OCEAN RENEWABLE ENERGY COALITION (OREC) POLICY PAPER ON PRELIMINARY PERMITS, SITE BANKING AND WAVE AND TIDAL ENERGY DEVELOPMENT

Prepared by Ocean Renewable Energy Coalition, www.oceanrenewable.com

Abstract*: A preliminary permit gives companies incentive to take the risk of investing money to gather data and prepare a license application by guaranteeing these companies an exclusive right to file a license application during the term of the permit and a first filed priority to the site over later filing competitors. But today, FERC's preliminary permit system, which worked so effectively for conventional hydro for the past 85 years, now threatens to impede orderly development of emerging wave and hydrokinetic technologies subject to FERC jurisdiction. As we discuss, factors such as (a) multiple permit filings on prime tidal resources by an unknown company, (b) the mismatch between the five year time frame needed to prepare a license even for experimental technology and the three year term of a permit and (c) the restrictions that the preliminary permit system places on municipalities seeking to include wave and tidal development within coastal revitalization programs or larger companies that may want to acquire smaller wave and tidal developers that hold existing permits discourage vital private and local investment in the nascent wave and tidal energy industry in the United States.*

OREC recognizes that resolution of these issues is complicated and may involve a critical look at a regulatory program that has worked effectively for conventional hydropower projects for eighty five years. This Policy Paper will not propose definitive solutions; instead, OREC hopes to raise awareness of, and initiate dialogue about problems with the preliminary permit program. To this end, this Policy Paper identifies some of the disincentives for wave and tidal energy development under FERC's present permit program and offers a range of suggestions and options for consideration.

INTRODUCTION: THE WAVE AND TIDAL ENERGY RESOURCE

During the past few years, ocean renewable hydrokinetic technologies, such as wave energy and tidal and current energy in oceans, streams and manmade canals, have made dramatic strides in the United States. As described in *Ocean Energy Report 2005*,[1] in 2005 and the first half of 2006, the respected Electric Power Research Institute (EPRI) has released two reports documenting the enormous potential of wave and tidal energy in

[1] C. Elefant, S. O'Neill, Ocean Energy Report (January 7, 2005), Renewable Energy Access, online at http://www.renewableenergyaccess.com/rea/news/story?id=41396 (last visited July 12, 2006).

the United States. And at least five companies in the United States either forged ahead with license applications for wave or tidal projects or filed for preliminary permits to investigate and study sites. *Id*.

Wave and tidal energy can provide a source of clean, renewable energy that will enable the United States to reduce independence on foreign oil and diversify its energy supply. And from the perspective of the hydroelectric industry, wave and tidal energy can help to recapture the hydro capacity that is lost as a result of increased environmental mitigation at relicensing, at federal dams which are not regulated by FERC and dam decommissioning.

Because wave and tidal energy are emerging technologies, they experience several unique hurdles, not suffered by other developers, in moving from concept to commercial development. The length of the permitting process creates regulatory uncertainty which deters private investment. And the time involved for permitting is further lengthened because many agencies do not yet have a knowledge base or precedent for reviewing nascent technology. Also, unlike other renewables like wind and solar, wave and tidal technologies are not supported by government funded R&D nor do they qualify for a Production Tax Credit (PTC) that might draw investors.

What the industry needs today is a system where developers can get new technologies into the water as quickly as possible. Siting small experimental or demonstration units and proving that the technology works with minimal impacts will draw private capital more quickly than any other measure. At present, the Ocean Renewable Energy Coalition, has identified two FERC policies that may impede expeditious siting of wave and tidal technologies: (a) onerous, protracted licensing

process and (b) the existing preliminary permit program. This Policy Paper focuses exclusively on FERC's existing permit program; a future paper will propose ways to expedite the license process.

I. BACKGROUND: THE ROLE OF THE PRELIMINARY PERMIT IN THE LICENSING PROCESS

A. Preliminary Permit Grants Priority in Licensing

Pursuant to Part I of the Federal Power Act (FPA), FERC has authority to issue preliminary permits and licenses for the construction and operation of hydroelectric projects on navigable waters, public lands and reservations or which impact interstate commerce through interconnection to the electric grid.[2] In 2002, the scope of FERC's conventional hydroelectric licensing program under Part I of the FPA expanded when FERC issued a preliminary permit to Verdant Power to develop a tidal energy project in the East River[3] and asserted jurisdiction over the Aqua Energy Group's 1 MW Makah Bay Wave Energy Project[4] located on outer continental shelf lands in the Olympic Coast National Marine Sanctuary, three miles off the coast of Washington.[5] Most recently,

---

[2] *See* Section 4(e) and 23(b), Federal Power Act, 16 U.S.C. §794; 16 U.S.C. §817; *see also* 16 U.S.C. §796 (defining terms such as "navigable waters," "public lands" and "project."

[3] *Verdant* Power Order Issuing Preliminary Permit, 100 FERC ¶ 62,162 (2002).

[4] *Aqua Energy Group*, 102 FERC ¶ 61,242 (2003).

