

COMMENTS

WAVE NEW WORLD: PROMOTING OCEAN WAVE ENERGY DEVELOPMENT THROUGH FEDERAL-STATE COORDINATION AND STREAMLINED LICENSING

By

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If the United States truly wishes to free itself from dependence on foreign oil, new technologies like ocean wave energy conversion deserve a chance to succeed. This Comment examines the multi-year regulatory squabble between the Federal Energy Regulatory Commission (FERC) and the Department of the Interior's Minerals Management Service (MMS) over which agency has jurisdiction to license wave energy projects on the outer continental shelf (OCS)—a dispute that seriously impeded the nascent industry's development. The Comment concludes that, despite the recent FERC-MMS solution to the jurisdictional division over wave energy projects, federal ocean wave energy conversion legislation is still needed to create a regulatory framework with clear standards and procedures. Moreover, the better jurisdictional solution would be legislation that explicitly removes FERC from any licensing authority for wave energy projects located on the OCS and designates coastal states as the licensing authorities for wave energy projects sited in state waters. Such legislation should also reconfirm MMS as the "one-stop" lead agency for the permitting and licensing of all wave energy projects within the OCS and require the agency to refine its final rule with provisions specific to the unique aspects of this renewable energy source.

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The Comment begins in Part II with a brief overview of the current state of wave energy conversion (WEC) technology, the potential environmental impacts, and the major environmental laws that apply to wave energy projects. Part III explains how the jurisdictional muddle was exacerbated by the Energy Policy Act of 2005's assignment of OCS licensing authority to the Department of the Interior, which ignored FERC's assertion of jurisdiction over these projects out to twelve miles in its 2003 AquaEnergy decision. Part IV compares the current FERC regulatory regime, including FERC's late 2007 introduction of a shortened hydrokinetic pilot project licensing process, with MMS's July 2008 proposed and April 2009 final rule for renewable energy projects on the OCS. Part V explores both federal and state examples of streamlined permitting processes, paying special attention to the Ocean Thermal Energy Conversion Act of 1980 as an example of Congress's ability to craft a workable, one-stop shop for the permitting and licensing of energy projects without sacrificing environmental oversight and concern for other stakeholders such as the commercial fishing industry. The Comment concludes, in Part VI, with a proposal for new federal legislation modeled on these one-stop shop examples, with the goal of providing a clear set of rules that will satisfy all the stakeholders involved by ensuring environmental protection and harmonizing the competing uses of the oceans while allowing successful development of this promising renewable energy source.

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I. INTRODUCTION

With colorful names like AquaBuOY,¹ CETO,² Pelamis,³ Wavebob,⁴ and Wave Dragon,⁵ wave energy conversion (WEC) devices are ready for prime time, and wave energy is generating excitement as one of the most promising of the emerging renewable energy sources.⁶ In development around the world, a plethora of WEC devices battle to prove their technological supremacy. Members of the European Union have caught the wave, and Portugal recently laid claim to the first operational wave energy park that now produces a modest amount of electricity powering a thousand

¹ ROGER BEDARD, ELEC. POWER RESEARCH INST., OVERVIEW OF U.S. OCEAN WAVE AND CURRENT ENERGY: RESOURCE, TECHNOLOGY, ENVIRONMENTAL AND RESOURCE ISSUES AND BARRIERS 10 (2007), available at http://oceanenergy.epri.com/attachments/ocean/reports/EWTEC_Bedard_Sep_11.pdf.

² *Id.*

³ *Id.*

⁴ *Id.*

⁵ *Id.*

⁶ See, e.g., ELEC. POWER RESEARCH INST., PRIMER: POWER FROM OCEAN WAVES AND TIDES 1 (2007), available at <http://www.aidea.org/AEA/PDF%20files/OceanRiverEnergy/6-22-2007EPRIprimer.pdf>.

homes.⁷ In the United States, wave power could add considerably to the U.S. energy supply,⁸ and it “could be among the most environmentally benign electricity-generation technologies yet developed.”⁹ Wave energy, formed by wind currents passing over open water, has advantages over its better known and more developed cousin wind energy, such as the higher energy density of water compared to wind.¹⁰ Most importantly, wave energy is not intermittent like wind, and this greater reliability makes it easier to integrate into the electric transmission grid.¹¹

Yet, however exciting the possibilities for wave energy development may be, the current regulatory framework in the United States creates an unfavorable climate for the commercial development of WEC. Critics describe this framework as “a patchwork of policies”¹² that is “unclear or

⁷ Alok Jha, ‘Wave Snakes’ Switch on to Harness Ocean’s Power, *GUARDIAN*, Sept. 24, 2008, <http://www.guardian.co.uk/environment/2008/sep/24/renewable.wave.energy.portugal> (last visited Nov. 15, 2009). The Pelamis devices are 140 meter long tubes deployed three miles from the coast of the northern Portuguese town of Aguçadoura. *Id.* Unfortunately, the project was pulled from the water in late 2008 due to leaks in the buoyancy tanks that required replacement, and has not resumed operation because the financial crisis caused its principal backer to run out of money for the project. Patrick Blum, *Special Report: Ocean Power Cast Adrift by Financial Storm*, *N.Y. TIMES*, Mar. 16, 2009, <http://query.nytimes.com/gst/fullpage.html?res=9C06E5D6173FF935A25750C0A96F9C8B63> (last visited Nov. 15, 2009).

⁸ ELEC. POWER RESEARCH INST., *supra* note 6, at 3. The Electric Power Research Institute (EPRI) has estimated:

[T]he U.S. wave energy [potential] resource [is] . . . about 2,100 [terawatt hours per year (TWh/yr)]. Assuming an extraction of 15% wave-to-mechanical energy (which is limited by device spacing, device absorption, and sea space constraints), typical power train efficiencies of 90% and a plant availability of 90%, the electricity produced is about 260 TWh/yr, or equal to an average power of 30,000 [megawatts (MW)] (or a rated capacity of about 90,000 MW). This amount is approximately equal to the total 2004 energy generation from conventional hydro power (which is about 6.5% of the total 2004 U.S. electricity supply).

Id. A terawatt equals a trillion watts. Lakshman D. Guruswamy, *A New Framework: Post-Kyoto Energy and Environmental Security*, 16 *COLO. J. INT’L ENVTL. L. & POL’Y* 333, 334 (2005).

⁹ ELEC. POWER RESEARCH INST., *supra* note 6, at 1.

¹⁰ NW. POWER & CONSERVATION COUNCIL, DEVELOPMENT OF A WAVE ENERGY INDUSTRY: STATE OF OREGON PROGRESS (2006), *available at* <http://www.nwcouncil.org/news/2006/12/3.pdf>. “[T]he density of water is about 832 times that of air . . . enabling [wave energy] devices to extract more power from a smaller volume at consequent lower costs and reduced visual impact.” Annette von Jouanne & Ted Brekken, *Exploring Ocean Wave Energy*, *RURAL CONNECTIONS*, Nov. 2008, at 18, 18, *available at* http://wrdc.usu.edu/files/uploads/Newsletter/RC_nov08/RC1108_web.pdf.

¹¹ Lee Sherman, *Sea Power*, *TERRA*, Spring 2006, at 2, 5, *available at* <http://oregonstate.edu/terra/2006spring/includes/2006spring.pdf>; *see also* Comments from Rob Bovett, Assistant County Counsel, Lincoln County, Or., to Fed. Energy Regulatory Comm’n 1 (Nov. 1, 2007), *available at* <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11494052> (regarding Notice and Supplemental Notice of Technical Conference and Soliciting Comments for Hydrokinetic Pilot Project Workshop under Docket No. AD07-14-000).

¹² THOMAS C. JENSEN, OFFSHORE RENEWABLE ENERGY DEVELOPMENT AFTER THE ENERGY POLICY ACT OF 2005, at 2 (2007), *available at* http://www.sonnenschein.com/docs/docs_enviro/ABA_OCS_Paper.pdf.

unfavorable”¹³ and “destined for conflict,”¹⁴ largely because of the unanswered question of which federal agency has primary authority over wave energy projects located beyond state territorial waters (from three to nine nautical miles¹⁵ from shore) on the outer continental shelf (OCS). However, after more than three years of interagency squabbling in which both the Federal Energy Regulatory Commission (FERC) and the Department of the Interior’s Minerals Management Service (MMS) claimed this jurisdictional authority, the two agencies reached an agreement in 2009 that is an important first step toward regulatory certainty for WEC developers.¹⁶

By way of a “murky but landmark decision”¹⁷ in 2003, FERC proclaimed its authority to license offshore hydrokinetic¹⁸ projects in all territorial waters of the United States out to twelve nautical miles from shore.¹⁹ According to FERC, the Federal Power Act (FPA)²⁰ and a Presidential Proclamation²¹ issued in 1988 by President Reagan that extended the territorial sea to twelve nautical miles from the coastal baseline²² give FERC permitting and licensing authority over these projects.²³ As for projects located in state waters out to three nautical miles (or nine for the gulf coasts of Texas and Florida), FERC’s preemptive authority over the states

¹³ THERESE HAMPTON, PORTLAND STATE UNIV., OREGON COAST WAVE ENERGY STATEWIDE POLICY AND PLANNING ASSESSMENT 7 (2008).

¹⁴ H.J. Mem’l 22, 74th Leg. Assem., Reg. Sess. (Or. 2007).

¹⁵ A nautical mile is 1.15 standard miles. Nat’l Oceanic & Atmospheric Admin., U.S. Dep’t of Commerce, How Are Currents Measured?, <http://oceanservice.noaa.gov/education/kits/currents/07measure2.html> (last visited Nov. 15, 2009).

¹⁶ See *infra* note 46 and accompanying text.

¹⁷ ENERGETICS ET AL., WAVE POWER IN THE US: PERMITTING AND JURISDICTIONAL ISSUES 7 (2004), available at http://www.energetics.com/pdfs/renewables/wave_power.pdf.

¹⁸ “Hydrokinetic” projects, according to FERC, are those that generate electricity from waves, tides, or river currents. Fed. Energy Regulatory Comm’n, Hydropower—Hydrokinetic Projects, <http://www.ferc.gov/industries/hydropower/indus-act/hydrokinetics.asp> (last visited Nov. 15, 2009). In the Energy Independence and Security Act of 2007, Congress defined “marine and hydrokinetic renewable energy” to include “electrical energy from . . . waves, tides, and currents in oceans, estuaries, and tidal areas.” Pub. L. No. 110-140, § 632, 121 Stat. 1492, 1686 (to be codified at 42 U.S.C. § 17211).

¹⁹ AquaEnergy Group, Ltd., 102 F.E.R.C. ¶ 61,242, at 61,735 (2003) (denying rehearing on issue of whether AquaEnergy must apply for a license).

²⁰ 16 U.S.C. §§ 796(8) (2006) (defining “navigable waters”); *id.* § 796(11) (defining “project”); *id.* § 817(1) (describing the licensing requirements for nonfederal hydroelectric projects).

²¹ Proclamation No. 5928, 3 C.F.R. § 547 (1989), reprinted in 43 U.S.C. § 1331 (1994).

²² “[B]ased on federal court decisions,” the U.S. coastal baseline is defined as “the mean lower low water line along the coast, as shown on official U.S. nautical charts.” U.S. COMM’N ON OCEAN POLICY, AN OCEAN BLUEPRINT FOR THE 21ST CENTURY 70 (2004), available at http://oceancommission.gov/documents/full_color_rpt/000_ocean_full_report.pdf.

²³ AquaEnergy Group, Ltd., 102 F.E.R.C. at 61,735.

regarding the licensing of hydroelectric projects located on navigable waters under the FPA²⁴ has not been seriously challenged.

Critics note that FERC “has limited expertise with the multi-jurisdictional world of coastal waters”²⁵ and “is not an agency with a broad ocean management mission.”²⁶ Yet FERC’s strength is its energy expertise, and it has shown a willingness to think outside the conventional hydropower box by implementing a hydrokinetic pilot project licensing process²⁷ intended to make it easier to launch small test projects of under five megawatts that may actually connect to the power grid.²⁸ However, the pilot program is not without its critics. For example, several organizations complained that FERC was circumventing section 553 of the Administrative Procedure Act²⁹ by choosing not to conduct a rulemaking to determine basic license conditions.³⁰ The pilot program also raises questions about how to ensure environmental oversight and balance offshore energy development with competing ocean uses such as commercial fishing.³¹ Moreover, coastal states may be better suited to handle siting and licensing decisions in state waters than a federal agency with little knowledge of local conditions.³²

While FERC was taking steps to encourage wave energy development, MMS methodically proceeded to develop rules and procedures for its

²⁴ 16 U.S.C. § 817(1) (2006). In the *AquaEnergy* decision, FERC determined that a wave energy device did fall within the definition of what constitutes a hydroelectric project. *AquaEnergy Group, Ltd.*, 102 F.E.R.C. at 61,736.

²⁵ Comments from Kate Wing, Senior Ocean Policy Analyst, Natural Res. Def. Council, to Joseph T. Kelliher, Chairman, Fed. Energy Regulatory Comm’n (Oct. 1, 2007), *available at* <http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=11483547> (regarding Hydrokinetic Pilot Project licensing process under Docket No. AD07-14-000).

²⁶ U.S. COMM’N ON OCEAN POLICY, *supra* note 22, at 367. While beyond the scope of this Comment, the Commission’s report highlights that, as numerous commentators advocate, the United States needs a comprehensive ocean management plan that takes into account and coordinates competing ocean uses, including ocean energy development. *Id.* A bill introduced in the U.S. House of Representatives on January 9, 2009 has the ambitious goal of “establish[ing] a national policy for our oceans, . . . strengthen[ing] the National Oceanic and Atmospheric Administration, . . . establish[ing] a national and regional ocean governance structure, and [accomplishing] other purposes.” H.R. 21, 111th Cong. (2009). However, the bill, at least in its initial stage, does not contain any provisions specific to ocean energy development. *See id.*

²⁷ Fed. Energy Regulatory Comm’n, Hydrokinetic Pilot Project Licensing Process, <http://www.ferc.gov/industries/hydropower/indus-act/hydrokinetics/energy-pilot.asp> (last visited Nov. 15, 2009).

²⁸ *See* FED. ENERGY REGULATORY COMM’N, LICENSING HYDROKINETIC PILOT PROJECTS 13 (2008), *available at* http://www.ferc.gov/industries/hydropower/indus-act/hydrokinetics/pdf/white_paper.pdf [hereinafter LICENSING PILOT PROJECTS]; *see also* 18 C.F.R. § 4.61 (2009).

²⁹ 5 U.S.C. § 553 (2006).

³⁰ *E.g.*, Comments from D.O. McIsaac, Ph.D., Executive Dir., Pac. Fishery Mgmt. Council, to Kimberly D. Bose, Sec’y, Fed. Energy Regulatory Energy Comm’n 3 (Nov. 1, 2007), *available at* <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11493952> (regarding Hydrokinetic Pilot Project Licensing Process proposal under Docket No. AD07-14-000).

³¹ *Id.*

³² *E.g.*, Comments from Rob Bovett to Fed. Energy Regulatory Comm’n, *supra* note 11, at 4.

offshore alternative energy program that were necessitated by the enactment of section 388 of the Energy Policy Act of 2005 (EPAAct).³³ The EPAAct gave the Secretary of the Interior authority to grant leases, easements, or rights-of-way for activities on the OCS that produce energy from sources other than oil and gas.³⁴ The Secretary delegated this authority to MMS, which thus claims jurisdiction over all alternative energy projects, including wave energy, sited on the OCS.³⁵ However, section 388 contains a savings clause limiting this authority to activities not subject to other applicable federal law,³⁶ an argument FERC uses to support its claimed authority out to twelve nautical miles from shore.³⁷ MMS disputes FERC's expansive reading of the FPA and the Presidential Proclamation, arguing that FERC does not have jurisdiction over projects located beyond the traditional three mile boundary of the U.S. territorial sea.³⁸ Some see MMS as a "welcoming landlord" for wave energy projects because of its pro-development history and expect its program to reflect industry recommendations.³⁹ The agency issued its long-awaited notice of proposed rulemaking in July 2008, in which MMS laid out its program for alternative energy leasing on the OCS in detail, while incidentally acknowledging the dispute with FERC and reasserting its jurisdiction.⁴⁰ While FERC and MMS previously discussed a memorandum of understanding (MOU) regarding these competing jurisdictional claims, and numerous commentators had urged an accord,⁴¹ there seemed to be no resolution in sight.⁴² However, in the spring of 2009, FERC and MMS, facing pressure from the new administration,⁴³ agreed to end their dispute, resurrecting the MOU.⁴⁴ Shortly

³³ 43 U.S.C. § 1337(p)(8) (2006).

³⁴ *Id.* § 1337(p)(1)(C).

³⁵ *Id.* § 1337(p)(1).

³⁶ *Id.* § 1337(p)(9).

³⁷ Protest of the U.S. Minerals Mgmt. Serv. at 6, 7, AquaEnergy Group, Ltd., 119 F.E.R.C. ¶ 62,073 (2007) (No. P-12572-000), *available at* <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11239967> [hereinafter AquaEnergy MMS Protest]; *see also* Pac. Gas & Elec. Co., 125 F.E.R.C. ¶ 61,045, at 61,163–64 (2008) (order on rehearing) (providing an example of FERC's argument that the agency has jurisdiction over wave energy projects on the OCS under section 388).

³⁸ AquaEnergy MMS Protest, *supra* note 37, at 5.

³⁹ JENSEN, *supra* note 12, at 12.

⁴⁰ *See* Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 73 Fed. Reg. 39,376 (proposed July 9, 2008) (to be codified at 30 C.F.R. pts. 250, 285, 290); *id.* at 39,443 (discussing the conflict between FERC and MMS).

⁴¹ Noelle Straub, *Interior, FERC End Feud on Offshore Renewable Projects*, N.Y. TIMES, Mar. 17, 2009, <http://www.nytimes.com/gwire/2009/03/17/17greenwire-agencies-end-feud-on-offshore-projects-10153.html> (last visited Nov. 15, 2009).

⁴² Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 73 Fed. Reg. at 39,443.

⁴³ *See generally* Straub, *supra* note 41 (describing hurried process of reconciliation and lawmaker concern over delay).

⁴⁴ *Id.*; *see also infra* Part IV.D (explaining each agency's capabilities with respect to ocean-related energy projects and their decision to cooperate).

thereafter, MMS issued its final rule⁴⁵ in April 2009, followed by the August 2009 joint issuance by FERC and MMS of a guidance document providing additional details about how the agencies plan to work together.⁴⁶

Compounding the uncertainty engendered by the long-standing jurisdictional standoff, a would-be wave energy developer must also navigate through a dizzying array of other federal and state laws that may apply to wave energy projects, such as the Coastal Zone Management Act (CZMA).⁴⁷ This adds further confusion to the regulatory process, erecting additional barriers to project development that could involve huge investments of time and money and further dampens the willingness of investors to move forward.⁴⁸

This Comment examines the recent regulatory disarray and concludes that, despite the apparent FERC-MMS solution to the jurisdictional division over wave energy projects, federal ocean wave energy conversion legislation is still needed to create a regulatory framework with clear standards and procedures. Moreover, the better jurisdictional solution would be legislation that explicitly removes FERC from any licensing authority for wave energy projects located on the OCS and designates coastal states as the licensing authorities for wave energy projects sited in state waters. Such legislation should also reconfirm MMS as the “one-stop” lead agency for the permitting and licensing of all wave energy projects within the OCS and require the agency to refine its final rule with provisions specific to the unique aspects of this renewable energy source. Certain features of the Ocean Thermal Energy Conversion Act of 1980 (OTEC Act),⁴⁹ in which Congress established a comprehensive licensing scheme for proposed ocean thermal energy conversion (OTEC) facilities administered by a single lead agency,⁵⁰ can serve as a model of how to create such a streamlined permitting process. In addition, streamlined permitting processes on the state level, such as Washington state’s one-stop Joint Aquatic Resource Permit Application (JARPA)⁵¹ process for environmental permitting and the similar permitting process for power plant licensing created by the California Energy

⁴⁵ Renewable Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 74 Fed. Reg. 19,638 (Apr. 29, 2009) (codified at 30 C.F.R. pts. 250, 285, 290).

⁴⁶ MINERALS MGMT. SERV. & FED. ENERGY REGULATORY COMM’N, MMS/FERC GUIDANCE DOCUMENT ON REGULATION OF HYDROKINETIC PROJECTS ON THE OCS 3 (2009), *available at* <http://www.ferc.gov/industries/hydropower/indus-act/hydrokinetics/pdf/mms080309.pdf> [hereinafter GUIDANCE DOCUMENT].

⁴⁷ Coastal Zone Management Act of 1972, 16 U.S.C. §§ 1451–1464 (2006). The CZMA requires that federal activities be consistent with the policies of a state’s federally approved coastal management program. *Id.* § 1456(c)(1)(A). Thus, in addition to any other permitting requirements, wave energy projects must be consistent with a state’s coastal zone plan.

⁴⁸ *See* *ENERGETICS ET AL.*, *supra* note 17, at 18–19.

⁴⁹ 42 U.S.C. §§ 9101–9168 (2006).

⁵⁰ *See id.* § 9101.

⁵¹ Wash. State Governor’s Office of Regulatory Assistance, Introduction to the JARPA, http://www.epermitting.wa.gov/site/alias_resourcecenter/jarpa_introduction/10042/introduction.aspx (last visited Nov. 15, 2009).

Commission,⁵² provide creative examples of interagency cooperation Congress could mandate for wave energy projects.

Part II of this Comment provides a brief overview of the current state of WEC technology, the potential environmental impacts, and the major environmental laws that apply to wave energy projects. Part III explains how the jurisdictional muddle was exacerbated by the EAct's assignment of OCS licensing authority to the Department of the Interior while ignoring FERC's assertion of jurisdiction over these projects out to twelve miles in its 2003 *AquaEnergy Group, Ltd.*⁵³ decision. Part IV compares the current FERC regulatory regime, including FERC's late 2007 introduction of a shortened hydrokinetic pilot project licensing process, with MMS's July 2008 proposed and April 2009 final rule for renewable energy projects on the OCS. Part V explores both federal and state examples of streamlined permitting processes, paying special attention to the OTEC Act as an example of Congress's ability to craft a workable one-stop shop for the permitting and licensing of energy projects without sacrificing environmental oversight and concern for other stakeholders such as the commercial fishing industry. The Comment concludes, in Part VI, with a proposal for new federal legislation modeled on these one-stop shop examples, with the goal of providing a clear set of rules that will satisfy all the stakeholders involved by ensuring environmental protection and harmonizing the competing uses of the oceans while allowing successful development of this promising renewable energy source.

II. WAVE ENERGY CONVERSION: TECHNOLOGICAL AND ENVIRONMENTAL CONSIDERATIONS

What could be better than environmentally friendly power from an unlimited source? Such is the promise of ocean wave energy, which can potentially provide clean and renewable power in many parts of the world.⁵⁴ Many experts believe that ocean wave energy technology today is where wind energy was twenty years ago.⁵⁵

Waves are a concentrated form of solar energy.⁵⁶ Wind currents passing over open water create the energy from ocean waves.⁵⁷ Backers of wave

⁵² Cal. Energy Comm'n, Energy Facilities Siting/Licensing Process, <http://www.energy.ca.gov/sitingcases/index.html> (last visited Nov. 15, 2009).

⁵³ 102 F.E.R.C. ¶ 61,242 (2003).

⁵⁴ NAT'L OCEANIC & ATMOSPHERIC ADMIN., U.S. DEP'T OF COMMERCE, ECOLOGICAL EFFECTS OF WAVE ENERGY DEVELOPMENT: A SCIENTIFIC WORKSHOP, OCTOBER 11–12, 2007, at 1 (George W. Boehlert et al. eds., 2007), *available at* <http://spo.nwr.noaa.gov/tm/Wave%20Energy%20NOAATM92%20for%20web.pdf> [hereinafter ECOLOGICAL EFFECTS].

⁵⁵ *See, e.g.*, Nat'l Oceanic & Atmospheric Admin., U.S. Dep't of Commerce, Wave Power: Looking to the Ocean for Electricity in Oregon, http://celebrating200years.noaa.gov/magazine/wave_energy/welcome.html (last visited Nov. 15, 2009) (follow "Printable Version" hyperlink) (quoting Bob Malouf, Director of the Oregon Sea Grant).

