

## **LICENSING HYDROKINETIC PILOT PROJECTS**

### **I. INTRODUCTION**

The staff of the Federal Energy Regulatory Commission is issuing this guidance as part of the Commission's ongoing effort to support the advancement and orderly development of innovative hydrokinetic technologies. Hydrokinetic projects generate electricity from the motion of waves or the unimpounded flow of tides, ocean currents, or inland waterways. Pilot projects are small, short-term, removable, and carefully-monitored projects intended to test technologies, sites, or both. Some hydrokinetic pilot projects may be appropriate for expedited license application processing under the Commission's existing regulations.

Hydrokinetic pilot project licensing procedures were proposed in a whitepaper on August 31, 2007 and at a technical conference in Portland, Oregon on October 2, 2007. The Commission and staff received oral comments at the conference and written comments thereafter. This whitepaper uses a format of frequently asked questions (FAQs) to address the issues raised in the comments. The FAQs are divided into the following topic areas: general information; coordination with federal, state, and local resource agencies, Indian tribes, non-governmental organizations, and members of the public; information needs; monitoring, performance standards, and modification/shutdown/removal; preliminary permit/pilot project license/commercial build-out; and next steps. This paper also provides the criteria for using pilot project licensing procedures, step-by-step pilot project licensing guidance, application information needs, and standard license articles.

This document may be periodically revised as policies change and lessons are learned during pilot project development. The dates of any revisions are annotated in this document. The most current version is available on the Hydrokinetic Pilot Project Licensing Process Web Page located at [www.ferc.gov](http://www.ferc.gov).

## II. FREQUENTLY ASKED QUESTIONS (FAQs)

### GENERAL

#### *Why is the Commission staff providing guidance on expedited procedures for licensing hydrokinetic pilot projects?*

As stated by Chairman Joseph T. Kelliher, “there are barriers to realizing the potential of these new technologies, including financial, technological, and regulatory. The principal barrier to development of these technologies may be that they are as yet unproven. The technologies must be proven before large scale commercial deployment can occur.”

Consistent with the national interest and its own strategic objective to “Stimulate appropriate infrastructure development,” the Commission is committed to supporting the orderly demonstration and development of hydrokinetic technology.<sup>1</sup> According to Commissioner Philip Moeller, “This new generation of hydrokinetic technologies...is generating a lot of enthusiasm throughout the country... FERC wants to harness this enthusiasm by exploring ways to reduce the regulatory barriers to realize the amazing potential of this domestic renewable power source.” New hydrokinetic technologies, if fully developed, have the potential to double the amount of hydropower production in the United States, bringing it from just below 10% to close to 20% of the national supply.<sup>2</sup>

Previously, the Commission has determined that experimental deployment of projects testing new hydropower technology may, in certain limited circumstances, be possible without a license under Part I of the Federal Power Act (FPA).<sup>3</sup> That policy remains in effect. Now, for those interested in licensing hydrokinetic pilot projects, Commission staff has identified how best to apply the Integrated Licensing Process (ILP) in an expedited manner for pilot projects. These procedures will meet the needs of entities interested in testing new technology, including interconnection with the electric grid, while minimizing the risk of adverse environmental effects.

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<sup>1</sup> Federal Energy Regulatory Commission. Strategic Plan FY 2006–FY 2011. (Available at [www.ferc.gov](http://www.ferc.gov).)

<sup>2</sup> See Hydroelectric Infrastructure Technical Conference, Docket No. AD06-13-000 (December 6, 2006), transcript at 12; 22 (testimony of George Hagerman).

<sup>3</sup> *Verdant Power LLC*, 111 FERC ¶61,024, order on reh’g 112 FERC ¶61,143 (2005).

***Is this whitepaper describing a new rule?***

No. Staff is proposing to adapt existing regulations and provide waivers for specific types of projects. This document provides project developers and others with staff's guidance on an efficient pathway to seek regulatory modifications and waivers to allow expedited license processing and short term testing for a specific class of projects.

***What are the purposes of licensing hydrokinetic pilot projects?***

The purposes of licensing hydrokinetic pilot projects are to test new, hydrokinetic technology devices; to determine the appropriate sites for hydrokinetic projects; and to gather information on environmental and other effects of the devices. Review of a project proposal would be carried out under the Commission's existing authority and regulations and the Commission would incorporate input from federal, state, and local resource agencies, Indian tribes, non-governmental organizations, and members of the public. When granted, a license would allow the developer to realize a revenue stream from generating while testing and would provide for Commission enforcement of license conditions.

***What are the goals for licensing hydrokinetic pilot projects?***

Staff's goal is to provide expedited procedures through which a Commission decision can be rendered in as few as six months after the filing of the application. The procedures will be oriented toward the characteristics of small, pilot projects with short license terms. They will emphasize post-license monitoring with the possibility of modifying, shutting down, or removing a device that presents an unforeseen risk to public safety or environmental resources.

***What is the basis for the pilot project licensing procedures?***

Staff believes that the Integrated Licensing Process (ILP, Part 5 of 18 CFR), with specific waivers granted under § 5.29(f)(2) on a case-by-case basis, is the best process to use to apply for a hydrokinetic pilot project license. The ILP time frame can be reduced while preserving opportunities for consultation and comment, environmental review and analysis, and the conditioning authority of federal and state agencies and Indian tribes. Appendix A provides a description of the procedures.

***How does licensing hydrokinetic pilot projects differ from the policy applied in the Verdant Orders concerning experimental deployments?***

In the *Verdant* orders, the Commission interpreted the Federal Power Act in a flexible manner that allowed an experimental deployment without a license. The Commission concluded that facilities could be installed and tested without a license if (1) the technology in question was experimental; (2) the proposed facilities were to be utilized for a short period for the purpose of conducting

studies necessary to prepare a license application; and (3) power generated from the test project would not be transmitted into, or displace power from, the national grid. In contrast to projects operating under the *Verdant* decision, the pilot project procedures (1) could lead to a license under the Federal Power Act; (2) will be reviewed and overseen by the Commission; (3) will allow the transmission of electricity into the national power grid if licensed; and (4) will be available to those who wish to test technology, whether or not they intend to pursue a standard license application to follow the pilot project license.

***How will a license for a hydrokinetic pilot project differ from a license for a conventional hydropower project?***

Under the Federal Power Act, the Commission is authorized to issue licenses for construction, operation, and maintenance of hydropower projects.<sup>4</sup> Original licenses can be issued for a term of up to 50 years. Appropriate pilot projects may have short license terms of five years in length in keeping with the early stage of the technology, expected small size of the projects, required safeguards, and the experimental nature of the efforts.

In addition to a short license term, Commission staff also envisions licenses for pilot projects having (1) an emphasis on post-license monitoring; (2) a license condition requiring project modification, shutdown, or removal in the event that monitoring reveals an unacceptable level of risk to the public or environmental harm; and (3) a license condition requiring project removal and site restoration before license expiration if a new license is not obtained. Examples of standard license articles can be found in Appendix C. Otherwise, a license for a hydrokinetic pilot project, like any hydropower project license, will authorize construction, operation, and maintenance of the project, including generation of power and transmission into the national electric grid under the conditions of the license.

***Who may use these procedures?***

These procedures are available on a case-by-case basis for individual hydrokinetic test projects that are proposed to be: (1) small; (2) short term; (3) not located in sensitive areas based on the Commission's review of the record; (4) removable and able to be shut down on short notice; (5) removed, with the site restored, before the end of the license term (unless a new license is granted); and (6) initiated by a draft application in a form sufficient to support environmental analysis.

