

RIN 1010-AD30

AUGUST 28, 2008

FEDERAL ENERGY REGULATORY COMMISSION  
WASHINGTON, DC 20426  
August 28, 2008

Department of Interior, Minerals Management Service  
Regulations and Standards Branch  
381 Elden Street, MS-4024  
Herndon, Virginia 20170-4817

**Reference: Comments on the Proposed Rule for Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf (RIN 1010-AD30)**

Enclosed are the comments of staff of the Federal Energy Regulatory Commission on the proposed rule, "Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf," issued by the Minerals Management Service (MMS) of the Department of the Interior.

We thank you for the opportunity to comment on the proposed rule. Any questions or comments on this submission may be directed to Edward A. Abrams at 202-502-8773.

Sincerely,

J. Mark Robinson  
Director  
Office of Energy Projects

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COMMENTS OF THE  
 FEDERAL ENERGY REGULATORY COMMISSION STAFF  
 ON THE  
*ALTERNATIVE ENERGY AND ALTERNATE USES*  
*ON THE OUTER CONTINENTAL SHELF: PROPOSED RULE*  
*(RIN 1010-AD30)*  
 (PUBLISHED BY THE MINERALS MANAGEMENT SERVICE  
 OF THE U.S. DEPARTMENT OF THE INTERIOR)

## Introduction

The following are the comments of staff of the Federal Energy Regulatory Commission on the proposed rule, “Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf” (RIN 1010-AD30), issued by the Minerals Management Service (MMS) of the Department of the Interior. These comments represent the views of Commission staff, and not necessarily those of the Commission. We present our comments as follows:

- I. Recommendation and Summary
- II. The Commission’s Jurisdiction over Ocean Hydroelectric Projects
- III. The MMS’ role as Land Management Agency under the Federal Power Act and Other Opportunities for Coordination
- IV. Contrasting the Commission’s Program with the MMS’ Proposal
- V. Other Concerns

### I. Recommendation and Summary

Commission staff recommends that the MMS remove wave and ocean current energy from the proposed rule and, as a land management agency under the Federal Power Act (FPA), work closely with the Commission to foster the orderly and environmentally sound development of these resources. We also recommend that the MMS provide a 30-day period for the filing of reply comments to the proposed rule. This would allow commenters an opportunity to consider all comments filed in the docket and result in a more robust record.

The nascent, potentially vital hydrokinetic<sup>1</sup> industry requires a clear, sensible regulatory regime. The Commission has undertaken several initiatives to

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<sup>1</sup> Projects that generate electricity from waves or directly from the flow of water in ocean currents, tides, or inland waterways.

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meet the industry's needs, including making a strong effort to reach agreement with MMS on a process that could meet both agencies' regulatory requirements while also fostering an environment in which appropriate hydrokinetic projects can be developed. Such cooperation is the essence of good government. Commission staff recommends that MMS approach the issues at hand in a spirit of cooperation, rather than through unilateral decision-making that will not resolve the uncertainties regarding offshore hydrokinetic development.

In response to the MMS' Advanced Notice of Proposed Rulemaking, Commission staff explained, as it has in other venues, that regulating hydropower on the Outer Continental Shelf is a responsibility of the Commission under the FPA, that it was so before the Energy Policy Act of 2005, and that it remains so today. Our ANOPR comments included the following statement:

In summary, given that the Commission's responsibilities under the Federal Power Act (FPA), 16 U.S.C. § 791, et seq. (2000), include authorizing the private development of hydroelectric facilities on all navigable waters of the United States including oceans up to at least 12 nautical miles offshore, we respectfully submit that the Commission has jurisdiction to license offshore energy hydropower projects. Section 388 appears to have been intended to fill a regulatory gap for activities not otherwise authorized by applicable law. In our view, there was not a regulatory gap with respect to hydropower development in offshore navigable waters, nor is there one following enactment of the Energy Policy Act of 2005.

The Commission cannot ignore the jurisdiction conferred on it by Congress in the FPA. Similarly, the MMS cannot eliminate the jurisdictional structure and application of the FPA through rulemaking.

Commission staff is committed to working cooperatively with the MMS pursuant to the FPA as the primary statute governing wave and ocean current energy projects. The MMS has special status under the FPA, as a federal land management agency. Staff will work to ensure that the MMS' planning responsibilities are met and its role as a federal land manager of the Outer Continental Shelf (OCS) is respected and fully integrated into the regulatory structure for proposed wave and ocean current projects. The Commission has a long and successful tradition of working closely with federal agencies interested in hydropower development and land management agencies whose lands would be

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affected by such projects. In addition to the status afforded to land management agencies under the FPA, there are many opportunities for inter-agency cooperation through memoranda of understanding, coordinated rulemakings, joint outreach and training, and other collaborative approaches.

The issue of agency jurisdiction is more than parochial; it relates back to fundamental energy policy issues debated and decided by Congress. In this context it would appear that as drafted, the MMS' NOPR offers little hope of attracting the private capital necessary for development of wave and ocean current projects and would bring to the OCS a regulatory regime similar to that which frustrated the hydroelectric industry prior to 1920, when the Federal Water Power Act, the predecessor of the FPA, was passed in order to sweep away jurisdictional divisions which had stymied growth of the young hydroelectric industry. Since that time, under the Commission's guidance, the industry has blossomed to bring to the nation the substantial benefits of what has become by far our largest renewable source of electricity. Wave and ocean current projects may be able to contribute to further growth of this resource, but only if we observe the lessons learned by the Commission and other agencies and preserve the uniformity of regulation by technology and related provisions embodied in the FPA.

The MMS' proposed rule purports to replace the Commission's hydropower program under the FPA with the MMS' proposed alternative energy program, based on the existing oil and gas program under the Outer Continental Shelf Lands Act. As a result, there are several practical consequences, the more important of which relate to: process timeframes, competition priority, provisions for pilot projects, regulatory consistency, and program fees.