⁵⁶ ROGER BEDARD, ELEC. POWER RESEARCH INST., OVERVIEW: EPRI OCEAN ENERGY PROGRAM 8 (2006), *available at* http://oceanenergy.epri.com/attachments/ocean/briefing/Duke_Sep_14.pdf.

energy point to many factors favoring development, such as the likelihood of benign environmental effects.⁵⁸ Aesthetically, WEC devices have much less visual impact than the wind turbines also planned for offshore deployment.⁵⁹ Perhaps most important, because of wave energy's inherent reliability and predictability, it is characterized as a "base load power resource," meaning that, unlike the intermittent nature of wind or solar power, there is no need for backup fossil fuel power plants.⁶⁰ According to one study by the Electric Power Research Institute, wave power could likely produce ten percent of U.S. energy demand by 2010.⁶¹ An even more compelling reason for developing wave energy lies in the proximity of this resource to population centers: "[A]pproximately fifty percent of the U.S. population lives within fifty miles of the U.S. coastline."⁶² Some of the best areas for wave energy utilization in the United States are off the coasts of Hawaii, Alaska, California, Oregon, and Washington.⁶³

A. Types of WEC Devices in Development

While the United States does not yet have a single operational wave energy project (although FERC has granted a license for the Makah Bay Pilot Project located off the coast of Washington), Europe has moved aggressively to promote WEC development,⁶⁴ and Portugal now produces a modest amount of its electricity from a wave farm, proving that the technology is feasible.⁶⁵ In fact, roughly one hundred small companies located around the world are working on developing WEC devices.⁶⁶ The

⁵⁷ MINERALS MGMT. SERV., U.S. DEP'T OF THE INTERIOR, TECHNOLOGY WHITE PAPER ON WAVE ENERGY POTENTIAL ON THE U.S. OUTER CONTINENTAL SHELF 2 (2006), available at http://ocsenergy.anl.gov/documents/docs/OCS_EIS_WhitePaper_Wave.pdf.

⁵⁸ See Nat'l Oceanic & Atmospheric Admin., *supra* note 55 (quoting Roger Bedard, Electric Power Institute, Inc.); see also MINERALS MGMT. SERV., *supra* note 57, at 9.

⁵⁹ Compare MINERALS MGMT. SERV., *supra* note 57, at 8 ("[O]ffshore device markings would only be seen from shore on exceptionally clear days."), with Paul Courson, *Wind Farm to Be Built Off Delaware Shore*, CNN.COM, July 15, 2008, <http://edition.cnn.com/2008/TECH/06/23/wind.turbines/index.html> (last visited Nov. 15, 2009) (describing wind turbines sitting 250 feet above the waterline).

⁶⁰ See Carnegie Corp., Wave Energy as a Base Load Power Resource, <http://www.carnegiecorp.com.au/index.php?url=/ceto/base-load-wave-power> (last visited Nov. 15, 2009).

⁶¹ ECOLOGICAL EFFECTS, *supra* note 54, at 5.

⁶² *Developing Untapped Potential: Geothermal and Ocean Power Technologies: Hearing Before the Subcomm. on Energy and Environment of the H. Comm. on Science and Technology*, 110th Cong. 41 (May 17, 2007) [hereinafter *House Hearing I*] (statement of Annette von Jouanne, Professor of Power Electronics and Energy Systems, Oregon State University).

⁶³ Nat'l Oceanic & Atmospheric Admin., *supra* note 55.

⁶⁴ See Finavera Renewables Ocean Energy, Ltd., 121 F.E.R.C. ¶ 61,288 (2007) (order issuing conditioned original license); *House Hearing I*, *supra* note 62, at 40 (referencing heavy British investment in research and development).

⁶⁵ Jha, *supra* note 7.

⁶⁶ Kate Galbraith, *Power from Sea Stirs the Imagination*, N.Y. TIMES, Sept. 23, 2008, at C3.

devices may be deployed at the shoreline, near shore (out to twenty-five miles), or offshore (greater than twenty-five miles from shore), and can be either bottom mounted or floating.⁶⁷ Moreover, at present, a wide variety of devices are in the research and development stage. While it is too early to tell which technologies will prove most effective, the most promising techniques fall within four major types of WEC devices: attenuators, point absorbers, terminator-oscillating water columns, and overtopping devices.⁶⁸ Regardless of the particular WEC technology employed, the devices “operate by means of changes in the height of ocean waves”⁶⁹ to “[convert] wave energy into a controlled mechanical force which drives an electrical generator.”⁷⁰ The electricity then flows from the generator through flexible cables on the seafloor to a power substation onshore that connects to the electric grid.⁷¹ Eventually, an array of WEC devices forming a “wave farm” could produce renewable electricity to the grid on a commercial scale.⁷²

⁶⁷ ECOLOGICAL EFFECTS, *supra* note 54, at 12, 165.

⁶⁸ See generally CENTRE FOR RENEWABLE ENERGY SOURCES, OCEAN ENERGY CONVERSION IN EUROPE: RECENT ADVANCEMENTS AND PROSPECTS 19 (2006), available at http://www.wave-energy.net/index_files/documents/CA-OEBROCHURE.pdf. The prime example of an attenuator device is Pelamis, the most technologically mature WEC device that recently began producing power off the coast of Portugal. MINERALS MGMT. SERV., *supra* note 57, at 4. A “long multisegment floating [structure],” an attenuator is oriented parallel to the incoming wave, *id.*, instead of perpendicular as with a point absorber, *see id.* at 5. The differing wave heights cause the segments to flex, powering attached hydraulic pumps to produce electricity. *Id.* at 4. Examples of point absorbers include the PowerBuoy and the AquaBuOY, the WEC device likely to power the Makah Bay project that FERC recently licensed. See Ocean Power Techs., Technology, <http://www.oceanpowertechnologies.com/tech.htm> (last visited Nov. 15, 2009); Finavera Renewables, Wave Tech: Advantages, <http://www.finavera.com/en/wavetech/advantages> (last visited Nov. 15, 2009). A point absorber uses the rise and fall of the waves, may either be bottom mounted or floating, and absorbs energy in all directions. See MINERALS MGMT. SERV., *supra* note 57, at 5–6. The AquaBuOY device, four of which will be deployed in Makah Bay, uses “the wave energy to pressurize a fluid that is then used to drive a turbine generator.” *Id.* at 6. A terminator device, such as the oscillating water column, uses a column of air above a column of water combined with wave action to move the captured water “up and down like a piston to force the air through an opening connected to a turbine.” *Id.* at 3. A project in Australia consists of two prototype oscillating water column devices. Oceanlinx, Operations, <http://www.oceanlinx.com/index.php/current-projects> (last visited Nov. 15, 2009). Finally, overtopping devices, such as Wave Dragon, have a reservoir filled “by impinging waves to levels above the average surrounding ocean.” MINERALS MGMT. SERV., *supra* note 57, at 7. The water in the reservoir is released, powering turbines. *Id.* In development are “Direct Drive” WEC devices. BEDARD, *supra* note 56, at 62. Down the line, there may be hybrid devices that combine wave and wind technologies. The advantage would be a lower cost of electricity than either system alone. *Id.* at 42.

⁶⁹ U.S. DEP’T OF ENERGY, REPORT TO CONGRESS: POTENTIAL ENVIRONMENTAL EFFECTS OF MARINE AND HYDROKINETIC ENERGY TECHNOLOGIES 4 (2008).

⁷⁰ ENERGETICS ET AL., *supra* note 17, at 12.

⁷¹ S.W. RDA, Wave Hub Questions and Answers, <http://www.southwestrda.org.uk/what-we-do/projects/renewable-energy/wave-hub/qa.shtml#6> (last visited Nov. 15, 2009).

⁷² ECOLOGICAL EFFECTS, *supra* note 54, at 17.

Regardless of the type of WEC used, the biggest challenge is whether any of these devices can survive the hostile marine environment.⁷³ For example, after only seven weeks in the water, one of the first experimental WEC devices, Finavera Renewables' AquaBuOY, sank.⁷⁴ However, the company claimed that the deployment was successful and the data collected would contribute to further technological improvements.⁷⁵ Additional challenges include "identifying suitable sites for deployment and matching a proper technology to such sites," along with securing a connection to the power grid.⁷⁶

B. Potential Environmental Effects

One thing is certain: "[T]he generation of electricity by hydrokinetic devices does not produce harmful air emissions, like the greenhouse gases linked to global warming."⁷⁷ However, while touted as having limited environmental effects, the potential impacts from WEC devices are largely unknown because most WEC technologies remain at the conceptual stage awaiting deployment.⁷⁸

MMS completed an alternative energy programmatic environmental impact statement (PEIS) in October 2007.⁷⁹ The study analyzed the potential environmental effects of offshore wave technologies.⁸⁰ As MMS points out, the technologies are still evolving, and it is too soon to predict which will prove the most commercially viable.⁸¹ Proper siting and design of WEC facilities and their associated submarine power cables is the key to mitigating possible adverse effects.⁸² In accord with the PEIS, the Department of Energy recently released a public review draft of its report to Congress on the potential environmental effects of ocean energy technologies that made similar observations.⁸³

⁷³ See Union of Concerned Scientists, How Hydrokinetic Energy Works, http://www.ucsusa.org/clean_energy/technology_and_impacts/energy_technologies/how-hydro-kinetic-energy-works.html (last visited Nov. 15, 2009) (describing how a lack of field tests makes potential investors hesitant).

⁷⁴ Terry Dillman, *Wave Energy Aquabuooy Sinks After 'Successful' Test*, NEWS TIMES (Newport, Or.), Nov. 2, 2007, at A1.

⁷⁵ See *id.*

⁷⁶ Asfaw Beyene & James H. Wilson, *Challenges and Issues of Wave Energy Conversion*, SEA TECH., June 9, 2008, at 43, 43.

⁷⁷ Union of Concerned Scientists, *supra* note 73.

⁷⁸ U.S. DEP'T OF ENERGY, *supra* note 69, at iii.

⁷⁹ MINERALS MGMT. SERV., U.S. DEP'T OF THE INTERIOR, PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT FOR ALTERNATIVE ENERGY DEVELOPMENT AND PRODUCTION AND ALTERNATE USE OF FACILITIES ON THE OUTER CONTINENTAL SHELF, at ES-1 (2007), *available at* http://ocsenergy.anl.gov/documents/fpeis/Alt_Energy_FPEIS_ExecutiveSummary.pdf.

⁸⁰ *Id.* at ES-2.

⁸¹ *Id.* at ES-8.

⁸² *Id.* at ES-10.

⁸³ U.S. DEP'T OF ENERGY, *supra* note 69.

Keeping in mind that “[m]ost considerations of the environmental impacts have been in the form of predictive studies and environmental assessments that have not yet been verified,”⁸⁴ the potential adverse impacts include 1) reduction in wave height, 2) alteration of marine habitats due to installation and operation of facilities, 3) noise, 4) electromagnetic fields, 5) toxic releases, and 6) conflict with other ocean users.⁸⁵

Although floating WEC devices will alter wave heights, significant reductions are unlikely, in part because of the lower profile of these devices, “especially [when] compared to wind turbines.”⁸⁶ For example, a study modeling the wave climate near a planned European WEC installation predicted wave height reductions of from one to three percent.⁸⁷ However, although it will vary from site to site, wave reduction could “alter sediment transport and the wave climate of nearby shorelines.”⁸⁸

Installation and operation of new energy projects in the ocean will alter marine habitats, potentially affecting a wide range of marine organisms, from bottom-dwelling animals to marine mammals to sea birds.⁸⁹ New WEC structures anchored to the seabed or floating and attached to the sea bottom by mooring lines may “affect the movements and migrations of aquatic organisms.”⁹⁰ A full-scale WEC facility with one hundred devices, for example, could have several hundred mooring lines, creating fish attraction devices and artificial reefs, along with a “threat of collision or entanglement” with some organisms.⁹¹ There may also be positive effects on marine habitats by the installation of WEC devices. For example, because anchoring systems and mooring lines will exclude some types of fishing, WEC farms could serve as marine protected areas.⁹²

The impact of noise during installation and operation of a WEC project is another possible effect because of the central importance of sound in the lives of marine animals.⁹³ Noise may interfere with animals’ own sounds of communication or drive them from the area.⁹⁴ However, the myriad of other sounds, both natural and human made, in the aquatic environment provides context for evaluating the potential noise generated by WEC projects.

Another consequence of using underwater cables to transmit electricity between devices in an array, the array, and shore is the emission of

⁸⁴ *Id.* at iii.

⁸⁵ MINERALS MGMT. SERV., *supra* note 57, at 8–9; U.S. DEP’T OF ENERGY, *supra* note 69, at v–vi tbl.ES-1.

⁸⁶ U.S. DEP’T OF ENERGY, *supra* note 69, at 12.

⁸⁷ *Id.*

⁸⁸ *Id.* at 14.

⁸⁹ *See id.* at 10.

⁹⁰ *Id.* at 26.

⁹¹ *Id.*

⁹² *Id.* at 28.

⁹³ *Id.* at 18.

⁹⁴ *Id.*

electromagnetic fields in the water.⁹⁵ While detailed knowledge about the effects of electromagnetic fields on the aquatic environment is lacking, possible effects include alteration of feeding behavior or animal migration.⁹⁶

Chemicals, such as hydraulic fluids from generating devices, released either routinely or accidentally from WEC installations could be toxic to aquatic organisms.⁹⁷ The likelihood of accidental releases may be low, but the potential impact could be high.⁹⁸ Of greater concern are low concentrations of dissolved metals or organic compounds released over a long period that may have “sublethal effects on sensory systems, growth, and behavior of animals, or may be bioaccumulated.”⁹⁹

Concerns have also arisen regarding how wave farms may conflict with other ocean uses such as commercial shipping, fishing, and recreational boaters.¹⁰⁰ The impacts may also be positive for fisheries if the devices create additional biological habitats.¹⁰¹ Again, as with potential effects on living organisms, the key mitigation measure is involving all stakeholders in choosing the most appropriate sites for projects.

In sum, until more projects are in the water, the necessary baseline data will not be available, which underscores the importance of government-funded research to aid in compiling enough data to accurately evaluate environmental impacts from WEC devices. The United States undertook one such environmental study that specifically evaluated the effects of a wave energy device on its surrounding environment. This environmental assessment, conducted in 2003 by the United States Navy, at the site of an experimental project in Hawaii, found that of ten potentially affected resources, “[n]one . . . were found to be significantly impacted by the proposed installation and operational testing.”¹⁰² However, there is a need for much more research.

C. Dominant Environmental Laws that Apply to WEC Devices

Any wave energy project sited in state or federal waters must comply with numerous environmental laws as part of the licensing and permitting process. Under the National Environmental Policy Act (NEPA),¹⁰³ a proposed

⁹⁵ *Id.* at v tbl.ES-1, 22–23.

⁹⁶ *Id.* at v tbl.ES-1.

⁹⁷ *Id.* at 24.

⁹⁸ *Id.*

⁹⁹ *Id.*

¹⁰⁰ MINERALS MGMT. SERV., *supra* note 57, at 9.

¹⁰¹ *Id.*

¹⁰² *Id.* “The 10 potentially affected resources . . . [were] shoreline physiography, oceanographic conditions, marine biological resources, terrestrial biological resources, land and marine resource use compatibility, cultural resources, infrastructure, recreation, public safety, and visual resources.” *Id.*

¹⁰³ National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321–4370f (2006).

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wave energy project involving federal permitting would be considered a major federal action because of its potential to “significantly [affect] the quality of the human environment.”¹⁰⁴ Thus, the responsible federal agency, such as FERC or MMS, would first prepare an environmental assessment to determine whether an environmental impact statement (EIS) was necessary.¹⁰⁵ The environmental assessment and, if needed, the EIS must consider alternatives to the proposed action and the effects of the action on the long-term health of the environment.¹⁰⁶

Other federal laws implicated in the licensing of a WEC project, depending on where the proposed site is, include the Endangered Species Act,¹⁰⁷ the Marine Mammal Protection Act,¹⁰⁸ and the Migratory Bird Treaty Act.¹⁰⁹ If a chosen site might interfere with a threatened or endangered species protected by one of these acts, consultation with United States Fish and Wildlife Service or National Marine Fisheries Service would be required to determine if the proposed action could jeopardize the species.¹¹⁰ Similarly, a WEC project must not conflict with the fishery management plans established under the Magnuson-Stevens Fishery Conservation and Management Act.¹¹¹

Regardless of whether FERC or MMS is the lead federal agency, coastal states through the operation of the Clean Water Act (CWA)¹¹² and the CZMA also have significant authority over proposed WEC projects.¹¹³ The CZMA requires the prospective licensee to submit a consistency certification finding that the project is consistent with the affected state’s federally approved coastal zone management plan.¹¹⁴ If a project is inconsistent with the state’s plan, it cannot go forward.¹¹⁵ Similarly, under the CWA, a WEC project might be required to obtain a section 401¹¹⁶ water quality certificate from the state in which the project would be located, certifying that the project will comply with applicable water quality standards.¹¹⁷ This requirement only applies within state waters out to three nautical miles from

¹⁰⁴ *Id.* § 4332(2)(c).

¹⁰⁵ *Id.* § 4332; 40 C.F.R. § 1508.9 (2008).

¹⁰⁶ 42 U.S.C. § 4332(2)(c)(iii)–(iv) (2006).

¹⁰⁷ Endangered Species Act of 1973, 16 U.S.C. §§ 1531–1544 (2006).

¹⁰⁸ Marine Mammal Protection Act of 1972, 16 U.S.C. §§ 1361–1421h (2006).

¹⁰⁹ Migratory Bird Treaty Act of 1918, 16 U.S.C. §§ 703–712 (2006). See 50 C.F.R. § 10.13 (2008), for a list of birds covered under the Act.

¹¹⁰ NIC LANE, CONG. RESEARCH SERV., ISSUES AFFECTING TIDAL, WAVE, AND IN-STREAM GENERATION PROJECTS, at CRS-12 (2008), available at https://www.policyarchive.org/bitstream/handle/10207/3144/RL33883_20070220.pdf?sequence=1.

¹¹¹ 16 U.S.C. §§ 1801–1883 (2006); LANE, *supra* note 110, at CRS-16 (“A wave or tidal energy project must not be constructed in conflict with these management plans.”).

¹¹² Federal Water Pollution Control Act, 33 U.S.C. §§ 1251–1387 (2006).

¹¹³ See LANE, *supra* note 110, at CRS-16 to -18.

¹¹⁴ See Coastal Zone Management Act of 1972, 33 U.S.C. § 1456(c)(1)(A).

¹¹⁵ *Id.* § 1456(c)(3)(B).

¹¹⁶ 33 U.S.C. § 1341 (2006).

¹¹⁷ LANE, *supra* note 110, at CRS-9.

shore.¹¹⁸ A project may also require a CWA section 404¹¹⁹ dredge and fill permit. This permit, issued by the United States Army Corps of Engineers, is required if the project discharges any dredged or fill material into waters of the United States.¹²⁰

III. JURISDICTIONAL JUMBLE

A. Location, Location, Location: Overview of the FERC-MMS Jurisdictional Dispute

Imagine a proposed WEC project that straddled the artificial three-mile boundary between state waters and the U.S. outer continental shelf. Optimal sites for placing WEC devices within the four-mile-wide by seventeen-mile-long project happen to be located between 2.9 miles and 3.2 miles from shore.¹²¹ Throughout the period of regulatory uncertainty, in which both FERC and MMS claimed to have jurisdiction over all such hydrokinetic projects sited between three and twelve nautical miles from shore,¹²² both federal agencies would thus have claimed jurisdictional authority over these WEC projects, requiring the developer to follow two sets of regulations for leasing, licensing, and permitting.

To understand the jurisdictional dispute, a brief review of ocean jurisdiction under U.S. law is helpful. The boundary line dividing land from ocean is the baseline, defined in the United States as “the mean lower low water line along the coast, as shown on official U.S. nautical charts.”¹²³ The Submerged Lands Act¹²⁴ established state seaward boundaries in 1953, “giving coastal states jurisdiction over a region extending 3 nautical miles seaward from the baseline, commonly referred to as state waters.”¹²⁵ While all WEC projects located within state waters are therefore subject to state jurisdiction regarding issues of resource management and leasing,¹²⁶ the Submerged Lands Act retains the federal government’s rights “to regulate or improve navigation . . . or the production of power.”¹²⁷

¹¹⁸ *Id.*

¹¹⁹ 33 U.S.C. § 1344 (2006).

¹²⁰ *Id.*

¹²¹ In fact, two recently proposed projects located off the California coast actually do anticipate siting WEC devices in both state and OCS waters. Pac. Gas & Elec. Co., 125 F.E.R.C. ¶ 61,045, at 61,152 (2008) (order on rehearing).

¹²² See AquaEnergy MMS Protest, *supra* note 37, at 7–10; AquaEnergy Group, Ltd., 102 F.E.R.C. ¶ 61,242, at 61,734–35 (2003) (order denying rehearing).

¹²³ U.S. COMM’N ON OCEAN POLICY, *supra* note 22, at 70.

¹²⁴ Submerged Lands Act, 43 U.S.C. §§ 1301–1315 (2006).

¹²⁵ U.S. COMM’N ON OCEAN POLICY, *supra* note 22, at 70 (emphasis omitted). Texas and the Gulf Coast of Florida are exceptions, with state waters extending nine nautical miles offshore. *Id.*

¹²⁶ LANE, *supra* note 110, at CRS-8.

¹²⁷ 43 U.S.C. §§ 1311(d), 1314(a) (2006).

The concept of the territorial sea overlaps with the definition of state waters and, for nearly two hundred years, the area comprising the U.S. territorial sea also was located from the shore out to three miles.¹²⁸ In 1988, however, President Reagan issued a presidential proclamation extending the territorial sea out to twelve nautical miles from the baseline.¹²⁹ Another expanse of ocean, partially overlapping with the territorial sea, is termed the outer continental shelf (OCS), which “[t]ypically . . . is the area between three and 200 nautical miles” out from shore.¹³⁰ As defined by the MMS, the OCS “consists of the submerged lands, subsoil, and seabed, lying between the seaward extent of the States’ jurisdiction and the seaward extent of Federal jurisdiction.”¹³¹ Under the Outer Continental Shelf Lands Act,¹³² enacted by Congress in 1953, the Department of the Interior administers mineral exploration and development of the entire OCS.¹³³

The jurisdictional dispute over potential wave energy projects located beyond three miles from shore stems from the conflicting authority created by FERC’s assertion of jurisdiction in its own 2003 *AquaEnergy* decision¹³⁴ and the authority delegated to MMS by a provision of the EPCA (section 388) that amended the Outer Continental Shelf Lands Act.¹³⁵ While section 388 gives MMS authority over the leasing of any alternative energy project located beyond three miles from shore on the OCS,¹³⁶ FERC claims that its authority under the FPA for hydrokinetic projects begins from the baseline and extends out to twelve nautical miles.¹³⁷

B. FERC’s Jurisdiction over Hydropower Projects

FERC is an independent federal agency that regulates the interstate transmission of electricity, natural gas, and oil, and reviews proposals to build liquefied natural gas terminals and interstate natural gas pipelines.¹³⁸ In addition, pursuant to section 23(b)(1) of the FPA, FERC has responsibility for licensing all nonfederal hydropower projects sited on U.S. navigable

¹²⁸ U.S. COMM’N ON OCEAN POLICY, *supra* note 22, at 72.

¹²⁹ Proclamation No. 5928, 3 C.F.R. § 547 (1989), *reprinted in* 43 U.S.C. § 1331 (1994).

¹³⁰ LANE, *supra* note 110, at CRS-8.

¹³¹ Minerals Mgmt. Serv., What Is the Outer Continental Shelf?, <http://www.gomr.mms.gov/homepg/whoismms/whatsocs.html> (last visited Nov. 15, 2009).

¹³² 43 U.S.C. §§ 1331–1356a (2006).

¹³³ *Id.* § 1334(a).

¹³⁴ *AquaEnergy Group, Ltd.*, 102 F.E.R.C. ¶ 61,242, at 61,734–35 (2003) (order denying rehearing).

