



3937

February 23, 2005

Ms. Karen Kirk Adams  
Cape Wind Energy Project  
EIS Project Manager  
U.S. Army Corps of Engineers  
New England District Office  
696 Virginia Road  
Concord, MA 01742-2751

RECEIVED  
FEB 24 2005  
U.S. ARMY CORPS OF ENGINEERS

Dear Ms. Adams:

On behalf of the Oceans Public Trust Initiative (OPTI), a project of the Earth Island Institute International Marine Mammal Project, I hereby submit comments on the draft EIS on the proposed Cape Wind project. As discussed in these comments, and our previous correspondence (all of which is hereby incorporated by reference – see attachments), OPTI is opposed to the issuance of this permit and has determined that the DEIS is fatally defective. Even if the Corps had legal authority to issue such a permit, and if the application did not violate numerous other federal laws, there would be no basis upon which the Corps could make a final decision on the application through this unlawful DEIS. As a result, no decision can be made other than permit denial. At the very least, a supplemental draft EIS would have to be issued because of the numerous flaws in the document that has been released for public review. The DEIS also fails under Massachusetts law, and cannot be used as a valid DEIR. Indeed, Massachusetts law prohibits this project, both the cable and project itself, due to its violation of the Massachusetts Ocean Sanctuary Act.

OPTI is familiar with, and supports the comments that have been submitted by, many other environmental organizations concerned with this project, in particular the members of the Safe Wind Coalition and the Alliance to Protect Nantucket Sound. Rather than repeat the many points of deficiency they have identified, OPTI adopts those comments and will focus on six primary issues: 1) lack of legal authority; 2) violation of the public trust doctrine; 3) marine protected areas; and 4) wildlife impacts; and 5) unlawful alternatives analysis. On each one of these grounds, the DEIS is deficient and the permit application is unlawful.

Before providing these specific comments, OPTI expresses its strong support for the development of renewable energy in general, and offshore wind, in particular. Unfortunately, the Bush Administration has a woefully inadequate record of taking actions to promote alternative energy and address the climate change problem. The failure of the Bush Administration to adopt a comprehensive energy program that focuses on renewable energy is one of the great failings of the federal government. That failure is only compounded by its unlawful review of this specific project. The federal government, through the Corps, appears

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to be trying to use this renegade private development proposal, which seeks to exploit a loophole in federal law and take control of public trust lands, for purposes of showing that the Bush Administration is proactive on renewable energy. Nothing could be further than the truth, as this proposed project is actually a set back for renewable energy. It is the worst possible "poster child" for renewable energy, seeking to be located in one of the most inappropriate locations anywhere in the country, and promoting maximum public controversy and potential for environmental harm merely to maximize the profits of the developers, who are hiding behind a veil of purported green energy benefits.

The proper course of action for the federal government is clear. Rather than promote individual projects of this nature and allow them to proceed through the inadequate section 10 review process, the United States should immediately undertake a programmatic review of all offshore wind resources in the country. On a regional basis, such a review should take place for the northeastern and mid-Atlantic states, where numerous sites have already been identified by individual parties. From among these sites, appropriate locations that do not result in significant environmental or other public trust conflicts could be identified for possible development. Once this occurs, appropriate authorization could be pursued from Congress to allow property rights to be issued for the use of these areas, after a legally sufficient review for environmental and other impacts on a site-specific basis. Competitive bids, rents, and royalties all should be collected, and returned to the U.S. Treasury, preferably earmarked for other forms of renewable energy benefit or environmental and conservation programs.

The Corps of Engineers has received this advice on numerous occasions. Its single-minded focus on taking an application in the door and processing it for a final determination, without regard to these higher principles of energy and environmental policy, has resulted in the travesty that is reflected through the Cape Wind permitting process. This situation is not only inexcusable, it amounts to a significant setback in the effort of this country to develop a reasonable, sustainable energy program that is consistent with principles of ocean governance and protection of the public trust.

It is not too late for the Corps of Engineers to take these steps. OPTI urges the Corps to do so immediately, by rejecting the Cape Wind application and undertaking the program outlined above. Doing so will not result in any delay in bringing offshore energy online, as no other projects are moving forward at this time, due primarily to the controversy and unpopularity of the Cape Wind proposal. By undertaking a comprehensive programmatic environmental impact review now, the federal government will still move forward in a timely way, with the kind of review that makes it possible for individual sites to advance under a permitting process on a time efficient and cost effective schedule.