Commission staff submits that wave and ocean current projects are different from wind projects in fundamental ways. Not only do wave and ocean current projects use hydroelectric devices which are subject to regulation by the Commission, while wind projects (using a different technology) are not regulated by the Commission, but also wave and ocean current industries are at an earlier and more vulnerable stage of development than the wind industry. Wave and ocean current developers are facing high costs and many technical challenges, while wind is well-established and becoming economically competitive with traditional sources of electrical generation. Rather than categorizing the hydrokinetic industry as similar to the wind industry for the purposes of regulation, the unique needs of the hydrokinetic industry should be considered in any regulatory program or cooperative agreement. The Commission has done this by establishing a strict scrutiny policy<sup>2</sup> for preliminary permitting and staff

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<sup>2</sup> Under that approach, the Commission processes new technology preliminary permit applications with a view toward limiting the boundaries of the permits, to

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guidance for hydrokinetic pilot project licensing, which has been available for implementation since July 2007.

Therefore Commission staff recommends that the MMS coordinate with the Commission and not issue any rule applicable to wave and ocean current projects that would 1) conflict with the FPA, 2) interfere with the regulatory responsibilities of the Commission and other agencies under that Act, and 3) frustrate the orderly development of hydropower projects on the OCS.

## II. The Commission's Jurisdiction over Ocean Hydroelectric Projects

Hydropower development in offshore navigable waters and on federal lands is subject to the Commission's jurisdiction. Section 4 of the Federal Power Act, 16 U.S.C. § 797 (2000) provides in relevant part:

“The Commission is authorized and empowered—  
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(e) To issue licenses ... for the purpose of constructing, operating, and maintaining ... power houses, transmission lines, or other project works necessary or convenient for ... the development, transmission, and utilization of power across, along, from, or in any of the streams or other bodies of water over which Congress has jurisdiction under its authority to regulate commerce with foreign nations and among the several States, or upon any part of the public lands and reservations of the United States ....”

Section 23(b)(1) of the FPA, 16 U.S.C. § 817(1) further provides in relevant part that

“[i]t shall be unlawful for any person, State, or municipality, for the purpose of developing electric power, to construct, operate, or

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prevent site-banking and to promote competition. Further, to ensure that permit holders are actively pursuing project exploration, the Commission carefully scrutinizes the reports that permit holders are required to file on a semi-annual basis, and would, where sufficient progress to perfecting a license application was not shown, consider canceling the permit. *See Preliminary Permits for Wave, Current, and Instream New Technology Hydropower Projects*, Notice of Inquiry and Interim Statement of Policy, 118 FERC ¶ 61,112 (2007).

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maintain any ... powerhouse, or other works incidental thereto across, along, or in any of the navigable waters of the United States, or upon any part of the public lands or reservations of the United States . . . except under and in accordance with the terms of . . . a license granted pursuant to this chapter.”

“Reservations” and “navigable waters” are terms of art in the FPA, expressly defined as follows in Section 3, 16 U.S.C. § 796 for the purpose of the statute, in relevant part:

The words defined in this section shall have the following meanings for purposes of this Act, to wit:

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(2) “reservations” means ... lands and interests in lands owned by the United States, and withdrawn, reserved, or withheld from private appropriation and disposal under the public land laws; also lands and interests in lands acquired and held for any public purposes ...

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(8) “navigable waters” means those parts of streams or other bodies of water over which Congress has jurisdiction under its authority to regulate commerce with foreign nations and among the several States, and which either in their natural or improved condition ... are used or suitable for use for the transportation of persons or property in interstate or foreign commerce ....

In *AquaEnergy Group, Ltd.*, 102 FERC ¶ 61,242 (2003), the Commission rejected the assertion by a project proponent that a proposed wave energy hydroelectric facility, to be located in Makah Bay, 1.9 miles<sup>3</sup> off the coast of Washington, was not subject to the Commission’s jurisdiction. The Commission concluded that the project was required to be licensed because the project would be located in navigable waters, as defined above, and because the project would be located on a federal reservation.<sup>4</sup> Projects located on the OCS would also be

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<sup>3</sup> The *AquaEnergy Group* changed the proposed project location to a distance 3.17 miles off the coast of the State of Washington in its Request for Expedited Rehearing of Order Finding Jurisdiction and Revisions to Project Description arguing that at a distance greater than 3.0 miles from the coast of Washington the project would be beyond FERC jurisdiction (Request for rehearing at 6, November 1, 2002). The Commission specifically rejected this argument in its Order Denying Rehearing (February 28, 2003).

<sup>4</sup> The issue of whether a National Marine Sanctuary is a reservation under the FPA, as addressed by the Commission in 124 FERC ¶ 61,063, is immaterial to the

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within the Commission's navigable waters jurisdiction. In addition, the OCS fits within the FPA's definition of a reservation, and therefore projects would be subject to the Commission's jurisdiction authority over projects on federal lands.

Section 388(a) of the Energy Policy Act of 2005 amended the Outer Continental Shelf Lands Act (OCSLA), 43 U.S.C. § 1337, to authorize the Secretary of the Interior to grant leases, easements, and rights-of-way on the Outer Continental Shelf for oil and natural gas exploration, development, production, storage, or transportation, and for the production or support of production, transportation, or transmission of energy from sources other than oil and gas for activities "not otherwise authorized in ... the Deepwater Port Act of 1974 (33 U.S.C. 1501 et seq.), the Ocean Thermal Energy Conversion Act of 1980 (42 U.S.C. 9101 et seq.), or other applicable law . . . ." (Emphasis added)

In addition, section 388's amendment of the OCSLA includes the following language: "Nothing in this subsection displaces, supersedes, limits, or modifies the jurisdiction, responsibility, or authority of any Federal or State agency under any other Federal law."