¹³⁵ 43 U.S.C. § 1337(p)(1) (2006).

¹³⁶ *Id.* §§ 1301(a), 1337(p)(1).

¹³⁷ *See* Pac. Gas & Elec. Co., 125 F.E.R.C. ¶ 61,045, at 61,158–60 (2008) (discussing FERC’s jurisdiction on the OCS in an order on rehearing); *id.* at 61,159 n.68 (arguing that, because “the FPA authorizes and requires [FERC] to license hydroelectric projects on the OCS,” FERC inherently has jurisdiction over the territorial seas from the baseline out to 12 nautical miles).

¹³⁸ Fed. Energy Regulatory Comm’n, What FERC Does, <http://www.ferc.gov/about/ferc-does.asp> (last visited Nov. 15, 2009).

waters.¹³⁹ Hydropower, or hydroelectric power, “uses the energy of moving water to produce electricity” and accounts for about ten percent of the U.S. electricity supply.¹⁴⁰ To be navigable for purposes of the FPA, “a waterway must form a highway for commerce with other states or with foreign countries, by itself or by connecting with other waters.”¹⁴¹

The FPA establishes “a broad federal role in the development and licensing of hydroelectric power.”¹⁴² FERC regulates “more than 1,600 hydroelectric projects at over 2,000 dams across the nation.”¹⁴³ While FERC must consider state and local concerns, proprietary water rights, and state approvals required by federal law,¹⁴⁴ “states do not have the power to impose license or permit restriction[s] that might effectively give the state a veto power over an FPA project.”¹⁴⁵ FERC’s hydropower licensing is

¹³⁹ Federal Power Act, 16 U.S.C. § 817(1) (2006). The statute provides in relevant part:

It shall be unlawful for any person, State, or municipality, for the purpose of developing electric power, to construct, operate, or maintain any dam, water conduit, reservoir, power house, 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 (including the Territories), or utilize the surplus water or water power from any Government dam, except under and in accordance with the terms of a permit or valid existing right-of-way granted prior to June 10, 1920, or a license granted pursuant to this chapter.

Id. The FPA defines “navigable waters” as

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.

16 U.S.C. § 796(8) (2006).

¹⁴⁰ Fed. Energy Regulatory Comm’n, Student’s Corner: What Is Hydropower?, <http://www.ferc.gov/students/energyweregulate/whatishydro.htm> (last visited Nov. 15, 2009).

¹⁴¹ FPL Energy Me. Hydro LLC v. FERC, 287 F.3d 1151, 1154 (D.C. Cir. 2002) (citing *The Montello*, 87 U.S. (20 Wall.) 430, 439 (1874)).

¹⁴² *California v. FERC*, 495 U.S. 490, 496 (1990).

¹⁴³ ROBERT MELTZ & CLAUDIA COPELAND, CONG. RESEARCH SERV., THE STATE ROLE IN THE FEDERAL LICENSING OF HYDROPOWER DAMS: *S.D. WARREN CO. V. MAINE BOARD OF ENVIRONMENTAL PROTECTION*, at CRS-5 (2006), available at https://www.policyarchive.org/bitstream/handle/10207/4357/RS22429_20060918.pdf?sequence=1.

¹⁴⁴ Cherise M. Oram & Michael P. O’Connell, *The Law of Ocean and Tidal Energy: Siting and Permitting Ocean and Tidal Energy Projects*, in THE LAW OF OCEAN AND TIDAL ENERGY: A GUIDE TO BUSINESS AND LEGAL ISSUES ch. 3, at 1, 2 (2d ed. 2008), available at <http://www.stoel.com/webfiles/TheLawofOcean.pdf>.

¹⁴⁵ Comments from Rob Bovett, Assistant County Counsel, Lincoln County, Or., to Or. Dep’t of State Lands 3 (July 31, 2007), available at <http://www.co.lincoln.or.us/counsel/LCWEPP/20070731-DSL-LincolnCounty-comments.pdf> (regarding Notice of Proposed Rulemaking for Rules Governing Placement of Ocean Energy Conversion Devices Within the Territorial Sea under Draft Oregon Administrative Rules 141-140-0010 through 141-140-0130).

“cumbersome,”¹⁴⁶ “complicated,”¹⁴⁷ and “time consuming and expensive,”¹⁴⁸ “with one default and two optional licensing processes.”¹⁴⁹ This is not surprising, however, since the processes evolved to manage the complex issues associated with conventional hydropower dams.¹⁵⁰ The traditional licensing process may “take more than five years and millions of dollars to complete.”¹⁵¹ Along the way, an applicant must “file a variety of pre-licensing documents and . . . consult with and perform studies requested by various agencies.”¹⁵²

C. Murky Waters: FERC’s Basis for Asserting Jurisdiction over Wave Energy Projects

It turns out that the Olympic Peninsula off the coast of Washington is a great place for harvesting wave energy.¹⁵³ That assessment, made by the AquaEnergy Group in 2002, awakened FERC to the nascent wave energy industry when the company filed a declaration of intention¹⁵⁴ detailing a proposed wave energy pilot project in Washington state’s Makah Bay.¹⁵⁵ The company asserted that its project, consisting of four buoys planned for siting two miles offshore, should not be subject to FERC hydropower licensing. AquaEnergy raised six arguments against FERC’s claim of jurisdiction over the project.¹⁵⁶ First, the project was “not located on a navigable stream of the

¹⁴⁶ Posting of Kate Galbraith to N.Y. Times Green Inc. Blog, Ocean Power Meets Uncle Sam, <http://greeninc.blogs.nytimes.com/2008/09/23/ocean-power-meets-uncle-sam> (Sept. 23, 2008, 13:00) (last visited Nov. 15, 2009).

¹⁴⁷ Oram & O’Connell, *supra* note 144, ch. 3, at 3.

¹⁴⁸ ENERGETICS ET AL., *supra* note 17, at 7.

¹⁴⁹ Oram & O’Connell, *supra* note 144, ch. 3, at 3.

¹⁵⁰ See ENERGETICS ET AL., *supra* note 17, at 7.

¹⁵¹ FINLAY ANDERSON ET AL., A PROGRAMMATIC APPROACH TO WAVE ENERGY PLANNING: OPPORTUNITIES FOR THE OREGON WAVE ENERGY TRUST 2 (2007), *available at* http://www.csc.noaa.gov/cz/2007/Coastal_Zone_07_Proceedings/PDFs/Tuesday_Abstracts/3369.Anderson.pdf.

¹⁵² Oram & O’Connell, *supra* note 144, ch. 3, at 3.

¹⁵³ See Declaration of Intention for the Makah Bay Ocean Wave Energy Pilot Power Plant at 2, AquaEnergy Group, Ltd., 101 F.E.R.C. ¶ 62,009 (2002) (No. DI02-3-000), *available at* <http://elibrary.ferc.gov/idmws/nvcommon/NVViewer.asp?Doc=1012893:0> [hereinafter AquaEnergy Declaration] (“Aqua Energy has completed wave research assessments in key locations in the world and along the U.S. West Coast, and found that the Olympic Peninsula is one of the best locations on the West Coast.”).

¹⁵⁴ “Section 23(b)(1) of the Federal Power Act requires an entity to either file a hydropower license application for a proposed project or file a Declaration of Intention with the Commission to determine if the proposed project requires licensing.” Fed. Energy Regulatory Comm’n, Hydropower—Jurisdiction Determination, <http://www.ferc.gov/industries/hydropower/gen-info/comp-admin/jur-deter.asp> (last visited Nov. 15, 2009).

¹⁵⁵ AquaEnergy Declaration, *supra* note 153, at 3.

¹⁵⁶ The first four arguments were raised in AquaEnergy’s initial 2002 filing. *Id.* at 4. The last two were added in its subsequent request for rehearing. Request for Expedited Rehearing of Order Finding Jurisdiction and Revisions to Project Description at 13–22, AquaEnergy Group, Ltd., 102 F.E.R.C. ¶ 61,242 (2002) (No. DI02-3-001), *available at* <http://elibrary.ferc.gov/>

U.S. or state of Washington” and the sea-based portion of the project was within state waters.¹⁵⁷ Second, the land-based portion of the project would be located on tribal land owned by the Makah Indian Nation.¹⁵⁸ Third, the project would not affect interstate commerce because power production would stay within the local public utility district for use by the tribe.¹⁵⁹ Fourth, the project would “not use surplus water or waterpower from a Government Dam.”¹⁶⁰ Fifth, the project was not a hydroelectric project as defined by the FPA.¹⁶¹ Sixth, after the initial filing, the project had been relocated to an area more than three miles offshore, outside the traditional three mile boundary of the U.S. territorial sea, and thus beyond FERC’s jurisdiction over navigable waters.¹⁶²

FERC did not agree, however. FERC decided to shoehorn wave energy projects into the FPA’s scheme for licensing conventional hydropower projects. First, FERC asserted jurisdiction over the project pursuant to section 23(b)(1) of the FPA, which places licensing authority for most nonfederal hydropower projects located on navigable waters of the United States with FERC.¹⁶³ FERC dismissed the claim that ocean waters did not fall within the FPA’s definition of navigable waters,¹⁶⁴ stressing that the definition encompassed “other bodies of water over which Congress has Commerce Clause jurisdiction” and thus included offshore waters such as the Makah Bay.¹⁶⁵ FERC next asserted that, contrary to AquaEnergy’s claim, some parts of the project, the “‘other works incidental thereto’ . . . including undersea anchors, submarine cables, . . . and the land station,” would occupy federal land, thus requiring licensing under the FPA.¹⁶⁶ In dismissing AquaEnergy’s third argument that the project would not affect interstate commerce,¹⁶⁷ FERC merely noted that since Makah Bay was within Congress’s commerce clause jurisdiction, this “include[d] the use of such waters in ‘foreign commerce.’”¹⁶⁸

AquaEnergy’s fourth and fifth arguments were interrelated; the company tried to convince FERC that WEC devices simply did not fall

idmws/common/OpenNat.asp?fileID=9587652 [hereinafter AquaEnergy Request for Expedited Rehearing] (regarding AquaEnergy’s additional arguments against FERC’s claim of jurisdiction).

¹⁵⁷ AquaEnergy Declaration, *supra* note 153, at 4.

¹⁵⁸ *Id.*

¹⁵⁹ *Id.* at 5.

¹⁶⁰ *Id.* at 4.

¹⁶¹ AquaEnergy Request for Expedited Rehearing, *supra* note 156, at 16.

¹⁶² *Id.* at 22.

¹⁶³ See *supra* note 139 and accompanying text.

¹⁶⁴ AquaEnergy Group, Ltd., 102 F.E.R.C. ¶ 61,242, at 61,734 (2003) (citing 16 U.S.C. § 796(8) (2000) in the order denying rehearing).

¹⁶⁵ *Id.* at 61,735 (emphasis omitted).

¹⁶⁶ *Id.* (emphasis omitted).

¹⁶⁷ *Id.* at 61,734.

¹⁶⁸ *Id.* at 61,735.

within the FPA's definition of what constitutes a hydroelectric "project."¹⁶⁹ The company cited a 1975 case in which the Supreme Court had to decide whether FERC had jurisdiction to license a thermal electric power plant.¹⁷⁰ The Court determined that even though the project "utilized substantial amounts of water 'impounded by a government dam,'" this was not a hydroelectric project as defined by the FPA.¹⁷¹ Thus, the project was not subject to FERC's jurisdiction.¹⁷² Moreover, AquaEnergy offered a detailed comparison highlighting the technical distinctions between traditional hydroelectric projects and WEC devices.¹⁷³ While acknowledging that the proposed project was not a "dam, water conduit, or reservoir,"¹⁷⁴ FERC decided that the AquaBuOYs qualified as "powerhouses" under the FPA.¹⁷⁵

Finally, in its request for rehearing, AquaEnergy made one last argument. The company informed FERC that the project had been relocated farther from shore, thus taking it "beyond the range of navigable waters which are traditionally defined as up through three miles from the coast."¹⁷⁶ However, unlike, for example, the Army Corps of Engineers's regulations,¹⁷⁷ the FPA does not establish an explicit distance from shore limiting the range of "navigable waters."¹⁷⁸ FERC therefore dismissed the argument, pointing out that Presidential Proclamation 5928, which extended U.S. territorial seas

¹⁶⁹ AquaEnergy Request for Expedited Rehearing, *supra* note 156, at 13–18. AquaEnergy pointed out that the FPA defines the term "project" as:

a complete unit of improvement or development, consisting of a power house, all water conduits, all dams and appurtenant works and structures (including navigation structures) which are a part of said unit, and all storage, diverting, or forebay reservoirs directly connected therewith, the primary line or lines transmitting power therefrom to the point of junction with the distribution system or with the interconnected primary transmission system, all miscellaneous structures used and useful in connection with said unit or any part thereof, and all water-rights, rights-of-way, ditches, dams, reservoirs, lands, or interest in lands the use and occupancy of which are necessary or appropriate in the maintenance and operation of such unit.

Id. at 15; Federal Power Act, 16 U.S.C. § 796(11) (2006) (defining "project").

¹⁷⁰ AquaEnergy Request for Expedited Rehearing, *supra* note 156, at 15–17 (discussing *Chemehuevi Tribe of Indians v. Fed. Power Comm'n*, 420 U.S. 395 (1975)).

¹⁷¹ *Id.* at 17.

¹⁷² *Id.*

¹⁷³ *Id.* at 5–6.

¹⁷⁴ AquaEnergy Group, Ltd., 102 F.E.R.C. ¶ 61,242, at 61,736 (2003) (order denying rehearing).

¹⁷⁵ *Id.* FERC concluded that AquaEnergy's proposed WEC buoys were "structures containing equipment for the generation of electrical power" and therefore qualified as "powerhouses for purposes of Section 23(b)(1)." *Id.*

¹⁷⁶ AquaEnergy Request for Expedited Rehearing, *supra* note 156, at 6, 22.

¹⁷⁷ 33 C.F.R. § 329.12(a) (2008). "The navigable waters of the United States over which Corps of Engineers regulatory jurisdiction extends include all ocean and coastal waters within a zone three geographic (nautical) miles seaward from the baseline (The Territorial Seas)." *Id.*

¹⁷⁸ Federal Power Act, 16 U.S.C. § 796(8) (2006).

out to twelve nautical miles from the baseline,¹⁷⁹ likewise extended FERC's FPA jurisdiction over navigable waters into the OCS.¹⁸⁰

After FERC denied AquaEnergy's rehearing request in early 2003, the company chose not to challenge the decision in federal court.¹⁸¹ Thereafter, the next detailed challenge to FERC's jurisdictional extension did not come until early 2007. In response to new applications filed with FERC for preliminary permits for two different wave energy projects, MMS filed virtually identical protests,¹⁸² because the plan was to site both projects at least partially on the OCS.¹⁸³ While conceding FERC jurisdiction under the FPA might include projects within the "traditional three mile boundary of the United States territorial sea,"¹⁸⁴ MMS argued that the FPA, like numerous other federal statutes, does not extend offshore jurisdiction beyond that point.¹⁸⁵ Next, MMS pointed out that, although Presidential Proclamation 5928 extended the U.S. territorial sea out to twelve miles, the proclamation explicitly stated that it did not alter existing state or federal law.¹⁸⁶

Since the 2003 *AquaEnergy* ruling, some commenters have questioned FERC's definition of "powerhouse,"¹⁸⁷ for example, but to date no coastal state or private developer has challenged FERC's licensing and permitting authority over such projects in court. Moreover, FERC continues to push the

¹⁷⁹ Proclamation No. 5928, 3 C.F.R. § 547 (1989), *reprinted in* 43 U.S.C. § 1331 (1994).

¹⁸⁰ AquaEnergy Group, Ltd., 102 F.E.R.C. at 61,734–35 & n.7.

¹⁸¹ Under the Administrative Procedure Act, FERC's denial of AquaEnergy's request for rehearing was a final agency action subject to judicial review. *See* Administrative Procedure Act, 5 U.S.C. § 704 (2006).

¹⁸² Under FERC's Rules of Practice and Procedure, "[a]ny person may file a protest to object to any application," although this "does not make the protestant a party to the proceeding" unless the protestant chooses to officially intervene in the proceeding. 18 C.F.R. § 385.211(a)(1)–(2) (2009).

¹⁸³ Protest of the United States Minerals Management Service at 1–5, Oregon Wave Energy Partners II, LLC, 126 F.E.R.C. ¶ 62,059 (2009) (No. P-12750-000) [hereinafter Oregon Wave MMS Protest] (proposing WEC project to be sited three to six miles off the coast near Newport, Oregon); AquaEnergy MMS Protest, *supra* note 37, at 1–5. There was a different project proposed by AquaEnergy to be sited offshore of Coos County, Oregon, and, like the Oregon Wave Energy Partners project, partially extending into the OCS. *Id.*

¹⁸⁴ *See* Oregon Wave MMS Protest, *supra* note 183, at 3.

¹⁸⁵ *See id.* at 4–5. MMS used the definitions of "navigable waters" and "territorial seas" in the CWA, Oil Pollution Act of 1990, 33 U.S.C. § 2701–2762 (2006), Rivers and Harbors Appropriation Act of 1889, 33 U.S.C. §§ 401–467n (2006), and the National Fishing Enhancement Act of 1984, 33 U.S.C. §§ 2101–2106 (2006), to illustrate that each statute limited its jurisdictional reach to three nautical miles seaward of the baseline. Oregon Wave MMS Protest, *supra* note 183, at 3–4.

¹⁸⁶ Oregon Wave MMS Protest, *supra* note 183, at 4–5; Proclamation No. 5928, 3 C.F.R. § 547 (1989), *reprinted in* 43 U.S.C. § 1331 (1994). The Proclamation states that "[n]othing in this Proclamation . . . extends or otherwise alters existing Federal or State law or any jurisdiction, rights, legal interests, or obligations derived therefrom." *Id.*

¹⁸⁷ *E.g.*, Comments from Rob Bovett to Fed. Energy Regulatory Comm'n, *supra* note 11, at 3 n.6 (noting that FERC's own website refers to an online encyclopedia that graphically illustrates how "a 'power house' is a . . . specific component of a traditional hydroelectric project").

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arguments supporting its authority over wave energy projects, not only in state waters, but also from the baseline out to twelve nautical miles.¹⁸⁸

*D. MMS's Basis for Asserting Jurisdiction over Hydrokinetic Projects
Located on the OCS*

Even if Congress thought it resolved the issue of which federal agency has jurisdiction over alternative energy projects sited on the OCS, ambiguities in the EPAct allowed FERC to continue asserting its own jurisdiction.¹⁸⁹ Further, in the EPAct, Congress did not directly address FERC's prior jurisdictional assertion over wave energy projects out to twelve nautical miles from shore.¹⁹⁰ Instead, Congress seemingly gave the Department of the Interior authority to oversee all types of alternative energy projects on the OCS, presumably including wave energy.¹⁹¹ Section 388 of the EPAct amended section 8 of the Outer Continental Shelf Lands Act, authorizing the Secretary of the Department of the Interior to grant leases, easements, or rights-of-way for activities on the OCS that "produce or support production, transportation, or transmission of energy from sources other than oil and gas."¹⁹² The Secretary delegated that authority to MMS,¹⁹³ which is well known for its management of natural gas, oil, and other mineral resources on the OCS.¹⁹⁴

The motivation for this amendment to the Outer Continental Shelf Lands Act was congressional concern over the siting of the controversial Cape Wind project on the OCS without the imposition of rental fees.¹⁹⁵ Thus,

¹⁸⁸ *E.g.*, Comments from Mark J. Robinson, Dir., Office of Energy Projects, Fed. Energy Regulatory Comm'n, to Minerals Mgmt. Serv., U.S. Dep't of the Interior 3 (Aug. 28, 2008), *available at* <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11789607> (regarding Proposed Rule for Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf under RIN 1010-AD30); Pac. Gas & Elec. Co., 125 F.E.R.C. ¶ 61,045, at 61,159 (2008) (order on rehearing).

¹⁸⁹ *E.g.*, Press Release, Fed. Energy Regulatory Comm'n, FERC Asserts Jurisdiction over Outer Continental Shelf Hydroelectric Projects (Oct. 16, 2008), *available at* <http://www.ferc.gov/news/news-releases/2008/2008-4/10-16-08-h-2.asp>.

¹⁹⁰ *See* Energy Policy Act of 2005, 43 U.S.C. § 1337(p) (2006).

¹⁹¹ *Id.*

¹⁹² *Id.* § 1337(p)(1)(C).

¹⁹³ Minerals Mgmt. Serv., U.S. Dep't of the Interior, OCS Alternative Energy and Alternate Use Programmatic EIS Information Center, <http://ocsenergy.anl.gov> (last visited Nov. 15, 2009).

¹⁹⁴ Minerals Mgmt. Serv., U.S. Dep't of the Interior, About the Minerals Management Service, <http://www.mms.gov/aboutmms> (last visited Nov. 15, 2009).

¹⁹⁵ Carolyn Elefant, MMS-FERC Jurisdictional Smackdown!, http://carolynelefant1.typepad.com/renewablesoffshore/2007/02/mmsferc_jurisd.html (Feb. 18, 2007, 15:18) (last visited Nov. 15, 2008). As a recent article discussing the project noted:

Cape Wind first proposed its 130-turbine offshore wind farm in 2001, but [the project has] faced opposition since its inception. Nantucket Sound residents, organized as a group called the Alliance to Protect Nantucket Sound, have complained the project

section 388 requires MMS to “establish royalties, fees, rentals, bonuses, or other payments to ensure a fair return to the United States for any lease, easement, or right-of-way granted.”¹⁹⁶ MMS also has the authority to coordinate with other federal agencies.¹⁹⁷ Another key element of section 388 provides that a portion of the revenues received by the federal government for alternative energy and alternate use projects, if located between the three-mile state waters boundary and six miles from shore, goes to the adjacent coastal state.¹⁹⁸

In challenging the apparent statutory authority granted to MMS over marine renewable energy projects on the OCS, FERC made the case for its own authority over “ocean wave hydroelectric projects” beginning in 2006 by relying on two provisions of section 388.¹⁹⁹ First, FERC pointed to language precluding MMS from requiring a lease for any activities that are not “otherwise authorized in this subchapter, the Deepwater Port Act of 1974 (33 U.S.C. 1501 et seq.), the Ocean Thermal Energy Conservation Act of 1980 (42 U.S.C. 9101 et seq.), or other applicable law.”²⁰⁰ Second, section 388 also provides that “[n]othing . . . displaces, supersedes, limits, or modifies the jurisdiction, responsibility, or authority of any Federal or State agency under any other Federal law.”²⁰¹ FERC argued that the inclusion of these savings clauses meant that section 388 was not “intended to alter the existing jurisdiction of any federal agency.”²⁰²

However, as MMS countered, surely if Congress had meant to preserve jurisdiction for FERC under the FPA, it would have explicitly referred to such a major statute along with the Deepwater Port Act²⁰³ and the Ocean Thermal Energy Conversion Act.²⁰⁴ Moreover, “[e]ven though an entire

would ruin the area’s views from the shore, hurt tourism, endanger wildlife, threaten boating and produce electricity at inflated prices.

Jeff St. John, *Cape Wind Project Gets Thumbs Up*, GREENTECH MEDIA, Jan. 16, 2009, <http://www.greentechmedia.com/articles/cape-wind-project-gets-thumbs-up-5543.html> (last visited Nov. 14, 2009). However, in January 2009, MMS released an EIS approving the project’s site and energy benefits. *See id.* If remaining state and federal approvals are forthcoming, the project could finally begin construction in 2010. *Id.*

¹⁹⁶ 43 U.S.C. § 1337(p)(2)(A) (2006).

¹⁹⁷ *Id.* § 1337(p)(4)(E).

¹⁹⁸ *See id.* § 1337(p)(2)(B); MINERALS MGMT. SERV., WORKSHOP ON THE OUTER CONTINENTAL SHELF RENEWABLE ENERGY REGULATORY FRAMEWORK 41 (2009), *available at* <http://www.mms.gov/PDFs/DCworkshop060409.pdf>.