1. Legal defects. The Corps, by this time, must know that section 10 is not a legally sufficient basis upon which to authorize this project. OPTI has submitted numerous letters to the Corps and other federal agencies documenting the fact that section 10 cannot be used to grant the necessary property rights for the construction of this project. All of these letters and responses are enclosed for the record. Attachment 1. In addition, we have identified the

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other flaws in section 10 from an environmental permitting perspective for a project of this nature.

In an inexcusable demonstration of federal decision-making, *not one* of the agencies to whom OPTI has written seeking a definitive statement as to whether section 10 is adequate for this purpose has had the courage or the decency to provide a substantive response. The reason for this is obvious: all of the agencies know that section 10 *cannot work for this purpose*. If section 10 was believed to be a sufficient tool for authorizing a project of this nature, no doubt one agency would have said so. The Corps' practice of simply "sticking its head in the sand", on this critical question, and taking the position that it can ignore the question of where the property rights would come from for a private party to make use of federally controlled public trust lands and waters, is not only an abdication of governmental responsibility, it is illegal.

The Corps can no longer dodge this question. The recent decision in the Cape Wind data tower case confirms that the Corps *must* answer this question. In the context of the review of this application, and responses to comments on the draft EIS, the Corps must take a position as to whether section 10 is a legally sufficient vehicle mechanism for this project. The answer is clearly "No," and OPTI specifically requests that the Corps respond to this point now. The First Circuit decision strongly suggests that this project cannot be built without Congressional approval, and the public has a right to know the Corps' position. In doing so, it also should address the fact that the U.S. Commission on Ocean Policy has reached the same conclusion, as has the Congressional Research Service. OPTI previously has provided these documents to the record, and hereby incorporates them by reference.

2. Public Trust Doctrine. The Corps, as a representative of the federal government and trustee of the people, must reject the proposal put forth by CWA because it contravenes the public trust doctrine. The public trust doctrine represent the idea the government has an affirmative duty to protect public lands and waters on behalf of the public's benefit.

The Outer Continental Shelf and its resources are thus impressed with a trust by the federal government. This trust not only applies to activities surrounding navigable waters and tidelands, such as commerce and fishing, but it also protects ecological integrity, water quality, recreation, wildlife and aesthetics. CWA's proposal would impact all of these things and thus run afoul of the public trust doctrine.

Furthermore, the public trust doctrine does not allow government to abdicate its trust responsibilities to the use and control of private parties. If the Corps was to grant CWA's wind energy plant, it would be ceding its trust responsibility to a private party, at least within the 24 square miles of CWA's facility. This cannot be done. Nor can the Corps give up parts of the outer continental shelf piecemeal when it is property held in trust for all the people.

In addition to protecting against the abdication of responsibility, the public trust doctrine bestows upon the Corps a duty to protect and preserve the wildlife and other natural resources on the Outer Continental Shelf. Because CWA's proposal would place these

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public natural resources in peril without any compelling public benefit in exchange, it further violates the public trust doctrine and must be rejected by the Corps.

The Corps must act in a way that is consistent with its duty as a trustee under the public trust doctrine. This consistency can only be achieved by denial of CWA's permit, which goes against the public's interest and puts natural resources in jeopardy.

3. Marine Protected Areas. As the Corps no doubt knows, Nantucket Sound qualifies as a marine protected area under Executive Order 13158. OPTI has previously clarified this point for the record as well, through correspondence with the Corps and the National Oceanic and Atmospheric Administration. Those letters are hereby incorporated by reference. Attachment 2. Under this Executive Order, the state sanctuary waters of the Sound meet the definition of a federal MPA. In addition, the fact that the entire Sound is designated as essential fish habitat under the Fishery Conservation and Management Act qualifies even the federal waters in the midst of Nantucket Sound as an MPA. Under the Executive Order, federal agencies are prohibited from causing harm to MPA's. Nantucket Sound will unquestionably be harmed by this project, as the sanctuary waters are specifically designated for the very features, such as scenic and ecological values, that will be damaged by this project. As a result, the Corps is required to deny the permit application under this Executive Order. It is no excuse that the federal government has not, once again through inexcusable delay, failed to formally list Nantucket Sound as an MPA. There is no question that the Sound is entitled to such protection to the Executive Order, and it must be applied by the Corps through this decision-making process.