The Commission's approach to jurisdiction over offshore hydropower projects is based on the plain language of the FPA (particularly the definitions of "navigable waters" and "reservations"). Section 388 of the Energy Policy Act of 2005, by its express terms, did not alter the existing jurisdiction of any federal agency. Thus, the Commission's jurisdiction over projects on navigable waters of the United States has not changed.

### III. The MMS' Role as a Land Management Agency under the FPA

Commission staff is committed to working cooperatively with the MMS to ensure that its planning responsibilities and concerns regarding protection of OCS resources will be fully considered in the licensing process, and to avoid regulatory duplication for the offshore energy hydropower industry. The MMS has a critical role to play in all developments proposed on the OCS, that of a land management agency with specific authority under the FPA Section 4(e) to issue mandatory conditions for any license issued for a hydropower project located on the OCS. *See Escondido Mutual Water Co. v. LaJolla Band of Mission Indians*, 466 U.S. 765 (1984). The role of the MMS in the licensing process is similar to that of the U.S. Forest Service for national forests and the Bureau of Land Management for federal lands it administers, and of the U.S. Bureau of Reclamation (BLM) and the

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Commission's jurisdiction on the OCS, since Section 3 of the Outer Continental Shelf Lands Act of 1953, 43 U.S.C. § 1332(a) makes clear that projects on the OCS would fit within the FPA's definition of reservation.

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U.S. Corps of Engineers for waterpower facilities under their jurisdiction. The Commission and its predecessors have worked closely with these agencies for almost a century to promote the comprehensive development of the nation's hydropower resources, and the close working relationship is reflected not only in the Commission's licensing regulations [18 C.F.R. Parts 4 and 5], but also memoranda of understanding with those agencies and hundreds of licensing decisions.

As Commission staff explained in its comments on the MMS' ANOPR, the Commission's existing licensing processes provide many opportunities for land management agencies to be involved. These time-tested and comprehensive processes provide for the seamless integration of valuable input and coordination from the MMS with regard to managing the OCS. The Commission's regulations detailing the licensing processes allow for pre-application consultation with MMS and other parties to facilitate early identification and resolution of potential issues or concerns, provide several commenting periods for the MMS to give input at every stage of the decision making process, specify that the MMS can participate in study plan meetings with the Commission and other parties, detail specific procedures for resolution of study request disputes, and describe how the MMS can be involved with the environmental review process. In addition, section 4(e) of the FPA establishes that MMS can provide mandatory terms and conditions to be included in the license.<sup>5</sup>

The FPA would allow the collection by the Commission of an annual charge for the use of public land (FPA, 16 U.S.C. § 803(e)). The FPA would also allow the Commission to collect a charge for the specific administrative charge related to MMS' (as well as the Commission's) processing costs (FPA, 16 U.S.C. § 803(e)). It is notable that the annual charges for the Commission's administrative costs under Part I of the FPA would be borne by all existing hydropower licensees (using both conventional dams and new technologies) in proportion to the capacities and energy generation of each individual project, rather than by individual applicants, as the MMS proposes. 18 C.F.R. § 11.1.

#### *Other Opportunities for Coordination*

In addition to those points of coordination required by the FPA, there may be other opportunities for the Commission and the MMS to coordinate in the

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<sup>5</sup> Here the MMS is assumed to have mandatory conditioning authority based on the definition of the Outer Continental Shelf (OCS) as a reservation. See § 3(2) and § 4(e) of the Federal Power Act and § 3(3) of the Outer Continental Shelf Lands Act.



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public interest. The Commission and the MMS could execute the already-drafted Memorandum of Understanding and otherwise coordinate their efforts in the spirit of good government. Through such an effort, the MMS and the Commission could make the best use of the authorities and talents of both agencies, avoid redundancy, and maximize clarity.

A cooperative approach could include, for example, (1) coordination of the National Environmental Policy Act (NEPA) review by designation of a lead agency and a cooperating agency at each stage; (2) leadership by the MMS on project leasing due to its experience with planning on the OCS, with Commission opting not to issue preliminary permits in deference to the lease program; (3) Commission authorization of construction and operation of the hydropower project through the FPA licensing process, with MMS as a cooperating agency during the NEPA review; and (4) specification of other details of coordination in order to avoid redundancy.

#### IV. Contrasting the Commission's Program with the MMS' Proposal

Implicit within the MMS' proposed rule is the replacement of the FPA with the OCSLA for regulation of hydropower on the OCS. Setting aside whether this comports with the law, this section compares various components of each agency's program. Table 1 depicts the overall process stages in the Commission's existing regulatory program and the MMS' proposal, which both include: establishment of priority over a site; information gathering to support an application; project review and authorization; operation, administration, and compliance during the life of the project; an opportunity for renewal of project authorization; and project decommissioning. There are fundamental differences, however, between the Commission's existing and the MMS' proposed regulatory processes within some of these stages.

As discussed further below, the Commission's program would be more likely to lead to beneficial development of hydrokinetic projects on the OCS because of its: (1) timely authorization of project construction; (2) single, all-inclusive NEPA review; (3) comprehensive development standard basis for competition; (4) municipal preference policy; (5) provisions for pilot projects that may generate electricity, connect to the grid, and lead to commercial build-out; (6) transmission line siting authority; (7) consistency across state and federal waters in hydrokinetic regulation; (8) benefits to states; and (9) reasonable program fees.

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Table 1. Comparison of the Commission's existing and the MMS' proposed regulatory processes.