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<sup>4</sup> 16 U.S.C. § 796.

***How does an applicant request use of these procedures?***

A potential license applicant must (1) distribute its pre-filing materials to the potentially interested state, federal, and local resource agencies, Indian tribes, non-governmental organizations, and members of the public; (2) notice the availability of the materials in local newspapers; and (3) file the materials with the Commission. The pre-filing materials should include (1) a notice of intent (NOI) to file an application; (2) a draft application (including proposed plans for monitoring, safeguarding the public and environmental resources, and assuring financing to remove the project and restore the site); (3) a request for the waivers necessary to pursue expedited processing of a pilot project license application (including a process plan/schedule and justification statement); and (4) requests for designation as non-federal representative for Endangered Species Act (ESA) and National Historic Preservation Act (NHPA) consultation. The justification statement must demonstrate that the project meets the pilot project criteria. More details are provided under the topic of Information Needs in the FAQs below, in Appendix A, and in Table A1.

***How can I find out more about licensing hydrokinetic pilot projects?***

Potential applicants and other interested parties can visit the Commission's web page on hydrokinetics (<http://www.ferc.gov/industries/hydropower/industry/hydrokinetics.asp>), review the Commission's standard licensing regulations and guidance (<http://www.ferc.gov/industries/hydropower/gen-info/licensing/ilp.asp>), and contact staff (please see the web site).

**Coordination with Federal, State, and Local Resource Agencies,  
Indian Tribes, Non-Governmental Organizations,  
and Members of the Public**

***What will be the role of the federal, state, and local resource agencies, Indian tribes, non-governmental organizations, and members of the public in these procedures?***

The Federal Power Act provides state and federal agencies with substantial authority in the Commission's hydropower licensing process. The pilot project procedures will not alter any of this authority. Commission staff will cooperate closely with stakeholders in developing appropriate safeguards for public and environmental resources when licensing these short-term projects. With an emphasis on these safeguards and post-licensing monitoring, we hope that all entities can exercise their authorities in a manner that will enable the timely authorization of meritorious pilot projects.

By the regulations, the applicant will be expected to consult with affected federal, state, and local resource agencies, Indian tribes, non-governmental

agencies, and members of the public in preparing a draft application. The applicant will initiate the pre-filing stage with the pre-filing materials, including proposed plans for monitoring the project, safeguarding the public and environment resources, and assuring financing to remove the project and restore the site. At this point in pre-filing, stakeholders will have an opportunity to provide comments and recommendations on the proposed plans, overall draft application, and request for waivers. The Commission will schedule a public meeting, if needed, and will consider all written or oral comments in making its determination on whether to accept the waiver request and process plan and schedule. An applicant's final application should incorporate the pre-filing comments. If the final application is filed and accepted, there will be an post-filing opportunity to file interventions, to comment on the application and monitoring and safeguard plan proposals, and to file recommendations and conditions. All stakeholders also will have the opportunity to provide comments on the Environmental Assessment before the Commission takes action on the application. Intervenors will be able to request rehearing of the Commission's decision.

***Will the Commission pursue MOUs with state and federal agencies to make the pilot project procedures work as efficiently as possible?***

The Commission is exploring MOUs with interested state and federal agencies.

***Does the Commission encourage settlements in proceedings for licensing hydrokinetic pilot projects?***

The Commission looks with great favor on settlements in licensing cases. When parties are able to reach settlements, it can save time and money, avoid the need for protracted litigation, promote the development of positive relationships among entities who may be working together during the course of a license term, and give the Commission, as it acts on license applications, a clear sense as to the parties' views on the issues presented in each settled case. At the same time, the Commission cannot automatically accept all settlements, or all provisions of settlements. The Commission accepts settlements, or provisions of settlements, on a case-by-case basis as discussed in its *Policy Statement on Hydropower Licensing Settlements*, issued September 21, 2006.<sup>5</sup>

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<sup>5</sup> 116 FERC ¶ 61,270 (2006).

## Information Needs

### *How is the environment to be protected given the limited information available about these technologies?*

Though information about the potential environmental effects of large-scale deployments of these devices is limited, we believe there is sufficient information to analyze the resource effects of proposed pilot projects, which the Commission will do before issuing any license for a pilot project. In addition, we believe this class of project may be able to be carried out with little risk to public safety and the environment if the projects are (1) short term; (2) small; (3) can be quickly modified, shut-down, or removed if significant, unforeseen risks to public safety or adverse environmental impacts occur; (4) are not located in areas designated as sensitive by the Commission; and (5) are removed,<sup>6</sup> with the site restored, before the end of the license term. Under these conditions, the risks to the environment will be minimal, while the rewards from testing the technology and understanding interactions with the environment could be substantial.

### *What information is needed in the draft and final license application?*

All pilot project license applications should describe the (1) existing environment; (2) details of the project proposal; (3) potential effects of the proposal; (4) proposed plans for monitoring, safeguarding the public and environmental resources, and assuring financing to remove the project and restore the site; and (5) consultation record. A complete list of draft and final application components is provided in table A1 of Appendix A.

Regarding description of the existing environment, proposal, and anticipated issues, most of the content requirements are specified in § 5.18 of the Commission's regulations. However, some of the information required by § 5.18 might not be applicable to some proposed hydrokinetic pilot projects and additional information specific to these new technologies will be needed. Although information needs will vary depending upon site location and technology type, staff has identified some expected additional information needs in Appendix B to supplement the information needs already defined in the Commission's regulations for conventional hydropower projects. These additional information needs are specific to marine, tidal, and unimpounded river environments (e.g., geology, wildlife, fisheries resources, aesthetics, electromagnetic fields, socioeconomics, navigational safety, and collision risks.)

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<sup>6</sup> Decommissioning and project removal would be required before the end of the pilot project license unless a standard license was granted (following a full Commission proceeding including National Environmental Policy Act review and participation by all stakeholders).

At both the pre-filing and post-filing stages, participants will be able to comment to the Commission on the proposed plans for post-license monitoring, safeguarding the public and environmental resources, and assuring financing to remove the project and restore the site with the draft application. This opportunity will allow stakeholders to suggest modifications early in the process. The standard articles in Appendix C describe the content staff expects in the proposed plans.

***What pre-filing studies will be expected as a routine part of preparing a pilot project license application?***

The applicant will need sufficient information to describe site conditions and identify potential project issues. It is hoped that much of this information on site conditions will be available from existing resources. Where it is not available, it will need to be gathered. The pilot project application must identify potential environmental effects and describe the proposed plans to monitor these effects.

***Will review of fish, wildlife, and environmental issues be limited to endangered species?***

No. Staff intends to analyze potential effects on a wide range of fish, wildlife, and environmental issues as it does with any license application. In addition to endangered species, staff will also look at any impacts to other applicable resources including, but not limited to, water quality, water use, marine mammals, fish, birds, geology, land use, ocean use, navigation, recreation, aesthetics, and cultural resources.

***Will the potential impacts of proposed projects on commercial and recreational fisherman be taken into account?***

The potential impacts of proposed projects on commercial and recreational fishing will be analyzed in the Commission's Environmental Assessment and considered in the Commission's action on the license application. Staff will work with federal, state, and local resource agencies; Indian tribes; non-governmental organizations; members of the public; and commercial and recreational fishermen to ensure that these issues are understood and addressed.