[5] In 2005, Congress amended Section 8(p) of the Outer Continental Shelf Lands Act to give MMS authority to lease lands for alternate energy projects, including wave and tidal, on the OCS. The statute was ambiguous regarding whether MMS or FERC would have primary jurisdiction over wave or tidal energy projects on OCS lands, more than three miles offshore (or ten miles, in the case of Texas and West Florida). At present, we are aware that MMS and FERC are involved in negotiations to determine which agency will have lead status. In the event that MMS ultimately assumes lead

between October 2005 and April 2006, FERC received approximately a dozen applications from one company for tidal sites throughout the United States that were identified as "high potential resources" in a report by the Electric Power Research Institute (EPRI). [6]

A FERC license gives the holder an exclusive right to develop and operate a hydroelectric project for a thirty to fifty year term.[7] Even back in the 1920s, before today's rigorous environmental requirements, preparation of a license application involved a substantial investment of an applicant's time and money. Developers need to survey the energy potential of the site, gather data, prepare maps and drawings in support of their license applications and arrange for financing. Congress feared that companies would not invest the time and money to develop sites without assurance of a priority right to file a license application. Thus, Congress authorized FERC to issue preliminary permits:

---

agency status, it is not clear whether FERC would still retain authority to issue a permit or a license for projects on the OCS.

[6] The permit applications are as follows: Golden Gate Energy Company and Gulf Stream Energy, P-12585 (San Francisco Bay, permit granted); New York Tidal Energy, P-12665 (application filed March 27, 2006); Maine Tidal Energy Company, Project Nos. 12666, 12668 (applications field 4/3/2006); New Hampshire Tidal Energy Company Project No. 12644 (application filed March 26, 2006); Massachusetts Tidal Energy Company, Project No. 12670 (application filed 4/17/2006); Washington Tidal Energy Company, Project No. 12663 (application filed March 31, 2006). The contact information for every one of these application is Charles Cooper of TRC Consulting and Joseph Cannon, Esq. of the Washington D.C. law firm, Pillsbury, Winthrop, Shaw Pittman. Information available at FERC Website; *see also Power Research Institute Challenges Practicality of Tidal Energy Project*, James Kinsella, Martha's Vineyard Gazette (June 13, 2006) (reporting that companies are subsidiaries of Oceana, a Delaware corporation). *See also EPRI Tidal Energy Report*, online at http://www.epri.com/oceanenergy/streamenergy.html.

[7] 16 U.S.C. §799.

> for the sole purpose of maintaining priority of application for a license under the terms of this chapter for such period or periods, not exceeding a total of three years, as in the discretion of the Commission may be necessary for making examinations and surveys, for preparing maps, plans, specifications, and estimates, and for making financial arrangements.[8]

No entity other than the permit holder can file a license application during the term of the permit.[9]

B. FERC's Rules of Preference for License

Once a permit holder files an application, FERC's rules of preference virtually guaranteed receipt of the license. The license selection rules work as follows. After the permit holder files a license application, FERC will provide other developers with an opportunity of six to nine months to file a competing application.[10] Where a competing application is filed, FERC selects the proposal with the "best adapted plan…to utilize the water resources of the region," subject to the following caveat:[11] if the competitor's application is deemed "better adapted," FERC must give the permittee a chance to improve its proposal.[12] Thereafter, FERC will re-evaluate the applications, and if it concludes that the permittee's proposal is better adapted, it will award the license to the permit holder. Where FERC finds that the applications are equally well adapted, FERC breaks the tie in favor of the first filed application, the permit holder.

---

[8] Section 5, 16 U.S.C. §798

[9] 18 C.F.R. §4.30.

[10] In today's regulatory environment, a developer could not possibly complete a license application within a 180 - 270 day time frame unless it had already initiated the process and was underway with consultation and studies.

[11] 18 C.F.R. 4.33(h)(1).

[12] 18 C.F.R. 4.33(h)(2).

In theory, a competitor could still prevail over a permit holder with a better adapted plan. But in almost every instance, save a handful of cases over the past 85 years, FERC is unable to conclude that either applicant has presented a better adapted plan.[13] Thus, FERC must resort to the first filed tie breaker, which means that permit holder prevails.

C. Process of Getting A Permit: Ease Is A Double Edged Sword

1. Description of the process of obtaining a permit

In contrast to the license process, the procedure for obtaining a preliminary permit involves little time or investment. A developer merely needs to fill out a short application specifying where the project will be located and describing plans for developing the site. FERC does not even charge a fee to process the application.

A permit application does not need to include detailed maps, engineering designs or specification or even to identify a specific technology that might be evaluated for use at the site. Also, at the permit stage, FERC does not examine the financial fitness of developers, their past experience with the licensing process or corporate plans for engaging in hydroelectric or wave and tidal development.[14]

As with a license, FERC is required to issue a preliminary permit to the applicant with a better adapted plan. Because a preliminary permit application involves so little information, FERC routinely applies the first to file rule as a tie breaker. In short, as a general rule, a company that submits a permit application first will win the permit, with

---

[13] B. Schneider, *FERC's First in Time Rule: An Impediment to Hydropower Development*, 5 Energy L.J. 97, 105 (1984).

[14] *See* 18 C.F.R. §4.81 (regulations for permit applications); *also Chain Dam Corp*, 22 FERC 61183 61317 (1983)(holding that financial fitness is not a relevant factor at the permit stage).

two exceptions: municipal preference and where a competing license or exemption application is filed.

2. Exceptions to First Filed Priority in Issuance of Permits

a. Municipal preference

Section 7 of the Federal Power Act (FPA) grants municipal and state entities priority rights to a preliminary permit; municipal preference trumps first to file status.[15] But as discussed later, most municipalities will not compete for a site in their own backyard because by filing for a permit, the municipality must commit to develop the site on its own in order to secure the preference. Under FERC's current policy, the municipality cannot share its priority rights during the permit process or the subsequent licensing proceeding in a partnership or joint venture, common development models for municipalities today.

b. Competing development application

A "development application," *i.e.* an application for a license or an exemption trumps a first filed preliminary permit application under FERC's rules of preference.[16] FERC prefers license applicants over permit applicants because the former are further along in the development process, and are more likely to develop the site in the near term than a permit holder.