STAGE	Commission's Existing Program	MMS Proposal
Priority of Site	Filing of preliminary permit application	MMS Call for Information/receipt of unsolicited lease request; NEPA review* to determine lease sale area
	Notice of application, public comment and competing applications filed, notice of competing applications followed by Commission review	Proposed lease sale notice with public comment and final sale notice describing auction process
	Commission decision on competition (best adapted project with municipalities preferred where equally adapted, first-to-file tiebreaker)	Lease auction (highest bidder, random selection tiebreaker)
	Order issuing preliminary permit with strict scrutiny policy for compliance	Lease awarded, rental fees begin
Information Gathering	Filing of proposal with required consultation record	Filing of Site Assessment Plan (SAP)**
	Public scoping meetings	NEPA review*
	Collaborative study plan development and Commission determination on studies	MMS decision on SAP
	Conduct studies and develop application	Carry out SAP; develop Construction and Operations Plan (COP)
Project Authorization Review	Application: proposed development and mitigation	Filing of COP
	NEPA review*	NEPA review*
	Commission license order, often conditioned by land managing agencies; annual fees begin	MMS decision; operating fees begin
Operation and Compliance	Implementation of license conditions: mitigation and monitoring measures and filing of any final plans for construction, operations, and compliance; Commission inspections	Implementation of COP: mitigation and monitoring measures and filing of facility design report and fabrication and installation report, certified verification agent inspections
Renewal	Relicensing possible at license expiration	Renewal may be considered at lease expiration
Decommissioning	Decommissioning plan may be submitted with application and required in license order; bonding likely required; NEPA review* required with surrender of license	Decommissioning plan due 2 years before lease expiration, NEPA review*; required at lease expiration; bonding required

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\* The Commission and the MMS NEPA reviews include environmental documentation, agency input, public comment, and compliance with all relevant federal statutes. Additional NEPA reviews are required during the operational phase of a lease or license when a substantial revision of the COP or license is necessary.

\*\*If non-competitive, the lease request and SAP are submitted together and the MMS conducts NEPA and forms a decision on both, concurrently.

### Process Timetables

The Commission has an established licensing program that specifies discrete timeframes for the issuance of hydrokinetic pilot and commercial project licenses. The Commission issues a decision on a pilot license in as few as 6 months from the filing of a license application and issues a decision on a commercial license in as few as 1.5 years from the filing of a license application. These discrete timeframes are established by the specific process milestone deadlines that exist for both applicant and stakeholder filings as well as Commission issuances. While the MMS proposal provides timeframe requirements for the lessee's filing of a COP, SAP, and GAP, as well as for the various comment periods (call for information and nominations, proposed sale notice), it does not provide timeframe requirements for any of its NEPA reviews associated with the area identification, SAP/GAP, and COP. Predictable process timeframes, such as those specified in the Commission's established licensing program, allow participants, including applicants/lessees, agencies, and stakeholder groups to plan accordingly and ensure the availability of adequate resources.

### NEPA Review

The Commission's process generally leads to one NEPA document that is developed over both the Information Gathering (pre-filing) and Project Authorization Review stages, while the MMS proposal requires as many as three NEPA documents throughout its process, in the Priority of Site, Information Gathering, and Project Authorization Review (two for a noncompetitive lease). Considering all environmental effects within a single NEPA review allows for one thorough analysis of all environmental issues and a more timely authorization.

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### Competition Priority

Developers may be interested in obtaining a preliminary permit or license from the Commission, or an MMS lease, easement, or grant for a project which would utilize the same site. There are fundamental differences in the Commission's existing program and the MMS proposal in the determination of priority with such competition.

The Commission's existing program bases priority in competition for license and permit issuances first and foremost on the determination of which project proposal best meets the comprehensive development of the relevant waterway resources standard as required under section 10(a) of the FPA. If competing proposals are determined to be equal and a competitor is a state or municipality, priority is given to the state or municipality. If competing proposals are determined to be equal and neither or both competitor(s) is a state or municipality, priority is given to the developer with the earliest filing date. The comprehensive development standard ensures that any licensed project is optimal for the relevant waterway resources, both in terms of utilization of power potential and protection of the environment.<sup>6</sup> The state or municipality preference ensures that the nation's public resources are not monopolized by private entities, which may enjoy many advantages over states and municipalities in the development of energy projects, such as access to investment capital.

In contrast, the MMS proposal determines priority in competition lease, right-of-use easements (ROE), and right-of-way (ROW) issuances through a variety of auction formats and bidding systems, in which the lease or grant is awarded to the highest bidder who has been deemed qualified to hold a grant or lease. The MMS proposal does not consider the competitors' proposals (including power output) or any other development factor when determining priority. In the case where more than one bidder submits the same high bid amount, the winning bidder would simply be determined by random selection.<sup>7</sup>

### Pilot Projects and Limited Leases

The MMS proposal for limited leases appears to be somewhat similar to the Commission's existing guidance on hydrokinetic pilot projects. However, the MMS proposal contrasts with the Commission's existing guidance in important ways. First, the MMS limited lease does not allow generation to the grid, which

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<sup>6</sup> FPA § 10, 16 U.S.C. § 803(a).

<sup>7</sup> *Federal Register*, 73 Fed. Reg. 39,376 at 39,469 (2008).

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eliminates both a critical element of technology testing and the opportunity for revenue generation to defray the costs of testing. Second, the MMS does not grant preference toward longer term project authorization, which means that, after the expense of conducting tests at a particular site, an incumbent lessee could then lose priority to a developer with no prior investment or experience at the site. In contrast, all other things being equal, the incumbent licensee under the Commission's process would have preference for a relicense.

### Transmission Lines

Table 2 summarizes some of the fundamental differences between how the siting of transmission lines and their connection to the grid are taken into account under the Commission's existing program and the MMS proposal.

Under the FPA, the Commission has siting authority for primary transmission lines connecting a Commission-licensed hydropower project to the national grid, with the transmission line review incorporated in the license review.<sup>8</sup> The Commission's authority over the project works includes any necessary primary transmission line, both underwater and on land, to connect the project to the interstate electricity grid.

