



## HYDROKINETIC PROJECTS

Environmental Law Institute  
July 29, 2008



## What are Hydrokinetic Projects?

### Ocean Energy

- Tidal
- Wave
- Current
- In River

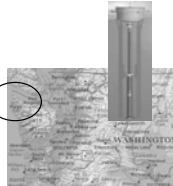


## What are Hydrokinetic Projects?



## FERC Jurisdiction: Ocean Energy

- AquaEnergy Group (now Finavera)
  - Makah Bay Project, DIO2-3, Oct. 2002/Feb. 2003



- Technology considered a hydropower project
- Located in navigable waters
- Occupies Federal Lands (Indian Reservation)
- Connected to the interstate electric power system



## Test Projects

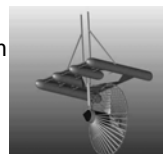
(section 23(b) of FPA not implicated)

- 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



## Types of Issuances

- Preliminary permits
  - Maintains priority of application for three years
  - Conduct feasibility studies and profiling activities
  - Doesn't authorize construction
- Licenses
  - Authorizes construction and operation after consultation and environmental review
  - Original up to 50 years
  - Relicense 30-50 years



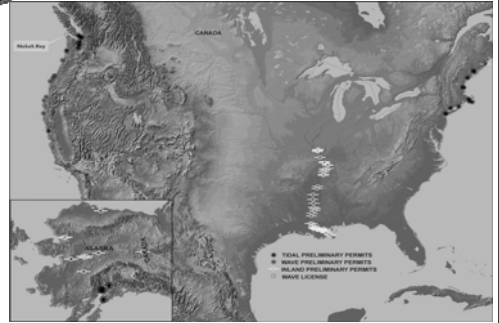


## Hydrokinetic Filings (as of July 7, 2008)

	Issued License	License App Filed	License Pre-Filing	Issued Prelim Permit	Pending Prelim Permit
Wave	1	0	3	8	5
Tidal	0	0	1	34	4
Ocean Current	0	0	0	0	3
Inland Current	0	0	0	70	65
<i>Total (MW)</i>	<i>1</i>	<i>0</i>	<i>253</i>	<i>4593 - 6595</i>	<i>4244 - 4555</i>



## FERC-Issued Hydrokinetic License and Preliminary Permits



## Challenges

- To realize potential, there are significant challenges
  - Technological
  - Financial
  - Regulatory
- Environmental effects not well known
- Commission proactive in taking steps to address these challenges

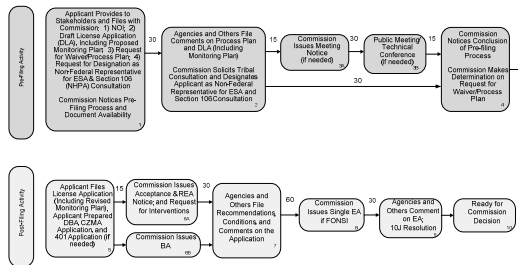


## Pilot Project License July 2007

- Goals of process
  - Allow developers to test new technologies, determine appropriate site, and confirm environmental effects while generating electricity
  - Provide for Commission oversight and agency input
  - Complete licensing in as few as 6 months
- Process available to projects that are:
  - Small ( $\leq 5$  MW)
  - Removable or able to shut down on short notice
  - Not located in waters with sensitive designations



## Hydrokinetic Pilot Licensing Procedures



## Resources and Potential Effects Makah Bay Project No. 12751

- Fish\*, marine mammals\* (disturbance, entanglement, collision, noise, EMF)
- Seabirds (disturbance, entanglement)
- Marine benthic habitat (disturbance, loss)
- Water quality (turbidity, chemical toxicity)
- Recreation\*, navigation, fishing, aesthetics, socioeconomics (use and user conflicts)
- Archeological sites (disturbance)

\*received cumulative as well as site-specific analysis



## Next Steps

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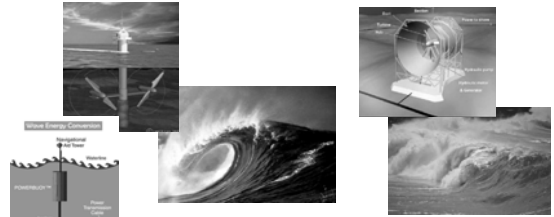
- Project specific
  - Participate in pre-filing and process applications
- Programmatic
  - Coordinate with agencies (MOUs, etc)
  - Continue outreach
  - Consider additional strategies for issues that may arise as we gain experience with regulation, technology, industry, and knowledge base



## Questions

[www.ferc.gov](http://www.ferc.gov)

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