

### HYDROKINETIC PROJECTS

Environmental Law Institute July 29, 2008



### What are Hydrokinetic Projects?

#### Ocean Energy

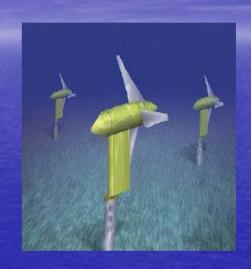
- Tidal
- Wave
- Current
- In River



### What are Hydrokinetic Projects?





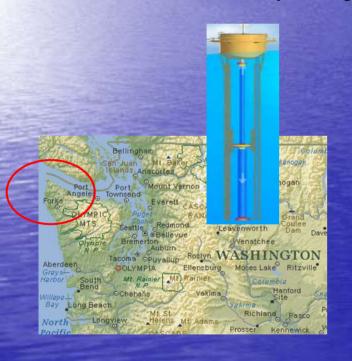






### FERC Jurisdiction: Ocean Energy

- AquaEnergy Group (now Finavera)
  - Makah Bay Project, DI02-3, Oct. 2002/Feb. 2003

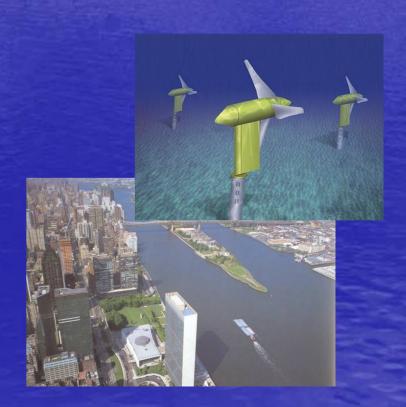


- Technology considered a hydropower project
- Located in navigable waters
- Occupies Federal Lands (Indian Reservation)
- Connected to the interstate electric power system



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 prefiling 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
Total (MW)	1	0	253	<i>4593 - 6595</i>	4244 - 4555



### 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 (≤ 5 MW)
  - Removable or able to shut down on short notice
  - Not located in waters with sensitive designations



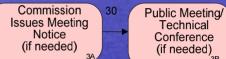
### Hydrokinetic Pilot Licensing Procedures

Pre-Filing Activity

Applicant Provides to Stakeholders and Files with Commission: 1) NOI; 2) Draft License Application (DLA), Including Proposed Monitoring Plan; 3) Request for Waiver/Process Plan; 4) Request for Designation as Non-Federal Representative for ESA & Section 106 (NHPA) Consultation

Commission Notices Pre-Filing Process and Document Availability Agencies and Others File Comments on Process Plan and DLA (Including Monitoring Plan)

Commission Solicits Tribal Consultation and Designates Applicant as Non-Federal Representative for ESA and Section 106 Consultation



Commission Makes
Determination on
Request for
Waiver/Process

Commission

**Notices Conclusion** 

of Pre-filing

Process

Plan

Post-Filing Activity

Applicant Files
License Application
(Including Revised
Monitoring Plan),
Applicant Prepared
DBA, CZMA
Application, and
401 Application (if
needed)

Commission Issues
Acceptance & REA
Notice; and Request
for Interventions

Commission Issues BA Agencies and
Others File
Recommendations,
Conditions, and
Comments on the
Application

Commission Issues Single EA if FONSI Agencies and Others Comment on EA; 10J Resolution

Ready for Commission Decision



#### 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

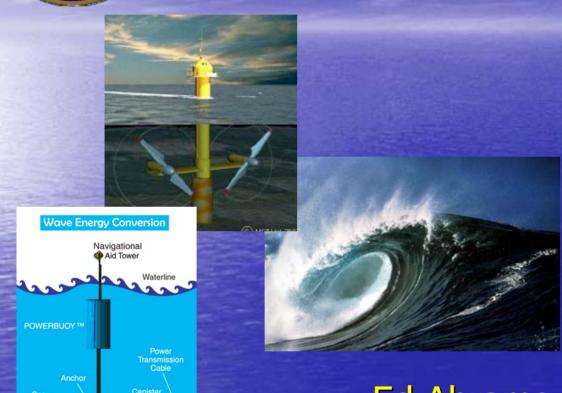


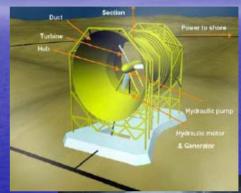
### Next Steps

- Project specific
  - Participate in prefiling 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







Ed Abrams
202.502.8773
edward.abrams@ferc.gov