**Monitoring, Performance Standards, and Modification/Shutdown/Removal**

***How will the monitoring, performance standards, and project modification, shutdown, or removal measures be introduced into the application process so that stakeholders can review and provide input on these issues?***

In its draft and final license application, the applicant will be expected to provide proposed plans for (1) post-license monitoring; (2) safeguarding the public and environmental resources; and (3) assuring financing to remove the project and

restore the site. The proposed plans would include descriptions of monitoring measures; performance standards and thresholds for modification, shutdown, or removal; and methods and timing for shutdown, modification, or removal. Stakeholders will then be able to express their views on these proposals during the both the pre-filing and post-filing stages of the licensing process and recommend modifications and additional measures.

***Will forms of financial assurance other than an assurance bond be acceptable as guarantee of the financial resources to remove projects and restore the site?***

The Commission will consider a variety of financial assurance instruments to cover the cost of project removal and site restoration, including, but not limited to bonds, letters of credit, and escrow accounts.

**Preliminary Permit/Pilot Project License/Commercial Build-out**

***What is the difference between a preliminary permit and a license?***

A license authorizes construction, operation, and maintenance of a hydropower project under the Commission's jurisdiction. A permit maintains priority of application for a license at a site for up to three years while the permit holder studies project feasibility and prepares an application for license. A preliminary permit does not authorize project construction or operation, nor does it provide special access to the site, but it does prevent another party from acquiring a license (or permit) for the same site during the term of the permit.

Commission staff strongly encourages potential applicants for hydropower projects to obtain a preliminary permit before applying for a license.

***What are the rules of competition between preliminary permits, pilot project licenses, and standard (30- to 50-year) licenses?***

The rules of competition will not change. They are:

1. If two or more applicants seek a preliminary permit for the same site, the Commission grants the permit to the applicant whose project proposal best meets the comprehensive development standard. If two project proposals are essentially equal, the Commission gives preference to the state or municipal applicant, or, if neither is a state or municipal applicant, the applicant with the earliest filing date.
2. If two or more applicants seek an original license for the same site, the Commission grants the license to the project that best meets the comprehensive development standard. If two project proposals are essentially equal, the Federal Power Act imposes the following tie-

breakers: (a) the applicant who is also a permittee for the site will prevail over all other applicants (including municipalities); (b) a state or municipal applicant will prevail over a non-municipal applicant; and (c) if there is neither a permittee nor a municipality competing, the Commission has adopted a first-to-file tie-breaker. In the case of competing relicensing applications, when both are virtually the same, the incumbent licensee will be awarded the new license.

3. When a permit applicant and a license applicant seek a respective permit and license for the same site, the Commission grants the permit or license to the project that best meets the comprehensive development standard. If both proposals are essentially equal, the Commission gives preference to the license applicant.

***Can a developer protect a larger build-out area, while operating under a license for a hydrokinetic pilot project?***

The standard tool for attempting to preserve priority of license application for a potential build-out area is a preliminary permit. The possession of a license for a pilot project would not fundamentally change the rules for preliminary permits, including the rules of competition as outlined above.

***What happens when a developer has an established preliminary permit for a proposed build-out project and later succeeds in obtaining a license for a pilot project that falls within the build-out permit boundary?***

The permit would remain in place for its term with the licensed area removed from the permit area (and covered by the terms of the license).

***What options are available to developers for transitions from pilot project licenses to build-out licenses?***

Developers hoping to move to a commercial scale, or build-out project if the pilot project is successful should discuss the possibility as early as possible with Commission staff. We anticipate that this transition will be handled as a relicensing of the pilot project and will entail a standard licensing process including a National Environmental Policy Act review and full opportunity for participation by all stakeholders. The applicant will need to file a Notice of Intent (NOI) and pre-application document (PAD), which will include a process plan and schedule for licensing the commercial build-out. By statute, when relicensing a hydropower project, a NOI is required five years before the license expires. A licensee can request a waiver of this requirement only if the proposed project is less than 1.5 MW. In some cases, where the NOI is filed and progress is being made toward the build-out relicensing application, the license for the pilot project may be extended by one or more years while the applicant completes the relicensing process.

***Will the Commission consider any other options for the transition from a pilot project to a build-out project?***

As stated earlier, this is a guidance document. It does not restrict the ability of project advocates to propose other strategies for adoption by the Commission. Such proposals should be well developed and justified. Some examples could include (1) requesting a license for a period longer than five years to accommodate a specific relicensing timeline, (2) requesting a boundary around the pilot project big enough to accommodate a future build-out plan, and (3) requesting a phased license. Those considering such a proposal should discuss the idea with staff as early in the process as possible. As in any licensing proceeding, environmental analysis and multiple stakeholder comment opportunities will be completed before any such proposal is brought before the Commissioners.

**Next Steps**

***What are the Commission's plans for next steps in regulating these new technologies?***

The Commission's licensing program is the result of decades of refinement through practice, precedent, incorporation of public comment, coordination with partner agencies and Indian tribes, and formal rulemakings. The field of hydrokinetic energy, while promising, is rapidly changing, untested, and uncertain. Under these circumstances, staff finds application of the Commission's proven regulatory system, incorporating appropriate adaptations informed by extensive stakeholder comment, to be efficient and prudent. Staff's primary purpose in providing guidance on procedures for expediting the ILP for specific hydrokinetic pilot projects is to encourage testing and reduce the uncertainties surrounding the technology. This guidance also will ensure appropriate review and environmental analysis; maintenance of public safety and environmental resource protections; and cooperation with federal, state, and local resource agencies, Indian tribes, non-governmental organizations, and members of the public under the ILP. Staff will consider additional steps as the technology, industry, and the knowledge base develop.

### III. CRITERIA FOR PILOT PROJECT LICENSING PROCEDURES

In general, these criteria will be used, in conjunction with the draft application and stakeholder comments to determine whether there is good cause for granting the regulatory waivers and modifications needed to follow the expedited review proposed in the potential applicant's process plan. The criteria should be addressed in any request to use the procedures.

**Pilot projects will be small.** Though evaluated on a case-by-case basis, staff expects that pilot projects will be less than 5MW and often will be substantially smaller. In addition to generating capacity, staff also will consider carefully the number of generating units and the project footprint in determining whether the proposal qualifies as a pilot project.

**The license will be short term.** Though evaluated on a case-by-case basis, staff expects that pilot projects will have terms of five years.

**Pilot projects will avoid sensitive locations.** The applicant must describe potential areas of sensitivity in the proposed project area and indicate the reasons for the sensitivity. All stakeholders will have an opportunity both to comment on the applicant's description and to recommend that other areas be designated as sensitive. Commission staff will determine whether a potential use conflict makes the proposal inappropriate for an expedited review process. In many such cases, it will be possible for the applicant to pursue the project through a standard licensing process.

**Pilot projects will be subject to strict safeguards for the public and environmental resources potentially leading to project modification, shutdown, or complete removal.** Unacceptable risks to the public or the environment during the license period, as observed through monitoring protocols required by the license (or as otherwise becomes evident), will lead to project alteration, shut-down, or removal followed by site restoration.

**Pilot projects will be required to complete project removal and site restoration before the end of the license unless the licensee obtains a new license covering the pilot project site.** Licenses for pilot projects will require that the project be removed and the site restored as directed by the Commission. If a pilot project licensee opts to apply for a standard license at the end of the pilot project license term, authorization of the build-out project will be evaluated in a full Commission proceeding with National Environmental Policy Act (NEPA) review and participation by all interested stakeholders. If build-out is licensed, there may be no need to remove the pilot devices.