The MMS proposes authorizing a transmission route with a lease, ROW, or ROE on the OCS only, but does not address the critical question of how the developer would be assured it could connect the project to the interstate grid.<sup>9</sup> The MMS does encourage developers to engage the states early to address such issues.<sup>10</sup> Transmission siting through state waters would be worked out with the state separately from the authorization of the wave or current project.

Table 2. Siting and Grid Connection Comparison

Project Location	Commission's Existing Program	MMS Proposal
State Waters	Grid Connection Incorporated in License Review (16 U.S.C. § 824i (2006)) and Coordination With Other Agencies (16 U.S.C. § 824p(h) (2006))	No Authority for Grid Connection, Applicant Must Work With State
OCS	Authorizes Grid Connection of	Authorizes Transmission Route

<sup>8</sup> FPA, 16 U.S.C. § 824i.

<sup>9</sup> *Federal Register*, 73 Fed. Reg. 39,376 at 39,394 (2008).

<sup>10</sup> *Id.* at 39396.

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	FERC Authorized Projects (18 C.F.R. Subpart H §4.70 and 4.71) and Coordination With Other Agencies (16 U.S.C. § 824p(h) (2006))	With Lease, ROW, or RUE on OCS only, But No Grid Connection
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### Regulatory Consistency

The MMS proposal includes the possibility of multiple purpose leases, such as wind and wave. With the FPA being the controlling statute, multiple purpose leases would not be directly possible because the Commission would have the lead for wave and ocean current projects and the MMS would have the lead for wind and other alternative energy projects. Under Section 24 of the FPA, as it relates to federal lands such as the OCS, other uses could exist at a hydropower project site as long as they don't interfere with the construction or operation of the hydropower project. In the case of a multiple purpose lease for wind and wave energy projects, under the FPA the use of the lease for wind energy would be dependent upon it not interfering with the licensed wave energy project. The Commission, however, commonly licenses multiple purpose projects such as the addition of private hydropower to U.S. Corps of Engineers dam used for other purposes such as flood control.<sup>11</sup> In the case of a multiple-use project involving multiple authorities, state and federal agencies could cooperate in order to provide efficient processing.

In disregarding the application of the FPA for hydrokinetic projects on the OCS, the MMS proposes a regulatory process for such projects that is inconsistent with the Commission's established regulatory program. The requirement of two separate regulatory programs for hydrokinetic projects that are to be located within both state and federal waters would present an unreasonable and unnecessary investment in time and capital by the Commission, the MMS, stakeholders, and developers. Coordinating under the FPA for hydrokinetic projects on the OCS, such as through the previously mentioned MOU, would ensure a consistent regulatory program across state and federal waters.

### Benefits to States

The MMS proposal discusses the mandate in EAct 2005 that provides 27

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<sup>11</sup> Memorandum Of Understanding Between the Federal Energy Regulatory Commission and the Department of the Army Regarding Non-Federal Hydropower Development, November 2, 1981.

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percent of the federal revenue from projects it authorizes, for those projects located within three miles of a State's submerged lands, to that state. Under the FPA framework, this return would not be required for wave and current projects as it would for wind. Instead of the 27 percent return, the states would receive other benefits from the application of the FPA, such as municipal preference for developing projects for state and local governments and public utilities. Unlike the MMS proposal (see below), governmental fees under the FPA are kept low and predictable throughout the license term; Congress believed that any higher fees would merely be passed on to consumers. As a result, benefits of regulation under the FPA to coastal states would include development of a renewable source of electricity at the lowest possible cost, helping states meet renewable portfolio standards and providing stimulus to their economies.

### Program Fees

The fee structure for the Commission's existing program and MMS proposal are significantly different. As discussed below, when compared to the Commission's, the MMS fee structure results in greater fees and has a lack of predictability, which could stymie development of hydrokinetic projects on the OCS.

The NOPR proposes, under subpart E, a fee structure that is based on (1) an upfront payment for acquisition of a lease; (2) rental fees for non-operating phases of leases and project easements; and (3) capacity-based operating fees. MMS maintains the flexibility to change the fee structure at any time, and notes that it will likely adjust financial terms after successful demonstration of the commercial viability of an industry. In addition, the MMS proposes case-by-case fees to recover unique processing costs (e.g. Environmental Impact Statements), and expects to later propose additional fees to recover the costs of processing lease applications, once these costs are better understood. The MMS indicates that it may add nominal filing fees for lease applications, as well as ROW and RUE applications, to aid in limiting filings to serious applicants.

In contrast, section 10(e)(1) of the FPA provides that the Commission can assess annual charges to licensees, for administering the hydropower program and for the use of federal lands, but does not provide for the collection of rental or royalty fees. The drafters of the FPA explicitly avoided assessing operating fees in favor of a compromise that recompenses for the use of public resources while not hindering private investment in hydropower.<sup>12</sup> This is different from the

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<sup>12</sup> See Kerwin, *Federal Water-Power Legislation* (1926), pp. 258-259; *Congressional Record*, 66th Cong., 2nd Sess., p. 1573; *House Report 910*, 66th Cong., 2nd Sess.

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MMS' proposed program, which is based on the oil and gas model where a direct return is collected for providing the private sector access to a finite and depletable public resource. Thus, the MMS proposes to charge fees beyond those typically assessed for rental or use of federal land, or for recovery of administrative costs.