4. Fish and Wildlife Impacts. The Cape Wind Project is a serious threat to fish and wildlife. The DEIS does a very poor job of analyzing these impacts. The information relied upon is in many cases out of date, and there is virtually no quantitative analysis presented. Instead, the document appears to read as if it was drafted by Cape Wind itself for no purpose other than officiating true impacts, avoiding coming to grips with the reality of the harm that it will cause, and leading the Corps down the path to an inevitable positive result. Such a weak analysis is not sufficient for purposes of complying with NEPA.

The project will clearly result in the significant take of a number of birds, including species protected under the Migratory Bird Treaty Act and the Endangered Species Act. As discussed in the attached article from the Earth Island Journal, this is a problem common to any wind energy projects. Attachment 3. In the case of the project, the applicant has not even seen it fit to undertake the types of studies that are readily available to assess such impacts. For example, it has refused to undertake the radar studies recommended by the Massachusetts Audubon Society, and instead is relying upon the insufficient and inaccurate visual surveys that have resulted in very low take estimates and other situations. This is made clear by the DEIS itself, as the visual observations produced only a handful of observed birds, where as the more accurate radar surveys indicate well over a hundred thousand targets, almost certainly birds and bats, went into the rotor swept zone during a brief period.

A similar problem of this was present for marine species, such as marine mammals (seals, dolphins, whales and sea turtles). This project, through the noise it will produce and other

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threats will result in the incidental take of such species, including those listed under the Endangered Species Act. Unlawful take also will occur under the Marine Mammal Protection Act. Such take is prohibited. In its effort to simplify the permitting process, the applicant is seeking to avoid obtaining the necessary incidental take permits for the affected species. These impacts will be the result of the noise caused by construction, if not operation, and by the attraction of fish to the structures which will in turn attract marine species for purposes of predation. By bringing other marine species, such as seals and sea turtles, into close proximity with the structures, this will most likely lead to take through harassment by exposure to the sound and vibration caused by the structure and through human interactions, as well as exposure to the electromagnetic fields from the cables for this energy project. Because the applicant has not applied for take authorization, the project itself is prohibited.

5. Alternatives. Perhaps the most serious defect of the DEIS is its singular focus on the applicant's project. The Corps has made a serious blunder by defining the purpose and need of this project in a manner that leads to only one possible result: the identification of the applicant's preferred project as the only acceptable site. This is the result of the inappropriate designation of the DEIS that it will consider only so-called "commercial scale" projects, which it then defines to be 200 megawatts or larger in New England. Anyone familiar with the New England landscape knows that it is impossible to locate renewable energy projects in this geography in virtually any location other than the water when they are to be of this size. Moreover, when the other criteria that Cape Wind has defined are applied in conjunction with the unlawful purpose and need, the end result is identifying Nantucket Sound as the preferred site. Thus, the alternatives analysis itself must fail.

The appropriate approach here is to consider a broader range of alternative energy projects, including those smaller in size, as well as to look at large-scale offshore projects outside of New England. There is absolutely no geographic reason, or environmental justification, for limiting the scope of review to New England. This is another example of the result-oriented review employed by the Corps. This was apparently done at the urging of Cape Wind.

The flawed alternatives analysis is the Achilles heel of this DEIS. Until the Corps adopts a broader statement of what this project is all about and analyzes alternatives in accordance with the approach, this NEPA analysis can never serve its function of considering the full range of options. Cape Wind seeks to make use of a vital public trust resource for its personal gain, and the Corps has a corresponding duty to analyze a wide range of alternatives that would avoid this result. These alternatives include all of the other offshore wind sites that have been identified by developers from Massachusetts to Virginia, onshore sites for much smaller projects, other sites for energy projects that would not produce significant amounts of pollution, deep water sites, other technology as previously identified to the Corps by OPTI, and the option of taking no action at this time, to allow offshore wind technology to improve so it can be located in other areas and the development of a legal regime that protects the public trust. Unless these alternatives are reviewed, the Corps cannot make a legally sufficient decision on the permit application unless the result is to deny it.