Of course, under today's licensing regime, a developer could not realistically file a license application in competition with a permit. Preparation of an application can take several years, whereas FERC typically allows 180 to 270 days for developers to file a

---

[15] *See* 16 U.S.C. § 800; 18 C.F.R. §4.33 (setting out rules of preference).

[16] 18 C.F.R. § 4.33.

competing license application. Thus, unless a developer has already been studying the site and working on an application or, is able to obtain a waiver of many of the licensing requirements, a developer will not be able to knock off a permit application with a competing license application.

2. The ease of acquiring a permit is a double-edged sword

The ease with which developers can acquire preliminary permits is a double-edged sword. On the one hand, the minimal information required in a permit application gives wave and tidal developers flexibility to consider a variety of designs best suited for their chosen site and to modify the project configuration to minimize environmental impacts. And because wave and tidal companies have trouble attracting financing until licensing is underway, FERC's willingness to defer consideration of financial fitness at the permitting stage means that bonafide developers of promising wave and tidal projects won't be edged out of licensing by well financed companies with inferior technology.

On the other hand, the low cost of the permit process could potentially create a mechanism for speculators to scoop up sites that they have no intention of developing or that they hope to auction to the highest bidder. Restrictions on transferring permits may discourage the speculators who file dozens of permits or seek to nab sites that for whatever reason (*e.g.*, to block a competitor or bolster a business plan) they do not intend to develop. But restrictions on transfers do not cure the problem of a well-intentioned company that grabs sites but lags behind industry standards in technology design or has not explored the option of licensing technology from other companies to use at the site. Granting preliminary permits to less advanced companies, without imposing any limit on the number of permits issued will lock out companies with ready-to-go technology,

forcing them to wait three years until the less advanced company's permit expires (assuming the less advanced company is not granted a successive permit) in order to move forward at the site.

II. OVERVIEW OF PROBLEMS WITH THE EXISTING PERMIT PROGRAM

In this section, we discuss how the existing preliminary permit program may impede the emergence of a robust wave and tidal energy industry. At the outset of this section, we emphasize that many of the concerns we discuss here relate to companies that file preliminary permits on ten or twenty sites, far more than they could realistically ever develop. We do recognize, however, that companies may have a legitimate need to file permits at three or four sites at various locations. Because wave and tidal technology is still developing, companies may need time to evaluate which sites offer the best resource for their technology. Moreover, the speed of the permitting process varies depending upon state; proceeding with projects in two or three different states increases the chance that at least one development will move in a timely manner even if others stall or face opposition. Thus, one of the dilemmas raised throughout this policy paper is how we can distinguish companies with a legitimate multi site development strategy from those engaged in speculative or site hoarding activity.

Below, we list the problems that we have identified with the existing permit process:

- **Ease of permitting without limits may deter development of projects by bonafide developers with more advanced technologies**
- **Allowing companies without any technology under development to tie up an excessive number of sites can cause delay at a time when the wave and tidal industry in the United States is gaining momentum**

- **FERC's existing permit policy rewards speed, not merit**

- **The existing permit rules do not allow for any real competition, such that a developer of a more advanced technology could displace a developer that has not even started to assess potential technologies**

- **The permit process creates a Gold Rush mentality that may lead to image problems for the wave and tidal industry in the long run**

- **Restrictions of transfers of permits guard against site banking but also limit the ability to bring more established companies into the wave and tidal industry**

- **Restrictions on transfers also make it difficult for municipalities to gain benefits from sites, which may deter municipalities from supporting wave and tidal projects as part of coastal revitalization and management programs**

- **Lack of accountability of resource agencies during the term of the permit lengthens the time involved in licensing, which in turn, spurs developers to procure multiple permits to "hedge their bets;"**

- **Relatedly, the mismatch between the three year permit term and the three to five year Integrated Licensing Process (ILP) necessitates issuance of successive permits, which will tie up sites for even longer periods**

III. DISCUSSION

A. Issuing preliminary permits to questionable companies deters development by bonafide entities

Issuance of multiple permits to companies which have either no intention or no ability to develop a site may drive away bonafide developers better suited to near term exploitation of the site. As discussed in Part II.B, issuance of a preliminary permit effectively dictates the subsequent award of a license. In all but exceptional circumstances, a preliminary permit holder that files for a license during the term of its permit will prevail over all other competitors in the licensing process. Consequently, even a developer of a fairly advanced wave or tidal technology will not take the risk of

investing money in preparing a license application if another entity already holds a preliminary permit for the site. As Barbara Schneider, a FERC expert commented:

> It is doubtful that anyone will proceed with preparation of a license application when another entity who holds the permit is actively engaged in preparation of a "preferred license application.[17]

The deterrent effect of issuing a permit to a less advanced developer finds some support in recent industry events. For example, since 2004, the City of San Francisco and local utilities had been exploring the possibility of a tidal project in San Francisco Bay with a number of tidal energy companies.[18] Now that FERC has issued a permit to another company for the Golden Gate Project (*see infra*, nt.5, P-12585), some of the entities initially interested in the project have had to reexamine their original plans which may slow development of the project.

B. Allowing companies without any technology under development ties up the resource at a time when the wave and tidal industry in the United States is gaining momentum.

