adding new web-based resources to [www.ferc.gov](http://www.ferc.gov) -- licensing roadmap including exemption and license application templates

- **Continued research and funding on environmental effects**
Thank You!

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