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For all of these reasons, the Corps must deny the Cape Wind permit application. Further review cannot occur without a supplemental EIS, and a new effort should be made to undertake a national renewable energy program that allows wind energy to proceed on an expedited basis in proper locations without violating the public trust.

Very truly yours,

A handwritten signature in black ink that reads "Cindy Lowry". The signature is written in a cursive, flowing style with a long, sweeping tail on the "y".

Cindy Lowry  
Director

Enclosures

cc: Secretary Ellen Roy Herzfelder

## ATTACHMENT I



January 5, 2005

Ms. Karen Adams  
New England District  
Corps of Engineers  
696 Virginia Rd.  
Concord, MA 01742-2751

Dear Ms. Adams:

I am writing in response to your letter of December 23, 2004, regarding a continuance for the December 16 meeting on the proposed Cape Wind project. While OPTI appreciates the second opportunity, we do not regard this to be an adequate substitution for a complete and adequate comment period or a full hearing conducted under normal circumstances.

The new procedure you describe provides insufficient notice for planning purposes and disadvantages parties who are not allowed to make their presentation in a full public setting. OPTI will not be able to attend, and does not regard it as an acceptable alternative to a full hearing. As I indicated at the initial meeting, I request that my written statement be included in the record. Also, I include that two-minute version, which I request that the Corps print in its transcript. OPTI renews its request for an extension of the comment period beyond the February 24 deadline, for the reasons stated in my letter of December 27, 2004 to Colonel Koning.

Sincerely,

Cindy Lowry  
Director

Enc.

cc: Congressman William Delahunt  
Senator Edward M. Kennedy  
Senator John Kerry  
Colonel Thomas Koning  
Attorney General Thomas Reilly  
Governor Mitt Romney



REPLY TO:  
ATTENTION OF:

**DEPARTMENT OF THE ARMY**  
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS  
696 VIRGINIA ROAD  
CONCORD, MASSACHUSETTS 01742-2751

December 23, 2004

Regulatory Division

Cindy A. Lowry  
Ocean Public Trust  
233 Water Street #1  
Hallowell, Maine 04347

Ms. Lowry,

In accordance with our Hearing Protocols, the December 16, 2004 hearing in Cambridge will reconvene on January 11, 2005, 4pm to 8pm, at our New England District office at Concord Park 696 Virginia Road, Concord, Massachusetts. We are providing this opportunity to those people who signed up to speak at the December 16<sup>th</sup> hearing but who were not called due to the time constraint. This hearing continuance will not be open to the general public, only those we are contacting.

As this is a secure Federal facility, it is necessary that you contact me by January 10, 2005 so that your name can be provided to the security guard. Please contact me at 978-318-8338 or email [wind.energy@usace.army.mil](mailto:wind.energy@usace.army.mil). Anyone not on the list will not be admitted. Visitors to our facility need to be aware that vehicles and bags are subject to inspection. A photo i.d. is required and we expect to be implementing a new system at the guard's desk. This would require visitors to let us make a temporary photo badge as you arrive.

Each person will be given two minutes to speak. A transcript will be available on our website approximately two- three weeks later. These statements, along with all written statements submitted, will receive equal consideration with those presented at any of the previous hearings. The record of this hearing will remain open and written comments may be submitted by mail until February 24, 2005.

If you prefer to provide a written statement, please follow these instructions to ensure that your comments are received on time and properly recorded: Reference file no. NAE-2004-338-1 and address written comments to:

Karen Kirk Adams, Cape Wind Energy Project EIS Project Manager  
Corps of Engineers, New England District  
696 Virginia Road  
Concord, MA 01742-2751

Mail (or email: [wind.energy@usace.army.mil](mailto:wind.energy@usace.army.mil)) your comments so that they will be received in Concord, MA on or before February 24, 2005. Thank you for taking the time to provide us with your comments and concerns.

Sincerely,

Karen Kirk Adams  
Regulatory Division



**TESTIMONY OF CINDY LOWRY**

**Director**

**Oceans Public Trust Initiative  
Earth Island Institute**

**presented to**

**U.S. Army Corps of Engineers**

**December 16, 2004**

**Cambridge, MA**

My name is Cindy Lowry, and I am the Director of the Oceans Public Trust Initiative, a project of the Earth Island Institute. Our mission is to ensure that the public trust in coastal and ocean resources is fully protected.