Permitting an ocean or tidal project which has already developed and tested its technology before filing an application can take three to five years. For example, Verdant Power, which had already designed and tested small scale prototypes of its in stream tidal generators *before* filing a preliminary permit application in 2002, has still not completed a license application because of multiple study demands by various resource agencies. FERC Project No. 12178. Likewise, Aqua Energy, whose AquaBuoy devices have been deployed for short test periods, initiated the Alternative License Process for its

---

[17] B. Schneider, *FERC's First in Time Rule: An Impediment to Hydropower Development*, 5 Energy L.J. 97, 105 (1984).

[18] *See California Energy Markets*, January 2004, online at http://www.sfenvironment.com/articles_pr/2004/article/010004.htm (reporting on proposals for San Francisco Bay Tidal Energy Project).

Makah Bay in 2003 but has yet to file a license application for its wave energy project. FERC Project No. DI02-3

Again, the three to five year time frame for submission of a license application applies to companies which have already started to develop technology for use at the site. A company which does not have any tidal technology under development or has not started to negotiate with other wave or tidal companies to license will need far more than three years to prepare a license application. On top of the requisite studies, consultation and site assessments, a company without any in-house technology must start from scratch and either test or develop its own proprietary technology or negotiate a licensing agreement with an existing technology holder.

At a minimum, awarding permits to developers who realistically, stand no chance of ever filing for a license, delays development of permit sites by bonafide developers for at least three years. The delay is particularly prejudicial to the industry now, at a time when large institutional companies are finally investing in wave and tidal companies.[19] These investors will pull their money and kill this fledgling industry once they discover that the tested technologies that they have financed are barred from development because companies with no technology have prime sites tied up.

C. FERC's existing permit policy rewards speed, not merit

Over 20 years ago, FERC's permit policy came under fire following the enactment of PURPA in 1978, a statute which awarded significant benefits for small

[19] *See, e.g.,* General Electric invests in Ocean Power Delivery, online at http://www.energyvortex.com/pages/headlinedetails.cfm?id=2314; Finavera acquires AquaEnergy, online at http://renewableenergyaccess.com/rea/news/story?id=45322; Voith Siemens purchases WaveGen, online at http://www.findarticles.com/p/articles/mi_m0OXD/is_2005_May_31/ai_n13796701.

hydro development. PURPA benefits created a spike in preliminary permit filings, leading FERC to rely almost exclusively on its "first to file" rule to choose between competitive applications. At least one expert criticized FERC's reflexive use of first to file rule to issue preliminary permits:

> The FERC routinely awards a preliminary permit to the first in time applicant. This reflexive reliance upon a filing date rather than upon an analysis of the relative quality of competiting applications is contrary to the requirements of the [Federal Power] Act and has converted the FERC's preliminary permit process from a contest of merit into a contest of speed.[20]

The focus on speed rather than merit is not only unfair, but it can hinder development:

> This emphasis upon speed has had an adverse impact upon the manner in which hydroelectric sites are actually developed. FERC's reliance on the first in time rule frequently results in the award of a preliminary permit to an entity whose plans are not best adapted but who is merely the applicant who was able to develop and submit a preliminary permit application first. In most instances, permit applications can be prepared with relatively little effort or expense because the technical data required by FERC can be obtained from public agencies such as the Corps of Engineers [or here, from the publicly available EPRI report]. Thus, this rule encourages hydroelectric developers to submit preliminary permit applications for a large number of sites without engaging in the pre-feasibility studies essential to determine whether development of a site is economically practical. Instead, such studies are routinely performed *after* a preliminary permit is issued and the resulting delay in performing studies has led to the surrender of large number of preliminary permits where the preliminary permit holder subsequently determines development of the site is infeasible.[21]

By issuing permits that will not come to fruition, FERC impedes legitimate development. Issuance of a permit ties up a site for the term of the permit and prohibits anyone else from filing a license on the site. Even if a permit holder surrenders a permit

---

[20] Scheider, 5 Energy L.J. at 100.

[21] *Id.*

after a year or two, that is a year or two lost to a bonafide developer - and enough time to drive away interested investors.

D. Today's complex licensing does not give developers any chance to bump unqualified permit holders

As discussed in Part II.B, FERC's rules of priority favor development applications (*i.e.*, an application for a license or exemption) over preliminary permit applications. In the past, a developer interested in a site on which a permit application had already been filed (but was not yet granted) could submit a "notice of intent to file a license application." The developer would then have 180 to 270 days to submit the license application, which would bump the permit application.

Today's developers do not have this option. Preparation of a license application takes at least three years; a developer could never complete and file a satisfactory application in six months. Consequently, even where developers learn that desirable sites have been staked out in a permit application, there is little that they can do to defeat the unqualified developer and prevent it from accessing the site.

E. A Gold Rush mentality creates image problems for the industry

The low threshold requirements for filing preliminary permits encourage a gold rush mentality and abusive filings which adversely impact the wave and tidal industry. The offshore wave industry faced a similar problem where one wind energy company's multiple permit filings with the Army Corps of Engineers stirred up opposition to *all* offshore wind development:

> The decisions of a few executives at these corporations dramatically affect the fortunes of wind power. One company, Winergy, set off panic along the Eastern seaboard when it announced plans—before meeting shoreline residents or policymakers—to install almost 3,000 offshore turbines. The company has yet to

actually build anything, but its flurry of press releases was enough to prompt New Jersey to place a 15-month moratorium on offshore wind turbines.[22]

F. Restrictions of transfers of permits guard against site banking but also limit the ability to bring more established companies into the wave and tidal industry

As discussed in Part II, the Federal Power Act prohibits companies from transferring their preliminary permits, and the concomitant priority status, to other companies. On one hand, the prohibition on transferring permits helps to deter site hogging because it prevents companies that scoop up permits from re-selling those permit rights to other entities.

