

**UNITED STATES OF AMERICA**  
**Before the**  
**FEDERAL ENERGY REGULATORY COMMISSION**

**Notice of Inquiry and Interim Statement of Policy    ) Docket No. RM07-08-000**  
**Regarding Preliminary Permits for Wave, Current    )**  
**And Instream New Technology Hydropower Projects)**

**COMMENTS OF VERDANT POWER, INC.**  
**ON THE NOTICE OF INQUIRY AND INTERIM STATEMENT OF POLICY**  
**REGARDING PRELIMINARY PERMITS FOR WAVE, CURRENT AND**  
**INSTREAM NEW TECHNOLOGY HYDROPOWER PROJECTS**

**I.     BACKGROUND AND INTRODUCTION**

On February 15, 2007, the Federal Energy Regulatory Commission (the “Commission”) issued a “Notice of Inquiry and Interim Statement of Policy Regarding Preliminary Permits for Wave, Current and Instream New Technology Hydropower Projects” in Docket No. RM07-08-000 (“NOI”).<sup>1</sup> The NOI established an interim policy of “strict scrutiny” applicable to preliminary permits for wave, current, and instream free flow power generation technologies (hereinafter, “Free Flow Technologies”). The Commission is seeking comments on how it should treat applications for preliminary permits to study Free Flow Technology projects. The Commission also is seeking comments on how it should oversee permits during their terms.

Verdant Power, Inc. (“Verdant”) is a leading developer of Free Flow Technology projects. Our Roosevelt Island Tidal Energy (RITE) demonstration project<sup>2</sup> currently is delivering almost 180 kW of power to local businesses on Roosevelt Island, New York, from six of our proprietary turbines installed on the bottom of the East River. The

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<sup>1</sup> 72 Fed. Reg. 9281 (Mar. 1, 2007).

<sup>2</sup> FERC has issued two preliminary permits for the RITE Project in dockets P-12178 and P-12611

operation of this field of tidal turbines delivering power to support commercial enterprises is a first in the world. We hold records for the longest continuous operation of tidal turbines and for most power output.

Alongside the RITE demonstration, we are seeking a license from the Commission to build out the RITE project to provide 7 to 10 MW of free flow tidal power to the heart of one of the largest cities in the world. We will submit our license application this summer and, working with the separately constituted Executive Policy Board<sup>3</sup> are hopeful that a license will be issued in the summer of 2008. Thus, we believe we have significant expertise to offer the Commission in the areas of preliminary permits, the related area of project licensing and with the unique set of factors impacting this early stage industry.

**A. Lack of U.S. Government Support**

In marked contrast to the United Kingdom, Canada and other countries around the world, Free Flow Technologies have emerged in the United States without any significant assistance from the U.S. government. This places the nascent U.S. industry at a significant disadvantage compared to our European and Canadian based competition in particular. While we believe that we and other U.S. innovators have developed superior tidal, wave and instream technology, ultimately this advantage will disappear without increased support from the U.S. government. Federal support and action is needed in three specific areas - funding for R&D, tariff stipulations for Free Flow Technologies and tax incentives. Research and development support is needed to increase the efficiency of turbine designs, for deployment strategies, for improved operation to facilitate grid

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<sup>3</sup> The Executive Policy Board is a voluntary effort of senior officials of agencies and NGOs involved in the licensing of the RITE Project. It is intended to operate as a forum to facilitate cooperation among the stakeholders and Verdant and to address key issues.

interconnection, and for environmental studies, particularly a Programmatic Environmental Assessment that could eliminate much of the duplicative study requirements that the current process requires. Market tariff incentives such as feed in tariffs or other special buy back rates that recognize the early stage of development of the industry would accelerate full commercialization. In addition, tax incentives, such as production tax credits (PTC), accelerated depreciation and investment tax credits (ITC) applicable to other renewable energy technologies should be extended to Free Flow Technologies.

Unfortunately, the disadvantage created by the lack of U.S. government support exists despite, as the Commission has noted in the NOI, the clean and emissions free capacity these new technologies represent.<sup>4</sup> Given this potential and the enormous need for additional renewable energy to address climate change, energy security and other important environmental objectives, we urge the Commission not only to take action to foster the development of this industry consistent with Federal Power Act and other statutory requirements, but to use the knowledge it has developed about these technologies to encourage Congress, the Department of Energy and other agencies of the U.S. government to establish supportive policies.

#### **B. Regulatory Obstacles**

Subsidized competition from abroad and the lack of U.S. government support are not the most significant issues this new industry confronts. Our greatest challenge, perhaps, is a regulatory structure created largely to address conventional impounded hydropower projects. *In our view, business as usual in the face of uncertainty about the*

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<sup>4</sup> The Commission has noted that more than 350 terawatt hours could be provided from these new technologies. We would note that this estimate is very conservative since the potential from instream devices alone easily could exceed this amount.