Here, the Corps has turned section 10 of the Rivers and Harbors Act into an all-purpose tool for allowing private developers to take control of public trust resources. The Corps has opened up a gaping loophole in the laws intended to manage our oceans by allowing private parties to exploit the oceans for its exclusive use and profit.

While it is certainly true that we, as a nation, are not doing nearly enough to combat climate change, we are also failing to do enough to protect our coastal resources. Offshore wind energy could have a role in decreasing the nation's harmful emissions, but not until we develop a national program for this purpose. The Cape Wind project will not even make an appreciable dent in global warming, but it will devastate Nantucket Sound and sacrifice the public trust under an inadequate environmental review. At the same time, it will set a terrible precedent.

At the heart of this problem is the basic question: Can a developer build a project in public trust waters with nothing more than a section 10 permit? For well over one year, we have attempted to get the federal government to answer this question. We have never received a direct response.

The Congressional Research Service recently stated: "It appears that no federal agency, including the Army Corps of Engineers, which permits structures only for navigability purposes, can authorize the occupation and use of OCS lands for wind

or other renewable energy purposes . . . . [C]onstruction on the OCS without first obtaining these rights would remain unlawful."

I would like to ask you:

Does the Corps agree with that statement?

The continued failure of the federal government to answer this question, while at the same time pushing the Cape Wind application through an inadequate review process is inexcusable.

In our opinion, a section 10 permit alone is meaningless for this project. The Corps should reject this permit application. Without federal legislation; without a means of transferring property rights; and without an adequate process (the U.S. Commission on Ocean Policy and the Congressional Research Service, among others, agree); this project cannot possibly be deemed to be in the public interest, and should not be allowed to go forward.



December 27, 2004

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
New England District  
696 Virginia Road  
Concord, MA 01742

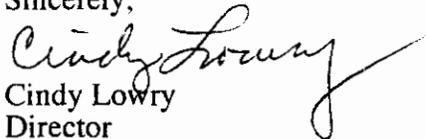
Dear Colonel Koning:

I am writing to ask the Army Corps of Engineers to extend the comment period beyond February 24 by at least an additional 60 days. OPTI is devoting its full resources to reviewing the draft environmental impact statement ("DEIS"), but the DEIS is of such size and complexity that we simply cannot review all of the sections in which we are interested by the current comment period deadline. An extension is necessary for us to provide full analysis to the Army Corps on the DEIS, which is, of course, one of the primary goals of the National Environmental Policy Act.

We would also like to note that although we devoted some time preparing a statement to present at one of the public hearings held on the DEIS, we were unable to testify because of the large number of people involved. As you suggested at the hearing, I left a copy of our testimony for the panel, but have also attached those comments for your consideration. As the experience at these meetings shows, the Corps is not allocating sufficient time for the public to express its strong concerns over this project. Having failed to provide sufficient hearing time, a fully adequate comment period is essential.

Thank you for considering our request. We look forward to hearing your response.

Sincerely,



Cindy Lowry  
Director



December 9, 2004

Ms. R. M. Burton  
Director, Minerals Management Service  
1849 C Street, N. W.  
Washington, D. C., 20240

Mr. Earl H. Stockdale  
General Counsel for the  
U.S. Department of the Army (Civil Works)  
441 G Street, NW  
Washington, DC 20314

Mr. Thomas L. Sansonetti  
Assistant Attorney General  
Environment/Natural Resources Division  
U.S. Department of Justice  
950 Pennsylvania Avenue, NW  
Washington, DC 20530-0001

Dear Ms. Burton, Mr. Sansonetti, and Mr. Stockdale:

I am writing to bring to your attention a report prepared by the Congressional Research Service (CRS) on the question of public trust property rights on the Outer Continental Shelf (OCS). See Attachment. By copy of this letter to Colonel Koning, I ask that this report and letter be included in the record of the Cape Wind DEIS proceeding.

On separate occasions, I have asked each of you, on behalf of the Oceans Public Trust Initiative (OPTI), whether the United States government considers a mere navigability permit under section 10 of the Rivers and Harbors Act sufficient to allow a private developer to use and occupy federal lands and waters on the OCS. I have also written to other officials with the Corps regarding this issue. As yet, I have not received a direct response to this question from any official with the federal government.