¹⁹⁹ Comments from John S. Moot, Gen. Counsel, Fed. Energy Regulatory Comm’n, to Minerals Mgmt. Serv., U.S. Dep’t of the Interior 1 (Feb. 26, 2006), *available at* <http://www.ferc.gov/industries/hydropower/indus-act/hydrokinetics/pdf/mms020806.pdf> (regarding the Advanced Notice of Proposed Rulemaking on Alternate Energy-Related Uses on the Outer Continental Shelf under regulatory identified number (RIN) 1010-AD30).

²⁰⁰ 43 U.S.C. § 1337(p)(1) (2006).

²⁰¹ *Id.* § 1337(p)(9).

²⁰² *See* Comments from John S. Moot to Minerals Mgmt. Serv., *supra* note 199, at 2.

²⁰³ Deepwater Ports Act of 1974, 33 U.S.C. §§ 1501–1524 (2006).

²⁰⁴ AquaEnergy MMS Protest, *supra* note 37, at 7.

subtitle of the EPAct” concerns FERC’s “hydroelectric licensing authority,” neither section 388 nor any other part of the EPAct “suggest[s] that the FPA would somehow apply to wave energy projects on the OCS.”²⁰⁵ Perhaps this does indicate congressional intent. However, it might have been simply a case of congressional unawareness of FERC’s earlier assertion of jurisdiction.

E. Lost Opportunity to Calm the Waters

Senator Jeff Bingaman (D-N.M.) had the right idea. And, if Congress had retained his amendment to the Energy Independence and Security Act of 2007²⁰⁶ in the final version of the bill, that would have solved the jurisdictional dispute by officially taking FERC out of the picture, at least with regard to ocean energy projects sited on the OCS.²⁰⁷

Senator Bingaman’s amendment was a response to a Senate hearing held on June 7, 2007, that examined the issues surrounding the implementation of section 388 and included discussions about the jurisdictional dispute between FERC and MMS.²⁰⁸ As committee chairperson, Senator Bingaman opened the hearing by observing that the goal of section 388 was simplification of the OCS authorization process for alternative energy projects, and that “FERC’s hydroelectric licensing process has a history of being complex.”²⁰⁹ During the hearing, officials from MMS and FERC testified regarding their respective plans for ocean energy regulation and willingness to cooperate.²¹⁰

Apparently not convinced that FERC was the agency for the job, two weeks after the hearing Senator Bingaman introduced an amendment to the bill that sought to clarify the OCS jurisdictional dispute in the following manner: “[T]he Federal Energy Regulatory Commission shall not have authority to approve or license a wave or current energy project on the outer Continental Shelf under part I of the [FPA].”²¹¹ However, the bill would have left intact FERC’s authority over transmission of power generated from a wave energy project.²¹² Unfortunately, the House version of the bill did not

²⁰⁵ See *id.* at 8.

²⁰⁶ 42 U.S.C. §§ 17001–17386 (Supp. I 2007).

²⁰⁷ Renewable Fuels, Consumer Protection, and Energy Efficiency Act of 2007, H.R. 6, 110th Cong. § 283(a) (as engrossed with amendment by Senate, June 21, 2007).

²⁰⁸ *Alternate Energy-Related Uses on the Outer Continental Shelf: Hearing Before the S. Comm. on Energy and Natural Resources*, 110th Cong. 1 (June 7, 2007) [hereinafter *Senate Hearing*].

²⁰⁹ *Id.* at 1–2 (statement of Sen. Jeff Bingaman, Chairman, S. Comm. on Energy and Natural Resources).

²¹⁰ *Id.* at 2–8 (statement of C. Stephen Allred, Assistant Secretary for Land and Minerals Management, U.S. Department of the Interior); *id.* at 9–14 (statement of J. Mark Robinson, Director, Office of Energy Projects, Federal Energy Regulatory Commission).

²¹¹ H.R. 6, § 283(a) (as engrossed with amendment by Senate, June 21, 2007).

²¹² *Id.*

include a similar provision,²¹³ nor did the version agreed to in conference between the House and Senate.²¹⁴ Thus, the enacted version did not include Senator Bingaman's clarification provision stripping FERC of OCS jurisdiction, and Congress lost a chance to resolve the dispute.²¹⁵

IV. WHICH AGENCY'S REGULATORY SCHEME IS BETTER?

As the FERC-MMS drama continued into 2009, commentators continued debating the merits of each agency's suitability for the role of lead agency over ocean renewable energy projects.²¹⁶ The truth may be that neither agency is ideally suited to the task. Many argue that wave energy projects are fundamentally different from the traditional hydropower projects, such as dams, with which FERC is familiar.²¹⁷ Likewise, even before the EPAct, environmental groups expressed opposition to MMS controlling nonextractive energy projects because of its lack of experience with such projects.²¹⁸ Moreover, both FERC and MMS are attempting to adapt regulatory processes developed, in FERC's case, for conventional hydroelectric projects such as dams and, with MMS, for leasing procedures to regulate oil and gas exploration on the outer continental shelf (OCS).²¹⁹

However, any changes that Congress may contemplate must consider the aggressive steps already taken by FERC to control wave energy development, including the issuance of many preliminary permits to potential developers. Moreover, Congress will likely wait and see how well

²¹³ See Energy Independence and Security Act of 2007, H.R. 6, 110th Cong. (as engrossed with amendment by House, Dec. 6, 2007).

²¹⁴ See *id.* (as enrolled and agreed to by both House and Senate).

²¹⁵ Energy Independence and Security Act of 2007, 42 U.S.C. §§ 17001–17386 (Supp. I 2007); Thomas C. Jensen, *Rising Tide and Crosscurrents: Federal Regulation of Ocean Renewable Energy*, TRENDS (Am. Bar Ass'n Section of Env't, Energy, & Res., Chi., Ill.), Mar.–Apr. 2008, at 1, 10.

²¹⁶ See, e.g., Laura Koch, Comment, *The Promise of Wave Energy*, 2 GOLDEN GATE U. ENVTL. L.J. 162, 182–83, 199 (2008) (arguing that FERC should not have jurisdiction over ocean energy development); Sara McQuillen Tran, *Why Have Developers Been Powerless to Develop Ocean Power?*, 4 TEX. J. OIL GAS & ENERGY L. 195, 208–09, 215–16 (2009) (arguing that FERC's regulatory process is more robust than MMS's proposed rules and that, because FERC has jurisdiction in state waters, extending FERC's jurisdiction to the OCS is the logical solution to the jurisdictional impasse).

²¹⁷ See, e.g., *Senate Hearing*, *supra* note 208, at 15 (statement of Michael Grainey, Director, Oregon Department of Energy) (“[O]cean energy facilities are not comparable to dams and other instream structures.”).

²¹⁸ Suzanne C. Breselor, Note, *Renewable Energy Permitting on the Outer Continental Shelf: You Call This a Process? Present Considerations and Recommendations for More Precise Ocean Management*, 38 SUFFOLK U. L. REV. 193, 207 (2004).

²¹⁹ See generally NIC LANE, CONG. RESEARCH SERV., WAVE, TIDAL, AND IN-STREAM ENERGY PROJECTS: WHICH FEDERAL AGENCY HAS THE LEAD? (2008), available at <http://www.digital.library.unt.edu/govdocs/crs/permalink/meta-crs-10715:1> (discussing the conflict between the agencies and the initial regulatory steps taken).

MMS's final rule²²⁰ and agreement with FERC²²¹ serve to stimulate hydrokinetic energy projects. The agencies' approaches have been strikingly different, with FERC disdaining rulemaking in favor of "policy statements" and "guidance documents," while MMS has taken the traditional notice-and-comment rulemaking route.²²²

A. FERC's Licensing Process for Wave Energy Projects

Prior to 2007, a WEC developer had two choices: 1) start with a preliminary permit, or 2) apply for a license under FERC's default Integrated License Process developed for conventional hydropower projects.²²³ FERC encourages anyone seeking to develop a particular site to apply for a preliminary permit, which gives the holder up to three years' priority to study a project at the specified site.²²⁴ The difference between a preliminary permit and a license is that "[a] license authorizes construction, operation, and maintenance of a hydropower project under [FERC's] jurisdiction."²²⁵

Although preliminary permits do not confer rights to construct projects, they "essentially cordon off large areas for the first applicants rather than for the best applicants" in a process better suited to a mature industry like conventional hydropower.²²⁶ While previously FERC liberally granted preliminary permits without requiring extensive information from the applicants, its concern about "site banking (the reservation of potential sites without the current intent to develop a project)"²²⁷ led to a policy shift in 2007 regarding hydrokinetic preliminary permits. Taking a stricter scrutiny approach, FERC will limit the boundaries of permits and review applicants' semiannual reports to determine whether a project is making sufficient

²²⁰ See 30 C.F.R. §§ 285.100–1019 (2009).

²²¹ Memorandum of Understanding Between the U.S. Dep't of the Interior and the Fed. Energy Regulatory Comm'n 1 (Apr. 9, 2009), *available at* <http://www.ferc.gov/legal/maj-ord-reg/mou/mou-doi.pdf> [hereinafter DOI-FERC Memorandum of Understanding].

²²² See Renewable Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 74 Fed. Reg. 19,638 (Apr. 29, 2009) (to be codified at 30 C.F.R. pts. 250, 285, 290) (publishing final rule promulgated by MMS); Press Release, Fed. Energy Regulatory Comm'n, FERC Hydrokinetic Energy Project Policy Statement Allows Conditioned Licensing (Nov. 30, 2007), *available at* <http://www.ferc.gov/news/news-releases/2007/2007-4/11-30-07.pdf>.

²²³ Fed. Energy Regulatory Comm'n, *supra* note 18. The Integrated Licensing Process replaced the traditional licensing process in 2005, promising a more streamlined approach to licensing hydropower projects. See LICENSING PILOT PROJECTS, *supra* note 28, at 3. The first license issued under the process came in 2007. Fed. Energy Regulatory Comm'n, *supra* note 18.

²²⁴ Fed. Energy Regulatory Comm'n, *supra* note 18.

²²⁵ LICENSING PILOT PROJECTS, *supra* note 28, at 10.

²²⁶ AquaEnergy MMS Protest, *supra* note 37, at 9.

²²⁷ See Preliminary Permits for Wave, Current, and Instream New Technology Hydropower Projects, 72 Fed. Reg. 9281, 9282 (Mar. 1, 2007) (to be codified at 18 C.F.R. ch. 1) ("[FERC] is inviting comments on its procedures with respect to the treatment of preliminary permits under Part I of the [FPA] for wave, current, and instream new technology hydropower projects.").

progress, with the option to cancel the permit.²²⁸ Whether this approach actually prevents site banking will be tested by FERC's upcoming decision regarding applications for seven wave energy preliminary permits by a single company for seven different locations.²²⁹ Although the company does not have a record of successful project development, FERC already granted it another preliminary permit for a demonstration project off the coast of Washington.²³⁰ Overall, while FERC has issued a handful of preliminary permits for wave energy projects, it has only licensed one of them.²³¹

1. *The Hydrokinetic Pilot Project License Process and Conditioned Licenses*

The most significant action thus far regarding a streamlined process for licensing wave energy projects came in 2007. As many had pointed out, the established but complicated FERC licensing process for conventional hydropower projects is unsuitable for WEC projects.²³² Responding to concerns and suggestions from industry groups,²³³ FERC therefore attempted to develop a new path for WEC projects that could reduce the regulatory barriers, at least in terms of small-scale WEC pilot projects. Realizing that its existing hydropower licensing processes, with their typically five- to seven-year turnaround times for an applicant to obtain a license,²³⁴ were not suitable to this emerging technology, FERC introduced a pilot project

²²⁸ See *id.* at 9283.

²²⁹ See Grays Harbor Ocean Energy Co., Company Profile, <http://graysharboroceanenergy.com/company.htm> (last visited Nov. 14, 2009). FERC posted the applications for public comment. *Id.*

²³⁰ *Id.* However, as a result of the 2009 MOU between FERC and MMS, FERC dismissed all seven of Grays Harbor's pending preliminary permit applications for its proposed projects to be sited on the OCS. Grays Harbor Ocean Energy Co., LLC, 127 F.E.R.C. ¶ 62,047 (2009) (order dismissing preliminary permit applications).

²³¹ See Fed. Energy Regulatory Comm'n, Issued and Pending Licenses, <http://www.ferc.gov/industries/hydropower/indus-act/hydrokinetics/licences.asp> (last visited Nov. 14, 2009).

²³² See, e.g., *ENERGETICS ET AL.*, *supra* note 17, at 7.

²³³ E.g., Comments from Sean O'Neill, President, Ocean Renewable Energy Coal., and Carolyn Elefant, Legislative & Regulatory Counsel, Ocean Renewable Energy Coal., to Fed. Energy Regulatory Comm'n 11–12 (Apr. 30, 2007), *available at* http://www.pstidalenergy.org/Tidal_Energy_Projects/FERC_Mtg_2-15-2007/Ocean_Renewable_Energy_Coalition_4-30-2007.pdf (suggesting, in regard to Notice of Inquiry and Interim Statement of Policy on Preliminary Permits Under Part I of the Federal Power Act for Wave, Current and Instream New Technology Hydropower Projects under Docket No. RM07-08, that regulatory reforms should be considered); Comments from Linda Church Ciocci, Executive Dir., Nat'l Hydropower Ass'n, to Fed. Energy Regulatory Comm'n 2–4 (Apr. 30, 2007), *available at* http://www.pstidalenergy.org/Tidal_Energy_Projects/FERC_Mtg_2-15-2007/National_Hydropower_Association_4-30-2007.pdf (urging FERC, in regard to Notice of Inquiry and Interim Statement of Policy on Preliminary Permits Under Part I of the Federal Power Act for Wave, Current and Instream New Technology Hydropower Projects under Docket No. RM07-08, to incorporate flexibility in preliminary permitting and licensing).

²³⁴ Michael Lufkin & Laura Fandino, Marten Law Group, Tidal and Wave Energy Projects Present Permitting Challenges (July 11, 2007), <http://www.martenlaw.com/news/?20070711-permitting-challenges> (last visited Nov. 15, 2008).

licensing process in July 2007 designed to get small projects in the water in as soon as six months.²³⁵ FERC introduced the pilot licensing procedures in a policy statement white paper²³⁶ and then held a technical conference in Portland, Oregon, in October 2007.²³⁷ After receiving numerous comments, FERC issued another white paper in April 2008 to provide further guidance.²³⁸

The pilot license process has four key requirements: 1) a project must be five megawatts or less, 2) it must not be sited in waters designated as environmentally “sensitive,” 3) it must be built for the purpose of testing new hydro technologies or determining appropriate sites, and 4) the equipment must be easily removed in the event of adverse environmental impacts.²³⁹ Moreover, the maximum term for a pilot project license is five years, after which the licensee may apply for a standard, thirty- to fifty-year license under FERC’s established procedures.²⁴⁰ Of great importance to developers, a project licensed under the pilot program may connect with the electric grid.²⁴¹ This would allow a developer to sell the electricity it produces from the pilot project.²⁴² If the developer chooses not to pursue a conventional license at the end of the five-year period, the project must be decommissioned and the site restored to its pre-project condition.²⁴³

However, the pilot license process does not eliminate the requirements of satisfying other applicable laws administered by other federal agencies and states.²⁴⁴ FERC hopes that the necessary environmental studies can occur early in the process, which will require coordinated efforts among the various agencies and states involved.²⁴⁵ Presumably, the smaller project size should reduce the scope of the necessary environmental studies.²⁴⁶

Many industry commenters expressed approval of FERC’s action.²⁴⁷ Many others, however, including other industry representatives,

²³⁵ Press Release, Fed. Energy Regulatory Comm’n, Commission Announces Pilot Project Licensing Process for New Hydropower Technologies (July 19, 2007), *available at* <http://www.ferc.gov/eventcalendar/Files/20070719110444-AD07-14-NEWS-RELEASE.pdf>.

²³⁶ FED. ENERGY REGULATORY COMM’N, THE PROPOSED LICENSING PROCESS FOR HYDROKINETIC PILOT PROJECTS: A FRAMEWORK FOR DISCUSSION (2007), *available at* <http://www.ferc.gov/EventCalendar/Files/20070904090801-white-paper.pdf>; *see also* Hydrokinetic Pilot Project Workshop, 72 Fed. Reg. 52,104, 52,104 (Aug. 31, 2007) (supplemental notice of technical conference with agenda and soliciting comments).

²³⁷ Hydrokinetic Pilot Project Workshop, 72 Fed. Reg. 41,742, 41,742 (July 19, 2007) (notice of technical conference and soliciting comments).

²³⁸ *See* LICENSING PILOT PROJECTS, *supra* note 28.

²³⁹ *Id.* at 13–14.

²⁴⁰ *Id.* at 5.

²⁴¹ *Id.* at 3.

²⁴² *See id.*

²⁴³ *Id.* at 5.

²⁴⁴ Oram & O’Connell, *supra* note 144, ch. 3, at 4.

²⁴⁵ *Id.*

²⁴⁶ *Id.*

²⁴⁷ *E.g.*, Comments from Daniel R. Irvin, President & Chief Executive Officer, Free Flow Power Corp., to Kimberly Bose, Sec’y, Fed. Energy Regulatory Comm’n 1 (Oct. 22, 2007),

environmental groups, and concerned citizens, criticized FERC for not conducting a rulemaking.²⁴⁸ The National Oceanic and Atmospheric Administration (NOAA) strongly urged FERC to undertake a rulemaking after observing FERC's licensing processes at work in the development of a tidal energy project in New York and the proposed Makah Bay WEC project off the coast of Washington.²⁴⁹ Concerned that the pilot license process did not provide enough environmental oversight, NOAA declared flatly, "[T]he existing FERC licensing and permitting processes are not appropriately designed for research and development of new hydrokinetic technologies."²⁵⁰ Another common concern was the proposed six-month timeframe for processing a pilot license application, which commenters viewed as incompatible with other state and federal agencies' statutory obligations, such as required reviews under the Endangered Species Act²⁵¹ and the CWA.²⁵² Several other commenters formally requested rehearing on the rulemaking issue, but FERC denied their requests.²⁵³

available at <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11485684> (stating support for FERC's effort to reduce barriers to certain hydrokinetic projects under Docket No. AD07-14-000); Comments from Julie A. Keil, Dir. of Hydro Licensing, Portland Gen. Elec. Co., to Kimberly D. Bose, Sec'y, Fed. Energy Regulatory Comm'n 1 (Nov. 1, 2007), available at <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11493563> (commending FERC for its leadership in proposing the pilot licensing process under Docket No. AD07-14-000); Comments from Wayne F. Krause, President & Chief Executive Officer, Hydro Green Energy, LLC, to Fed. Energy Regulatory Comm'n 1 (July 19, 2007), available at <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11419238> (stating strong support for the proposed hydrokinetic licensing process under Docket No. AD07-14-000).

²⁴⁸ *E.g.*, Letter from Elizabeth R. Mitchell to Fed. Energy Regulatory Comm'n 1-3 (Nov. 28, 2007), available at <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11512675> (containing a supplemental petition for informal notice-and-comment rulemaking pursuant to the Administrative Procedure Act under Docket No. AD07-14-000 and summarizing comments from the National Oceanic & Atmospheric Administration, U.S. Fish and Wildlife Service, Pacific Fishery Management Council, Pacific Gas and Electric Company, and Oregon's Lincoln County).

²⁴⁹ Comments from Paul N. Doremus, Acting Assistant Adm'r for Program Planning & Integration, Nat'l Oceanic & Atmospheric Admin., to Kimberly D. Bose, Sec'y, Fed. Energy Regulatory Comm'n 2 (Nov. 2, 2007), available at <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11495060> (regarding Proposed Licensing Process for Hydrokinetic Pilot Projects under Docket No. AD07-14-000).

²⁵⁰ *Id.*

²⁵¹ Endangered Species Act of 1973, 16 U.S.C. § 1536(a), (c) (2006) (discussing the requirement for federal agencies to study the potential impact of their actions on endangered species).

²⁵² *E.g.*, Comments from Stephen D. Padula, Principal, Long View Assocs., to Kimberly Bose, Sec'y, Fed. Energy Regulatory Comm'n 1 (Nov. 5, 2007) (arguing, in regard to Proposed Licensing Process for Hydrokinetic Pilot Projects under Docket No. AD07-14-000, that state agencies responsible for implementing section 401 of the Clean Water Act, 33 U.S.C. § 1341 (2006), need more time for regulatory analysis).

²⁵³ Staff Guidance on Hydrokinetic Pilot Procedures and Staff FAQs on Conditioned Licenses, 124 F.E.R.C. ¶ 61,152, at 61,759 (2008) (order denying rehearing). As one of the commenters urging FERC to conduct a rulemaking noted indignantly:

We find it frankly incredible that the Commission would require a formal rulemaking to answer the relatively straightforward question of whether electronic documents filed

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Continuing its ad hoc approach, FERC responded to such concerns by issuing another policy statement on “conditioned licenses” for hydrokinetic projects, deciding that in some cases FERC could go ahead and issue a license, but the developer could not begin construction until any other necessary federal and state authorizations were processed.²⁵⁴ Moreover, FERC could issue a conditioned license for a hydrokinetic project either for a pilot project or for a nonpilot hydrokinetic project seeking a conventional FERC hydropower license.²⁵⁵ FERC noted that it already used a similar process under the Natural Gas Act²⁵⁶ in issuing pipeline authorizations for liquefied natural gas facilities.²⁵⁷ FERC reasoned that issuing conditioned licenses would “improve the ability of project developers to secure financing of demonstration projects.”²⁵⁸

Industry commenters were appreciative, noting that at least this would enable developers to move forward with preconstruction activities while working to secure any additional permits.²⁵⁹ In industry’s view, even a conditioned license would help attract investors.²⁶⁰ However, some viewed the conditioned license as merely shifting the process to other agencies without actually shortening it.²⁶¹ It could also contribute to a lack of

with the Commission should be submitted in Microsoft Word or PDF format while at the same time choosing to not hold something as critical as the design of an entirely new licensing process up to the same level of public scrutiny.

Comments from John Seebach, Chair, Hydropower Reform Coal., to Nathaniel J. Davis, Sr., Acting Deputy Sec’y, Fed. Energy Regulatory Comm’n 3 (Nov. 2, 2007) (expressing cautious support for the Proposed Hydrokinetic Pilot Project Licensing Process under Docket No. AD07-14-000).

²⁵⁴ Policy Statement on Conditioned Licenses for Hydrokinetic Projects, 121 F.E.R.C. ¶ 61,221, at 62,050 (2007) [hereinafter FERC Policy Statement]; *see also* FED. ENERGY REGULATORY COMM’N, U.S. DEP’T OF ENERGY, CONDITIONED LICENSES 1 (2008), *available at* <http://www.ferc.gov/industries/hydropower/indus-act/hydrokinetics/pdf/faq.pdf>.

²⁵⁵ FED. ENERGY REGULATORY COMM’N, *supra* note 254, at 1–2.

²⁵⁶ 15 U.S.C. §§ 717–717z (2006).

²⁵⁷ FERC Policy Statement, *supra* note 254, at 62,050.

²⁵⁸ *Id.* at 62,051.

²⁵⁹ *E.g.*, Comments from Linda Church Ciocchi, Executive Dir., Nat’l Hydropower Ass’n, to Fed. Energy Regulatory Comm’n 2 (Dec. 14, 2007), *available at* <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11529041> (expressing, in regard to Policy Statement on Conditioned Licenses for Hydrokinetic Projects under Docket No. PL08-1-000, appreciation for the flexibility afforded by the pilot licensing process).

²⁶⁰ Comments from Sean O’Neill, President, Ocean Renewable Energy Coal., and Carolyn Elefant, Legislative and Regulatory Counsel, Ocean Renewable Energy Coal., to Fed. Energy Regulatory Comm’n 3–4 (Dec. 17, 2007), *available at* <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11532268> (agreeing, in regard to Policy Statement on Conditioned Licenses for Hydrokinetic Projects under Docket No. PL08-1-000, that a conditional license will help attract capital, although not alleviate all investors’ concerns).