At the same time, restrictive policies on permit transfers can also have a negative impact on wave and tidal development. Most of today's leading wave and tidal developers are small, self-funded start ups. As these smaller companies reach a point where they have successfully developed small scale prototypes, obtained a preliminary permit to develop a site and initiated licensing, they become attractive acquisition targets for established companies seeking to enter the wave or tidal energy industry. In fact, in the past year, two such acquisitions occurred; an Irish company, Open Hydro purchased Florida Hydro which holds a preliminary permit on the Gulf Stream, while Finavera, an Irish offshore wind company acquired AquaEnergy. *See infra* n.18.

But a larger company will be deterred from acquiring a small developer that holds a preliminary permit to develop a site because under FERC's regulations, the smaller company cannot transfer the permit and corresponding priority rights. This is so even where the companies completely merge or where one company acquires the other

[22] Mischa Gaus, *Shooting Down the Breeze*, online at http://www.inthesetimes.com/site/main/article/2302/

because the new entity will not have the same corporate identity as the original permit holder.[23]

As a result, the strict prohibitions on transfers discourage more established companies with the financial means to develop an ocean or tidal project from investing in technologies. A company has no incentive to buy a project at the permit stage without a guarantee that the purchasing company will have first filed rights. FERC should clarify that in those situations where an entity that holds a permit merges with, is acquired by or creates another affiliated entity to develop the project that the new entity's identity remains the same for purposes of taking advantage of the first to file license preference.

G. Restrictions on transfers also make it difficult for municipalities to gain benefits from sites, which may deter municipalities from supporting wave and tidal projects as part of coastal revitalization and management programs.

Under Section 7 of the Federal Power Act, municipalities have a preference in the permit process. A permit application filed by a municipality will defeat an application by all other competitors, including a first filed application. There are several caveats to the municipal preference. First, only a municipal or state entity may exercise the preference; municipal preference does not apply where, for example, a municipality and a private developer create a hybrid entity or joint development arrangement. Second, where a municipality uses its preference to secure a permit, the preference does not carry over to the licensing stage unless the municipality alone, and not a hybrid public/private entity pursues the license. In the mid 1980s, many developers entered into arrangements with municipalities, using the municipality as a front so that the developer could gain the preference. When FERC learned of these "sham municipal" arrangements, it rescinded

[23] *See, infra* at n.25.

those licenses and permits that were awarded in competitive proceedings as a result of an undeserved municipal preference.

Many coastal municipalities and public entities have been exploring the possibility of wave and tidal projects. Some communities have started meeting with developers, evaluating technologies and developing strategic development plans. Indeed, some state agencies have even funded the EPRI. Some of the recent spate of permit filings have disrupted the plans of many coastal municipalities and public entities, yet there is nothing that they can do to assert control over these sites. In theory, a municipality could assert preference and file a permit on the sites where a developer has filed a permit application. But most municipalities do not want to develop these sites themselves, nor do they have the expertise to do so. Instead, municipalities want to bring in a developer which will own, construct and operate the project, provide the municipality with power. Thus, even if a municipality uses its preference to permit a site, that preference will not carry over to licensing where the municipality brings in a developer to construct and operate the project.

FERC's permit system turns municipal preference on its head. Whereas the purpose of the municipal preference was to give the public an opportunity to control public resources, today, the restrictions on municipal preference, particularly on hybrid entities, tie the municipalities' hands and prevent them from asserting control over sites in their own backyard.

H. Lack of accountability of resource agencies during the term of the permit lengthens the time involved in licensing, which in turn, spurs developers to procure multiple permits to "hedge their bets."

One original purpose of the preliminary permit was to give developers a chance to engage in consultation with agencies and to perform studies preparatory to filing a license application. At present, the three year permit term does not suffice to complete a license application under FERC's ILP (integrated license proceeding) rules in large part, because other resource agencies which must approve the project are not subject to any deadlines for commenting on a permit holder's proposal. As discussed later, deadlines should be shortened and strictly enforced; agencies that miss deadlines should forfeit their right to comment. Thus, while a permit holder has three years to file a license, an agency has no comparable deadlines and can run the time on the permit through inaction. As we discuss in the next section, making agencies more accountable and responsive could help cut down on the time required to prepare a license application. And in turn, a more expeditious license process would eliminate the need for developers to file multiple preliminary permits to ensure that at least one project goes forward.

I. Relatedly, the mismatch between the three year permit term and the three to five year Integrated Licensing Process (ILP) necessitates issuance of successive permits, which will tie up sites for even longer periods.

Somewhat related to the accountability issue is the problem of the mismatch between the three year permit term and the Integrated License Process (ILP) which can take two to five years to complete. Because there is little data on impacts of wave and tidal energy projects, resource agencies demand lengthy and time consuming studies before granting approval for the projects. The problem with the mismatch between the three year permit term and the ILP is that even the most diligent developers will find

themselves in need of a successive permit for a site. Thus, unless FERC can find some way to help developers compress the ILP into the permit term, more and more developers will need to obtain successive preliminary permits, and thus, a site might be tied up for six years without knowing whether a project can or will be successfully sited.