*Fee Magnitude and Uncertainty under the MMS Proposal*

Table 3 provides net present value of total fees to the Commission and the MMS for the length of term (30 years) for three hypothetical hydrokinetic projects: (1) a 75-MW commercial wave project with a capacity factor of 0.35, located on 1,280 acres (2 mi<sup>2</sup>) of the OCS; (2) a 30-MW commercial ocean current project with a capacity factor of 0.8, located on 1,280 acres (2 mi<sup>2</sup>) of the OCS, and (3) a smaller 1-MW wave project with a capacity factor of 0.35, located on 25 acres of the OCS. Because MMS does not provide an estimate or formula for determining recovery fees for administration, this table considers a range of potential administrative fees for MMS.<sup>13</sup> See appendix A for a list and explanation of assumptions.

Table 3. Comparison of FERC and MMS total estimated fees for length of term (30-years) based on a range of potential MMS administrative fees with a 7% discount rate.\*

	75-MW Wave Energy Project		30-MW Ocean Current Project		1-MW Wave Energy Project	
<b>Potential MMS administrative fees (for cost recovery)</b>	FERC	MMS	FERC	MMS	FERC	MMS
Half the Commission's administrative charges	<b>\$2,421,825</b>	<b>\$2,725,996</b>	<b>\$1,658,070</b>	<b>\$2,182,494</b>	<b>\$21,758</b>	<b>\$42,350</b>

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<sup>13</sup> Due to uncertainty regarding the magnitude of the costs MMS will choose to recover, table 3 considers a range of potential MMS administrative fees, from those less than (half) the Commission's, to those twice the cost of the Commission's.



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Equal to the Commission's administrative charges	\$2,421,825	\$3,541,909	\$1,658,070	\$2,616,530	\$21,758	\$53,229
Twice the Commission's administrative charges	\$2,421,825	\$5,173,735	\$1,658,070	\$3,484,601	\$21,758	\$74,986

*\*Fees for MMS include: payment for acquisition of a lease, rental fees for non-operating phases of leases and project easements, capacity-based operating fees, and variable administrative fees as depicted in the first column. Commission fees include: annual charges for administration and annual charges for use of federal lands. See Appendix A for list of assumptions, conditions, and formulas used.*

As depicted, the net present value of the MMS' fees for the term of a lease are higher than the Commission's fees for the term of a license under all scenarios. Further, under a competitive leasing process, fees for the MMS program may significantly exceed this estimate given that bids for oil and gas leases on the OCS reach hundreds and even thousands of dollars per acre. In addition to a higher acquisition fee, as noted in table 3, operating fees for a competitive lease may be higher, as defined by the terms of the lease.

Adding to the uncertain magnitude of the MMS fees is the agency's authority to revise the financial terms of individual projects. The MMS notes in the NOPR (Subpart E overview) that the proposed financial terms (described above) are of "a relatively small size," designed in order to not discourage demonstration of alternative energy production on the OCS. After an activity becomes commercially viable, however, the MMS notes that this fee structure may change. The proposed regulations authorize the MMS to "consider revisions to financial terms for established projects based on their operating experience and for new projects based on prevailing and anticipated conditions in the energy market." In contrast to the MMS proposal, the terms defining how Commission fees are assessed do not change on a project-specific basis, allowing for a large degree of fee predictability for the life of the project.

The magnitude and lack of predictability of the MMS fee structure could negatively impact the development of the hydrokinetic industry, which is still working to overcome multiple engineering, environmental, and financial challenges.

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## V. Other Concerns

The MMS proposes to promulgate the same set of regulations to govern wind, wave, and ocean current energy development. This section explains how wave and ocean current energy projects are different from wind projects, further supporting our recommendations that the MMS remove wave and ocean current energy from the proposed rule.

Wind projects to generate electricity are in a fundamentally different stage of development than hydroelectric projects using the forces of wave and ocean currents. Development of wind projects as a large-scale source of electricity in the United States has been underway for decades, since the early 1980s, when the first modern commercial wind farm was installed at Altamont Pass in California.<sup>14</sup> Such early projects experienced substantial problems in reliability and limitations in capacity and were therefore very uneconomic. However, improvements in computer controls and maintenance have raised the reliability and capacity of the devices, greatly expanding their competitiveness with conventional sources to generate electricity.<sup>15</sup> To date, all commercial wind farms in the United States are located on land, with significant development occurring on federal western lands administered by the BLM.<sup>16</sup> While there are no offshore wind projects in existence in the United States, there are many in other parts of the world, especially Europe. There, crowded land areas present very difficult challenges to wind power development, while offshore areas offer fewer challenges, shallows convenient for anchoring the devices, and more powerful and dependable wind sources. Height restrictions on towers are less of a concern for offshore windmills

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<sup>14</sup> 20% Wind Energy by 2030: Increasing Wind Energy's Contribution to U.S. Electricity Supply, U.S. Department of Energy, Energy Efficiency and Renewable Energy, May 2008; hereinafter "DOE Wind Report." Executive Summary *available at* [http://www.osti.gov/bridge/product.biblio.jsp?query\\_id=0&page=0&osti\\_id=929590](http://www.osti.gov/bridge/product.biblio.jsp?query_id=0&page=0&osti_id=929590), full report *available at* <http://www.20percentwind.org>

<sup>15</sup> DOE Wind Report at 5, 27-29, 34. "The U.S. wind power fleet now numbers 16,818 MW and spans 34 states. American wind farms will generate an estimated 48 billion kilowatt-hours (kWh) of wind energy in 2008, just over 1% of U.S. electricity supply, powering the equivalent of over 4.5 million homes." American Wind Energy Association, 2008 Market Update, at 1. [http://www.awea.org/resources/resource\\_library/index.html#FactSheets](http://www.awea.org/resources/resource_library/index.html#FactSheets).

<sup>16</sup> See [http://www.blm.gov/wo/st/en/prog/energy/wind\\_energy.html](http://www.blm.gov/wo/st/en/prog/energy/wind_energy.html); Title 43 Chapter 35, Subchapter V.

