April 11, 2007

The Honorable Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Room 1A East
Washington, DC 20426

Re: Docket RM07-08-000 Comments Relating to Preliminary Permits for Wave, Current and In-Stream Hydropower Projects

Dear Ms. Salas:

Please accept the following comments in response to FERC Notice of Inquiry RM-07-08-000. These comments are motivated solely by a sincere and passionate desire to improve the hydroelectric permitting process in a way that facilitates the best use of ocean energy resources; encourages competition and free enterprise; makes best use of evolving technologies; and is in the best interest of the resource, environment, site developers, and the public they serve. These are the comments of an individual with no corporate, institutional, financial or political interests to serve.

Summary – The Federal Energy Regulatory Commission is encouraged to adopt options: B. Stricter Scrutiny Approach, or C. Decline to Issue Preliminary Permits for New Technology Projects. The decision of which method to adopt should be based on the availability of the Commissions resources to provide the substantial scrutiny and oversight necessary to regulate the application of multiple, rapidly changing and new technologies to a potentially limitless number of sites. The shortcomings of the existing permit process are delineated. A recommendation to deny many of the existing large scale permit applications is put forth until such a time as the permitting process is substantially amended and perhaps until the technologies are formally recognized as suitable for commercial implementation. The point is made that bulk permitting, especially as an investment tool is inappropriate, bad for competition, the industry, and the resources. Since many technologies for ocean, wave and in-stream energy conversion are still very much in their infancy, it is generally recommended that the Federal Energy Regulatory Commission approach the permitting of vast ocean energy resources with the greatest possible caution at this time.

Historical Background – The Preliminary Permit process as it now exists worked for conventional hydroelectric projects due, in part, to the fact that the industry was somewhat self-regulating. Conventional hydroelectric projects such as dams had few citing alternatives and their construction required such vast resources, infrastructure, and expertise that the number of possible sites and companies capable of performing such work were naturally minimized. Over time, the demands of environmental impact further restricted hydroelectric permitting activity.

The same is not true for ocean, wave or in-stream energy projects. Potential sites are limitless and hardware is affordable and available to the individual homeowner all the way up to large scale developers. There are multiple technologies, all far from mature and largely unproven, with little real data upon which to make informed decisions. Extensive application of the existing hydroelectric permitting process; not written with current, wave or in-stream in mind, may be both harmful and premature.

This FERC Notice of Inquiry is an excellent first step in amending the process.

Shortcomings of the Existing Hydroelectric Permitting Process

1. **<u>The application, as it exists is inadequate for ocean, tidal, wave, in-stream energy projects.</u>**

   - **Applications are marked by a profound lack of specificity**.
     Permit applicants do not appear to be required to have demonstrated ability, knowledge, experience, financial or material resources, motivation, infrastructure, or technology. In the absence of this information, how is it possible to justify providing priority of application to those seeking it? More, detailed, accurate and verifiable information is required of the typical hourly job applicant, than from those seeking priority of application to vast ocean energy resources.

   - **There do not appear to be documented restrictions on the number of applications submitted**.
     Multiple applications have been submitted, accepted and approved. This appears to be sanctioning and encouraging bulk permitting and site banking. Many people are watching this particular activity very closely out of concern and the need to compete, protect, or to reserve sites for fear of losing out at a more appropriate time in the future.

   - **There do not appear to be restrictions on the size of proposed regions of interest.**
     Recent permit applications identify very large “sites”, including such things as most of the deep water channels of rivers and vast stretches of sounds, inlets and constrictions. Many of the sites applied for are easily identifiable as being extensively used by competing industries (fisheries and maritime), or are areas too shallow to fit proposed equipment. In addition to inflaming and frustrating those potentially impacted by the applications it is harmful to the process. (See next point)

   - **The Preliminary Permit Process rewards speed over content.**
     Permits are often being awarded to the *first* applicant – effectively the fastest typist who submits quickly and meets the minimal legal requirements. Taking the time required to prepare a careful, thoughtful and well crafted proposal is not encouraged or rewarded when speed trumps content. As such, relatively little preliminary measurement and investigation is performed prior to submission of

the Preliminary Permit. Cursory measurements and basic investigation is not prohibitively expensive or time consuming and should be encouraged.