IV. OPTIONS FOR ADDRESSSING PROBLEMS IN THE PERMIT PROCESS

Below we propose several different options that FERC might consider to preserve priority permit status to bonafide developers to encourage investment and eliminate site hoarding without jeopardizing legitimate development. Given the complexity of these issues and the need for delicate balancing, OREC emphasizes that we do not formally endorse or recommend any of these options. Instead, we share these ideas to lay the groundwork for reforming FERC's preliminary permit program to ensure that it will optimize, rather than impede wave and tidal energy development in the United States.

- **Should FERC raise the threshold requirements for obtaining a permit?**
- **Should FERC limit the number of permits that an applicant can simultaneously pursue?**
- **Should FERC rigorously monitor progress reports and establish milestones for developers?**
- **What measures can and should FERC take to encourage agency accountability during the term of a permit?**
- **Should FERC ease some restrictions on transfer of permits?**
- **Should FERC modify municipal preference as it applies to permits to facilitate involvement of municipalities and coastal communities?**
- **Should FERC expedite the licensing process to fit within the three year permit term, or an even shorter period?**

- **What are some alternatives to the preliminary permit to facilitate development of wave and tidal technologies?**

- **What is the relationship between the FERC permit program and MMS' lease program for alternative energy on the OCS?**

A. Proposal 1: Raise the threshold requirements for obtaining a permit.

Raising threshold requirements for obtaining a preliminary permit offers one way to distinguish between bonafide developers and speculators or less advanced companies without a viable, near term development plan. For example, FERC could require permit applicants to identify the technology, or types of technology that they intend to deploy at the site and to describe the technology's current stage of development. FERC might ask applicants to provide some or all of the following information:

> --Identify the technology that you intend to use at the site
>
> --Has a prototype of this technology been designed and tank tested?
>
> --If potential technologies are still being studied, has the applicant (a) entered into a contract with a research institute to develop and test this technology or (b) alternatively, attempted to acquire licensing rights from other companies to use their technology at the site?

FERC could use this information in a variety of ways. First, FERC could disqualify applicants from obtaining a permit where they that have not reached some threshold stage of developing a technology. Alternatively, where a less advanced company seeks a permit, FERC could decline to apply the "first to file" preference and extend the time for filing competing permit applications to give more advanced companies an opportunity to consider whether to compete for the site.

Threshold requirements would ensure that companies with more advanced technology have an opportunity to move forward instead of allowing companies that are

not far along or do not have technology to tie up a site. This policy would expedite development of wave and tidal projects and, in turn, attract vital private investment to the industry.

On the other hand, overly stringent threshold requirements could eliminate companies that have promising ideas, but have not yet succeeded in attracting enough funding to advance development of their technology. Indeed, with the newness of the industry, it is difficult to characterize any technology as "proven." Also, developers need flexibility to modify technology to a site's characteristics or adopt a different technology altogether. Too much stringency in threshold requirements will put FERC in the role of evaluating technology and at this point, FERC lacks the staff and expertise to take on this role.

We do not recommend threshold requirements based on a company's financial status or ability to obtain financing, except in a limited situation where a company has simultaneously filed permits on ten or fifteen sites. Most wave and tidal energy companies are small, with most self-financed by company principals. Few companies have attracted venture capital and though larger companies are beginning to invest in wave and tidal companies, some are still deterred because of regulatory uncertainty and lack of tax benefits available to other renewables such as Production Tax Credit (PTC). Applying a financial fitness test at the permit stage would probably eliminate most of today's wave and tidal industry leaders and allow large companies with money, but no technology to grab sites.[24] And where applicants intend to tie up an excessive number of sites, it is more reasonable for FERC to monitor their progress at various sites to ensure

[24] Under FERC's present permit policy, financial fitness is not a relevant factor at the permit stage. *Chain Dam Corp*, 22 FERC 61183 61317 (1983)

that they are moving forward, with a less favored of inquiring of the applicant's financial plans.

B. Proposal 2: Should FERC limit the number of permits that a company can simultaneously pursue?

Should FERC control site banking by placing a limit on the number of permits that a company can pursue? This is a controversial option. On the one hand, as discussed earlier, some companies choose a business strategy of multi-site development because they do not know which sites are viable or which permit processes will run smoothly. On the other hand, there is a difference between allowing companies to pursue permits for sites in three or four different locations versus allowing companies to file for ten, fifteen or twenty sites.

Limiting the number of permits that one company can hold would guard against site banking and speculation. At the same time, a cap on the number of permits filed must be flexible so that it does not disqualify companies that choose multi-site development as a business strategy. The strategy is potentially impractical as well, since it might be difficult to identify companies that are loosely affiliated.

C. Proposal 4: Encourage agency accountability during the permit process

FERC could use its progress reports to exact accountability from federal and state agencies and track responsiveness by these agencies. While developers are typically compromised in their role as applicant by agencies that they must gain approvals from, they are often placed in the position of granting extensions to non-responsive agencies. By requiring information specific to agency responsiveness—for example, transmittal dates and response times—and establishing appropriate remedies, FERC can establish a

more accountable system. Moreover, by establishing a more accountable process FERC is, effectively, streamlining the licensing process.

As described in Part III.H, many federal and state agencies with jurisdiction over permitting may take months, sometimes years, to respond to developer requests for consultation or to issue project authorizations or approvals. A variety of factors explain agency delay, including lack of staff and layers of bureaucracy. But agencies are even slower to act on wave and tidal projects because they involve new technology where the agency has not had precedent to follow or requires extensive data and studies in order to issue a ruling.