It is for this reason that I bring the report by the CRS to your attention. In the summary of the report, the author concludes that "there would appear to be no present mechanism for providing an applicant with the necessary property rights to begin construction." In the body of the report, the author also states, "It appears that no federal agency, including the Army Corps of Engineers, which permits structures only for navigability purposes, can authorize the occupation and use of OCS lands for wind and other renewable energy purposes under current law." CRS-12.

In light of this analysis, OPTI again asks the federal government, in its capacity as trustee for the OCS to the benefit of the general public, the following question: "Will the United States protect the public trust interests in the OCS by advising the Cape Wind Associates that constructing its proposed offshore wind plant on the basis of a section 10 permit is illegal?" Alternatively, will the Army Corps of Engineers terminate its review of this, and all other section 10 permit applications for this purpose since such applications do not serve as a legally sufficient authorization for the proposed private activities?

I greatly appreciate your consideration of this critical issue and look forward to your response to these questions. These questions have gone unanswered for far too long. Thank you.

Sincerely,



Cindy Lowry

Director, Oceans Public Trust Initiative

Cc: Governor Mitt Romney  
Attorney General Thomas Reilly  
Senator Edward Kennedy  
Senator John Kerry  
Congressman William Delahunt  
Colonel Koning  
Aaron M. Flynn, CRS

# CRS Report for Congress

Received through the CRS Web

## **Wind Energy: Offshore Permitting**

**November 1, 2004**

Aaron M. Flynn  
Legislative Attorney  
American Law Division

# Wind Energy: Offshore Permitting

## Summary

Technological advancements and tax incentives have driven a global expansion in the development of renewable energy resources. Wind energy, in particular, is now often cited as the fastest growing commercial energy source in the world. Currently all U.S. wind energy facilities are based on land; however, multiple offshore projects have been proposed and are moving through the permitting process.

It would seem relatively clear that the United States has the authority to permit and regulate offshore wind energy development within the zones of the ocean under its jurisdiction. The federal government and coastal states each have roles in the permitting process, the extent of which depends on whether the project is located in state or federal waters. Currently, no single federal agency is responsible for permitting activities on the submerged lands in federal waters, with regulatory authority allocated among various agencies based on the nature of the resource to be exploited. In addition to basic jurisdictional questions, it is not necessarily clear that current federal law should be interpreted to apply to offshore wind energy facilities or whether new laws will be needed.

The Army Corps of Engineers (Corps) has been exercising jurisdiction under the Rivers and Harbors Act and the Outer Continental Shelf Lands Act. Recently, in *Alliance to Protect Nantucket Sound v. United States Department of the Army*, a federal district court held that the Corps' jurisdiction under these laws was legally sound and upheld the Corps' decision to permit a preliminary data collection tower in federal waters. The reasoning of the court may be applied to the permitting of the larger-scale wind energy project itself, although the decision has been appealed and certain issues remain unresolved. Currently, it is arguable whether the Army Corps' jurisdiction extends to renewable energy projects in federal waters, and there would appear to be no present mechanism for providing an applicant with the necessary property rights to begin construction.

Several bills have been introduced in the 108th Congresses to address this issue, offering two distinct approaches to regulation. H.R. 793 would place authority for granting easements and rights-of-way on submerged federal lands in the hands of the Secretary of the Department of the Interior. Several versions of the Energy Policy Act of 2003, H.R. 6, and S. 2095, contain similar provisions. On the other hand, H.R. 1183 would place regulatory authority in the Secretary of the Department of Commerce by amending the Coastal Zone Management Act to allow specifically for renewable energy projects and the designation of ocean areas that would make suitable candidates for development.

This report will discuss the current law applicable to siting offshore wind facilities, the recent court challenges to the federal offshore permitting process, and the above-mentioned legislation that addresses offshore wind energy regulation. This report will be updated as events warrant.