**Pilot project draft applications must be submitted in a form sufficient to support environmental analysis.** The draft application must include a thorough description of the existing environment, incorporating a review of existing information and a description of the environmental baseline. The baseline should provide a characterization of site specifics (including items such as substrate type, a description of physical habitat, and wave patterns or flow velocity conditions, etc.). The effort may require basic pre-application surveys, measurements, or observations. The draft application should also include details of the project proposal, possible sensitive areas, potential user conflicts, and potential effects of the proposal. The information in the draft application should be sufficient to support the environmental analysis. The draft application also should include proposed plans for: (1) post-license monitoring to confirm or dismiss concerns regarding the potential effects of the project; (2) safeguarding the public and environmental resources, including performance measures, methods for modification, shutdown, or project removal should potential for an environmental harm be detected; and (3) assuring financing to remove the project and restore the site. Finally, it should include a consultation record indicating adequate consultation to date and distribution of the pre-filing materials to all potentially interested federal, state, and local resource agencies, Indian tribes, non-governmental organizations, and members of the public.

## Appendix A. Hydrokinetic Pilot Project License Procedures

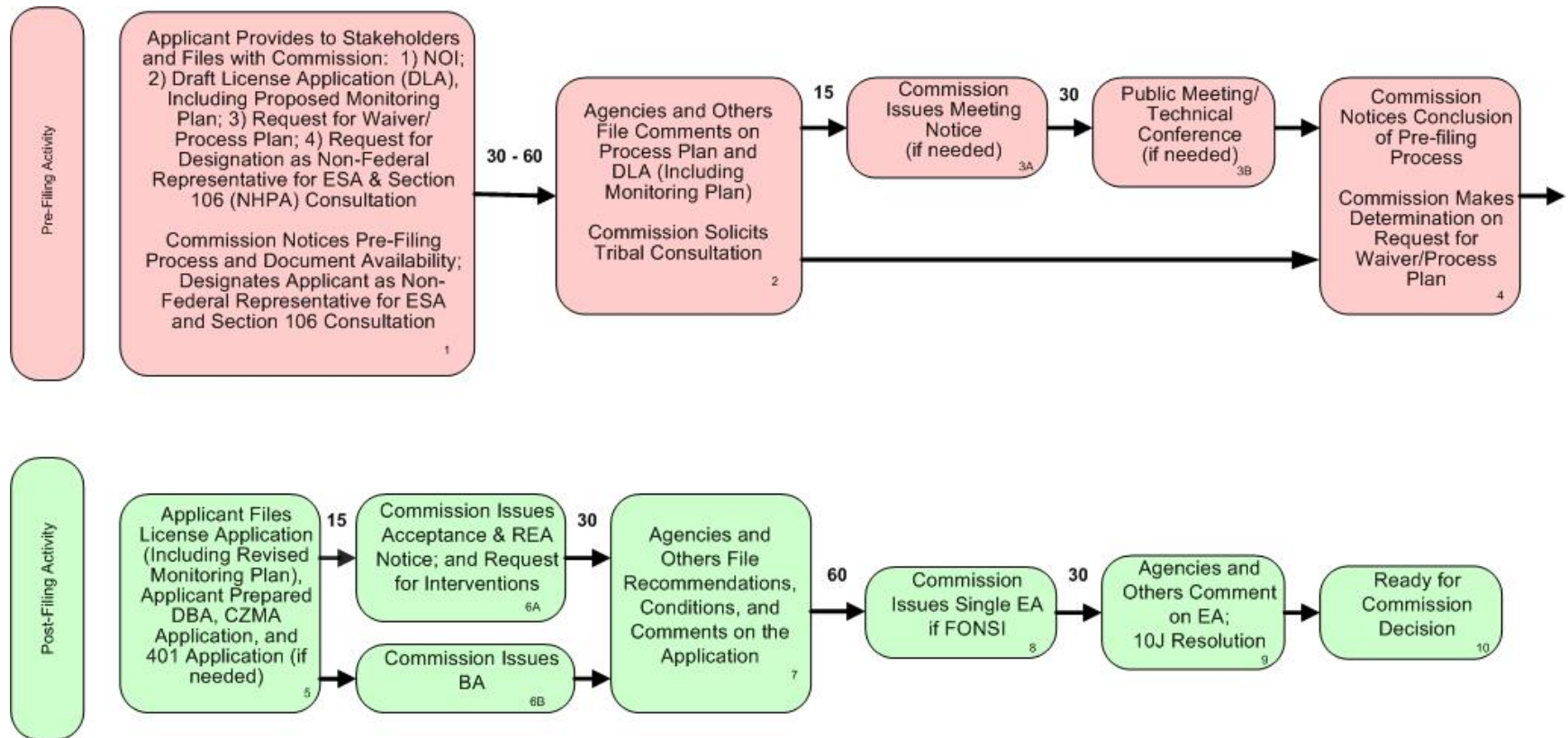


Figure 1A. Schematic of Pilot Project Licensing Procedures – revised 2/18/10

**Box 1- Applicant's Pre-filing Materials and Commission Response**

(Also see Table A1 below)

*1) Applicant Files Notification of Intent*

A potential applicant for an original license for a hydrokinetic pilot project will file a notification of its intent (NOI) to do so. The NOI will describe the principal project works to be licensed, including technology type and any transmission lines as described in § 5.5 of the Commission's regulations.

*2) Applicant Files a Draft License Application*

Simultaneously with the filing of its waiver request, and process plan, and notification of intent, and before filing an application (Box 5) for an original license for the hydrokinetic pilot project procedures, a potential applicant must file with the Commission and distribute to the stakeholders, a draft license application. All pilot project license applications (and draft applications) would describe the (1) existing environment; (2) details of the project proposal; (3) potential effects of the proposal; (4) proposed plans for (a) monitoring, (b) safeguarding the public and environmental resources, and (c) assuring financing to remove the project and restore the site; and (5) the consultation record. A complete list of draft and final application components is provided in table A1 below.

The description of the existing environment must incorporate a review of existing information and a description of the environmental baseline. The baseline should provide an adequate characterization of site specifics (including items such as substrate type, a description of physical habitat, and wave patterns or flow velocity conditions, etc.) sufficient to support the environmental analysis. The effort may require basic pre-application surveys, measurements, or observations. The applicant should identify possible sensitive areas and potential user conflicts.

Contents of the proposed post-license monitoring plan should comply with the language of § 5.11 of the Commission's regulations (regarding proposed study plans). It should be complementary with the proposed plan for safeguarding public safety and environmental resources (safeguard plan). The monitoring and safeguard plans should include strategies to detect potential public safety risks and environmental effects of the project. They should measure the project against performance standards, including proposed thresholds at which the observed risk to public safety or environmental harm would trigger project modification, shutdown, or removal. A proposed plan for assuring financing to remove the project and restore the site and site restoration should be included as well. These proposed plans should be informed by consultation with the stakeholders. Additional guidance regarding the content of the proposed plans is available in the standard articles in Appendix C below.