*impacts of Free Flow Technologies will doom this industry in the United States.* Verdant is near to entering its sixth year of regulatory process since first proposing to install 10 MW of tidal power in the East River<sup>5</sup>. We have progressively committed to and adhered to the existing FERC licensing structure, including public consultations, agency scoping, preparation and execution of eleven study plans, and other concurrent agency permitting at the state and federal level. With an expectation of a license in 2008 and with a relatively short construction period, we would expect revenues in 2009—a long 7 years from the start of our regulatory journey. Like other start up companies, our ability to survive without revenue is limited. We feel that most, if not all, of the new Free Flow Technology industry shares this same dilemma.

The lengthy regulatory process is in stark contrast, in our view, with the compelling need for what we do. For example, with nearly all load growth in the down state New York City and Long Island areas of New York State and transmission bottlenecks that preclude bringing significant amounts of clean renewable power from upstate New York to downstate, our tidal energy project is exactly what New York City needs. That need is shared by many other cities facing similar problems. From our experience to date, we can only describe the regulatory process as one where the quest for perfect knowledge in an uncertain environmental setting is beginning to become the enemy of what is clearly good public energy policy. In our view, the value of emissions free energy harnessed from local waters and located in the heart of load centers should not be underestimated. Especially when detailed analysis predicts minimal or no negative impacts from this technology on important resources. While we understand the need for evaluation (hence our demonstration project and commitment to eleven

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<sup>5</sup> Verdant originally filed a preliminary permit application for the RITE project in May, 2002.

expensive environmental study plans), there is a great need for additional flexibility and creativity.

Verdant applauds the Commission for recognizing, and responding to the needs of this nascent industry. The NOI and interim policy of strict scrutiny intended to prevent site banking and encourage the development of these technologies demonstrates the Commission's growing understanding. Further evidence of the Commission's forward thinking is the landmark decision allowing us to move forward with our East River demonstration project.<sup>6</sup> We encourage the Commission to continue to be as flexible as possible in permitting and licensing Free Flow Technologies and urge the Commission to use its influence as best it can to move other agencies involved in this process to adopt more flexible, creative and streamlined approaches.

We endorse the call of other commenters, notably the National Hydropower Association and the Ocean Renewable Energy Coalition, for the Commission to make maximum use of the flexibility provided in the Federal Power Act to avoid business as usual for these technologies. Specifically, we encourage the Commission to explore extending to Free Flow Technologies the regulatory flexibility provided by law for facilities utilizing conduits,<sup>7</sup> minor parts of complete projects,<sup>8</sup> projects with a total installed capacity of not greater than two thousand horsepower (1.5 megawatts or "MW"),<sup>9</sup> impoundment projects for which waiver of preliminary permit regulations are eligible,<sup>10</sup> and for small hydroelectric projects of 5.0 MW or less.<sup>11</sup> We urge the

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<sup>6</sup> Verdant Power, LLC., 112 FERC ¶61,024 (2005) and 61,143 (2005)

<sup>7</sup> 18 C.F.R. § 4.30(b)(17).

<sup>8</sup> 16 U.S.C. § 803(i).

<sup>9</sup> 16 U.S.C. § 803(i); 18 C.F.R. § 4.30(b)(17).

<sup>10</sup> 18 C.F.R. § 4.81(c)(3).

Commission to explore all possible avenues to expedite the licensing process. We request that the Commission conduct a technical workshop focused on the licensing process, similar to its successful December, 2006 workshop on preliminary permits.

Finally, having been through years of consultation efforts related to our East River demonstration project, we urge the Commission to do everything it can to address issues related to study requirements and data development. No single area occupies more time during the pendency of a preliminary permit and prior to license application. We do not say this to understate or undermine the importance of understanding the impacts of Free Flow Technologies on natural resources and water-based activities such as recreation and navigation and security. We would not be proposing a project if we believed that our technology would have a negative impact on fish or any other resource. We urge the Commission to work with the federal and state resource agencies to develop more coordinated, streamlined and effective methods for assessing and making determinations regarding the impact of Free Flow Technologies on aquatic populations. The regulatory process that now occurs under the authority of up to ten different statutes needs to be simplified. In our view, agencies working together can make great strides in streamlining this process. We are hopeful that the Executive Policy Board involved in our effort to license the RITE project will demonstrate this.

Moreover, once this technology is licensed, subsequent projects should not be required to bear the same burden of study and demonstration. A Programmatic Environmental Assessment could eliminate much of the duplicative study requirements that the current process inevitably would impose. As provided in our more detailed

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<sup>11</sup> *Public Utility Regulatory Policies Act of 1978*, 16 U.S.C. §§ 2705, 2708 (2000), as amended by section 246 of the Energy Policy Act of 2005, Pub. L. 109-58, 119 Stat. 679.

comments that follow, we believe that needed reform begins with the preliminary permit process.