- **The public has the right to know about applicants, their backgrounds, capabilities, intent and expertise**. Early permits disclosed very, very little about the applicants. FERC and the public need to receive meaningful, reliable, verifiable information regarding who is doing what, where, when and why. Many of these sites are in critical harbors, waterways, populated areas and natural constrictions. In an age of heightened security concerns, knowing who is using these areas for what is prudent.

2. **The Preliminary Permit is being used as a fund raising tool.**

- It is now well documented that the Preliminary Permit is being sought to instill confidence in investors. Rather than offering successful demonstration projects and proven technology upon which to base a rational investment decision, applicants are seeking the credibility and government protection as incentive to potential investors. This is, in my opinion, harmful to everyone. The issuance of preliminary permits for multiple sites or vast regions of interest prior an applicant demonstrating their capabilities and expertise is not recommended.

- A passage from comments submitted by Oceana Energy reads, “Because preliminary permits allow developers to maintain priority position throughout the investigative phase, the preliminary permit is virtually the only tool a developer can utilize to protect its investors.” Is it the role or responsibility of the Federal Energy Regulatory Commission to protect investors in companies?

3. **The permitting process is discouraging to competition and does not reward performance.**

- The issuance of permits to particularly good sites when multiple technologies are evolving and in their infancy is discouraging to those who hope to compete in ocean energy conversion as the technologies mature and are tested and proven. Again, the current system appears to be rewarding speed over careful, methodical growth and demonstrated engineering and ability.

- Will the brightest and most innovative be forced to sell rather than implement their own technology in the future?

4. **The “best” sites for many energy conversion technologies have the highest environmental risk because they involve natural constrictions of water flow and are used to the maximum extent.**

- Natural constrictions result in highest velocity water. They are used by more aquatic species and humans than many other areas. As such they deserve the greatest possible scrutiny and caution in their implementation.

5. <u>Power estimates are unreliable and appear to be inflated.</u>

- Energy estimates on permit applications, even for the same resource, vary considerably and, in the absence of measured data, are highly suspect. In my opinion, many of the energy estimates contained in permit applications are grossly overestimated and misleading. These same unverified numbers are being promulgated and disseminated.

- Inflated, unreliable and unsubstantiated power numbers are not good for the permitting process, the industry or ocean energy technologies. It does appear, however, to be rewarded politically, financially and by the media.

- ***"Selling the sizzle, not the steak!"*** Due to the enormous popularity of the *idea* of ocean energy, unsubstantiated power estimates are finding many ready and willing ears. This is not good science or engineering. Responsible measurement and power numbers based on referenced demonstration projects are preferable.

6. <u>Ocean, tidal, in-stream, thermal, wave technologies are in their infancy.</u>

- It appears that permits are being sought and granted well in advance of an impartial assessment that these technologies including hardware are tested and proven to be reliable, safe and ready for commercial application.

7. <u>Politics appear to take precedence over sound reason and logic.</u>

- It appears that applicants are soliciting support from politicians who like the idea of ocean energy but may not be familiar with the technical, scientific, engineering or environmental considerations. Politicizing the application process is probably not in the best interest of anyone but the applicant.

8. <u>The door should be left open for new developers, new technologies , new and innovative ideas.</u>

- There should be no need at this time to assign priority of application to resources on a first come / first served basis. Again, these technologies are very early in their infancy and taking a slow,

cautious, thoughtful approach to their allocation is both prudent and wise. Denying a permit now, does not prevent the resource from being allocated in the future.

9. **Greater consideration and more time and attention should be given to those closest to and most significantly impacted by the resource.**

- There is a great deal of concern expressed locally in areas where permits are applied for and awarded; by individuals, organizations and municipalities whose lives have been impacted by the moving water resources for generations. Some feel a sense of loss and compromise as outsiders come in to take advantage of "their" river or waterway. Again, it is important to point out that energy conversion hardware is available from the individual homeowner on up through the large scale developer.

- There is a growing sense of urgency among those neighboring a potential resource to use or possibly lose their neighboring resource.