²⁶¹ Comments from Willie R. Taylor, Dir., Office of Env’tl. Policy & Compliance, U.S. Dep’t of the Interior, to Kimberly D. Bose, Sec’y, Fed. Energy Regulatory Comm’n 2 (Dec. 14, 2007), *available at* <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11529054> (arguing, in regard to Policy Statement on Conditioned Licenses for Hydrokinetic Projects under Docket

coordination and consultation prior to the issuing of licenses that might actually result in delaying project construction.²⁶² NOAA also questioned the need for conditioned licenses and recommended that FERC seek authorizing agency consensus before proceeding.²⁶³ Again, “[a] more appropriate process would be the issuance of a single final license following the completion of all relevant environmental analyses and consultations.”²⁶⁴ Further, FERC’s familiarity with licensing natural gas projects does not compare with the uncertain environmental effects involved in these new hydrokinetic technologies.²⁶⁵ Moreover, granting a conditioned license prior to a state’s review under the CZMA might be a direct violation of federal law.²⁶⁶

Others voiced the same concerns previously raised about the pilot process regarding the lack of a rulemaking to address the wide range of issues not covered in the policy statement.²⁶⁷ Moreover, FERC’s extremely limited two-week comment period and general lack of specific response to many commenters’ concerns expressed in both the pilot project and conditioned license dockets does not bode well for an integrated and inclusive hydrokinetic licensing process if FERC will be the lead agency.²⁶⁸

Some raised concerns regarding the role of the states in siting projects under FERC’s proposed pilot process.²⁶⁹ FERC’s guidance document

No. PL08-1-000, that the conditional licenses will not expedite the regulatory process but will instead shift it to other agencies).

²⁶² *Id.*

²⁶³ Comments from Samuel D. Rauch III, Deputy Assistant Adm’r for Regulatory Programs, Nat’l Marine Fisheries Serv., and William Corso, Deputy Assistant Adm’r, Nat’l Ocean Serv., to Kimberly D. Bose, Sec’y, Fed. Energy Regulatory Comm’n 2 (Dec. 14, 2007), *available at* <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11529192> (calling, in regard to Policy Statement on Conditioned Licenses for Hydrokinetic Projects under Docket No. PL08-1-000, for interagency discussions regarding the implementation of conditional licenses).

²⁶⁴ *Id.*

²⁶⁵ Comments from Daryl B. Williams, Env’tl. Liaison, Tulalip Tribes of Wash., to Kimberly D. Bose, Sec’y, Fed. Energy Regulatory Comm’n 2 (Dec. 14, 2007), *available at* <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11529017> (arguing, in regard to Policy Statement on Conditioned Licenses for Hydrokinetic Projects under Docket No. PL08-1-000, that it is not appropriate to compare the process for natural gas facilities to the process for conditional licenses).

²⁶⁶ Comments from State of Or. to Fed. Energy Regulatory Comm’n 1–2 (Dec. 14, 2007), *available at* <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11530297> (regarding Policy Statement on Conditioned Licenses for Hydrokinetic Projects under Docket No. PL08-1-000).

²⁶⁷ *See, e.g.*, Comments from Jim Martin, W. Coast Reg’l Dir., Recreational Fishing Alliance, to Kimberly D. Bose, Sec’y, Fed. Energy Regulatory Comm’n 1 (Dec. 14, 2007), *available at* <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11529017> (regarding Proposed Licensing Process for Hydrokinetic Pilot Projects under Docket No. PL08-1-000); Comments from Stephen A.S. Morrison, Deputy City Attorney, City & County of S.F., to Fed. Energy Regulatory Comm’n 2 (Dec. 14, 2007) (regarding Policy Statement on Conditioned Licenses for Hydrokinetic Projects under Docket No. PL08-1-000), *available at* <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11529291>.

²⁶⁸ *See* Comments from Daryl B. Williams to Kimberly D. Bose, *supra* note 265, at 2 (expressing disappointment in FERC’s disregard of “everyone’s” comments).

²⁶⁹ *E.g.*, Comments from Rob Bovett to Fed. Energy Regulatory Comm’n, *supra* note 11, at 4.

responded by providing assurance that the FPA affords state and federal agencies substantial authority in FERC's hydropower licensing process.²⁷⁰ However, this opportunity for input occurs on a case-by-case basis only after submission of an application.²⁷¹ With so many competing uses for ocean space, "[w]hat is needed for [WEC] facilities is close consultation with local resources that can help facilitate siting in areas that maximize efficiencies and minimize damage."²⁷² Moreover, "this close consultation should occur before a site is identified in a permit or license application."²⁷³ Again, this lack of comprehensive planning is a consistent refrain regarding how the FERC licensing processes would apply to ocean energy projects. It is too early to determine whether developers will really embrace the pilot process. To date, FERC has not issued any pilot project licenses.²⁷⁴

2. Choppy Waters: How Not to Coordinate the WEC Licensing Process

Problems due to the lack of coordination under FERC's "conditioned license" approach were apparent during the recent licensing process that resulted in the first hydrokinetic license issued by FERC for the reconstituted one-megawatt Makah Bay wave energy project off the coast of Washington.²⁷⁵ In the wake of the first *AquaEnergy* decision from 2003, the company went ahead and filed for a standard FERC hydropower license in November 2006 (prior to the introduction of the pilot license process) for what it called the Makah Bay Offshore Wave Energy Pilot Project.²⁷⁶ The project's location in the environmentally sensitive waters of the Olympic Coast National Marine Sanctuary added another layer of complexity to the process.²⁷⁷ The National Marine Sanctuary Program, an office within NOAA, intervened²⁷⁸ as an interested party.²⁷⁹ The Sanctuary Program is responsible

²⁷⁰ LICENSING PILOT PROJECTS, *supra* note 28, at 6.

²⁷¹ HAMPTON, *supra* note 13, at 9.

²⁷² Comments from Rob Bovett to Fed. Energy Regulatory Comm'n, *supra* note 11, at 4 (emphasis omitted).

²⁷³ *Id.* (emphasis omitted).

²⁷⁴ See generally Fed. Energy Regulatory Comm'n, *supra* note 27 (providing a timeline of commission actions related to hydrokinetics which, as of publication of this Comment, does not include any pilot project licenses).

²⁷⁵ Finavera Renewables Ocean Energy, Ltd., 121 F.E.R.C. ¶ 61,288, at 62,536 (2007) (order granting a conditioned license); Finavera Renewables Ocean Energy, Ltd., 122 F.E.R.C. ¶ 61,248 (2008) (issuing order on rehearing and clarification and amending license).

²⁷⁶ AQUAENERGY GROUP, LTD., MAKAH BAY OFFSHORE WAVE ENERGY PILOT PROJECT: APPLICATION FOR LICENSE FOR MINOR PROJECT AND PRELIMINARY DRAFT ENVIRONMENTAL ASSESSMENT, at IS-1 (2006), available at <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11179099> (regarding Makah Bay Offshore Wave Energy Pilot Project under Docket No. DI02-3-002).

²⁷⁷ *Id.* at ES-1.

²⁷⁸ Under FERC's Rules of Practice and Procedure, "the U.S. Departments of Agriculture, Commerce, and the Interior . . . [are] a party to any proceeding upon filing a notice of intervention in that proceeding." 18 C.F.R. § 385.214(a)(2) (2009).

for management and conservation of national marine sanctuaries such as the Olympic Coast Sanctuary.²⁸⁰ The Sanctuary Program informed FERC that the sanctuary constituted a reservation within the meaning of the FPA.²⁸¹ Thus, the Makah Bay project would have to meet certain terms and conditions mandated by the National Marine Sanctuary Program in order to protect the sanctuary.²⁸²

Consequently, instead of a coordinated process, FERC, the state of Washington, and NOAA's Sanctuary Program took parallel tracks toward project approval. Washington's Department of Ecology also intervened²⁸³ as an interested party in FERC's project approval process, challenging FERC's legal authority to issue the conditioned license prior to the state's issuance of a CWA section 401 certification and CZMA consistency concurrence.²⁸⁴ The Department of Ecology cited case law supporting its arguments that FERC "is 'required by federal statute' to resolve issues of 'state certification before issuing a license.'"²⁸⁵

By the time FERC ruled on the rehearing requests Finavera had received the certifications from the state, so FERC determined that

²⁷⁹ See Notice of Intervention, Comments and Preliminary Terms and Conditions at 1, Finavera Renewables Ocean Energy, Ltd., 121 F.E.R.C. ¶ 61,288 (2007) (No. P-12751-000), available at <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11259590> [hereinafter Notice of Intervention]. Ironically it was NOAA, through its filed brief in the first *AquaEnergy* decision, that originally provided support for FERC's assertion of jurisdiction over wave energy projects. National Ocean Service Motion to Intervene and Comments at 8, *AquaEnergy Group, Ltd.*, 101 F.E.R.C. ¶ 62,009 (2002) (No. D102-3-000), available at http://elibrary.ferc.gov/idmws/File_list.asp?document_id=2287839. NOAA asserted that FERC had "proper jurisdiction" over the Makah Bay project because "the proposed project is to be located in navigable waters and will be connected to the interstate grid which is part of, and in interstate commerce." *Id.*

²⁸⁰ Notice of Intervention, *supra* note 279, at 2.

²⁸¹ *Id.* at 11. The FPA defines "reservations" as:

national forests, tribal lands embraced within Indian reservations, military reservations, and other 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; but shall not include national monuments or national parks.

16 U.S.C. § 796(2) (2006).

²⁸² Notice of Intervention, *supra* note 279, at 11. The FPA states:

[L]icenses shall be issued within any reservation only after a finding by the Commission that the license will not interfere or be inconsistent with the purpose for which such reservation was created or acquired, and shall be subject to and contain such conditions as the Secretary of the department under whose supervision such reservation falls shall deem necessary for the adequate protection and utilization of such reservation.

16 U.S.C. § 797(e) (2006).

²⁸³ Under FERC's Rules of Practice and Procedure, "[a]ny State Commission . . . is a party to any proceeding upon filing a notice of intervention in that proceeding." 18 C.F.R. § 385.214(a)(2) (2009).

²⁸⁴ Request for Rehearing of State of Washington Department of Ecology at 1-2, Finavera Renewables Ocean Energy, Ltd., 121 F.E.R.C. ¶ 61,288 (2008) (Project No. P-12751-001), available at <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11563426>.

²⁸⁵ *Id.* at 10 (quoting *Mountain Rhythm Res. v. FERC*, 302 F.3d 958, 965 (9th Cir. 2002)).

Department of Ecology's arguments were moot.²⁸⁶ Although FERC denied the National Marine Sanctuary Program's request as well, the Sanctuary Program was satisfied that FERC imposed most of the licensing conditions it requested.²⁸⁷ Thereafter, in December 2007, FERC issued its first wave energy project license to AquaEnergy's successor company, Finavera Renewables, under its newly announced conditioned license policy.²⁸⁸ Despite the outcome, the process illustrates the shortcomings of the conditioned license approach, as well as the obvious need for better state-federal and federal-interagency coordination. NOAA sharply criticized FERC's handling of the process, noting that "[a]s FERC extends its jurisdiction into the marine environment it must examine all of the FPA in developing appropriate means to administer new industries in locations such as the marine environment with which FERC has no previous experience."²⁸⁹

3. Good FERC, Bad FERC: Post Makah Bay Developments

Perhaps learning from the contentious Makah Bay project experience, FERC took a positive step toward federal-state coordination of WEC development by entering into an MOU with the State of Oregon in 2008.²⁹⁰

²⁸⁶ Finavera Renewables Ocean Energy, Ltd., 122 F.E.R.C. ¶ 61,248, at 62,409 (2008) (order on rehearing and clarification and amending license).

²⁸⁷ See Letter from Daniel J. Basta, Dir., Office of Nat'l Sanctuaries, to Kimberly D. Bose, Sec'y, Fed. Energy Regulatory Comm'n 1 (Oct. 3, 2008), *available at* <http://elibrary.ferc.gov/IDMWS/nvcommon/NVViewer.asp?Doc=11833201%3AO> (regarding Finavera Renewables Ocean Energy, Ltd. under Project No. 12751-002).

²⁸⁸ Finavera Renewables Ocean Energy, Ltd., 121 F.E.R.C. ¶ 61,288, at 62,536 (2007) (order issuing conditioned license).

²⁸⁹ Request for Rehearing at 5, Finavera Renewables Ocean Energy, Ltd., 121 F.E.R.C. ¶ 61,288 (2008) (Project No. P-12751-001), *available at* <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11654389>.

²⁹⁰ Memorandum of Understanding Between the Fed. Energy Regulatory Comm'n and the State of Or. 1-2 (Mar. 26, 2008), *available at* <http://www.ferc.gov/legal/maj-ord-reg/mou/mou-or-final.pdf> [hereinafter Or. Memorandum of Understanding]. Prior to the agreement, Oregon appeared ambivalent about supporting FERC's, or any federal agency's, authority over wave energy development. On the one hand, in 2007 the Director of Oregon's Department of Energy testified before the Senate Committee on Energy and Natural Resources that

[r]egardless of which agency is involved, the Federal role in ocean energy should be limited in scope and time, should recognize that ocean energy is different from dams and other instream hydroelectric facilities. The Federal role should not interfere with the State's traditional power to determine power plant siting.

Senate Hearing, supra note 208, at 15 (statement of Michael W. Grainey, Director, Oregon Department of Energy). On the other hand, also in 2007, Oregon's state legislature passed a joint memorial urging Congress to amend the FPA by granting jurisdiction over WEC projects from the shoreline out to 12 nautical miles to FERC. H.J. Mem'l 22, 74th Leg. Assem., Reg. Sess. 1 (Or. 2007). However, the legislature also recommended that FERC adopt rules specific to WEC that would provide for state involvement prior to siting a project. *Id.* Apparently, those concerns over FERC's willingness to consult with the states regarding the siting of wave energy projects in state waters led to Oregon's negotiating the Memorandum of Understanding that the parties

The MOU coordinates procedures and schedules for review of wave energy projects in state waters off the coast of Oregon.²⁹¹ The MOU acknowledges Oregon's authority for projects located in its territorial sea under various federal and state statutes.²⁹² To facilitate coordinated efforts, FERC and Oregon will notify the other about any potential applicant for a preliminary permit, pilot license, or conventional license.²⁹³ FERC and Oregon will confer "as early in the process as possible" in order to expedite the application.²⁹⁴ This includes coordination of environmental reviews by allowing Oregon agencies to use NEPA documents prepared by FERC in the state's own review process.²⁹⁵

The main benefit for Oregon comes after the state prepares a comprehensive plan for siting wave energy projects in its territorial sea and files it with FERC.²⁹⁶ After that, FERC will consider the plan when determining whether to issue a preliminary permit or license for a wave energy project.²⁹⁷ In addition, the plan may determine that only a limited number of locations within state waters are appropriate for WEC projects, although the MOU does not commit FERC to strictly comply with the state's choices.²⁹⁸ As long as FERC controls WEC licensing, and until a set of coherent rules for WEC regulation are developed, agreements like the FERC-Oregon MOU are essential to getting all the stakeholders involved in the process at an early stage.

Around the same time FERC and Oregon were reaching an accord, FERC's actions in granting two preliminary permits to Pacific Gas and Electric Company for wave energy projects off the California coast once again illustrated a lack of cooperative decision making between FERC and, in this case, local state authorities.²⁹⁹ Pacific Gas & Electric planned to cite one of the projects off the coast of Fort Bragg in Mendocino County.³⁰⁰ The problem arose when Mendocino County, the City of Fort Bragg, and a group of concerned citizens did not receive notice from FERC of the preliminary permit application for the Mendocino project as required by the FPA.³⁰¹ After

signed in March 2008. *See generally* Or. Exec. Order No. 08-07 (Mar. 26, 2008), *available at* http://www.oregon.gov/Gov/docs/executive_orders/eo0807.pdf (discussing the needs of Oregon to collaborate with FERC regarding wave energy projects).

²⁹¹ Or. Memorandum of Understanding, *supra* note 290, at 1.

²⁹² *Id.* This includes, among other laws, the CZMA, CWA, and Oregon laws pertaining to "proprietary authorization, regulatory authorization to use waters of the state, and regulatory authorization to use the ocean shore." *Id.*

²⁹³ *Id.* at 2.

²⁹⁴ *Id.*

²⁹⁵ *Id.* at 3.

²⁹⁶ *Id.*

²⁹⁷ *Id.*

²⁹⁸ *Id.*

²⁹⁹ Pac. Gas & Elec. Co., 125 F.E.R.C. ¶ 61,045, at 61,152–53 (2008).

³⁰⁰ *Id.* at 61,152.

³⁰¹ *Id.* at 61,153; 16 U.S.C. § 797(f) (2006). The FPA provides:

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belatedly finding out about the project, all three filed late motions to intervene.³⁰² Eventually FERC allowed Mendocino County to intervene after finding it had good cause for the delayed filing,³⁰³ but denied intervention to the others.³⁰⁴

In their filings, the county, Fort Bragg, and the citizens' group raised concerns about the projects' possible economic and environmental impacts, such as interference with fishing and harvesting activities.³⁰⁵ FERC, however, explained that such concerns were premature at the preliminary permit stage.³⁰⁶ Rather, these concerns would be part of a licensing proceeding.³⁰⁷ FERC assured the county, city, and citizens' group that each would have sufficient opportunities to comment in the licensing stages to follow.³⁰⁸ FERC therefore issued an order denying rehearing on the issuance of the permits for both projects.³⁰⁹ Instead of providing reassurance, however, the order reveals FERC's lack of consideration for local entities in the permit application process. Despite FERC's downplaying of the significance of a preliminary permit, the failure to provide the required notice shows FERC was unconcerned about keeping the affected municipalities and interested citizens fully involved in the licensing process.³¹⁰

Interestingly, FERC took the opposite position in a previous order denying rehearing on requests that FERC carry out a notice-and-comment rulemaking for its pilot license process.³¹¹ In that order, FERC assured the petitioners that, while guidance documents only represent informal advice and do not apply to a specific case, "[i]nterested parties to preliminary permit or license proceedings will have the ability to intervene and raise issues

That upon the filing of any application for a preliminary permit by any person, association, or corporation the Commission, before granting such application, shall at once give notice of such application in writing to any State or municipality likely to be interested in or affected by such application; and shall also publish notice of such application once each week for four weeks in a daily or weekly newspaper published in the county or counties in which the project or any part hereof or the lands affected thereby are situated.

Id.

³⁰² Pac. Gas & Elec. Co., 125 F.E.R.C. at 61,153.

³⁰³ *Id.* at 61,154.

³⁰⁴ *Id.* at 61,157.

³⁰⁵ *Id.* at 61,156.

³⁰⁶ *Id.* at 61,157.

³⁰⁷ *Id.*

³⁰⁸ *Id.*

³⁰⁹ *Id.* at 61,158, 61,164. The Humboldt County project also had several intervenors: U.S. Department of the Interior, National Marine Fisheries Service, and the City and County of San Francisco. *Id.* at 61,153.

³¹⁰ *See id.* at 61,153–55.

³¹¹ Staff Guidance on Hydrokinetic Pilot Procedures and Staff FAQs on Conditioned Licenses, 124 F.E.R.C. ¶ 61,152, at 61,760 (2008) (order denying rehearing).

in those proceedings.”³¹² Thus, FERC’s assurance in its guidance document on the pilot license process that the FPA gives state and federal agencies “substantial authority in the . . . hydropower licensing process”³¹³ rings hollow.

B. MMS’s Proposed Rule for OCS Alternative Energy Projects

MMS’s long awaited proposed rule, despite certain shortcomings, was at least a credible attempt at a coherent regulatory scheme, in contrast to FERC’s patchwork policies and on-the-fly approach to wave energy regulation. Like the tortoise to FERC’s hare, since the enactment of the EPAct, MMS has proceeded in a “deliberate and diligent manner” in developing its alternative energy and alternate use program.³¹⁴ First, in December 2005, MMS issued an advance notice of proposed rulemaking,³¹⁵ followed by a draft programmatic environmental impact statement (PEIS)³¹⁶ in March 2007 and a final PEIS in October 2007.³¹⁷ The agency’s glacial progress disappointed both legislators and the ocean energy industry.³¹⁸

Finally, however, nearly three years after the passage of the EPAct and more than two years after its regulations were due,³¹⁹ MMS issued its notice of proposed rulemaking (NOPR) for alternative energy projects in July 2008.³²⁰ The proposed regulations cover the granting of leases, easements, and rights-of-way for alternative energy projects, including offshore wind, wave, current, and solar energy projects.³²¹ Yet to the dismay of a wide range of commenters, from states to environmental groups to the ocean energy industry, the proposed rules did not resolve the jurisdictional dispute with FERC.³²² Once again MMS acknowledged FERC’s jurisdictional claim over

³¹² *Id.*

³¹³ LICENSING PILOT PROJECTS, *supra* note 28, at 6.

³¹⁴ *Senate Hearing*, *supra* note 208, at 4, 7 (statement of C. Stephen Allred, Assistant Secretary for Land and Minerals Management, U.S. Department of the Interior).

³¹⁵ Alternate Energy-Related Uses on the Outer Continental Shelf, 70 Fed. Reg. 77,345 (Dec. 30, 2005).

³¹⁶ *See* Alternative Energy and Alternate Use Program, 72 Fed. Reg. 13,307, 13,307 (Mar. 21, 2007) (announcing MMS’s preparation of the draft PEIS).

³¹⁷ *See generally* MINERALS MGMT. SERV., *supra* note 79.

³¹⁸ *See, e.g., Senate Hearing*, *supra* note 208, at 8 (statement of Sen. Pete V. Domenici, Member, S. Comm. on Energy and Natural Resources).

³¹⁹ The regulations were to be issued “[n]ot later than 270 days after August 8, 2005.” Energy Policy Act of 2005, 43 U.S.C. § 1337(p)(8) (2006).

³²⁰ Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 73 Fed. Reg. 39,376, 39,376 (proposed July 9, 2008) (to be codified at 30 CFR pts. 250, 285, 290).

³²¹ *Id.*

³²² *See id.* at 39,443 (“[T]he agencies have not been able to resolve their conflicting views as to whether the Federal Power Act grants FERC jurisdiction ‘to at least 12 nautical miles[.]’”); *see, e.g.,* Comments from Mike Chrisman, Sec’y for Res., State of Cal. Res. Agency, to Bill Hauser, Chief, Regulations & Standards Branch, Minerals Mgmt. Serv. 1–2 (Sept. 8, 2008), *available at* http://resources.ca.gov/ocean/docs/Comments_on_MMS_Proposed_Rules_for_Alternative_Energy_and_Alternate_Uses_09082008.pdf (regarding Proposed Rules for

ocean energy projects out to twelve nautical miles from shore, and once again MMS presented its arguments against such an expansive interpretation of the FPA.³²³ Not surprisingly, numerous commenters, such as the State of California Resources Agency,³²⁴ complained about the ongoing jurisdictional turf war.

The heart of the EPOA's section 388, and therefore a key component of MMS's proposed rule, is the requirement that MMS grant leases on a "competitive basis."³²⁵ The rule proposes two types of leases for alternative energy projects on the OCS: limited and commercial, either through a competitive or noncompetitive process.³²⁶ The limited lease is similar to FERC's pilot license, with one major difference—it does not give the holder rights to sell electricity produced by the project.³²⁷ As FERC and other commenters noted, that eliminates an important source of revenue for cash-strapped developers already sinking substantial funds into testing.³²⁸

A commercial lease is similar to FERC's standard hydropower license, allowing the holder the rights to produce, sell, and deliver power on a commercial scale.³²⁹ Under the proposed rule and similar to the existing processes for conveying mineral rights, MMS grants a lease, through various auction formats and bidding systems, to the highest bidder.³³⁰ Besides the competitive bidding process, a qualified entity may request a lease at any

Alternative Energy and Alternate Use of Existing Facilities on the Outer Continental Shelf under RIN 1010-AD30); Comments from Surfrider Found. to Minerals Mgmt. Serv. 1-2 (Sept. 8, 2008), *available at* <http://www.regulations.gov/search/Regs/contentStreamer?objectId=0900006480702061&disposition=attachment&contentType=msw8> (stating, in regard to Proposed Rule for Alternative Energy and Alternate Use of Existing Facilities on the Outer Continental Shelf under RIN 1010-AD30, "FERC/MMS jurisdiction must be resolved before the rule is finalized"); Comments from Pelamis Wave Power Ltd. to Minerals Mgmt. Serv., U.S. Dep't of the Interior 4 (Sept. 8, 2008), *available at* <http://www.regulations.gov/search/Regs/contentStreamer?objectId=09000064806f98df&disposition=attachment&contentType=pdf> (stating, in regard to Proposed Rule for Alternative Energy and Alternate Use of Existing Facilities on the Outer Continental Shelf under RIN 1010-AD30, "MMS's competitive bidding methodology is at odds with FERC's first through the door approach for sites that straddle the 3 mile jurisdiction boundary").