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than for windmills located on land, and therefore the devices commonly being deployed offshore are much larger than the types used on land.<sup>17</sup> Denmark in particular has been a leading developer in the Baltic and North Seas, but Germany, Great Britain, and other countries are rapidly increasing their own efforts to develop offshore wind resources.

Despite the energy potential for offshore wind in the United States, which has been estimated at 1,000 gigawatts,<sup>18</sup> there has been only one serious proposal to develop an offshore wind farm, in waters of the OCS in Nantucket Sound off Cape Cod, a project known as “Cape Wind.” This project was proposed in 2002 and immediately generated controversy, leading to calls for Congressional action to amend federal laws to prevent developers from exploiting a “gap” or “loophole” where no agency had comprehensive authority over such proposals and there was no provision for compensating the federal government or coastal states (in this case, Massachusetts) for the use of public lands. The developer continues to pursue this project, whose lead federal jurisdiction has been shifted by Congress from the U.S. Corps of Engineers, under the Rivers and Harbors Act of 1899 (designed only to control obstructions on navigable waters) to the MMS, under the OCSLA, as amended by the Energy Policy Act of 2005, Section 388.

In contrast, the entire industry developing hydrokinetic energy<sup>19</sup> is in a much earlier stage of development, and devices to generate electricity from waves and ocean currents are in their infancy, resembling the stage of the wind industry decades ago.<sup>20</sup> The technical and economic barriers to improving these devices are quite substantial, and it is understood that investment of large amounts of private and public capital and many years of engineering effort are necessary before such devices may be capable of generating electricity at costs comparable

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<sup>17</sup> DOE Wind Report at 34, 49.

<sup>18</sup> See Offshore Wind Energy Potential for the United States, at 23 [www.eere.energy.gov/windandhydro/windpoweringamerica/pdfs/workshops/2005\\_summit/musial.pdf](http://www.eere.energy.gov/windandhydro/windpoweringamerica/pdfs/workshops/2005_summit/musial.pdf).

<sup>19</sup> Defined as electrical energy from waves, tides, and currents in oceans, estuaries, and tidal areas; free flowing water in rivers, lakes, and streams, or man-made channels; and differentials in ocean temperature (ocean thermal energy conversion) by the Energy Independence & Security Act of 2007, section 632, 42 U.S.C. 17211.

<sup>20</sup> Bedard, et al., North American Ocean Energy Status—March 2007, EPRI, available at [www.epri.com/oceanenergy/](http://www.epri.com/oceanenergy/).

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to wind and other sources of renewable energy.<sup>21</sup> There are technical challenges facing offshore hydrokinetic devices which must be resolved before the technology can be deployed on a commercial scale.<sup>22</sup> Even the power potential of some of these hydrokinetic devices, in a rapid state of design flux and considered proprietary, is not commonly understood. In addition, offshore installation of hydrokinetic devices may cause adverse environmental effects which need to be studied before development on a commercial scale can proceed, and it is widely conceded that existing scientific databases are currently inadequate to explain those effects.<sup>23</sup> As a result, it is impossible to predict at present if, when, and how offshore hydrokinetic devices may become competitive sources of electricity on a commercial scale.

Recognizing the state of the hydrokinetic industry, the Commission's staff has devoted considerable efforts to outreach to stakeholders in the industry, and has developed preliminary permit and pilot project license guidance that can be used for testing and perfecting experimental technologies before commercial deployment is attempted. The Commission's process is designed to be short, flexible, and highly collaborative both with the individual developer and with federal and state agencies and other stakeholders.

In addition, the Commission is actively cooperating in efforts within the United States and the world community to improve methods to understand the environmental effects of offshore hydrokinetic devices and to share such knowledge with stakeholders. In partnership with the U.S. Department of Energy

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<sup>21</sup> *Id.* at 4, 6. Bedard estimated the potential costs of wave energy from 11.1 cents per kWh off California to 39.1 cents per kWh off Maine, while wind (Class 3-6) costs 4.7 to 6.5 cents per kWh.

<sup>22</sup> Among these challenges are those presented by the dense and turbulent forces of flowing water, corrosion from salt water, fouling by marine organisms, stress on internal mechanisms such as bearings, threats to buoyancy, adequacy of anchoring systems, containment of fluid leaks (such as in hydraulic systems), designs for underwater transmission of large amounts of electricity, safety during severe storms, and installation and maintenance problems which may require new equipment, highly skilled personnel and a whole new support industry.

<sup>23</sup> See The International Energy Agency, Implementing Agreement on Ocean Energy Systems, Annual Report 2007, at 32 (<http://www.iea-oceans.org/>): "The lack of baseline data, standard methodologies, high cost and lack of funding are some existing barriers to gain a full understanding [of the environmental impacts of hydrokinetic devices]."

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(DOE) and the MMS, FERC is engaged in drafting a report for the International Energy Agency-Ocean Energy Systems (IEA-OES).<sup>24</sup> The Commission has also reached out to coastal states, which have their own initiatives underway to address concerns about offshore energy development. For example, the Commission on March 26, 2008 negotiated a Memorandum of Understanding with the State of Oregon<sup>25</sup> to coordinate procedures and schedules for review of wave energy projects off the Oregon coast.

For these reasons, as well as the legal mandates discussed in section II, the Commission staff submits it is not appropriate to create a regulatory scheme, such as the MMS proposes, which would treat offshore hydrokinetic projects in the same manner as offshore wind projects and to treat both as if they were part of the extractive oil and gas industry. The regulatory structure should match the particular energy industry and its technical and financial challenges, regardless of where the projects are proposed to be located, rather than expecting the industry somehow to cope with different regulatory schemes based on location. Renewable sources of energy, such as generating electricity through hydrokinetic devices from wave and ocean currents, are very different enterprises from oil and gas production, and such renewable energy projects require a very different regulatory structure in order to promote their development in a manner that preserves the environment, recognizes competitive uses, and protects the public interest. In addition, the details of the proposed development, including power potential and feasibility, must be addressed in order to ensure the comprehensive development of the resource and to prevent abuse, such as by financial speculators who would “site bank” valuable locations and prevent the orderly development of the resource. The auction scheme proposed by the MMS is wholly inadequate to the goals of comprehensive regulation of these precious energy resources, which are needed to fulfill renewable mandates of the coastal states and to meet the challenges of climate change, and the scheme is highly unlikely to attract the private capital necessary for offshore development of the hydrokinetic industry. A nascent industry like this simply cannot afford the financial and regulatory burdens the MMS’ proposal would impose.