FERC should consider using its authority as lead agency for licensing to encourage agencies to move expeditiously, particularly where a demonstration wave or tidal project is proposed and developers are willing to engage in rigorous post-deployment monitoring and studies. For example, perhaps FERC can shorten the deadlines by which agencies can comment on an application or propose conditions. In cases where FERC allows a "Verdant exemption,"[25] perhaps FERC can help applicants negotiate permit exemptions or waivers from federal and state agencies given the experimental nature of the project and the short, limited term of deployment. The value

[25] *Verdant Power*, 111 FERC 61, 2004 (2005) (granting exception for experimental, non-impounded tidal technology). The "Verdant exemption" allows developers to site and operate experimental wave and tidal technologies for a period of 18 months to gather data on operations and impacts for preparation of licensing. To qualify for a Verdant exemption, a project must use experimental or emerging technology and cannot sell power into the grid. Although a Verdant exemption allows a project to operate without a license, FERC has made clear that the Verdant exemption does not relieve developers from obtaining necessary permits and authorizations from other federal and state agencies with jurisdiction over the project.

of a Verdant exemption is diminished when developers must spend a year or more to obtain federal and state authorizations needed to site its project for a short duration.

Other statutes may impose constraints on FERC's ability to eliminate other federal and state requirements. State agencies may face their own internal restrictions; a state agency may not have authority to issue an authorization without gathering sufficient data on impacts or requiring certain studies. FERC may have some power to preempt states under the FPA where requirements conflict with federal law, though preemption is a draconian measure that can upset FERC's relationship with states. And preemption would not help applicants subject to federal requirements like the Coastal Zone Management Act (CZMA) or Section 404 of the Clean Water Act since FERC cannot override federal law. Still, having asserted jurisdiction over wave and tidal projects, FERC should not leave them to grapple with federal and state regulations on their own.

D. Proposal 4: Rigorously Monitor Progress Reports and Establish Milestones for Developers

All permit holders must submit six month progress reports detailing work that they have performed under the permit. Failure to timely submit a report will result in revocation of the permit.

The present problem with progress reports, however, is that while FERC checks to confirm that a permit holder has filed a report, FERC does not pay attention to the content of the report. FERC could consider "putting teeth" into the bi-annual progress report requirement to ensure that developers are moving forward with their projects. For example, FERC could ask a developer which has not made progress in a given period to explain why; FERC could also consider revoking a permit after several periods of inactivity.

On the other hand, we recognize the problems with close review of progress reports. First, at any given time, FERC has hundreds of active permits on file (these include all conventional hydro projects, not just wave and tidal) and may not have adequate staff resources to monitor reports for all of these projects. Second, progress on wave and tidal projects does not always move smoothly, despite a developer's best efforts. Agencies may sit on a developer's application or a developer may run short on money and may cut back on permitting efforts during one of the bi-annual reporting periods. In this circumstance, revocation of a permit is a harsh penalty.

Finally, it may be difficult to create milestones by which FERC could measure reasonable progress because wave and tidal technologies move with unpredictable speed depending upon context. Reasonable progress for a well-funded company dealing with cooperative agencies is far different from reasonable progress for a struggling, self-financed developer grappling with public opposition to its project. Any criteria for measuring progress must be sufficiently flexible and take into account all factors that impact the speed of permitting.

E. Proposal 5: Ease some restrictions on transfer of permits

Back in the days of the dotcom boom, many start ups dreamed of being acquired by a giant like Microsoft or Amazon. Likewise, some small wave or tidal energy developers view a buy out by an established renewable energy company as the only way to get projects built. Sometimes, too, a small wave or energy developer may decide to enter into a joint venture agreement or partnership to develop the project. Again, existing

restrictions on transfer deter joint ventures, since the permittee's priority rights do not extend to a license application filed by a joint venture team or partnership.[26]

As discussed earlier, Section 5 of the FPA prohibits transfer of permits. FERC cannot waive a statutory requirement. But, FERC can clarify that a "transfer" does not include situations where (a) the original permit holder is acquired by, or merges with a larger company and then substitutes the acquiring company as permit holder or (b) the permit holder enters into a joint venture with other companies to develop the project and shares the priority preference with the joint venture. In this way, ocean and tidal developers who have invested in commercialization of the technology and filed preliminary permits can use their first to file priority as to attract larger companies to enter into a joint venture, merger or acquisition to develop the projects.

Facilitating joint ventures, mergers and other corporate arrangements also reflects the reality of today's wave and tidal energy industry. When the Federal Power Act passed, either utilities funded hydro projects or private companies could attract financing by entering into a purchased power agreement and using the agreement as collateral. By contrast, small wave and tidal companies have limited ability to attract private capital because of the newness of the technology, small project size, lack of tax benefits to incent investment and regulatory uncertainty. Moreover, extensive environmental regulation has increased the cost of permitting; some industry experts estimate that environmental studies and permitting comprise as much as 40 percent of the overall cost of a wave or tidal demonstration project. In today's financial and regulatory environment and until

---

[26] *Tropicana*, 65 FERC ¶ 61,094 at 61552 (1993); *Larry Pane*, 24 FERC ¶ 61,326 (1983)(finding that partnership and individual partners are not the same entities and partner cannot take advantage of priority when permit was held by partnership).

more public funds are available for ocean and tidal development, mergers, buyouts or joint ventures by or with more established companies may offer the only lifeline for small companies that hope to bring wave and tidal energy projects online.

F. Proposal 6: Facilitate involvement of municipalities and coastal communities.

The future of the tidal and wave energy community depends not just upon private investment, but upon local support from communities. Tidal and wave energy development can revitalize economic development in coastal communities and provide a source of clean, affordable energy. The existing permit program limits opportunities to municipalities to develop coastal resources.