³²³ Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 73 Fed. Reg. at 39,443.

³²⁴ Comments from Mike Chrisman to Bill Hauser, *supra* note 322, at 2.

³²⁵ Energy Policy Act of 2005, 43 U.S.C. § 1337(p)(3) (2006).

³²⁶ Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 73 Fed. Reg. at 39,383-84.

³²⁷ *Id.* at 39,384.

³²⁸ Comments from Mark J. Robinson to Minerals Mgmt. Serv., *supra* note 188, at 12-13; Comments from Sean O'Neill, President, Ocean Renewable Energy Coal., and Carolyn Elefant, Legislative and Regulatory Counsel, Ocean Renewable Energy Coal., to Minerals Mgmt. Serv., U.S. Dep't of the Interior 16 (September 8, 2008), *available at* <http://www.regulations.gov/search/Regs/contentStreamer?objectId=09000064806f980c&disposition=attachment&contentType=pdf> (regarding Proposed Rule for Alternative Energy and Alternate Use of Existing Facilities on the Outer Continental Shelf under RIN 1010-AD30).

³²⁹ Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 73 Fed. Reg. at 39,383.

³³⁰ *Id.* at 39,395.

time.³³¹ MMS proposed that applicants for commercial leases receive priority over limited lease applicants.³³²

The proposed regulations took a broad approach, rather than proposing specific requirements for each type of alternative energy. However, while the statement of purpose and the ensuing explanations of each subpart struck the right themes of environmental safety and the need for state and federal coordination, the proposed rule was short on specifics regarding how coordination with states or other federal agencies will occur.³³³ An equally important omission was the lack of detail regarding how to streamline the licensing and leasing process.³³⁴

Yet there were many positive aspects to the NOPR, including numerous regulations designed to safeguard the marine environment by conducting OCS alternative energy development with a priority given to environmental protection.³³⁵ MMS also acknowledged the need for an adaptive management approach, which many commenters advocate.³³⁶ Another noteworthy provision allowed MMS to set aside areas of the OCS for alternative energy research conducted under Department of Energy management.³³⁷

1. States' Views of the Proposed Rule

The NOPR provided for coordination with relevant federal agencies and states potentially affected by a proposed lease, but the regulations lacked

³³¹ *Id.* at 39,400.

³³² *Id.* at 39,395.

³³³ *See, e.g.*, Comments from Mark Sinclair, Executive Dir., Clean Energy States Alliance, to Minerals Mgmt. Serv., U.S. Dep't of the Interior 1-6 (Sept. 8, 2008), *available at* <http://www.regulations.gov/search/Regs/contentStreamer?objectId=09000064806f947e&disposition=attachment&contentType=pdf> (regarding Proposed Rule for Alternative Energy and Alternate Use of Existing Facilities on the Outer Continental Shelf under RIN 1010-AD30). 18 states comprise this nonprofit organization "whose objective is building markets for renewable energy and clean energy resources." Clean Energy States Alliance, About CESA, <http://www.cleanenergystates.org/about.html> (last visited Nov. 15, 2009).

³³⁴ Comments from Mark Sinclair to Minerals Mgmt. Serv., *supra* note 333, at 9.

³³⁵ Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 73 Fed. Reg. at 39,429-32.

³³⁶ *See, e.g.*, Comments from Surfrider Found. to Minerals Mgmt. Serv., *supra* note 322, at 1-2. According to MMS:

The structure of the regulations is based on adaptive management. The operator would be required to monitor activities and demonstrate that its performance satisfies specified standards in its approved plans. In addition, the operator would be required to comply with regulations regarding air quality, safety, maintenance and shutdowns, equipment failure, adverse environmental affects, inspections, facility assessments, and incident reporting.

Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 73 Fed. Reg. at 39,389.

³³⁷ *Id.* at 39,470.

specific directives regarding how this consultation would play out.³³⁸ Exactly which agencies must MMS consult with before issuing a lease? Although the proposed rule included a provision that MMS *may* invite state officials to participate in a joint planning and coordination process, coastal states sought a stronger commitment.³³⁹ For example, the Clean Energy States Alliance, a coalition of eighteen states' renewable energy programs, recommended that MMS add clarity to its regulations regarding how it will coordinate the process with affected state and federal agencies.³⁴⁰ Surprisingly, given what its Department of the Interior sister agency, the Bureau of Land Management (BLM), is doing with its Federal Pilot Streamlining Project,³⁴¹ and given all the comments that MMS received during this rulemaking process beginning with the advance notice of proposed rulemaking,³⁴² the proposed rule did not achieve the necessary coordination.

Nor did the proposed rule require that applicants for leases consult with stakeholders in an effort to reach consensus prior to awarding a lease.³⁴³ This early involvement by stakeholders would significantly increase the chances for a successful project.³⁴⁴ One way to ensure such participation would be for the regulations to "specify certain stakeholders (such as particular State agencies . . .)" that a lessee must consult with.³⁴⁵ MMS could also develop a settlement agreement protocol to help stakeholders resolve issues and enhance the planning process.³⁴⁶ Finally, MMS should also be mindful that "[o]verly-complex licensing processes will only slow the development" of the wave energy industry.³⁴⁷

Some states also took issue with section 388's provision that limits revenue sharing to projects located between three and six nautical miles from shore.³⁴⁸ One suggestion for changing the provision would allow revenue sharing with the state in which a project's transmission cable comes

³³⁸ *Id.* at 39,460–61.

³³⁹ Comments from Mark Sinclair to Minerals Mgmt. Serv., *supra* note 333, at 9–11.

³⁴⁰ *Id.* at 6.

³⁴¹ *See infra* Part V.B.

³⁴² *See* U.S. GOV'T ACCOUNTABILITY OFFICE, REPORT UNDER 5 U.S.C. § 801(A)(2)(A) ON A MAJOR RULE ISSUED BY THE DEPARTMENT OF THE INTERIOR, MINERALS MANAGEMENT SERVICE ENTITLED "RENEWABLE ENERGY AND ALTERNATE USES OF EXISTING FACILITIES ON THE OUTER CONTINENTAL SHELF" 2 (2009), *available at* <http://www.gao.gov/decisions/majrule/d09766r.pdf> (stating that MMS received 280 comments concerning the Proposed Rulemaking on Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf).

³⁴³ *See* Comments from Stephanie Thornton, Executive Dir., Or. Wave Energy Trust, to Minerals Mgmt. Serv., U.S. Dep't of the Interior 8 (Sept. 5, 2008), *available at* <http://www.regulations.gov/search/Regs/contentStreamer?objectId=09000064806f9ace&disposition=attachment&contentType=pdf> (regarding Proposed Rule on Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf under RIN 1010-AD30).

³⁴⁴ *Id.*

³⁴⁵ *Id.* at 9.

³⁴⁶ *See id.* at 3.

³⁴⁷ *Id.* at 3–4.

³⁴⁸ Energy Policy Act of 2005, 43 U.S.C. § 1337(p)(2)(B) (2006).

onshore to connect with the grid, regardless of the project's distance from shore.³⁴⁹ Allowing the states to benefit from projects located farther from shore would serve two purposes. First, it would help the states get their fair share of the federal revenue stream.³⁵⁰ Second, it would encourage greater use of the OCS for siting renewable energy projects, which is necessary because the near-shore zone is crowded with other ocean users, exacerbating the potential for conflicts.³⁵¹

2. The Ocean Energy Industry's View of the Proposed Rule

Responding critically to the proposed rule, industry claimed that MMS's program "will significantly deter marine energy companies from embarking on projects on the OCS and will very likely drive them overseas."³⁵² A common theme, voiced as far back as 2003, argued that MMS is not well suited to oversee marine renewable energy projects.³⁵³ As the National Hydropower Association pointed out, some aspects of the regulations are more applicable to the oil and gas industry that MMS is familiar with, and therefore will not translate well to ocean energy projects.³⁵⁴

Much of the criticism concerned the leasing provisions. One common refrain was that limited leases should allow the holder to gain preferential rights for future commercial leases.³⁵⁵ Like the FERC pilot license approach, this would allow small, undercapitalized developers to "demonstrate and prove a technology" and then secure the necessary funding to acquire a commercial lease.³⁵⁶ Equally important, industry wanted limited leaseholders to have the ability to sell their power to the grid.³⁵⁷ Understandably, developers

³⁴⁹ Comments from George Hagerman, Dir. of Research, Va. Coastal Energy Consortium, to Amy White, Regulations & Standards Branch, Minerals Mgmt. Serv. 3 (Sept. 8, 2008), available at <http://www.regulations.gov/search/Regs/contentStreamer?objectId=09000064806fd05f&disposition=attachment&contentType=msw8> (regarding Proposed Rule for Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf under RIN 1010-AD30).

³⁵⁰ *Id.*

³⁵¹ *Id.*

³⁵² Comments from Sean O'Neill and Carolyn Elefant to Minerals Mgmt. Serv., *supra* note 328, at 6.

³⁵³ See *H.R. 793 and H.R. 794: Hearing Before the Subcomm. on Energy and Mineral Resources of the H. Comm. on Resources*, 108th Cong. 44 (Mar. 6, 2003) [hereinafter *House Hearing 2*] (statement of Peter Shelley, Vice President, Conservation Law Foundation) ("We feel that Interior Minerals Management Service is not the right agency for the task of regulating offshore renewables which falls more within the core competencies of NOAA or perhaps the National Ocean Service.").

³⁵⁴ Comments from Linda Church Ciocci, Executive Dir., Nat'l Hydropower Ass'n, to Minerals Mgmt. Serv. 3 (Sept. 8, 2008), available at <http://www.regulations.gov/search/Regs/contentStreamer?objectId=09000064806f984d&disposition=attachment&contentType=pdf> (regarding Proposed Rule for Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf under RIN 1010-AD30).

³⁵⁵ *E.g.*, Comments from Mark Sinclair to Minerals Mgmt. Serv., *supra* note 333, at 7.

³⁵⁶ Comments from Stephanie Thornton to Minerals Mgmt. Serv., *supra* note 343, at 7.

³⁵⁷ Comments from Linda Church Ciocci to Minerals Mgmt. Serv., *supra* note 354, at 11.

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are much less likely to pursue a limited lease with neither the prospect of a commercial build-out should the project prove viable nor the chance to sell power, making the limited lease “extraordinarily unattractive.”³⁵⁸

Another concern was that the proposed operating fees for this emerging industry were too high.³⁵⁹ Moreover, basing royalty payments on projected revenues rather than on actual project revenues, along with starting the royalty payment meter running upon project approval rather than when the project starts producing power, puts a heavy financial burden on companies with already high upfront costs.³⁶⁰ In fact, one industry association recommended that these projects be relieved of royalty payments during early operation.³⁶¹ As Delaware’s resource agencies pointed out, “the primary objective of the MMS should be the successful development of alternative energy in the OCS.”³⁶²

Industry commenters were, not surprisingly, also concerned about the proposed environmental review process. Perhaps because MMS “has superimposed the oil and gas model,” the proposed rule required multiple EISs³⁶³ and CZMA reviews.³⁶⁴ Unlike states that conduct their environmental review process in a consolidated manner, MMS proposed splitting the reviews into different project phases.³⁶⁵ The multiple reviews are required

³⁵⁸ *Id.* at 10.

³⁵⁹ Comments from Stephanie Thornton to Minerals Mgmt. Serv., *supra* note 343, at 4. “The operating fee is based on the potential generation capacity of a commercial project. The lease area needed will be determined by the size of the project and the operating fee is determined by capacity of the actual installed project.” Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 73 Fed. Reg. 39,376, 39,445 (proposed July 9, 2008) (to be codified at 30 C.F.R. pts. 250, 285, 290). This turns out to be an “operating fee rate of 1–2% of the retail value of power [that] is much too high for this nascent industry.” Comments from Stephanie Thornton to Minerals Mgmt. Serv., *supra* note 343, at 4.

³⁶⁰ Comments from Del. Agencies to Minerals Mgmt. Serv. 3 (Sept. 8, 2008), *available at* <http://dep.sc.delaware.gov/electric/irp/mmscomments090808.pdf> (regarding Proposed Rule on Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf under RIN 1010-AD30); Comments from Sean O’Neill and Carolyn Elefant to Minerals Mgmt. Serv., *supra* note 328, at 35.

³⁶¹ Comments from Sean O’Neill and Carolyn Elefant to Minerals Mgmt. Serv., *supra* note 328, at 35.

³⁶² Comments from Del. Agencies to Minerals Mgmt. Serv., *supra* note 360, at 4.

³⁶³ Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 73 Fed. Reg. at 39,388 & tbl.1; Comments from Chris M. Hobson, Senior Vice President, S. Co., to Maureen Bornholdt, Program Manager, Minerals Mgmt. Serv. 5–6 (Sept. 8, 2008), *available at* <http://www.regulations.gov/search/Regs/contentStreamer?objectId=09000064806f8c94&disposition=attachment&contentType=pdf> (regarding Proposed Rule on Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf under RIN 1010-AD30).

³⁶⁴ Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 73 Fed. Reg. at 39,388; Comments from Sean O’Neill and Carolyn Elefant to Minerals Mgmt. Serv., *supra* note 328, at 17.

³⁶⁵ Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 73 Fed. Reg. at 39,388 & tbl.1.

whether the lease is commercial or limited.³⁶⁶ Moreover, making project developers bear the entire cost of NEPA reviews strikes even environmental groups as unfair.³⁶⁷

Another potential impediment to the nascent industry was MMS's financial assurance requirements.³⁶⁸ While they do occupy public space, ocean energy technologies do not use up finite resources like oil or mineral extractions, and if bond amounts are too high, small marine renewable companies may not be able to compete with large utilities or corporations.³⁶⁹ Similarly, the required use of "best available and safest technology"³⁷⁰ may be too restrictive for an industry whose technology is "new and evolving" and has yet to develop "accepted design standards."³⁷¹

The proposed regulations imposed numerous deadlines on lease applicants "but no meaningful deadlines for MMS action."³⁷² The proposed rule also lacked specific timelines for resource agencies to oversee effectively the permitting process and to provide guidance for project developers.³⁷³

3. MMS and the OCS According to FERC

Not lacking chutzpah, FERC's comments on MMS's proposed rule started from the premise that MMS had no business trying to impose a set of regulations on ocean wave and current energy projects sited on the OCS because the FPA grants that authority to FERC.³⁷⁴ FERC claimed that "[s]ection 388 appears to have been intended to fill a regulatory gap for activities not otherwise authorized by applicable law."³⁷⁵ FERC went on to characterize MMS as a land management agency with a subservient role to

³⁶⁶ *Id.*

³⁶⁷ *E.g.*, Comments from Sean Mahoney, Vice President & Dir., Conservation Law Found., to Minerals Mgmt. Serv. 4–5 (Sept. 8, 2008), *available at* <http://www.regulations.gov/search/Regs/contentStreamer?objectId=09000064806f975b&disposition=attachment&contentType=pdf> (regarding Proposed Rule for Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf under Docket No. 1010-AD30).

³⁶⁸ Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 73 Fed. Reg. at 39,414–15.

³⁶⁹ Comments from Sean O'Neill and Carolyn Elefant to Minerals Mgmt. Serv., *supra* note 328, at 35–36.

³⁷⁰ Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 73 Fed. Reg. at 39,483.

³⁷¹ Comments from Mark Sinclair to Minerals Mgmt. Serv., *supra* note 333, at 17.

³⁷² Comments from Am. Wind Energy Ass'n to Minerals Mgmt. Serv. 17 (Sept. 8, 2008), *available at* http://www.awea.org/policy/regulatory_policy/pdf/AWEA_comments_RIN1010-AD30.pdf (regarding Proposed Rule for Alternative Energy and Alternate Uses on the Outer Continental Shelf under RIN 1010-AD30).

³⁷³ Comments from Ga. Wind Working Group to Minerals Mgmt. Serv. 1 (Sept. 8, 2008), *available at* <http://www.regulations.gov/fdmspublic/ContentViewer?objectId=090000648070203a&disposition=attachment&contentType=pdf> (regarding Proposed Rule for Alternative Energy and Alternate Uses on the Outer Continental Shelf under RIN 1010-AD30).

³⁷⁴ Comments from Mark J. Robinson to Minerals Mgmt. Serv., *supra* note 188, at 3.

³⁷⁵ *Id.*

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play in the licensing of hydropower projects on the OCS under the FPA.³⁷⁶ FERC then encouraged MMS to join hands, sing Kumbayah, and “execute the already-drafted Memorandum of Understanding . . . in the spirit of good government.”³⁷⁷

More valuable, however, was FERC’s comparison of MMS’s proposed program with its own under the FPA. FERC persuasively argued that its regime is the more feasible one for jumpstarting wave energy development.³⁷⁸ For example, the method chosen by MMS for carrying out the statutorily required competitive selection of projects is significantly different from FERC’s. While section 388 requires the issuance of leases on a competitive basis, MMS’s proposed rule may lead to favoring money over merit.³⁷⁹ FERC claimed that its licensing process chooses the best-adapted project for the location.³⁸⁰ The MMS competitive process involves an auction, selling sites to the highest bidder.³⁸¹ By contrast, under section 10(a) of the FPA, FERC determines competitive priority based on “which project proposal best meets the comprehensive development of the relevant waterway resources standard.”³⁸² In the case of equally worthy competing proposals where one of the competitors happens to be a state or municipality, FERC gives priority to the state or municipality.³⁸³ Industry groups such as the Ocean Renewable Energy Coalition (OREC), which claims more than forty members, favor the FERC competitive system.³⁸⁴ The chief reason that OREC favors FERC’s competitive system is its agreement with FERC that it chooses the project “‘better adapted’ to make best use of a waterway consistent with the public interest.”³⁸⁵

FERC’s hydropower environmental review process is also superior to the proposed MMS process. MMS requires multiple NEPA reviews compared to FERC’s single, all-inclusive review.³⁸⁶ Another key advantage to the FERC process enables a pilot project developer to sell the electricity generated from the project to the grid,³⁸⁷ whereas MMS’s limited lease would not allow this. FERC also touted its timeline, claiming that, without acknowledging the likely delays, it could issue a pilot license “in as few as six months.”³⁸⁸ Likewise, FERC’s claim that it will process a standard commercial license

³⁷⁶ See *id.* at 7–8.

³⁷⁷ *Id.* at 9.

³⁷⁸ *Id.*

³⁷⁹ Comments from Sean O’Neill and Carolyn Elefant to Minerals Mgmt. Serv., *supra* note 328, at 7–8.

³⁸⁰ *Id.* at 9.

³⁸¹ *Id.* at 8.

³⁸² Comments from Mark J. Robinson to Minerals Mgmt. Serv., *supra* note 188, at 12.

³⁸³ *Id.*

³⁸⁴ Comments from Sean O’Neill and Carolyn Elefant to Minerals Mgmt. Serv., *supra* note 328, at 11.

³⁸⁵ *Id.* at 9.

³⁸⁶ Comments from Mark J. Robinson to Minerals Mgmt. Serv., *supra* note 188, at 11.

³⁸⁷ LICENSING PILOT PROJECTS, *supra* note 28, at 5.

³⁸⁸ *Id.* at 4.

“in as few as 1.5 years”³⁸⁹ belies reality, given the fact that historically it takes years to issue FERC’s hydropower licenses.³⁹⁰

C. Rising Tide of Cooperation: Everybody Wins?

Scheduled to testify before the Senate Energy and Natural Resources Committee on March 17, 2009, the new Secretary of the Interior and the Acting Chairman of FERC knew they would face questioning about their ongoing OCS jurisdictional dispute.³⁹¹ It was thus a perfect opportunity to seize the initiative and, on March 17, 2009, the Secretary and the Acting Chairman announced that the agencies had reached an agreement ending the longstanding turf battle, details of which would follow in “a short Memorandum of Understanding.”³⁹²

1. The FERC-MMS MOU

The April 2009 FERC-MMS MOU marked a major development for OCS renewable energy and officially ended the jurisdictional skirmish. The three-page MOU outlined the basics of the truce reached by the two agency heavyweights. FERC and MMS stated that the agreement’s purpose was “to clarify jurisdictional understandings” and “to develop a cohesive, streamlined process” that will accelerate wind, solar, and hydrokinetic projects on the OCS.³⁹³ As part of the agreement to work together on OCS hydrokinetic projects, MMS acquiesced to FERC’s assertion of licensing authority over all hydrokinetic projects in the OCS.³⁹⁴ FERC will have its way and issue licenses for WEC projects, while MMS will oversee the leasing and easement process.³⁹⁵ For WEC developers, the result is that a proposed project sited on the OCS requires both a lease issued by MMS followed by a license issued by FERC.³⁹⁶ FERC has the option “to become a cooperating agency with respect to the MMS’s preparation of an environmental document for any OCS hydrokinetic project.”³⁹⁷ One important concession by

³⁸⁹ Comments from Mark J. Robinson to Minerals Mgmt. Serv., *supra* note 188, at 11.

³⁹⁰ *ENERGETICS ET AL.*, *supra* note 17, at 7.

³⁹¹ See Posting of Dina Dubson to Renewable + Law, Interior and FERC Reach Agreement on Outer Continental Shelf Hydrokinetic Projects; Secretary Salazar Announces Regional Meeting Details, <http://www.lawofrenewableenergy.com/2009/03/articles/hydropower/interior-and-ferc-reach-agreement-on-outer-continental-shelf-hydrokinetic-projects-secretary-salazar-announces-regional-meeting-details> (Mar. 17, 2009) (last visited Nov. 15, 2009).

³⁹² Press Release, U.S. Dep’t of the Interior & U.S. Dep’t of Energy, Interior and FERC Announce Agreement on Offshore Renewable Energy Development (Mar. 17, 2009), *available at* <http://www.ferc.gov/news/news-releases/2009/2009-1/03-17-09.pdf>.

³⁹³ DOI-FERC Memorandum of Understanding, *supra* note 221, at 1.

³⁹⁴ *Id.*

³⁹⁵ *Id.*

³⁹⁶ *Id.* at 2.

³⁹⁷ *Id.* at 1.

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FERC is that it will stop issuing preliminary permits for WEC projects located on the OCS.³⁹⁸

Skeptics are not so sure that this agreement will resolve the jurisdictional dispute. After all, the announcement of the MOU sounded just like the previous assurances made by the two agencies that they could work out a coordinated agreement. As Senator Bingaman noted, “It’s easy to announce there’s going to be resolution, but from the point of view of a potential developer . . . I’m just not exactly sure this is going to be that streamlined of a process.”³⁹⁹ The Senate Energy and Natural Resources Committee planned to take a hard look at the details of the agreement and, if necessary, craft a legislative solution.⁴⁰⁰

2. The Final Rule

Less than a month after the announcement of the FERC-MMS MOU, MMS issued its 579-page final rule on April 29, 2009.⁴⁰¹ The rule does not significantly differ from the proposed rule, although MMS did respond to some of the commenters’ concerns with several noteworthy changes in the areas of limited leases and the environmental review process, and in adopting a multiple-factor approach to the bidding process.⁴⁰² However, the bottom line of the final rule for OCS hydrokinetic projects is that “no FERC license or exemption for a hydrokinetic project on the OCS shall be issued before MMS issues a lease, easement, or right-of-way.”⁴⁰³

The final rule made one significant change to its limited lease provisions, but declined to make another. First, MMS agreed with commenters and decided that a limited leaseholder may sell power generated during its project testing phase.⁴⁰⁴ However, MMS was unwilling to include a specific provision allowing holders of limited leases to have priority consideration for a subsequent commercial lease in the same area.⁴⁰⁵ MMS does note that it “will be able to indicate in the lease terms and conditions that acquiring a particular limited lease will give weight to the lessee in any subsequent conveyance of commercial rights.”⁴⁰⁶

Regarding commenters’ concerns about the number of environmental reviews that MMS required for a commercial lease issued on a competitive basis, MMS responded by reducing the required NEPA and CZMA reviews

³⁹⁸ *Id.*

³⁹⁹ Straub, *supra* note 41 (alteration in original) (internal quotation marks omitted).