Table A1. Pre-Filing Materials (Box 1)

<i>Materials</i>	<i>More Information</i>
1) Notice of Intent	Appendix A. PROCEDURES
2) Draft Application	Appendix A. PROCEDURES
a. Existing Environment	Appendix B. APPLICATION CONTENTS
b. Project Proposal	
c. Potential Effects Associated with the Proposal	
d. Proposed Plans for:	
i. Post-License Monitoring of General Environmental Effects, Project Facility, and Operations	Appendix C. STANDARD LICENSE ARTICLES
1. Fish and Wildlife	
2. Project Facility and Operations	
ii. Safeguarding the Public and Environmental Resources / Project Removal	
1. Project Safety	
2. Project Removal	
3. Navigation Safety	
4. Emergency Shutdown/Removal	
iii. Financial Assurance	
e. Communication Record	
i. Record of Document Distribution	
ii. Consultation Record	
iii. Distribution List	Section III. CRITERIA & Appendix A. PROCEDURES
3) Letter of Request for Waivers and Modifications of the ILP Necessary for Expedited Processing of a Hydrokinetic Pilot Project License Application	
a. Proposed Process Plan and Schedule	
b. Justification Statement	Appendix A. PROCEDURES
4) Request Designations as Non-Federal Representative	
i. Endangered Species Act (ESA)	
ii. Section 106 National Historic Preservation Act (NHPA) Consultation	

Finally, the draft application should include a communication record comprising (1) a record documenting distribution of the pre-filing materials to the appropriate stakeholders (see 5 below); (2) a record of consultation prior to the submission of the pre-filing materials; and (3) a stakeholder distribution list.

*3) Applicant Requests for Waivers Necessary for Expedited Processing of a Hydrokinetic Pilot Project License Application*

An applicant seeking a hydrokinetic pilot project licensing process must request the necessary waivers and modifications to do so. The waiver request must include a proposed process plan and schedule and a justification statement. The process plan must propose a project-specific schedule for expedited review. The justification statement must demonstrate that the project meets the *Criteria for Using the Pilot Licensing Procedures*, listed in Section III above. These criteria specify that the proposed project must be: (1) small; (2) short term; (3) not located in sensitive areas; (4) removable and able to be shut down on short notice; (5) removed, with the site restored, before the end of the license term (unless a new license is granted); and (6) initiated with a draft application that is adequate as filed to support environmental analysis.

*4) Applicant Requests Designation as Non-Federal Representative*

With its notification of intent and draft application, a potential applicant should also request to be designated as the Commission's non-federal representative for purposes of consultation under Section 7 of the Endangered Species Act. The potential license applicant would at the same time request authorization to initiate consultation under Section 106 of the National Historic Preservation Act.

*5) Applicant Distributes, Notices, and Files Pre-Application Packet*

The potential applicant must provide a copy of NOI, draft license application, and the waiver request and process plan to the federal, state, and local resource agencies, non-governmental organizations, and members of the public potentially interested in the project. The potential applicant also must publish notice of the filing of its NOI, draft application, and request for waiver and process plan, no later than the filing date of the pre-filing materials with the Commission, in a daily or weekly newspaper in each county in which, or off of whose shore, the project would be located. The notice shall disclose the date of the filing of the materials with the Commission and state that comments can be filed with the Commission for up to 30-60<sup>7</sup> days following the pre-filing materials filing date.

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<sup>7</sup> The length of the comment period was revised from 30 days to 30-60 days (February 4, 2009).

6) *Commission Notices Pre-Filing Process*

The Commission, as soon as possible, but no more than 15 days following the filing of the pre-application materials, will notice, through esubscription and in the Federal Register, the pre-filing process, docket number, and a tentative pre-filing schedule. Comments will be due 30-60 days<sup>8</sup> from the applicant's filing date.

If appropriate, the Commission will designate the potential license applicant as the non-federal representative for the purpose of informal consultation under section 7 of the Endangered Species Act and for consultation under section 106 of the National Historic Preservation Act.<sup>9</sup>

Note that the Commission may reject the NOI, draft application, and request for waiver/process plan for an original hydrokinetic pilot project license based upon its review of the projects overall characteristics relative to the pilot project criteria, the draft application contents, or any comments filed.

**Box 2 – Comments on Process Plan and Draft Application**

Within 30-60 days of the date of the potential applicant's filing of its pre-filing materials, any comments on these items shall be filed with the Commission.

*Tribal Consultation*

Within 30 days of the filing the NOI, the Commission will solicit tribal consultation with each Indian tribe likely to be affected by the potential license application, and, if requested, Commission staff will meet with the Indian tribe on a mutually agreeable date.

**Boxes 3a and 3b – Public Meeting/Technical Conference**

If appropriate, within 15 days of the close of the initial comment period (Box 2), staff will provide notice of a public meeting to discuss the proposal (Box 3a). The purposes of the meeting will be defined case-by-case, but may include discussions of the project proposal, project issues, and information and monitoring needs. The meeting will include the appropriate federal, state, and local resource agencies, Indian tribes, non-governmental organizations, and members of the

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<sup>8</sup> The length of the comment period was revised from 30 days to 30-60 days (February 4, 2009).

<sup>9</sup> The timing of Commission designation was relocated from Box 2 to Box 1 (February 4, 2009).

public potentially interested in the proposed project. The meeting (Box 3b) will be scheduled to occur within 30 days of the meeting notice.

#### **Box 4 – Concluding the Pre-filing Process and Commission Determination on Waiver Request and Process Plan**

##### *Commission Concludes the Pre-Filing Process and Makes Determinations on the Waiver Request and Process Plan/Schedule*

If a meeting is held, the Commission will issue its determination on the potential applicant's waiver request and proposed process plan within 15 days of the meeting. If a meeting is not held, the Commission will issue its determination on the proposed process plan within 30 days of the close of the initial comment period (Box 2). If the Director finds good cause for use of the pilot project licensing procedures (expediting the ILP) and accepts the potential applicant's proposed process plan (with or without modification) and draft application, staff will indicate the decision by issuing a notice concluding the pre-filing process and approving the process plan and schedule with any modifications made by staff. If the Director does not find good cause for expediting the ILP, staff will notify the applicant of the Director's determination.

#### **Box 5 - Filing of Application**

Once pre-filing is completed, the potential applicant may file an application for an original license. Like the draft application, the application should describe the (1) existing environment; (2) details of the project proposal; (3) potential effects of the proposal; (4) proposed plans for monitoring, safeguarding the public and environmental resources, and assuring financing to remove the project and restore the site; and (5) a consultation record. The license application should incorporate comments received on the draft application. It must be sufficient to support staff's environmental analysis.

The application must include documentation of application submittals for concurrent regulatory processes such as the Coastal Zone Management Act and Clean Water Act (if needed). The required application content relevant to these and other applicable laws can be found in Appendix B of this guidance and § 5.18(b)(3) of the regulations.

To facilitate any necessary consultations pursuant to the ESA, if necessary, the applicant must file an applicant-prepared draft biological assessment (DBA) with the application.

*Revised Post-License Monitoring Plan*

The license application shall include a post-license monitoring plan. Contents of the post-license monitoring plan should comply with § 5.13 of the Commission's regulations (for study plans) and, in combination with the safeguard plan, should include strategies to detect potential environmental effects of the project and proposed thresholds at which the observed environmental harm would trigger project modification, shutdown, or removal. The applicant is expected to address stakeholder comments and post-license monitoring requests provided via written comments and during any public meeting or technical conference to revise the proposed post-license monitoring plan.

**Box 6A - Notice of acceptance and ready for environmental analysis (REA Notice) or rejection**

Within 15 days of the filing of a complete license application pursuant to Box 5 above, the Commission will publicly notice the acceptance of the application and that the proposed project is ready for environmental analysis. The notice will request interventions as well as comments, recommendations, and conditions on the project proposal.

Alternatively, if in the Director's judgment the application does not meet the filing requirements of Box 5 or Appendix B, the application will be considered deficient. At the discretion of the Director, a deficient application may be rejected or the applicant may be afforded additional time to correct the deficiencies.