## **II. PRELIMINARY PERMITS**

The cost of studies and other work related to the development of a license application is very high. For this reason, Free Flow Technology developers must have the licensing priority that a preliminary permit confers. Thus, the answer to the Commission's question of whether to eliminate preliminary permits for these new technologies is no. Having said this, we believe that reform is needed and support making permanent the Commission's interim policy of strict scrutiny.

### **A. Strict Scrutiny of Applications**

The Commission's strict scrutiny approach is an essential feature of an overall licensing scheme that will provide for the orderly, predictable and efficient development of Free Flow Technology projects. Prior to strict scrutiny the process essentially allowed unqualified entities to hold sites for a three year period during which no or little development or studies occurred. By unqualified, we mean entities that have little or no knowledge of the four key developmental challenges of Free Flow Technology—(1) the understanding of necessary developmental and environmental activities to effectuate the siting and evaluation of a project; (2) the technical know-how to conduct resource assessment of the unique flow and velocity requirements needed for a successful Free Flow Technology project, the knowledge of the engineering challenges confronted in the deployment of these technologies and either the ability to apply known and proven technology or cause a competitive assessment of several manufacturer's technology at a permitted site; (3) the financial resources necessary to address these substantial

regulatory study and consultation costs and the ability to finance engineering feasibility studies and evaluations; and (4) the ability to work within a project area to define a project boundary that encompasses a viable project that can be licensed. An examination of the periodic progress reports related to the preliminary permits issued by the Commission prior to the date of the NOI easily reveals the difference between capable companies and those who appear to have jumped on the band wagon in the hope that value may one day be attached to their permit in the absence of any real investment on their part. We believe that strict scrutiny should work to put preliminary permits into the hands of entities that have the ability and commitment not only to determine the feasibility of a site for a Free Flow Technology project, but that will move forward to obtain licenses for effective sites. In other words, we believe that preliminary permits should be viewed as the first step in an otherwise well coordinated and efficient licensing process, not just a placeholder to obtain priority or a magnet to attract capital.

To this end, we urge the Commission to ensure that permits are not issued to unqualified speculators who hope that having a permit might bring them all that they lack and need to develop a Free Flow Technology project. Applicants should be expected to have made sufficient effort in advance of filing the permit application to believe that the relevant site holds promising potential. Under the current system, applicants may hold sites in the hopes that they can identify a technology or secure enough funding to move forward. Such speculative permits will not foster development of this industry and will work to keep permits out of the hands of entities that not only are committed to development of a site, but have the ability to follow through on this commitment.

## **1. Identification of Activities and Consultations**

Strict scrutiny has been generally defined in the NOI. We offer the following specific comments to provide more definition to this concept. First, applicants for preliminary permits should be required to demonstrate familiarity with the Commission's licensing procedures, and the ability to execute a consultation and study plan effort. After all, the purpose of the preliminary permit is to preserve priority during the time a license application is being developed. This demonstration can be made by requiring the applicant to identify in the preliminary permit application the actions the applicant will take under the permit to develop a license and a timetable for these actions consistent with the submission of a license application within the life of the permit. For this reason, we strongly support the Commission's current approach of requiring permit holders to submit within 45 days of the issuance of a permit a schedule of activities to be carried out under the permit and target dates for completion of these activities. We suggest the Commission clarify this requirement to link the submission to the licensing process. Permit holders should be able to demonstrate their familiarity with necessary consultations as well as with the technical studies of velocity, flows, bathymetric, etc. to determine whether the technology they propose is feasible at the site. The submission should be more than paragraphs copied from the Commission's regulations. The permit holder should be able to identify specific agencies and non-governmental organizations with which it must work to determine project impacts. In fact, in our view this effort must begin before the permit is issued if the permit holder expects to complete the licensing process prior to expiration of the permit.

## 2. Technical Know How

In general, applicants for preliminary permits should be able to identify the technology they propose to use,<sup>12</sup> or show specific familiarity with Free Flow Technologies and present a clear and time sensitive process for identifying and selecting technology for a particular site.<sup>13</sup> Having said this, we believe that in the event of competing applications for the issuance of permit for a site the advantage should go to the entity proposing the use of demonstrated technology. The use of proven technology will allow the applicant to focus its efforts based on the experience of what is needed for that technology to be determined feasible for the site. Also, the use of technology that has been successfully deployed elsewhere should expedite the licensing process and provide the applicant the ability to file a license application within the duration of the permit.