⁴⁰⁰ *Id.*

⁴⁰¹ Renewable Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 74 Fed. Reg. 19,638 (Apr. 29, 2009) (codified at 30 C.F.R. pts. 250, 285, 290).

⁴⁰² *See id.*

⁴⁰³ *Id.*

⁴⁰⁴ *Id.* at 19,647.

⁴⁰⁵ *See id.* at 19,657.

⁴⁰⁶ *Id.* at 19,658.

from three to two and eliminating the need for MMS approval of biological and other surveys.⁴⁰⁷ However, suggestions such as using interagency working groups to help facilitate the NEPA and CZMA processes were not implemented, although MMS noted that such an “approach is possible under the rule.”⁴⁰⁸

Responding to many comments regarding its competitive bidding process, MMS acceded to these concerns by adopting a multiple-factor bidding format for competitive leases.⁴⁰⁹ This means that MMS may consider such nonmonetary factors as “technical merit, timeliness, financing and economics, the environment, public benefits, [and] consistency with State and local needs and requirements.”⁴¹⁰

Finally, acknowledging that many commenters were concerned with the proposed rule’s lack of specifics regarding coordination and consultation between relevant state and federal agencies, MMS devoted several pages of the final rule to a discussion of the issue.⁴¹¹ The agency insists that the final rule will accommodate many of the suggested approaches to achieve coordination and consultation in the siting of renewable energy projects.⁴¹² However, like the proposed rule, the final rule is short on specifics regarding how MMS will coordinate effectively with all the stakeholders. Yet despite its shortcomings, MMS’s final rule makes great strides toward the realization of a stable regulatory climate for WEC projects on the OCS.

3. *FERC and MMS Offer Guidance*

In August 2009, FERC and MMS issued a joint guidance document, providing agency watchers like Senator Bingaman and his fellow Energy and Natural Resources Committee members with additional details about how FERC and MMS plan to work together.⁴¹³ The guidelines are useful, but because the document “is not designed or intended to anticipate every possible scenario that could arise” regarding hydrokinetic OCS projects,⁴¹⁴ it still leaves many details to be worked out. Despite the assurances of FERC and MMS that the goal is to develop a streamlined process, a WEC developer must still deal with two major federal agencies, each with its own set of complicated regulations, in addition to the myriad of state and local authorities that will be parties to any potential WEC project.⁴¹⁵ The outlook for the nascent WEC industry therefore remains daunting.

⁴⁰⁷ *Id.* at 19,685.

⁴⁰⁸ *Id.* at 19,713.

⁴⁰⁹ *Id.* at 19,666.

⁴¹⁰ *Id.*

⁴¹¹ *Id.* at 19,642–43.

⁴¹² *See id.* at 19,712–16.

⁴¹³ GUIDANCE DOCUMENT, *supra* note 46, at 3.

⁴¹⁴ *Id.*

⁴¹⁵ *See, e.g., id.* at 13 (discussing the additional regulations for projects that straddle state and federal waters).

D. Another Option: Jettison FERC and Leave WEC to the States and MMS

While FERC has displayed flexibility in attempting to respond to a promising but challenging alternative energy source, its licensing process, whether conventional or pilot, takes a case-by-case approach that suffers from a lack of comprehensive planning.⁴¹⁶ In addition, as critics have noted, FERC lacks experience with ocean-related projects,⁴¹⁷ perhaps because Congress has never explicitly granted FERC authority over any type of ocean energy projects. In fact, when the first potential ocean energy technology designed to generate electricity, ocean thermal energy conversion (OTEC), seemed promising in the late 1970s, Congress gave authority over potential OTEC projects to NOAA.⁴¹⁸ Congress again bypassed FERC when determining which agency should have control over alternative energy projects, including those derived from marine renewable energy, on the OCS.⁴¹⁹

Moreover, MMS is arguably better equipped to oversee alternative energy development on the OCS because the United States must efficiently allocate ocean space for many competing uses, including commercial fishing, marine aquaculture, recreation, and shipping.⁴²⁰ “[O]cean space with the right qualities may be a scarce natural resource.”⁴²¹ One expert concluded that what OCS renewable energy management needs is a lead agency oriented towards “planning that takes the opportunity costs of alternative uses (including non-uses) into account.”⁴²² Since MMS has responsibility for all projects sited on the OCS, MMS greater reflects the important responsibilities, including “resource assessments, area selections, and allocations for specific resources,” that a lead agency needs for an access system.⁴²³ MMS is in a better position than FERC to resolve the inevitable multiple-use conflicts. While FERC’s case-by-case approach has worked in the conventional hydropower context, critics note that its “process is project driven and does not provide for . . . broad input on where projects would be

⁴¹⁶ See LICENSING PILOT PROJECTS, *supra* note 28, at 4 (describing how FERC’s Integrated Licensing Process provides for case-by-case waivers).

⁴¹⁷ *E.g.*, Request for Rehearing at 5, Finavera Renewables Ocean Energy, Ltd., 122 F.E.R.C. ¶ 61,248 (2008) (No. P-12751-000), *available at* <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11654389>.

⁴¹⁸ Ocean Thermal Energy Conversion Act of 1980, 42 U.S.C. § 9102(2) (2006).

⁴¹⁹ See Energy Policy Act of 2005, 43 U.S.C. § 1337(p)(1) (2006).

⁴²⁰ See *Renewable Energy Opportunities and Issues on the Outer Continental Shelf: Joint Oversight Hearing Before the Subcomm. on Fisheries, Wildlife and Oceans Joint with the Subcomm. on Energy and Mineral Resources of the H. Comm. on Natural Resources*, 110th Cong. 89 (June 7, 2007) [hereinafter *House Hearing 3*] (statement of Porter Hoagland, Marine Policy Center, Woods Hole Oceanographic Institute).

⁴²¹ *Id.*

⁴²² *Id.* at 90.

⁴²³ See *id.*

best located or how many projects are appropriate, except in response to a specific project proposal.”⁴²⁴

However, FERC argues that siting for most hydrokinetic projects will be in state waters anyway because of the high cost of running seabed transmission cables from the project site to shore.⁴²⁵ While that is currently the case, the concerns of all stakeholders over competing uses of the ocean will grow if developers do not eventually site projects on the OCS.⁴²⁶ Moreover, “[w]ave energy’s contribution could be even greater if hybridized with deep-water wind turbines in a single floating system,”⁴²⁷ providing another reason why clearing the way for WEC projects sited in the deeper waters of the OCS is important.

On the other hand, one practical consideration weighing in FERC’s favor is its existing jurisdiction over the transmission lines needed to connect any WEC project to the onshore electrical grid, meaning that any WEC project would need a FERC license anyway.⁴²⁸ Moreover, FERC’s aggressive moves in issuing preliminary permits has the WEC industry geared up to conform with FERC’s procedures. At least one industry heavyweight expressed displeasure at the thought of removing FERC from its oversight role, telling a Senate committee in the summer of 2007 that doing so would be “[o]ne of the worst cases that we envision” and “[w]e urge you to reinforce [FERC’s] authority.”⁴²⁹ Of course, the man testifying was the Chief Executive Officer of Finavera Renewables, the company that has worked long and hard with FERC to launch the Makah Bay Wave Energy Project,⁴³⁰ so aligning his company with FERC at this juncture makes a great deal of business sense.

However, as Senator Bingaman pointed out during that same 2007 Senate hearing, does it really make any sense to give FERC jurisdiction over ocean energy projects on the OCS when section 388 gives MMS jurisdiction over wind energy projects beyond the three-mile state waters boundary?⁴³¹ Does the United States need two lead agencies with different sets of rules controlling different types of projects on the OCS because one type is water powered and the other type is not? Obviously, siting and licensing of any

⁴²⁴ HAMPTON, *supra* note 13, at 8 (emphasis omitted).

⁴²⁵ See *Senate Hearing*, *supra* note 208, at 11 (testimony of J. Mark Robinson, Director, Office of Energy Projects, Federal Energy Regulatory Commission).

⁴²⁶ *Id.* at 29 (testimony of Jason Bak, Chief Executive Officer, Finavera Renewables, Inc.).

⁴²⁷ *House Hearing 3*, *supra* note 420, at 86 (statement of George M. Hagerman, Jr., Senior Research Associate, Virginia Tech Advanced Research Institute).

⁴²⁸ Federal Power Act, 16 U.S.C. § 817 (2006).

⁴²⁹ *Senate Hearing*, *supra* note 208, at 29 (statement of Jason Bak, Chief Executive Officer, Finavera Renewables, Inc.).

⁴³⁰ Press Release, Fed. Energy Regulatory Comm’n, FERC Allows Wave Power Project to Move Forward (Mar. 20, 2008), available at <http://www.ferc.gov/news/media-alerts/2008/2008-1/03-20-08-H-2-factsheet.pdf>.

⁴³¹ See *Senate Hearing*, *supra* note 208, at 1–2 (statement of Sen. Jeff Bingaman, Chairman, S. Comm. on Energy and Natural Resources).

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renewable energy projects on the OCS coordinated by a single lead agency makes the most sense. MMS could improve its OCS regulatory program, however, by adopting the best aspects of FERC's licensing processes, especially regarding the competitive bidding process.

One solution would cut FERC out entirely, leaving the coastal states with siting and licensing authority in state waters. There is precedent for expediting small hydroelectric projects by exempting them from the licensing requirements of the FPA in the Public Utility Regulatory Policies Act,⁴³² so there is no reason why Congress could not do the same for WEC projects sited in state waters. However, in the wake of the new spirit of cooperation between FERC and MMS, it is unlikely that Congress will take away FERC's authority over WEC projects sited in state waters. Consequently, the best course of action for coastal states is to follow Oregon's lead and negotiate memoranda of understanding with FERC.⁴³³ Washington State chose this course by entering into an MOU with FERC in June 2009 that will coordinate their review of hydrokinetic projects in state waters.⁴³⁴

V. WAVE OF THE FUTURE: STREAMLINING WAVE ENERGY LICENSING WITH A ONE-STOP SHOP

In commenting on whether FERC or MMS is best suited to control ocean energy development, a common refrain is the need for streamlining the permitting process by coordinating state and federal requirements and making the lead agency a one-stop shop for securing the necessary state and federal permits.⁴³⁵ However, both FERC's piecemeal process and MMS's final rule lack specificity regarding the creation of a one-stop shop permitting process. Nonetheless, successful examples on the federal and state level, as well as internationally, prove that the one-stop shop is the best solution for coordinating the licensing process without shortchanging environmental oversight.

⁴³² Public Utility Regulatory Policies Act of 1978, Pub. L. No. 95-617, 92 Stat. 3117 (1978) (codified as amended in scattered sections of 15, 16, 30, 42, & 43 U.S.C.); Wendy M. Fisher, *Small Hydroelectric Projects and State Water Rights*, 18 PAC. L.J. 1225, 1226 (1987).

⁴³³ See, e.g., Koch, *supra* note 216, at 190–99 (discussing how states can take proactive steps, such as advance planning and engagement of stakeholders, to influence the development of wave energy).

⁴³⁴ Press Release, Fed. Energy Regulatory Comm'n, FERC, Washington Sign MOU for Hydrokinetic Energy Projects (June 4, 2009), *available at* <http://www.ferc.gov/news/news-releases/2009/2009-2/06-04-09.pdf>.

⁴³⁵ See, e.g., Comments from Meghan Birney, Cmty. Env'tl. Council, and Tam Hunt, Energy Program Dir. & Attorney, Cmty. Env'tl. Council, to Minerals Mgmt. Serv., U.S. Dep't of the Interior 2–3 (Sept. 8, 2008) (regarding Proposed Rule for Alternative Energy and Alternate Uses on the Outer Continental Shelf under RIN 1010-AD30), *available at* <http://www.regulations.gov/search/Regs/contentStreamer?objectId=09000064806f9277&disposition=attachment&contentType=pdf>.

A. OTEC Act: A Forgotten Model of Federal One-Stop Licensing

In the late 1970s, another ocean energy technology called ocean thermal energy conversion (OTEC) created excitement and prompted congressional action that culminated in a forward-thinking piece of legislation designed to give the fledgling technology a major federal boost. Like the situation facing WEC development now, prior to 1980 the “legal, institutional, and political elements necessary to facilitate commercial application” of OTEC were not in place.⁴³⁶ Then, as now, there was a “lack of clarity” regarding “which federal agency regulations might apply to OTEC operations in the U.S. waters.”⁴³⁷ And like WEC, OTEC had advantages over other energy sources, such as the fact that it could provide baseload power.⁴³⁸ Recent technological developments offered promise.⁴³⁹ The goal, then as now, was to reduce U.S. dependence on foreign oil.⁴⁴⁰

According to a bill sponsor, the Ocean Thermal Energy Conversion Act of 1980 (OTEC Act) “provide[d] for one-stop Federal licensing,”⁴⁴¹ and created the legal certainty necessary to enable the commercialization of a new technology such as OTEC. And, although the legislation did not prompt the hoped-for commercial development of OTEC,⁴⁴² its basic outlines create a model framework for the enactment of legislation to provide a predictable regulatory climate for WEC development.

The OTEC Act was designed “to remove legal and other institutional uncertainties” standing in the way of OTEC development.⁴⁴³ Significantly, the OTEC Act created a one-stop licensing approach, “allow[ing] an applicant to describe its proposed operations and obtain a single decision on whether they will be permissible.”⁴⁴⁴ Obviously, one lead agency makes it much easier for a project developer. But such an approach also makes the government’s job easier, “centraliz[ing] control, scheduling, and review, and provid[ing] a single point of collection for the advice and consent of other departments vested with jurisdiction over ocean development.”⁴⁴⁵

Like wave energy, supporters believed OTEC was environmentally benign. However, since there was little actual data, the OTEC Act recognized

⁴³⁶ Robert B. Krueger & Geoffrey S. Yarema, *New Institutions for New Energy Technology: The Case of Ocean Thermal Energy Conversion*, 54 S. CAL. L. REV. 767, 772 (1981).

⁴³⁷ Kent M. Keith, *Laws Affecting the Development of Ocean Thermal Energy Conversion in the United States*, 43 U. PITT. L. REV. 1, 15 (1981).

⁴³⁸ *Id.* at 3.

⁴³⁹ S. REP. NO. 96-721, at 3 (1980), *reprinted in* 1980 U.S.C.C.A.N. 2407, 2409–10.

⁴⁴⁰ *Id.*, *reprinted in* 1980 U.S.C.C.A.N. 2407, 2409.

⁴⁴¹ Keith, *supra* note 437, at 15 (quoting Rep. Gerry E. Studds (D-Mass.)).

⁴⁴² See, e.g., Carolyn Elefant, *Ocean Energy Development in the 1990s*, 14 ENERGY L.J. 335, 354 (1993) (stating that “virtually no funds” were disbursed to private companies under the OTEC Act up to 1993).

⁴⁴³ H.R. REP. NO. 96-994, at 21 (1980).

⁴⁴⁴ Krueger & Yarema, *supra* note 436, at 789.

⁴⁴⁵ *Id.* at 790–91.

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the need for environmental oversight and adherence to NEPA requirements.⁴⁴⁶ Since the issuance of an OTEC license would be a major federal action, the Act required NOAA to prepare a draft EIS within 180 days after the initial application, and no additional EIS from any other federal agency would be necessary.⁴⁴⁷ Moreover, the OTEC Act also required that any license granted contain reasonable use conditions ensuring regard for other ocean uses such as fishing.⁴⁴⁸ The OTEC Act also guaranteed any interested states a role in the project approval process.⁴⁴⁹ No license would be issued without state consultation.⁴⁵⁰ Also, pursuant to the CZMA, those adjacent coastal states with an “approved coastal zone management program [would] have effective veto power regarding the licensing” of OTEC facilities.⁴⁵¹ Even a state without a coastal zone program could make its views known and receive full consideration regarding “location, construction, and operation” of an OTEC facility.⁴⁵² Congress also enacted financial incentives to encourage private investment of OTEC projects, including deferral of taxes on income reinvested in OTEC projects and a tax credit for investment in OTEC equipment.⁴⁵³ Congress also passed a separate related act, designed to facilitate OTEC research, development, and demonstration that included a comprehensive management plan overseen by the Department of Energy.⁴⁵⁴

Finally, it is important to note that the OTEC Act only provided broad outlines of a new licensing regime, leaving to NOAA the task of promulgating detailed regulations.⁴⁵⁵ Those regulations spelled out in detail how state consultation would be an integral part of the licensing process. A designated representative from each participating state and local governmental entity, along with their federal counterparts and the license applicant, would serve as members of a Consolidated Application Review team.⁴⁵⁶ This team would draft a joint agreement spelling out the regulatory and review responsibilities of each participating agency.⁴⁵⁷ Interagency meetings, reviews, and public hearings would follow to ensure a coordinated licensing process.⁴⁵⁸ While NOAA withdrew its OTEC regulations in 1996 because no

⁴⁴⁶ *Id.* at 792, 794.

⁴⁴⁷ Ocean Thermal Energy Conversion Act of 1980, 42 U.S.C. § 9117(e) (2006).

⁴⁴⁸ *See id.* § 9111(c)(3).

⁴⁴⁹ *See id.* § 9115(b)(2).

⁴⁵⁰ *Id.* § 9115(b)(1).

⁴⁵¹ Keith, *supra* note 437, at 34.

⁴⁵² 42 U.S.C. § 9115(b)(2) (2006).

⁴⁵³ Krueger & Yarema, *supra* note 436, at 802–03.

⁴⁵⁴ Ocean Thermal Energy Conversion Research, Development, and Demonstration Act, 42 U.S.C. §§ 9001–9009 (2006).

⁴⁵⁵ Krueger & Yarema, *supra* note 436, at 817.

⁴⁵⁶ Steps in the Voluntary Consolidated Application Review (CAR) Process, 15 C.F.R. § 981.380 (1995).

⁴⁵⁷ *Id.* § 981.380(a)(2).

⁴⁵⁸ *Id.* § 981.380(a)(3).

applicant had sought a license, a recent House bill, although not yet passed, included a provision for NOAA to reissue its OTEC regulations.⁴⁵⁹ And, in fact, Hawaii recently announced development of a ten megawatt OTEC pilot plant with industry heavyweight Lockheed Martin.⁴⁶⁰

While highly unlikely to occur, Congress could chart a smarter course by following its precedent set in the OTEC Act of entrusting lead agency status to NOAA, presumably the federal agency with the most marine expertise, and crafting WEC-specific laws similar to the OTEC Act. In fact, that was the recommendation of the Union of Concerned Scientists, the Natural Resources Defense Council, the Conservation Law Foundation, and the Environmental Defense Fund⁴⁶¹ regarding a proposed bill in 2003 to amend the Outer Continental Shelf Lands Act—a bill that was substantially similar to what became section 388 of the EPAct.⁴⁶²

Given that Congress entrusted OTEC to NOAA back in 1980, it would have made more sense to do the same regarding other kinds of offshore renewable energy projects on the outer continental shelf (OCS). In fact, Congress had a chance to craft a forward-thinking Ocean Renewable Energy bill strikingly similar to the OTEC Act in 2003, well before the EPAct gave control of alternative energy on the OCS to MMS.⁴⁶³ Introduced by a critic of the Cape Wind project, Representative William Delahunt (D-Mass.), the bill was not concerned with siting and licensing wave energy projects.⁴⁶⁴ However, the purpose of Representative Delahunt's Coastal Zone Renewable Energy Promotion Act⁴⁶⁵ was to enhance the CZMA by requiring the coastal states to identify priority sites for renewable energy projects and ensure the protection and viability of competing uses such as fishing.⁴⁶⁶ Regarding renewable energy projects in federal waters, the bill gave NOAA lead agency oversight and licensing authority over all renewable energy projects.⁴⁶⁷ It might have been a superior choice of lead agency.

⁴⁵⁹ Energy Policy Reform and Revitalization Act of 2007, H.R. 2337, 110th Cong. § 305 (2007) (as reported by H. Comm. on Natural Res., Aug. 3, 2007).

⁴⁶⁰ *Hawaii Announces 10-MW Ocean Thermal Energy Partnership*, RENEWABLE ENERGYWORLD.COM, Dec. 12, 2008, <http://www.renewableenergyworld.com/rea/news/story?id=54296> (last visited Nov. 15, 2009).

⁴⁶¹ *House Hearing 2*, *supra* note 353, at 43–44 (statement of Peter Shelley, Vice President, Conservation Law Foundation).

⁴⁶² See H.R. 793, 108th Cong. (2003).

⁴⁶³ See Coastal Zone Renewable Energy Promotion Act of 2003, H.R. 1183, 108th Cong. (2003).

⁴⁶⁴ Maureen Kelly, *From Fish Farms to Wind Farms, Oil and Gas Drilling and More: The Growing Demands on Ocean Waters Incite the Call for Zoning*, GULF OF ME. TIMES, Summer 2003, <http://www.gulfofmaine.org/times/summer2003/zoning.html> (last visited Nov. 15, 2009).

⁴⁶⁵ See H.R. 1183.

⁴⁶⁶ See *id.* § 2(b)(1) (“The purposes and objectives of this Act are to promote the sensible development of energy facilities that use renewable energy resources in the marine environment . . .” (section numbers omitted)).

⁴⁶⁷ *Id.* § 2(b)(2).

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However, if the United States is serious about promoting wave energy development, the time is now for congressional action to provide the jurisdictional and regulatory certainty necessary to get projects in the water. The need to craft a workable regulatory framework that minimizes duplication and adopts aspects of the OTEC Act's one-stop lead agency concept is the key to wave energy's future as a viable source of renewable energy in the United States. As FERC rightly points out, "the unique needs of the hydrokinetic industry should be considered in any regulatory program or cooperative agreement."⁴⁶⁸ If Congress determines that FERC should retain jurisdiction, it is imperative that, as Oregon's legislature recommended, FERC is compelled to promulgate new rules to oversee wave energy development.⁴⁶⁹

B. Other Federal One-Stop Programs

Interestingly, the EPAct acknowledged the need for a one-stop permitting program, at least in the context of Department of the Interior processing of oil and gas use authorizations.⁴⁷⁰ Section 365 of the EPAct established a Federal Permit Streamlining Pilot Project "to improve Federal permit coordination."⁴⁷¹ Department of the Interior, through MMS's sister agency BLM, runs the pilot project, which required the Secretary of the Interior to enter into memoranda of understanding that established the "roles, responsibilities, and authorities" for each participating agency.⁴⁷² Those participating agencies include others within Department of the Interior, Department of Agriculture, Environmental Protection Agency, and Army Corps of Engineers, as well as the agencies of four western states.⁴⁷³

BLM emphasizes several key principles, all of which apply equally to streamlining the regulatory framework for WEC development: 1) focusing on interagency coordination and cooperation in permit processing, 2) enhanced coordination with state agencies that possess expertise, 3) enhanced information sharing between agencies, 4) elimination of duplication between federal and state agencies, and 5) ensuring environmental protection through effective inspection and enforcement programs.⁴⁷⁴

⁴⁶⁸ Comments from Mark J. Robinson to Minerals Mgmt. Serv., *supra* note 188, at 4.

⁴⁶⁹ H.J. Mem'l 22, 74th Leg. Assem., Reg. Sess. (Or. 2007).

⁴⁷⁰ Energy Policy Act of 2005, 42 U.S.C. § 15924 (2006).

⁴⁷¹ *Id.*

⁴⁷² BUREAU OF LAND MGMT., U.S. DEP'T OF THE INTERIOR, YEAR TWO REPORT FOR THE PILOT PROJECT TO IMPROVE FEDERAL PERMIT COORDINATION: EXECUTIVE SUMMARY 3 (2008), available at http://www.blm.gov/pgdata/etc/medialib/blm/wo/MINERALS__REALTY__AND__RESOURCE_PROTECTION_/energy/oil_and_gas.Par.23328.File.dat/Year-Two-Report_Executive-Summary.pdf.

⁴⁷³ 42 U.S.C. § 15924(b)(1) (2006); BUREAU OF LAND MGMT., *supra* note 472 (listing the state and federal agencies involved in drafting the report).

⁴⁷⁴ BUREAU OF LAND MGMT., *supra* note 472, at 3.