10. **At this time there are more questions than answers - Why not limit the size and number of permits until there are more answers than questions?**

- One of the most important questions raised at the FERC Hydropower Permitting meeting was, "Is money set aside to remove this equipment if it doesn't work?" The answer appeared to be no. There are many such questions at this time and few reliable answers.

Suggestions to improve the process

The number of applications for preliminary permits is growing rapidly and shows no sign of abating. It is well known that there are many competing ocean, wave and in-stream technologies. It is generally accepted that most of these technologies are in their infancy. A permitting gold rush appears to be taking place to place-hold some of the more desirable areas. Hardware is often unknown and unspecified, power numbers are suspect, the applicants often have no demonstrated expertise and environmental impacts are almost completely unknown. Lastly there are no apparent safeguards in place for such things as the removal of inoperable equipment. It appears that the time is right to err on the side of caution.

Please accept the following recommendations as possible ways to improve the hydroelectric permitting process as it applies to ocean, wave and in-stream technologies.

1. **Deny many of the existing permit applications for large scale projects** until the hydroelectric permitting process is substantially amended and until there is much stronger evidence that these technologies are ready for commercial implementation.

2. **Substantially amend the permitting process** to eliminate problems, to encourage competition and reward a more thoughtful and time consuming process.

3. **Eliminate bulk permitting as an investment tool.** Investor confidence will come with proven capabilities, experience and infrastructure.

4. **Restrict regions of interest** to areas that are more reasonable and acceptable.

5. **Accept and approve new permit applications for small scale implementations** intended to demonstrate technologies and the capabilities of applicants.

6. **Accept and approve permit applications for small scale R&D efforts** to advance new ideas, test and prove competing technologies. (The recent Maine Maritime application is an excellent example!)

7. **Establish an impartial board** to determine when these technologies are sufficiently mature, tested, formalized and ready for large scale commercial implementation.

8. **Don't feel pressured to issue large quantities of permits now.** It is understandable that FERC would feel pressured to permit ocean energy sites given the popularity of the concept, media attention, politics, and concern over the environment. However, proceeding slowly and cautiously until even a few good demonstration projects are complete and on-line seems prudent.

9. **Implement an incremental permitting / licensing process** which rewards demonstrated capabilities and superior technology.

Thank you for the kindness of your consideration in this matter.

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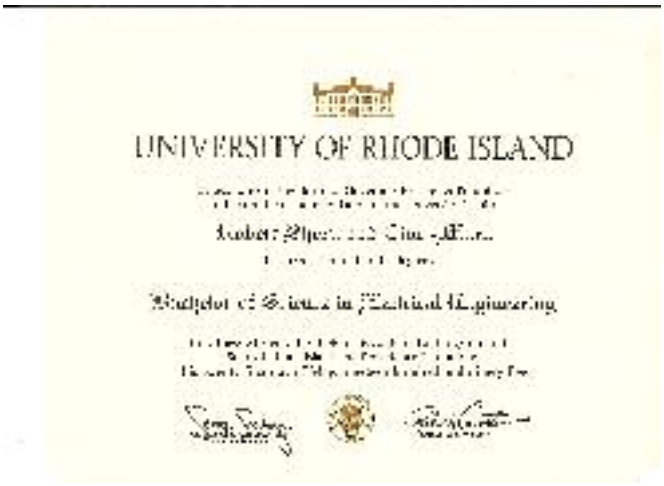
So that anyone interested may fairly assess the relevance and value of these comments, I submit the following. The author holds a Bachelor of Science degree in Electrical Engineering and is a member of the Eta Kappa Nu, Electrical Engineering Honor Society. He holds prior scuba certification; was a commercial fisherman in several fisheries and licensed Master. Accomplishments relating to renewable energy include designing a feedback control system to adjust wind turbine blade pitch in response to wind speed fluctuations; more than 20 years of independent study relating to solar, wind, hydrogen and ocean energy technologies; contributions to the design of an instrument cluster for electric vehicles; and founder of the internet discussion groups sci.energy.hydrogen and the hydrogen Listserv. Documented sea time was earned in the waters off the coast of New England and Alaska while working in the halibut, lobster and salmon fisheries; and in the Gulf of Mexico providing service to oil rigs.



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