**Box 6B – Issuance of Biological Assessment**

If necessary and appropriate, within 15 days of the filing of a complete license application pursuant to Box 5 above, Commission staff will issue a biological assessment (BA) initiating formal consultation under the Endangered Species Act provided that the staff finds the draft applicant's BA to be adequate to initiate formal consultation. Alternatively, the Commission staff will use its NEPA document as the BA as described in Box 8 below.

**Box 7 - Response to Notice of Acceptance and REA**

Comments, protests, interventions, recommendations, final terms and conditions as well as final post-license monitoring requests must be filed no later than 30 days after the notice of acceptance and ready for environmental analysis.

**Box 8 - Issuance of a Single Environmental Assessment**

The Commission will issue a single environmental assessment (EA) no later than 60 days from the date responses are due in response to the notice of acceptance and the REA Notice in Box 6A above. If the EA results in a "Finding of No Significant Impact" (FONSI) pursuant to the National Environmental Policy

Act, the Commission will issue the EA for public comment. Each EA issued with a FONSI will include draft license articles, any needed preliminary determination of inconsistency between a fish and wildlife agency recommendation and the Federal Power Act (or other applicable law) pursuant to section 10(j) of Federal Power Act, and any mandatory terms and conditions.

If necessary and appropriate, the EA will also serve as the Commission's biological assessment for the purpose of section 7 consultation under the Endangered Species Act.

If the EA results in a "Finding of Significant Impact" under the National Environmental Policy Act, the Commission will dismiss the application. The applicant would then have the option to request a standard license application review process without the waivers and modifications available for pilot projects.

### **Box 9 – Comments on Single Environmental Assessment and Section 10(j) Process**

#### *Comments on Single Environmental Assessment*

Comments on the EA issued, including comments in response to the Commission's preliminary determination of inconsistency pursuant to section 10(j) and attached mandatory terms and conditions, should be filed no later than 30 days after issuance of the EA, as specified in the notice accompanying the single environmental assessment.

#### *Section 10(j) process.*

Under section 10(j) of the Federal Power Act, a hydropower license issued by the Commission will include conditions for the protection, mitigation, and enhancement of fish and wildlife, including their spawning grounds and habitat. The conditions are based on recommendations filed with Commission by state and federal fish and wildlife agencies and are to be adopted unless they are found to be inconsistent with the Federal Power Act or other applicable law. (The 10(j) process is described in § 5.26 of the Commission's regulations.)

### **Box 10- Ready for Commission Decision**

Based on the record, the Commission will act on the application.

## **APPENDIX B. APPLICATION CONTENTS**

While § 5.18 of the Commission's regulations applies in its entirety, staff has identified additional information that is specific to hydrokinetic pilot projects, particularly those proposed for the marine environment. Also, staff recognizes that some of the information required by § 5.18 may not be applicable to some proposed hydrokinetic pilot projects. Applicants should explain why any required information is not pertinent to their project. The additional provisions are as follows:

### **General description of water source**

- § 5.18(b)(1) – Description of the body of water in which the proposed project will be located, including the specific location of the proposed project. Information on seasonal weather patterns, wave height, current speed, prevailing wave and current direction, proximity to shipping lanes, and visibility of the project works from the shoreline.

### **Cumulative effects**

- § 5.18(b)(2) – The list of cumulatively affected resources will be based on consultation and available data.

### **Applicable laws**

- § 5.18(b)(3) – Include a discussion of the status of compliance with or consultation under, if applicable, the Marine Mammal Protection Act.

### **Project location, facilities, and operation**

- § 5.18(b)(4)(ii) – The description should include a device schematic and operation diagram, including the physical composition, dimensions, and general configuration of any anchoring, mooring, transmission lines, or other structures proposed to be included as part of the project or connected directly to it.
- § 5.18(b)(4)(iii) – The description should include water surface area in the project boundary, and, for tidal projects, changes in water surface levels between low and high tides using official tidal datum National Geodetic Vertical Datum, Mean High Water, Mean Higher High Water, Mean Low Water, and Mean Lower Low Water).

## Proposed action and action alternatives

### *Affected Environment*<sup>10</sup>

#### Geology and Soils

- § 5.6(d)(3)(ii) – Text descriptions and maps describing the seabed/riverbed substrates and the geomorphology of the site for the proposed project and surrounding area including the shoreline and associated beaches where applicable.
- § 5.6(d)(3)(ii)(B) – Description of the seabed or river substrate, including the types, occurrence, physical and chemical characteristics, erodability and potential for mass sediment movement, and likely sediment pathways and areas of erosion and accretion including shoreline areas and beaches. A description of any potential geologic hazards related to the project, including scouring action, slope failure, faulting, tsunamis, fluid and gas expulsion, and irregular topography.

#### Water Resources

- § 5.6(d)(3)(iii)(B) – The water velocities (feet per second) at the project site that correspond to the minimum, mean, and maximum recorded flows of the stream or other body of water, if applicable. Information on monthly minimum, mean, and maximum recorded temporal current speeds, wave intensities, and wave amplitudes at the proposed project.
- § 5.6(d)(3)(iii)(C) – A monthly water velocity duration curve based on available flow data and the correlation of flow (cubic feet per second) to velocity (feet per second) at the project site. Information on data collection locations and methods and all data used to determine the project's dependable capacity such as temporal wave patterns.
- § 5.6(d)(3)(iii)(G) – Information on vertical profiles of relevant water quality parameters (e.g., temperature, dissolved oxygen, etc.) throughout the water column in the project area.

#### Fish and Aquatic Resources

- § 5.6(d)(3)(iv) – Description of existing underwater acoustic environments, including estimated decibel levels. Identification of sensitive species located in the project vicinity.

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<sup>10</sup> § 5.18(b)(5)(ii)(A) references § 5.6(d)(3) regarding the requirements for the description of the affected environment.

- § 5.6(d)(3)(iv)(C) – Description of any important spawning or feeding grounds or refugia in the project area, including the availability and significance of such habitats.

Wildlife and Botanical Resources

- § 5.6(d)(3)(v) – Temporal and spatial distribution of marine mammal communities and availability and quality of feeding, breeding, rearing, and resting habitats. Description of existing below- and above-water acoustic environment, including estimated decibel levels.
- § 5.6(d)(3)(v)(B). Temporal and spatial distribution and seasonal migration patterns of sea bird communities and availability and quality of feeding, breeding, rearing, and resting habitats.

Recreation, Land Use, and Ocean Use

- § 5.6(d)(3)(viii) – Description of commercial and recreational fishing grounds in the project vicinity. Information on fishing seasons and gear types, and access routes used.
- § 5.6(d)(3)(viii)(A) – Description of existing uses, particularly as related to public and facility safety, including illustration by maps, drawings of existing recreation and other uses.
- § 5.6(d)(3)(viii)(F)(1) – Proximity of the project to marine sanctuaries and government-protected coastal/marine areas.
- § 5.6(d)(3)(viii)(I) and (J) – Description of recreational and non-recreational use and management within, and adjacent to, the project boundary, including shipping channels, navigational channels, marine sanctuaries, state aquatic lands, and Military Use Areas.

Aesthetic Resources

- § 5.6(d)(3)(ix) – Description of aesthetic (including acoustic) characteristics of both land and water surface components of the project area.

