

Magalie R. Salas, Secretary  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, DC 20426

Re: FERC Docket Numbers: P-12697 Wrangell Narrows (AK) Tidal Energy Project  
P-12696 Gastineau Channel (AK) Tidal Energy Project  
P-12695 Icy Passage (AK) Tidal Energy Project  
P-12694 Katchemak Bay (AK) Tidal Energy Project  
P-12672 Columbia (WA) Tidal Energy Project  
P-12670 Cape and Islands (MA) Tidal Energy Project  
P-12668 Penobscot (ME) Tidal Energy Project  
P-12666 Kennebec (ME) Tidal Energy Project  
P-12665 Astoria (NY) Tidal Energy Project  
P-12664 Portsmouth Area (NH) Tidal Energy Project  
P-12663 Deception Pass (WA) Tidal Energy Project

Dear Secretary Salas,

Pursuant to the FERC Notice of Applications for filing and soliciting motions to intervene, protests and comments, I respectfully submit the following comments relating to the above referenced applications in accordance with the requirements of the Rules of Practice and Procedure, 18 CFR 385.210, .211, .214.

It is hoped that the Federal Energy Regulatory Commission will find that this commenter, acting as a concerned citizen, is qualified to address key issues relating to the above mentioned applications through a unique combination of education, employment and experience.

These comments are motivated by a convergence of education and experience that include: a degree in electrical engineering with many years of relevant working experience, current employment as an analytical instrumentation engineer with a University actively involved in applied research, decades of study and passionate interest in renewable energy, former licensed Master and former commercial fisherman. Most notably I have read and understand all of the Electric Power Research Institute (EPRI) studies published recently on the topics of In-Stream Tidal Energy Conversion. These reports, referenced in the above mentioned applications, can be found at:

<http://www.epri.com/oceanenergy/streamenergy.html#reports>

Your kind consideration of this material is greatly appreciated.

#### **BACKGROUND**

The applicants in all of the above permits are requesting permits for substantial tracks of moving waters in Alaska, Washington, Maine, New Hampshire, Massachusetts and New

York. They appear to be doing so, in immediate response to the release of a very detailed and costly study by the Electric Power Research Institute which includes the following:

### **Tidal In Stream Energy Conversion Reports**

- [TP-001-NA Rev 2 Guidelines for Preliminary Estimation of Power Production](#)
- [TP-002-NA Rev 2 Economic Assessment Methodology](#)
- [TP-003-ME Maine Site Survey Report](#)
- [TP-003-MA Massachusetts Site Survey Report](#)
- [TP-003-NB New Brunswick Site Survey Report](#)
- [TP-003-NS Nova Scotia Site Survey Report](#)
- [TP-004-NA Survey and Characterization of TISEC Devices](#)
- [TP-005-NA Methodology for Conceptual Level Design of TISEC Plant](#)
- [TP-006-AK Alaska Tidal Power System Level Design](#)
- [TP-006-WA Washington Tidal Power System Level Design](#)
- [TP-006-CA California Tidal Power System Level Design](#)
- [TP-006-MA Massachusetts Tidal Power System Level Design](#)
- [TP-006-ME Maine Tidal Power System Level Design](#)
- [TP-006-NB New Brunswick Tidal Power System Design](#)
- [TP-006-NS Nova Scotia Tidal Power System Level Design](#)
- [TP-007-NA Tidal Power Environmental and Regulatory Issues Report](#)
- [TP-008-NA Tidal Power Final Summary Report](#)

### **Tidal In Stream Energy Conversion Briefings**

- [042005 Kickoff Briefing](#)
- [042606 West Coast Final Briefing](#)
- [050906 Final East Coast Briefing less Env and Reg Issues](#)
- [050906-051006 Final East Coast Briefing Env and Reg Issues](#)
- [051006 Final East Coast Briefing less Env and Reg Issues](#)

It is quite likely that the Electric Power Research Institute and its funding agencies did not intend to publish this research for the benefit of a single company such as Oceana. Rather, the purpose of this substantial initiative was to advance the technology and its application to the benefit of many qualified companies, individuals, States and researchers with expertise and interest in in-stream tidal power generation. From the conclusion of the EPRI Final Report: “EPRI believes that a diversified and balanced portfolio of energy sources is the foundation of a robust and reliable electrical system and that in-stream tidal energy technology needs to be evaluated for its role in contributing to our national portfolio of energy supply technologies.”

What appears here is that Oceana is applying for permits for the majority of sites referenced in the EPRI study as well as other areas in advance of expertise, technology, funding or the completion of successful pilot projects.

## COMMENTS

The following primary concerns are raised with regard to the previously mentioned applications:

### 1. A notable lack of specificity.

- No information is provided concerning the identities, expertise or resources of the applicants beyond their authorized agents.
- The coordinate boundaries do not appear to identify “sites” rather they appear to represent boundaries of deep water channels or large regions of moving water. There is often inconsistency between the number of “sites” and the number of “devices”. It is maintained that the applicants do not know the actual sites and therefore are applying for substantial tracks of water – not specific sites at this time.
- The *Description of the Proposed Project*, does not provide an accurate physical description of the devices, technology, configuration, footprint, anchoring systems, or interconnections. From 1. Physical Description: “The nature of each TISEC device is currently being researched by the Electric Power Research Institute...” Please note that EPRI published the Final Report entitled, “Survey and Characterization – Tidal In-Stream Energy Conversion (TISEC) Devices on November 9<sup>th</sup>, 2005.”
- Claims made concerning the Estimates of Energy and Capacity are inconsistent with published data and are at best, unreliable. “An 80% capacity factor is targeted, averaging approximately 8,760 megawatt-hours per unit per year.” The same paragraph claims, “Therefore, each TISEC device is capable of providing power to about 750 homes”. These numbers are suspect for two important reasons: The devices have not been specified and there are no referenced current measurement suggesting this is possible. The number 8760 MW comes from multiplying 365 days times 24 hours times 1 megawatt, which is what you would get by driving a one megawatt generator with an engine or turbine – not with the ocean tides. Further, there is substantial “deadband” in TISEC devices. That is regions when the propeller is not turning despite moving water.

**2. Concern is raised concerning the permitting process for In-Stream Energy Conversion.**

Concerns are raised regarding the hydroelectric permitting process. It was assumed, that the hydroelectric permitting process may have evolved principally to support such installations as dams. In such a case there would be limited sites and applicants would require substantial expertise, capability and infrastructure. In-Stream Tidal Energy Conversion can be implemented in almost any moving body of water by individuals or corporations with very limited expertise, capabilities and resources. As such, the policy for permitting and licensing of sites for in-stream power generation may benefit from review.

**3. Concern regarding blanket permitting of vast resources.**

Concerns are raised over the apparent blanket permitting of vast resources. That is, the applicants are requesting priority of application for enormous bodies of water in at least six states including: ME, NH, NY, WA, MA and AK. This is quite different than seeking one or two sites as demonstration projects with objectives such as proving equipment, addressing environmental issues, testing, advancing technology or verifying performance.

*Providing priority of application status to one group may be discouraging or harmful to competitive applications, university research, or any other organization seeking to use a small portion of this resource for any reason.*

**Thank you for your kind consideration of these comments.  
Best Regards,**

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Dated: July 3, 2006

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