If the application does not present a proven technology, and is not proposing a demonstration project,<sup>14</sup> we believe the Commission should deny the application unless the applicant has demonstrated familiarity with proven technology that is available and has proposed a specific process for how it will make a timely technology decision. If the applicant is intent on moving forward with unproven technology, we believe that applicant should be required to propose a demonstration project of sufficient length and substance. We also believe that where no specific technology has been proposed, technology selection should be required to be made within one year after the issuance of

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<sup>12</sup> This includes all technology for the project, including deployment systems. If an applicant proposes to use technology they do not own, the applicant should be required to demonstrate that it has acquired rights to use that technology.

<sup>13</sup> For example, we support the innovative and creative filings by Pacific Gas & Electric Company for preliminary permits in Dockets P-12779 and P-12781.

<sup>14</sup> In fact we recommend that the Commission explore its authority to establish a third category of authorization related to Free Flow Technologies – preliminary permits, licenses and *demonstration certificates*. The latter would authorize construction and the sale of power from a 500 KW or less Free Flow Technology project with a duration of 3 years or less.

the permit. The applicant's plan for making this decision should be identified in milestones allowing the Commission to determine at six months that adequate progress is being made.

### **3. Financial Resources**

In our view, preliminary permits are needed because the effort of determining site feasibility and submitting a license application is expensive. For this reason, applications that do not identify sufficient financial resources<sup>15</sup> should be rejected. Each application submitted should be required to provide enough information for the Commission to determine that the applicant already has or clearly will have the financial resources to conduct the activities it describes in the initial 45 day filing required by the Commission.

Multiple applications submitted by a single applicant should each demonstrate sufficient financial resources allocated to each proposed project. A dollar to support one project should be seen as not available to support another. In the past, we believe some applications for permits were filed in the hopes that issuance of the permit would allow the applicant to raise financial resources. In our view, the Commission clearly should discourage the idea that the purpose of a preliminary permit is to act as a magnet for capital.

### **4. Project Boundaries**

In the NOI the Commission has suggested that it is necessary to limit project boundaries in order to discourage site banking. In general we agree with the Commission, but urge flexibility in this area. One of the great advantages to Free Flow Technologies is that they can be located in close proximity to load centers, such as New

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<sup>15</sup> All financial information about an applicant should be treated as proprietary and not subject to public release unless the applicant waives such treatment.

York City and other cities. Large population centers typically involve many competing demands for the use of area waters. As we have learned in conjunction with our East River Project, consultations with affected stakeholders are a time consuming and expensive process that can produce a project whose boundaries vary to a substantial degree from those originally included in the preliminary permit application. Yet, this result should be viewed as a positive as a truly effective project will invariably represent a balancing of interests. Thus, the Commission should be flexible in issuing permits with boundaries that may exceed the average size of other projects that have been issued preliminary permits, but should require the permit holder either to defend the original boundaries or to focus them based on the results of an active consultation process.

We cite our East River project as an example of the need for boundary flexibility. We have reconfigured the project location in response to consultation with the U.S. Coast Guard and the recreational fishing community more than once. We believe that as long as revised boundaries are reasonably proximate to the original boundaries, the licensing priority conferred by the permit should extend to the revised boundary areas. Filing for multiple permits or amending permits in mid stream is time consuming, expensive and could open permit holders to competition from other entities seeking to bootstrap on the effort and progress made by the original permit holder.

**B. Strict Scrutiny of Progress under a Permit**

Of equal importance to the overall successful maturation of this infant industry is the application of strict scrutiny to the progress a permit holder is making toward license submission. In our view an efficient licensing process begins with the issuance of a preliminary permit. For this reason, we strongly support the Commission's requirement

that permit holders file a Notice of Intent to file a license and a Preliminary Application Document within one year of the date of issuance of the preliminary permit. In addition, we urge that the schedule of activities identified included in the application be viewed as milestones with associated targets dates for achievement. Each six month progress report should detail the milestone, the target achievement date and the actual progress to date.

Permit holders that are falling significantly behind in the achievement of milestones or that fail to file the required notice of intent and preliminary application document should be required to demonstrate their good faith due diligence in meeting the schedule it has proposed or have their permit revoked. Unless the permit holder's inability to achieve its self established milestones or Commission established deadlines relates to events beyond its control, the permit should be revoked. We recommend the Commission establish a procedure to address cases of lack of substantial progress. In our view, the Commission would benefit from a limited opportunity for the public, including relevant agencies, to comment on the permit holder's performance. For this reason, we recommend the Commission allow thirty days from the date a progress report is filed or other required filing is due for public comments.

### **III. CONCLUSION**

Verdant Power thanks the Commission for this important inquiry and for moving forward aggressively to reform the preliminary permit process. The results of the Commission's far sighted actions will be seen in the growth of the Free Flow Technology industry and, more importantly, its contribution to the portfolio of clean renewable energy in the United States. We have appreciated the Commission's willingness to listen

to our views in the past and look forward to continuing to work with the Commission in the licensing of our East River project and on the broader area of licensing reform.

Respectfully Submitted



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