*Environmental Analysis*

- § 5.18(b)(5)(ii)(B) – This section must also include, if applicable, a description of any anticipated environmental effects of the proposed construction, installation, operation, and removal of the project. This description should be specific to the various resources described in the affected environment section, and should include: (1) any physical disturbance (vessel collision or other project-related risks for fish, marine mammals, seabirds, and other wildlife as applicable); (2) species-specific habitat creation or displacement; (3) increased vessel traffic; (4) exclusion or disturbance of recreational, commercial, industrial, or other uses of the waterway; and changes in navigational safety; (5) any above or below-water noise disturbance, including estimated decibel levels during project construction, installation, operation, and removal; (6) any electromagnetic field disturbance; (7) any changes in river or tidal flow, wave regime, or coastal or other geomorphic processes; (8) any accidental contamination from device failures, vessel collisions, and storm damage; (9) chemical toxicity of any component of, or biofouling coating on, the project devices or transmission line; and (9) any socioeconomic affects on the commercial fishing industry from potential loss of harvest or affect on access routes to fishing grounds.
- § 5.18(b)(5)(ii)(C) – The following proposed plans for the project should be included in this section: (1) a proposed project monitoring plan; (2) a plan for safeguarding the public and environmental resources (safeguard plan); and (3) a plan for assuring financing to remove the project and restore the site. The safeguard plan should include but not be limited to: (a) methods for marking project devices; (b) maps and drawings of competing uses including existing recreation; (c) methods for recovering equipment that may break loose from any anchoring devices; (d) a proposed removal and site restoration plan; and (e) a navigational safety plan developed in consultation with the U.S. Coast Guard, referencing both recreational and non-recreational use and management within, and adjacent to, the project boundary.

## **APPENDIX C. STANDARD HYDROKINETIC PILOT PROJECT LICENSE ARTICLES<sup>11</sup>**

### **1. General Environmental Effects and Project Facility and Operations Monitoring (Monitoring Plan)**

Box 1 of these procedures includes, among other things, a requirement that the license applicant file with its NOI and Draft License Application, a Proposed Post-License Monitoring Plan that includes provisions for conducting post-license monitoring of any anticipated effects on environmental resources in the project area.

We anticipate that the Proposed Post-License Monitoring Plan would, after Commission review and modification as necessary, be approved by the Commission through an ordering paragraph within the license. Any monitoring studies not included in the Proposed Post-License Monitoring Plan but determined by the Commission to be necessary for the protection of environmental resources, would be incorporated into the license as a standard license article. Below are examples of such articles.

(a) *Monitoring of Fish and Wildlife at the Project.* The licensee shall, at least 90 days before starting on-site project construction or installation, file for Commission approval, a [*e.g., Marine Mammal, Seabird, or Other Listed or Sensitive Species*] Monitoring Plan to monitor [*e.g., Marine Mammal, Seabird, or Other Listed or Sensitive Species*] behavior and interaction with the in-water project facilities, including [*e.g., associated mooring and anchoring systems*] throughout the pilot license term.

The plan, at a minimum, shall include the following: (a) a detailed description of the methods and equipment that would be used for monitoring [*e.g.,*

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<sup>11</sup> The following are proposed standard articles that could be included in pilot project licenses, as appropriate. Articles for addressing certain other in-water or land-based project effects on such resources as aesthetics, recreation, and erosion are not included below, because they would be technology-specific, and therefore, too variable to include as general boilerplate articles for a hydrokinetic pilot license. Generally, engineering, public safety, and administrative articles are not included, as some of these requirements may vary with technology and project location. L-Form articles are likewise not included below, because they would depend on the location of the project (*e.g., on navigable versus non-navigable waters, in-river versus the marine environment, etc.*).

*Marine Mammal, Seabird, Other Listed or Sensitive Species*] behavior and activity in the vicinity of the in-water facilities; (b) a detailed description of how the monitoring data will be analyzed, with specific criteria by which to evaluate adverse effects; (c) a detailed implementation schedule, including the frequency and timing of data recovery and maintenance of the monitoring equipment; and (d) provisions for identifying, in consultation with the [*Land Management Agency*], [*Affected Indian Tribes*], [*Fish and wildlife agency of the state in which the project is located*], [*state certifying agency*], [*National Marine Fisheries Service*], and [*U.S. Fish and Wildlife Service*], remedial measures if monitoring identifies any adverse changes in behavior or use of ocean habitats.

An annual report shall be filed with the Commission by December 31 of each year and a copy provided to the aforementioned agencies and tribe(s) describing the monitoring results and any recommendations for modifying the project facilities or commencing the approved project removal plan if necessary to minimize adverse effects on environmental resources in the project area. Along with the annual report, the licensee shall include comments from the agencies and tribe(s) and the licensee's responses to any comments.

The licensee shall prepare the monitoring plan after consultation with the aforementioned agencies and tribe(s). The licensee shall include with the plan documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided to the agencies and tribe(s), and specific descriptions of how the agencies' and tribe's comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies and the tribe(s) to comment and make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. On-site project construction or installation shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

(b) *General Project Facility and Operations Monitoring.* The licensee shall, at least 90 days before starting project construction and installation, file for Commission approval, an [*e.g., Noise, Electromagnetic Field, Sea Lion Exclusion Device, etc.*] Assessment Plan to determine if [*e.g., the project emits noise or electromagnetic fields at levels that would cause harm to marine mammals, seabirds, or fish; the sea lion exclusion device prevents haul-out onto above-water project facilities; etc.*].

The plan shall include: (a) a detailed description of the methods and equipment that would be used to test and monitor [*e.g., ambient noise levels, project electromagnetic fields, project noise, the effectiveness of exclusion or deterrent devices, etc.*]; (b) a schedule for monitoring that considers [*ocean state conditions, seasonality of species presence/absence, etc.*]; and (c) provisions for filing a report of the results, comments from the consulted agencies and tribe(s), and the licensee's responses to any comments with the Commission and providing copies to the consulted agencies and tribe(s).

The licensee shall prepare the plan after consultation with the [*Land Management Agency*], [*Affected Indian Tribes*], [*Fish and wildlife agency of the state in which the project is located*], [*State certifying agency*], [*National Marine Fisheries Service*], and [*U.S. Fish and Wildlife Service*]. The licensee shall include with the plan documentation of consultation, copies of recommendations on the completed plan after it has been prepared and provided to the agencies and tribe(s), and specific descriptions of how the agencies' and tribe's comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies and the tribe(s) to comment and make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Project construction or installation shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

2. Safeguarding the Public and Environmental Resources / Project Removal (Safeguard Plan[s])

As part of its license application, the prospective licensee for a pilot hydrokinetic project is expected to include a Proposed Project and Public Safety Plan, Proposed Project Removal and Site Restoration Plan, Proposed Navigation Safety Plan, and Emergency Shutdown Plan (see Appendix B referring to 18 C.F.R. § 5.18(b)(5)(ii)(C)). If the prospective licensee determines that any of these plans are unnecessary, then it is expected to explain why in the application.

We anticipate that the plans would, after Commission review and modification as necessary, be approved by the Commission through ordering paragraphs within the license. However, should the prospective licensee decide that any of the plans are unnecessary and the Commission disagrees, then the

Commission may include standard license articles requiring the development and implementation of the plans. Below are examples of such articles.

(a) *Project Safety Plan.* At least 90 days before starting project operations, the licensee shall submit one copy of a Project Safety Plan to the Division of Dam Safety and Inspections (D2SI) – [*Portland, New York, Atlanta, etc.*] Regional Engineer, and two copies to the Commission (one of these shall be a courtesy copy to the Director, D2SI). The plan shall describe the procedures the licensee will take during any project emergency that could adversely impact life or property. Possible emergencies could include, for example, [*a vessel and project facility collision, a wave buoy break-away, release of the project’s submarine transmission cable anchoring system from the seabed, damage to project’s submarine transmission cable, etc.*].