Properly implemented, this allows for a more efficient use of government resources. The program designates seven of the busiest BLM field offices, which account for processing seventy percent of the drilling permit applications.⁴⁷⁵ There is also a requirement to assign staff with expertise in the pertinent regulatory issues, such as preparation of NEPA analyses and regulatory matters under the CWA, to each field office.⁴⁷⁶

In its *Year Two Report* issued in February 2008, BLM reported improvements in cutting the time to process oil and gas permits along with improved responsiveness to the concerns of stakeholders.⁴⁷⁷ Of particular significance for wave energy permitting, BLM acknowledged that one of the key accomplishments of the pilot project has been “[e]nhance[d] coordination with state agencies with expertise and responsibilities” in oil and gas use authorizations.⁴⁷⁸ As numerous comments submitted to both FERC and MMS note,⁴⁷⁹ this is also a key ingredient to bringing about successful wave energy development.

The Alaska Joint Pipeline Office is another successful example of a federal one-stop shop established in 1990 to provide a “[o]ne-stop permitting [system with] coordinated oversight of common carrier oil and gas pipelines in Alaska,”⁴⁸⁰ “most notably the Trans-Alaska Pipeline System.”⁴⁸¹ The Joint Pipeline Office consists of “six state and six federal agencies sharing similar regulatory or management responsibilities.”⁴⁸² Two agencies, one federal and one state, act as lead agencies to carry out the collaborative endeavors of the office.⁴⁸³ Like BLM’s streamlining project, the agencies developed cooperative agreements to reduce duplication and simplify complicated government processes.⁴⁸⁴ The success of these federal efforts at agency coordination prompted the ocean renewable energy industry trade group OREC to suggest the creation of a Joint Renewable Energy Office to

⁴⁷⁵ Memorandum from Jason Monfort, Law Student, Boston Coll., to Jonathan Klavens 12 (Sept. 26, 2006), *available at* <http://www.oceanrenewable.com/wp-content/uploads/2007/03/jropaper.pdf> (discussing joint renewable energy permitting offices).

⁴⁷⁶ 42 U.S.C. § 15924(c) (2006).

⁴⁷⁷ BUREAU OF LAND MGMT., *supra* note 472, at 7–8.

⁴⁷⁸ *Id.* at 3.

⁴⁷⁹ *See, e.g.*, Comments from Linda Krop, Chief Counsel, Envtl. Def. Ctr., and Sarah Abramson, Dir. of Coastal Res., Heal the Bay, to Regulations & Standards Branch, Minerals Mgmt. Serv., U.S. Dep’t of the Interior 3–4 (Sept. 8, 2008), *available at* <http://www.regulations.gov/search/Regs/contentStreamer?objectId=09000064806f9aea&disposition=attachment&contentType=pdf> (regarding Proposed Rule of Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf under RIN 1010-AD30); Comments from Mark Sinclair to Minerals Mgmt. Serv., *supra* note 333, at 6.

⁴⁸⁰ Joint Pipeline Office, The Joint Pipeline Office Chronology of Events, <http://www.jpo.doi.gov/JPO/Chronology.htm> (last visited Nov. 15, 2009).

⁴⁸¹ Joint Pipeline Office, What is the Joint Pipeline Office, http://www.jpo.doi.gov/JPO/What_is_JPO.htm (last visited Nov. 15, 2009).

⁴⁸² *Id.*

⁴⁸³ *Id.* (indicating the lead agencies are BLM and the Alaska Department of Natural Resources).

⁴⁸⁴ *Id.*

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coordinate permit applications for projects between MMS and the states regarding coastal zone management.⁴⁸⁵

C. State Models of Streamlined Permitting

States recognize the value of streamlined permitting and many have developed innovative ways to cut through the red tape. The State of Washington is a prime example. In response to an executive order issued by the governor instructing state agencies to make their regulatory processes more user friendly, various state agencies worked to create a one-stop permitting process.⁴⁸⁶ Specifically designed to streamline the environmental permitting process, Washington's Joint Aquatic Resource Permit Application (JARPA) program utilizes the Internet, providing applicants with online access to forms, information, and the actual filing of applications.⁴⁸⁷ The JARPA allows a project applicant to apply for multiple permits using one application. These permits may be federal, such as a CWA section 404 permit from the U.S. Army Corps of Engineers; state, such as a CWA section 401 permit from the Washington Department of Ecology; and local (city or county), such as a shoreline conditional use permit.⁴⁸⁸

In early 2008, Washington's legislature also proposed a bill aimed at creating a one-stop shop for wave energy project permitting.⁴⁸⁹ While the bill passed overwhelmingly in the house, it awaits enactment.⁴⁹⁰ The house bill would provide that the relevant state agencies, industry representatives, and affected stakeholders work together to create such a one-stop process, utilizing interagency review and finding ways to avoid duplication, maintain a flexible approach, and promote wave energy development while protecting the environment.⁴⁹¹

In Oregon, the Energy Facility Siting Council provides coordination for energy project development. The council determines the applicant's compliance with specific standards imposed by the council or other state

⁴⁸⁵ See Memorandum from Jason Monfort to Jonathan Klavens, *supra* note 475, at 1, 19–20; see also Comments from Sean O'Neill and Carolyn Elefant to Minerals Mgmt. Serv., *supra* note 328, at 6, 18, 25 (suggesting that MMS coordinate with state and other federal agencies to streamline the siting process and avoid duplicative regulation).

⁴⁸⁶ Wash. State Governor's Office of Regulatory Assistance, Welcome, http://www.epermitting.wa.gov/site/alias_resourcecenter/welcome/9978/welcome.aspx (last visited Nov. 15, 2009).

⁴⁸⁷ Wash. State Governor's Office of Regulatory Assistance, *supra* note 51.

⁴⁸⁸ *Id.*

⁴⁸⁹ H.B. 3216, 60th Leg., Reg. Sess. § 7 (Wash. 2008) (developing wave and tidal technologies in Washington).

⁴⁹⁰ Wash. State Leg., H.B. 3216 History of Bill, <http://apps.leg.wa.gov/billinfo/summary.aspx?bill=3216&year=2007> (last visited Nov. 14, 2009). The language of the bill has changed. The term "one-stop shop" is no longer in the bill. See Wash. H.B. 3216 § 7 (engrossed second substitute). The bill now focuses on "streamlining." *Id.*

⁴⁹¹ Wash. H.B. 3216.

agencies with permitting authority.⁴⁹² The council takes into consideration “applicable rules and ordinances of state and local agencies” which then must issue the necessary permits subject to any additional conditions imposed by the council.⁴⁹³ If Congress were to agree with those such as Oregon’s Energy Department Director that the states should retain siting power over projects in coastal waters,⁴⁹⁴ Oregon already has a process in place that, with further refinement, will provide efficient siting and licensing guidelines for WEC projects in state waters.⁴⁹⁵

Another example of state streamlined licensing for power projects is the California Energy Commission’s twelve-month permitting process that “subsumes all requirements of state, local, or regional agencies otherwise required before a new plant is constructed.”⁴⁹⁶ The commission then coordinates its review of the facility with the relevant federal agencies that issue necessary permits.⁴⁹⁷ Other states are also pushing forward with regulatory streamlining. For example, Hawaii’s state senate issued a concurrent resolution in 2007 that the responsible state department conduct a study to “create a one-stop permit shop for renewable energy projects.”⁴⁹⁸ With so many states setting ambitious renewable energy goals,⁴⁹⁹ the success of WEC projects largely depends upon streamlined licensing that gets projects in the water by coordinating state and federal responsibilities without circumventing environmental laws.⁵⁰⁰

D. Regulatory Streamlining in Denmark

Internationally, the best-known example of a successful one-stop shop for renewable energy licensing comes from Denmark, which “ranks first in the world in terms of having the largest portfolio of wind projects integrated

⁴⁹² State of Or., Energy Facility Siting: The Siting Process for Energy Facilities, <http://www.oregon.gov/ENERGY/SITING/process.shtml> (last visited Nov. 15, 2009).

⁴⁹³ *Id.*

⁴⁹⁴ *Senate Hearing*, *supra* note 208, at 15 (statement of Michael W. Graine, Director, Oregon Department of Energy).

⁴⁹⁵ Koch, *supra* note 216, at 191–92.

⁴⁹⁶ Cal. Energy Comm’n, *supra* note 52.

⁴⁹⁷ *Id.*

⁴⁹⁸ S. Con. Res. 164, 24th Leg., Reg. Sess. 3 (Haw. 2007).

⁴⁹⁹ U.S. Dep’t of Energy, EERE State Activities and Partnerships: States with Renewable Portfolio Standards, http://apps1.eere.energy.gov/states/maps/renewable_portfolio_states.cfm (last visited Nov. 15, 2009). 24 states plus the District of Columbia have renewable portfolio standards in place. *Id.* “A renewable portfolio standard is a state policy that requires electricity providers to obtain a minimum percentage of their power from renewable energy resources by a certain date.” *Id.*

⁵⁰⁰ *E.g.*, Janet Pelley, *Dueling Priorities: Renewable Energy vs. Environmental Assessment*, 43 ENVTL. SCI. & TECH. 3001 (2009), available at <http://pubs.acs.org/doi/pdf/10.1021/es900685s> (discussing the risks and benefits of streamlining environmental permitting for renewable energy projects).

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into its power grid.”⁵⁰¹ A large part of Denmark’s success as the world leader in wind energy stems from its adoption of streamlined permitting procedures.⁵⁰² The Danish Energy Authority became the single responsible agency for offshore wind farm siting.⁵⁰³ The Danish Energy Authority has jurisdiction “over the tendering of bids . . . ; approval of pre-investigation of sites, environmental impact assessments, construction and operation; and licenses to produce electricity.”⁵⁰⁴

Streamlined permitting shortens lead times and reduces uncertainty and risk, because “the longer a project takes to complete, the more it is at risk to unforeseen changes in interest rates, labor expenses, and regulatory compliance costs.”⁵⁰⁵ Efficient permitting helps energy producers start producing power and earning revenues as quickly as possible.⁵⁰⁶

VI. FINDING THE PERFECT WAVE ENERGY CONVERSION ACT

The recent MOU between FERC and MMS may be just a life raft that developers cling to while waiting for a comprehensive solution. Alternatively, the two agencies may find a method to work together without imposing two sets of regulations on developers for projects sited on the outer continental shelf (OCS). It is too early to tell. However, crafting a comprehensive Wave Energy Conversion Act remains worthy of congressional effort. The necessary components of legislation specific to wave energy include 1) provisions for state involvement in the selection of sites for projects located in state waters, 2) increased federal funding for and coordination of research and development, and 3) enhanced financial incentives to promote investment in wave energy projects. Lastly, of course, such legislation would include a streamlined licensing process that, like the OTEC Act, provides a lead agency to work with the applicant and coordinate the various permits required by state and federal statutes. The latest congressional actions, both enacted and proposed legislation, contain positive developments for wave energy. However, these actions continue the piecemeal approach, rather than tackling the problem by enacting a comprehensive regulatory framework for wave energy development.

⁵⁰¹ Benjamin K. Sovacool et al., *Is the Danish Wind Energy Model Replicable for Other Countries?*, ELECTRICITY J., Mar. 2008, at 27, 27.

⁵⁰² *Id.* at 29, 31.

⁵⁰³ *Id.* at 31.

⁵⁰⁴ *Id.*

⁵⁰⁵ *Id.* at 35.

⁵⁰⁶ *Id.*

A. Make the States Equal Partners in Siting Wave Energy Projects

Since realistically Congress is unlikely to remove FERC jurisdiction over WEC projects and leave siting and licensing to the states, the next best alternative is a robust federal-state partnership, with more detailed coordination provisions than MMS's final rule contains. Just as the states have developed innovative permitting processes, states are also taking the lead in designing comprehensive ocean management plans. Like the Oregon-FERC MOU, other states developing their own ocean management plans can work with FERC to ensure optimal siting for WEC projects in state waters.

For example, Massachusetts recently enacted the Massachusetts Oceans Act of 2008.⁵⁰⁷ The Act requires development of an ocean management plan that incorporates stakeholder input and uses the expertise of marine scientists and offshore renewable energy specialists in making project siting decisions.⁵⁰⁸ Similarly, Rhode Island is developing an Ocean Special Area Management Plan that will "define use zones for Rhode Island's ocean waters through a research and planning process that integrates the best available science with open public input and involvement."⁵⁰⁹ On a smaller scale, Lincoln County, Oregon, worked with the local fishing industry and the developer in choosing where to site the test AquaBuOY that sank in November 2007.⁵¹⁰ That choice helped the seventy-two-foot tall buoy avoid potential hazards as it sank and aided in its successful retrieval.⁵¹¹ This "close consultation with local resources" is the ticket to "responsible and careful" wave energy development.⁵¹² Thus, provisions similar to those included

⁵⁰⁷ Massachusetts Oceans Act of 2008, 2008 Mass. Acts ch. 114, (codified in scattered sections of MASS. GEN. LAWS ANN. chs. 10, 21A, 132A (Supp. 2009)), <http://www.mass.gov/legis/laws/seslaw08/sl080114.htm> (last visited Nov. 15, 2009).

⁵⁰⁸ MASS. GEN. LAWS ch. 21A, § 4C(d) (Supp. 2009).

⁵⁰⁹ R.I. Coastal Res. Mgmt. Council, The Rhode Island Ocean SAMP: Creating Use Zones Through Research and Public Input, <http://seagrant.gso.uri.edu/oceansamp/index.html> (last visited Nov. 15, 2009).

⁵¹⁰ See Lewis Page, *Wave Power Prototype Sinks After Seven Weeks*, REGISTER, Nov. 9, 2007, http://www.theregister.co.uk/2007/11/09/aquabuoy_wave_power_renewable_sinks (last visited Nov. 15, 2009). The exact cause of the sinking remains unclear. *Id.* The company "thinks the flotation section of the AquaBuOy flooded and its bilge pump was unable to cope." *Id.*; see also Comments from Rob Bovett, Assistant County Counsel, Lincoln County, Or., to Minerals Mgmt. Serv., U.S. Dep't of the Interior 4, 5 (Aug. 20, 2008), available at <http://www.regulations.gov/search/Regs/contentStreamer?objectId=09000064806d0236&disposition=attachment&contentType=pdf> (regarding Proposed Rule for Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf under RIN 1010-AD30 and discussing the creation of Lincoln County's Fisherman Involved in Natural Energy (FINE) Committee to "assist with the siting of ocean wave energy facilities").

⁵¹¹ Comments from Rob Bovett to Minerals Mgmt. Serv., *supra* note 510, at 5.

⁵¹² See *id.* at 4.

in the OTEC Act that mandate early consultation and joint planning agreements with affected states are essential to successful project development.⁵¹³

B. Federal Support for Research and Development of Wave Energy

A common refrain in comments to both FERC and MMS is the uncertainty regarding environmental impacts from wave energy technologies.⁵¹⁴ In response, developers point out that without actually deploying projects, baseline information will never be available.⁵¹⁵ These comments underscore the importance of research and testing to determine whether the claims of little or no impact on the marine environment from these untested technologies will prove to be true. Because of the urgent need to study the environmental effects of wave energy projects, new federal legislation should include additional funding for pilot projects, another aspect of the OTEC Act worth emulating.⁵¹⁶

In fact, a 2005 workshop sponsored by Department of Energy recognized the “need for Federal support for technology development, long-term research on environmental effects and mitigation measures, and well-designed operational monitoring.”⁵¹⁷ “Historically, energy technologies have developed because the national government has made them a priority, and established policies and invested resources for an expected return.”⁵¹⁸ One of the positive aspects of MMS’s final rule is the acknowledgment of the need for an offshore research area patterned after the European Marine Energy Center, which is already well established.⁵¹⁹

Both FERC and MMS envision small pilot projects run by developers that gather data. However, the better approach is the one taken by the Energy Independence and Security Act of 2007 in allocating funds for ocean energy research and development centers.⁵²⁰ The Act included a provision “establish[ing] a program of research, development, demonstration, and

⁵¹³ See, e.g., Comments from Mark Sinclair to Minerals Mgmt. Serv., *supra* note 333, at 5–6 (arguing, in regard to Proposed Rule for Alternative Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf under RIN 1010-AD30, that provisions for joint planning agreements, cooperation, and coordination between local, state, and federal governments should be required).

⁵¹⁴ See, e.g., Comments from the Surfrider Found. to Minerals Mgmt. Serv., *supra* note 322.

⁵¹⁵ See, e.g., Comments from Chris M. Hobson to Maureen Bornholdt, *supra* note 363, at 9.

⁵¹⁶ See Krueger & Yarema, *supra* note 436, at 804.

⁵¹⁷ RESOLVE, INC., PROCEEDINGS OF THE HYDROKINETIC AND WAVE ENERGY TECHNOLOGIES TECHNICAL AND ENVIRONMENTAL ISSUES WORKSHOP, at x (Susan Savitt Schwartz ed., 2006) (emphasis omitted), available at http://hydropower.inel.gov/hydrokinetic_wave/pdfs/hydro_workshop_proceedings_13feb06.pdf.

⁵¹⁸ *Id.* at xii.

⁵¹⁹ Renewable Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 74 Fed. Reg. 19,638, 19,671 (Apr. 29, 2009) (to be codified at 30 C.F.R. pts. 250, 285, 290).

⁵²⁰ 42 U.S.C. § 17213(a) (Supp. I 2007).

commercial application to expand marine and hydrokinetic renewable energy production.”⁵²¹

Prior to enactment of this bill there was very little federal government investment in wave energy research and development,⁵²² so giving the Secretary of Energy authority to allocate \$50 million per year beginning in 2008 through 2012 to marine and hydrokinetic renewable energy research and development is a big step.⁵²³ This is consistent with the kind of support that the wind industry has received from Department of Energy.⁵²⁴ Two locations, one in Hawaii and the other in Oregon, were recently chosen for the first two Marine Energy Research Centers.⁵²⁵

C. Financial Incentives

Besides the regulatory hurdles, one of the main obstacles to wave energy development “is the above market cost of the electricity,” which is the result of the industry still being in its early stages.⁵²⁶ The need for government financial incentives, such as “production tax credits, renewable energy credits, and other incentives to spur private investment,” has already been recognized and acted upon in Europe.⁵²⁷ Of course, it is also important that the public receive a fair return from the use of the nation’s ocean energy resources.⁵²⁸ An encouraging development was the American Recovery and Reinvestment Act’s⁵²⁹ inclusion of “a combination of tax cuts and funding programs that bring unprecedented support to the marine renewables industry.”⁵³⁰

⁵²¹ *Id.* § 17212(a).

⁵²² *House Hearing 1*, *supra* note 62, at 40 (statement of Annette von Jovanne, Professor of Power Electronics and Energy Systems, Oregon State University).

⁵²³ 42 U.S.C. § 17215 (Supp. I 2007).

⁵²⁴ *Senate Hearing*, *supra* note 208, at 54 (statement of Sean O’Neill, President, Ocean Renewable Energy Coalition).

⁵²⁵ See Press Release, U.S. Dep’t of Energy, DOE Selects Projects for Up to \$7.3 Million for R&D Clean Technology Water Power Projects (Sept. 18, 2008), <http://www.energy.gov/news/6554.htm> (last visited Nov. 15, 2009) (listing Oregon State University and University of Washington as one recipient an award for a marine energy center, and the University of Hawaii as the other recipient of a grant for a national marine energy center); Gail Kinsey Hill, *Feds Donate Millions for Wave Energy Site in State*, OREGONIAN, Sept. 19, 2008, at D01 (indicating that Newport, Oregon, was chosen as the site for the new ocean research center); Press Release, Senator Daniel Kahikina Akaka, \$5 Million Federal Grant to Establish National Marine Renewable Energy Center in Hawaii (Sept. 18, 2008), *available at* http://www.hnei.hawaii.edu/docs/announcements/2008/Akaka_PressRelease_Award.pdf.

⁵²⁶ *House Hearing 1*, *supra* note 62, at 41 (statement of Annette von Jovanne, Professor of Power Electronics and Energy Systems, Oregon State University).

⁵²⁷ BEDARD, *supra* note 56, at 48–49.

⁵²⁸ *Id.* at 48.

⁵²⁹ American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115.

⁵³⁰ Carolyn Elefant, Ocean Renewable Energy Coalition, Stimulus Bill Promises to Buoy Marine Renewables Industry, <http://www.oceanrenewable.com/2009/02/20/stimulus-billpromises-to-buoy-marine-renewables-industry> (last visited Nov. 15, 2009).

Another hallmark of international efforts at encouraging alternative energy development is the successful use of feed-in tariffs. Feed-in tariffs “are support mechanisms based on prices per unit of electricity that a utility or supplier has to pay for [renewable energy] from independent generators.”⁵³¹ For example, beginning in 2004, the Portuguese government offered a dedicated marine feed-in tariff,⁵³² meaning that the government pays a higher-than-market rate for the electricity produced from the Pelamis WEC project at Aguçadoura.⁵³³ Besides Portugal, countries that have successfully applied feed-in tariffs to encourage development of renewable energy sources include Denmark, France, Germany, and Spain.⁵³⁴ In the United States, a bill introduced in June 2008 would guarantee renewable energy payments to small and midsized clean energy suppliers by creating feed-in tariffs.⁵³⁵

VII. CONCLUSION

Before the FERC-MMS squabble began, one prescient commentator noted in 2002 that “[q]uestions about which agency has authority to license ocean energy projects can contribute to turf wars amongst agencies and lead to a duplicative and confusing application process.”⁵³⁶ Seven years later, ocean energy development may finally get beyond that situation because FERC and MMS have apparently put the nation’s welfare ahead of their own. However, it is too soon to tell whether the recent MOU between FERC and MMS and the jointly issued guidance document that followed will provide the necessary regulatory certainty and streamlined licensing to jumpstart the wave energy industry. While the guidance document is a positive step, one industry expert noted that it “creates a framework for siting projects on the OCS that even in the best case scenario takes three years, worst case scenario, up to five years.”⁵³⁷ Further, the rigidity of the new agreement is illustrated by the fact that the hypothetical straddle project discussed earlier

⁵³¹ DOUGLAS HINRICHS, SENTECH, INC., FEED-IN TARIFF CASE STUDIES: A WHITE PAPER IN SUPPORT OF THE HAWAII CLEAN ENERGY INITIATIVE 7 (2008) (emphasis omitted), *available at* http://www.allianceforrenewableenergy.org/files/hawaii_feedin_tariff_case_studies.doc.

⁵³² BEDARD, *supra* note 56, at 49.

⁵³³ Jenny Haworth, *If Portugal Can Rule the Waves, Why Not Scotland?*, SCOTSMAN.COM, Sept. 24, 2008, <http://news.scotsman.com/opinion/If-Portugal-can-rule-the-4520629.jp> (last visited Nov. 15, 2009).

⁵³⁴ HINRICHS, *supra* note 531, at 9–20.

⁵³⁵ Renewable Energy Jobs and Security Act, H.R. 6401, 110th Cong. (2008).

⁵³⁶ Carolyn Elefant, *Proposed Strategies for Addressing Regulatory Uncertainty in Ocean Energy Development in the United States*, ENERGY PULSE, Nov. 19, 2002, http://www.energypulse.net/centers/article/article_display.cfm?a_id=79 (last visited Nov. 15, 2009).

⁵³⁷ Carolyn Elefant, Long, Strange Trip for FERC and MMS Comes to an End, <http://lawofficesofcarolynelefant.com/renewables/offshore/?p=388> (Aug. 10, 2009) (last visited Nov. 15, 2009).

would still need to be leased by MMS and licensed by FERC, regardless of what percentage of the project lies on either side.⁵³⁸

If the United States truly wishes to free itself from dependence on foreign oil, new technologies like WEC deserve a chance to succeed. That requires bold action like Congress took in crafting the OTEC Act in 1980. Let the competing technologies battle it out to determine which are truly viable and able to survive in the demanding ocean environment. Whether it be the SeaDog or the Wave Snake, the AquaBuOY or the PowerBuoy, WaveBob or Wave Dragon,⁵³⁹ clean WEC technology could help power the United States into the future.

⁵³⁸ GUIDANCE DOCUMENT, *supra* note 46, at 13.

⁵³⁹ BEDARD, *supra* note 1, at 10.