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<sup>24</sup> Annex IV regarding the Assessment of Environmental Effects and Monitoring Efforts for Ocean Wave, Tidal, and Current Energy Systems, 2008-2011.

<sup>25</sup> See <http://www.ferc.gov/industries/hydropower/indus-act/hydrokinetics.asp>.

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**Conclusion**

We appreciate the opportunity to explain how the FPA and the Commission's regulations and policies apply to wave and ocean current projects and to recommend that the MMS not apply the proposed rule to such projects. We welcome the opportunity to work with the MMS to ensure the orderly development of hydropower projects on the OCS and ask that MMS collaborate with the Commission to take whatever actions are appropriate pursuant to the FPA to promote the comprehensive development of this renewable energy resource, consistent with the protection of the environment and the public interest. To this end, Commission staff also recommend that the MMS sign and begin implementing the previously mentioned MOU with the Commission.

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**APPENDIX A:**  
Explanation of Total Estimated Fees in Table 3

Table 3 (on page 15) provides the net present value of total estimated fees to the Commission and the MMS for the length of term (30 years) for three hypothetical hydrokinetic projects: (1) a 75-MW commercial wave project with a capacity factor of 0.35, located on 1,280 acres (2 mi<sup>2</sup>) of the OCS; (2) a 30-MW commercial ocean current project with a capacity factor of 0.8, located on 1,280 acres (2 mi<sup>2</sup>) of the OCS, and (3) a smaller 1-MW wave project with a capacity factor of 0.35, located on 25 acres of the OCS.

Assumptions and conditions concerning the estimates in table 3

- (1) Length of lease/license term is 30–years. For the first 5 years of the MMS lease the project is non-operational and only rental fees are charged;
- (2) Power price is \$50/MWh;
- (3) This assumes the licensee is a non-municipal developer and commencement of project construction begins on the first day of the license term (used to determine annual charges for FERC);
- (4) FERC land use charges for use of the OCS are at a cost equal to the median fee for current charges for federal lands within state boundaries (\$22.58/acre/year);
- (5) Annual fees for FERC administrative costs are based on assessment tables for FERC estimated administrative charges for the FYs 2006-2008 (<http://www.ferc.gov/industries/hydropower/annual-charges.asp>);
- (6) Transmission line right-of-way/easement is 3 miles long and 200 feet wide and located on the OCS;
- (7) Power price estimate, discount rates, estimated capacity factors<sup>26</sup> and average capacity for given technologies, used to calculate operational fees and administrative charges, were taken from the MMS Cost-Benefit Analysis<sup>27</sup>; and

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<sup>26</sup> A project's capacity factor is the amount of energy that the project produces as a fraction of the amount of energy that could have been processed if the asset were operated at its rated capacity for the entire year.

<sup>27</sup> Weiss, J.C., B.B. Boehlert, and J.R. Baxter. 2008. Fiscal Cost-Benefit Analysis to Support the Rulemaking Process for 30 CFR 285 Governing Alternative Energy Production and Alternate Uses of Existing Facilities on the Outer Continental Shelf. OCS Study MMS. 2007-050. Herndon, VA: USDO/MMS, Offshore Environmental Division. 101 pp.

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- (8) The fee estimates throughout this section do not include those fees required for any easements or for government costs incurred by other agencies, which are responsible for additional administrative activities.

### Formulas for MMS Operating Fees and Commission Administrative Charges

The formula for the MMS-proposed operating fees, described in §285.505 of the proposed rule, is:

$$\text{Annual operating fee (MW)} = \text{Installed capacity (MW)} \times \text{Hours per year} \times \text{Capacity factor} \times \text{Power price per MWh} \times \text{Operating fee rate}$$

The formula for FERC's annual charges for administration, as defined by 18 CFR §11.1 and calculated from each year's assessment tables for FERC administrative charges, is:

$$\text{Project's annual charge} = \frac{\text{Individual charge factor}}{\text{Total individual charge factors for projects}} \times \text{Total FERC adjusted administrative cost}$$

(Note: totals are adjusted to account for projects above the maximum annual charge of 2.0% of FERC administrative charges.)

To determine a project's individual charge factor:

$$\text{Individual charge factor} = .1125 \times \frac{\text{Annual energy output (MWh)}}{\text{Authorized installed capacity (MW)}}$$

### Consideration of MMS' Administrative Fees for Cost Recovery

Concerning the range of potential MMS administrative fees (for cost recovery) portrayed in table 3, it is reasonable to assume that MMS administrative fees would be higher than those charged by the Commission based on section 3.0 of the Cost-Benefit Analysis. This section describes how, in addition to the MMS personnel required for the review of each project, MMS costs should also include a program manager, administrative assistant, a NEPA coordinator, a project inspector, and a total of \$3 million per year for environmental assessments. The MMS proposes case-by-case fees to recover unique processing costs (e.g. Environmental Impact Statements), and expects to later propose additional fees to recover the costs of processing lease applications, once these costs are better understood. Due to uncertainty regarding the magnitude of the costs MMS will



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choose to recover, table 3 considers a range of potential MMS administrative fees, from those less than (half) the Commission's, to those twice the cost of the Commission's.

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