The plan, at a minimum, shall include: (a) procedures to ensure the safety of the public near the project area; (b) description of how the project will be monitored to determine if there is an emergency; (c) procedures the licensee will take during an emergency (including immediate shutdown, if necessary); (d) procedures for reporting the emergency to local, state, and federal agencies; (e) description of contingency measures to modify operations or to implement the project removal plan; (f) a plan for annual testing of emergency equipment, including the project’s emergency shutdown system; and (g) a plan for annually coordinating with response agencies.

The licensee shall prepare the plan after consultation with the U.S. Coast Guard, [*Land Management Agency(ies)*], [*Affected Indian Tribe(s)*], [*Fish and wildlife agency of the state in which the project is located*], and [*Any other pertinent emergency response agency or interested party*]. The licensee shall include with the plan documentation of consultation, copies of comments, and recommendations on the completed plan after it has been prepared and provided to the agencies and tribe(s), and specific descriptions of how the agencies’ and tribes’ comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies and the tribe(s) to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee’s reasons, based on project-specific information. The licensee may not begin project operations until the D2SI - [*Portland, New York, Atlanta, etc.*] Regional Engineer has reviewed and commented on the plan.

(b) *Project Removal Plan.* The licensee shall, at least 120 days before starting on-site project construction or installation, file for Commission approval, a Project Removal Plan that includes, at a minimum: (a) a provision to remove all

project facilities from all project lands and waters; (b) detailed, site-specific revegetation measures for the disturbed land areas associated with removal of the land-based project facilities; (c) a provision to minimize seabed disturbances and suspended sediments during removal of any underwater facilities; (d) a provision to monitor the effects of the removal activities on [*federally listed threatened and endangered species*]; and (e) an implementation schedule that provides for all removal and restoration activities to be completed by no later than the expiration date of the license.

The licensee shall prepare the plan after consultation with the [*Land Management Agency(ies)*], [*Affected Indian Tribe(s)*], [*Applicable federal and state fish and wildlife management agencies*], [*State certifying agency*], [*National Marine Fisheries Service*], [*U.S. Fish and Wildlife Service*], and [*Any other interested parties*]. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the consulted entities, and specific descriptions of how the entities' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the consulted entities to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. On-site project construction or installation shall not begin until the licensee is notified by the Commission that the plan is approved.

(c) *Navigation Safety Plan.* The licensee shall, at least 90 days before starting project construction or installation, file for Commission approval, a Navigation Safety Plan for purposes of protecting the public and project facilities from such events as collisions between commercial and recreational vessels and in-water project facilities; entanglement of fishing gear, anchors, dredging equipment, or other underwater devices that may damage or become entangled with project transmission, anchoring, and mooring lines; and electrocution.

The plan, at a minimum, must consider the need for: (a) a navigation or underwater activity exclusion zone boundary around the project's [*generation equipment, submarine transmission line, anchoring system, etc.*]; (b) marking the extreme corners of any exclusion zone with lights, buoys, or other indicators sufficient to warn vessels of the above and underwater project facilities and associated exclusion zone during both the day and nighttime; and (c) marking [*above-water generation equipment*] with [*fog signals, low-intensity navigation or hazard marking lights, etc.*] and painting [*above-water generation equipment*] in a

way that considers the aesthetic resources of the project area as well as the safety of the public and project facilities.

The licensee shall prepare the plan after consultation with the U.S. Coast Guard, [*Land Management Agency(ies)*], [*Affected Indian Tribe(s)*], [*Fish and wildlife agency of the state in which the project is located*], [*National Marine Fisheries Service*], [*U.S. Fish and Wildlife Service*], and [*Any other interested parties*]. The licensee shall include in the plan documentation of consultation, copies of comments and recommendations on the plan after it has been prepared and provided to the agencies and the tribe(s), and specific descriptions of how the agencies' and tribe's comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies and the tribe(s) to comment prior to filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Project construction and installation shall not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

(d) *Emergency Shutdown and Removal*. The Director, Office of Energy Projects (Office Director), as the Commission's authorized representative, may order the licensee to cease project operation in the event that doing so is necessary for the protection of the environment or the life, health, or property of the public.

The licensee shall report by telephone to the Office Director and [*Land Management Agency(ies)*], [*Affected Indian Tribe(s)*], [*Applicable federal and state fish and wildlife management agencies*], [*National Marine Fisheries Service*], [*U.S. Fish and Wildlife Service*], and [*Any other interested parties*] any project-related conditions causing or that may cause injury, or mortality to any federally listed threatened or endangered species under the Endangered Species Act (ESA) or marine mammal afforded protection under the Marine Mammal Protection Act (MMPA) and any other incidents affecting the environment or the life, health, or property of the public as soon as possible, but no longer than 24 hours after becoming aware of the threat or incident without unduly interfering with any necessary or appropriate emergency response or other action procedure for protecting the affected species.

Upon initial notification, the licensee shall consult with the Office Director and notified entities on the immediate course of action to take to prevent injury or minimize or eliminate the threat to the extent possible. The licensee shall propose

to the Office Director immediate measures, based on consultation with the agencies and tribe(s), and implement such immediate measures as the Office Director so directs, which may include immediate shutdown of all project operations.

No later than 7 days after becoming aware of any such threat or incident, or on any alternative schedule specified by the Office Director, the licensee shall file with the Commission and submit to the aforementioned agencies and tribe(s), a written report on the condition affecting the ESA-listed or MMPA-protected species, other environmental resources, the public, or property. The written report, in addition to any information required by the Office Director at the time of initial contact, shall include the following: (a) the location, date, time, and causes of the condition to the extent known; (b) a description of any unusual occurrences or operating conditions preceding the condition; (c) an account of any measure(s) taken to immediately alleviate the condition; (d) a detailed description of any injuries or mortalities of the ESA-listed or MMPA-protected species, or any adverse effects on other environmental resources, the public, or property as applicable; (e) a detailed description of the measures recommend by the agencies and tribe(s); and (f) a detailed description of the measures or actions that would be taken to prevent further such occurrences.

The Office Director may direct the licensee to commence project removal if no practical course of action can be taken to minimize the types of project-related adverse effects noted above.

### 3. Financial Assurance

To ensure that a licensee has the necessary funds available to complete project removal and site restoration in accordance with a project removal article, the Commission may include the following article in a pilot project license.

*Financial Assurance.* The licensee shall, at least 90 days before commencing project construction and installation, file proof of the purchase of a surety bond, or equivalent financial assurance instrument (*e.g.*, insurance, corporate guarantee, letter of credit, fully funded trust fund, etc.), to cover the entirety of the costs of removing the project in accordance with the Project Removal Plan required by this pilot license. Thereafter during the term of the license, the licensee shall maintain the bond, or equivalent financial assurance. By January 1 of each license year, or as otherwise directed by the Commission or its authorized representative, the licensee shall file proof of the maintenance of the bond, or equivalent financial assurance.

Failure to commence project removal in accordance with the procedures and timeframes authorized by the approved plan constitutes cause for the Commission to issue a demand letter to the surety for the amount required to satisfy all of the requirements of the project removal plan. Payment by the financial assurance entity of the amount required by a bond is due upon receipt of the demand letter. In lieu of payment, the surety may perform the requirements of the plan under written instructions from the Commission, or its authorized representative within the timeframe set forth in the instructions.

The licensee agrees that all monies paid by the financial assurance entity, upon failure on the licensee's part to fulfill the requirements of the approved plan, may be retained by the United States to be applied to the satisfaction of the licensee's obligations under the plan, without prejudice to any other rights and remedies of the United States.