As discussed earlier, municipalities that seek to develop a coastal or tidal site often do not file a permit for the site in competition with another developer, because the municipality cannot assert preference unless it intends to develop the site on its own. Thus, FERC might reconsider its 1981 rule prohibiting hybrid municipal/private arrangements and examine whether a municipality could assert preference where it develops a site through a joint venture arrangement or project development/ power purchase agreement. To guard against municipalities entering into exclusive deals with favored developers, FERC could provide that a municipality's preference applies only to those hybrid arrangements where a municipality uses a competitive bidding process to select a tidal or wave energy company to develop the site for the benefit of the municipality. By removing barriers to cooperation between municipalities and private developers, FERC will help speed up tidal energy development rather than impede it. Also, giving municipalities and other public entities input into the licensing process goes

a long way towards minimizing local, "not in my backyard" (NIMBY) opposition that can sink a project or at a minimum, prolong permitting.

On the other hand, local utilities interested in developing wave and tidal sites may oppose an extension of preference to municipalities. In addition, municipalities may favor proposals from locally based wave or tidal development companies and select local wave or tidal developers over technologically superior projects by out of state companies. These considerations militate against allowing municipalities to share their preference with private wave or tidal developers. Also, a policy that permits municipalities to auction sites to the highest bidder would not serve the public interest or the ocean renewable industry.

G. Proposal 7: At a minimum, expedite the licensing process to fit within the three year permit term.

By FERC's own estimate, the ILP can take between two and five years. Consequently, to complete a license application within the term of a permit, a developer must essentially commence the application on the day the permit issues. Of course, in most instances, a developer cannot begin to prepare an application because the developer must first study the resource and determine whether the proposed project is economically and technologically feasible. Because the time needed to prepare a license application does not fit within a three year permit term, developers will need to file for successive permits to complete their application.

Given that the purpose of a permit is to allow applicants to maintain priority to prepare a license application, the permit term should actually provide enough time for developers to complete and file an application. In today's regulatory environment, however, the permit term is too short. Because the FPA limits permits to a three year

term, FERC must examine ways to compress the license process within the term of a permit, and in fact, to half of the permit term for experimental or demonstration projects.

Granting successive permits is an imperfect fix. On the one hand, applicants who invest significant resources under their first permit and act diligently deserve a successive permit, otherwise their efforts under the first permit will be wasted. On the other hand, issuance of successive permits gives developers of advanced technology too much time to catch up. Consider this scenario. A developer with no technology files and is granted a permit on a site, blocking out a more advanced developer. During the first term of the permit, the developer licenses technology for the project and initiates studies. The developer then requests a successive permit to prepare an application for a license, citing its diligence under the first permit. FERC will likely grant the successive permit in this case, even though if it had issued a permit to the more advanced developer, the site would have been developed a few years earlier. Moreover, despite the second successive permit, a less advanced developer still may be unable to complete a license after having tied up the site for six years.

At this juncture, the success of the wave and tidal industry in the United States depends upon the ability of companies to get projects into the water. If not properly administered, FERC's permit program may allow less advanced developers to leap frog over companies with more advanced technologies, thereby delaying the deployment of wave and tidal projects, to the detriment of the entire industry.

More importantly, the license process for small wave, tidal and current projects should not take as much time as licensing a several hundred megawatt dam or conventional energy plant. If FERC could formulate an expedited license process - a

"mini ILP" - to license small projects in a year or less, many of the problems associated with site banking would be eliminated. Developers could quickly site a few demonstration units, determine the feasibility of the sites and decide whether or not to develop them.[27]

H. Proposal 8: Investigate permitting alternatives

The preliminary permit provides an important tool for companies seeking to commercialize ocean technology. But the permit should not be the only tool available for studying a site or testing a technology. FERC should examine other alternatives to the preliminary permit, such as (a) a streamlined, one year process for deploying a demonstration or prototype, after which applicant would have 3 years to complete license application; (b) creation of wave and tidal hubs prescreened for environmental impacts; (c) programmatic assessment and an auction for sites (where selection is based on merit, not dollars where the developer would acquire exclusive rights to file a license application for the site or (d) giving lead authority to states that have procedures in place for expediting permitting of wave and tidal projects (or granting exemptions, in this situation, which involve less onerous processes than licensing). Many developers will still choose to take the preliminary permit route to site projects, but there should also be other alternative mechanisms to secure rights to sites or study projects in operation.

I. Proposal 9: Resolve MMS Issues

[27] The *Verdant* exemption is one option for getting projects in the water for a short, demo period, though even that process took more than a year to obtain all necessary approvals just to operate the units for 18 months. In any event, OREC is cognizant of the need for reform in the licensing process and plans to tackle these issues in another policy paper.

The Energy Policy Act of 2005 authorized MMS to lease lands on the Outer Continental Shelf for alternate energy, including wave and tidal technologies. MMS interprets its authority under the Energy Policy Act as conferring lead agency authority over wave and tidal projects on the OCS. But FERC also asserted jurisdiction over ocean energy projects on the OCS in *Aqua Energy Group*, *supra*.

The jurisdictional overlap poses quandaries for developers. If a developer files a preliminary permit application with FERC for a site on the OCS, will MMS honor the priority rights under its application process? If a developer applies for a lease from MMS and a competitor subsequently files for a preliminary permit for the site at FERC, which developer has priority rights? Until FERC and MMS resolve these issues, the resulting regulatory uncertainty will deter developers from moving ahead with wave and tidal projects on the OCS.