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# Wind Energy: Offshore Permitting

Technological advancements and tax incentives have driven a global expansion in the development of renewable energy resources. Wind energy, in particular, is now often cited as the fastest growing commercial energy source in the world.<sup>1</sup> Currently, unlike much of Europe,<sup>2</sup> all wind power facilities in the United States are based on land; however, multiple offshore projects have now been proposed, including the Cape Wind project off the coast of Massachusetts and Winergy's proposals off the coasts of Massachusetts, New York, New Jersey, Delaware, Maryland, and Virginia.<sup>3</sup> These projects are relatively large undertakings requiring substantial investment; proposed wind farms off the coast of Massachusetts, consisting of approximately 170 turbines, are estimated to cost between \$500 million and \$700 million.<sup>4</sup>

There are multiple policy questions related to the feasibility and relative attractiveness of developing wind energy; however, the focus of this report is the current law applicable to siting offshore wind facilities, including the interplay between state and federal jurisdictional authorities. This report will also discuss the recent court challenges to the federal offshore permitting process and recent legislation that would address offshore wind energy regulation. This report will be updated as events warrant.

**Ocean Jurisdiction.** The jurisdiction of coastal nations over the world's oceans extends across various adjoining zones by operation of international conventions and by the domestic laws and proclamations of individual governments. Jurisdiction over U.S. waters is divided into four functional areas: the Territorial Sea, the Contiguous Zone, the Exclusive Economic Zone, and state-controlled waters. The federal government has differing levels of authority in each of these zones, vis-a-vis the states and vis-a-vis other nations. Even within these U.S. zones, all nations enjoy freedom of navigation and overflight as well as other internationally lawful uses of the sea, subject to the regulatory jurisdiction granted the coastal state

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<sup>1</sup> See U.S. DEP'T OF ENERGY & U.S. DEP'T OF THE INTERIOR, WHITE HOUSE REPORT IN RESPONSE TO THE NATIONAL ENERGY POLICY RECOMMENDATIONS TO INCREASE RENEWABLE ENERGY PRODUCTION ON FEDERAL LANDS at 6 (Aug. 2002).

<sup>2</sup> For an overview of offshore wind farm regulation in the United Kingdom, see, Nathanael D. Hartland, *The Wind and the Waves: Regulatory Uncertainty and Offshore Wind Power in the United States and United Kingdom*, 24 U. PA. J. INT'L ECON. L. 691 (2003).

<sup>3</sup> Betsie Blumberg, *Wind Farms: An Emerging Dilemma for East Coast National Parks*, in NATIONAL PARK SERVICE, NATURAL RESOURCE YEAR IN REVIEW—2003 63 (March 2004).

<sup>4</sup> Testimony of Attorney General Thomas F. Reilly, Subcommittee on Energy and Mineral Resources, Hearing Regarding HR 793, 108th Cong. (March 6, 2003) (available at [<http://resourcescommittee.house.gov/108cong/energy/2003mar06/reilly.htm>]).

over such things as setting optimum fishing allowances.<sup>5</sup> It would seem relatively clear, however, that, generally, the United States would have sufficient jurisdiction over each of its zones to authorize the construction and operation of offshore wind projects.

U.S. authority as against other nations begins at its coast — called the baseline — and extends 200 nautical miles out to sea. The first twelve nautical miles comprise the U.S. territorial sea.<sup>6</sup> Under the 1982 United Nations Convention on the Law of the Sea<sup>7</sup> (UNCLOS III), a coastal nation may claim sovereignty over the air space, water seabed, and subsoil within its territorial sea.<sup>8</sup> U.S. Supreme Court precedent and international practice indicate that this sovereignty authorizes coastal nations to permit offshore development within its territorial sea.<sup>9</sup>

The U.S. contiguous zone extends beyond the territorial sea to twenty-four nautical miles from the baseline. In this area, a coastal nation may regulate to protect its territorial sea and to enforce its customs, fiscal, immigration, and sanitary laws.<sup>10</sup> The exact contours of U.S. authority in the contiguous zone are not clearly defined, although the U.S. does not claim full sovereignty.<sup>11</sup> However, in addition to the jurisdiction specifically applicable to the contiguous zone, the jurisdiction the United States exercises over the EEZ is also applicable.

The U.S. EEZ extends 200 nautical miles from the baseline. In accordance with international law, the U.S. has claimed sovereign rights to explore, exploit, conserve, and manage EEZ natural resources of the sea-bed, subsoil, and the superadjacent waters.<sup>12</sup> U.S. jurisdiction also extends over “other activities for the economic exploitation and exploration of the zone, *such as the production of energy from the water, currents and winds*”<sup>13</sup> and, subject to some limitations, “the establishment and use of artificial islands, installations and structures; marine scientific research; and

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<sup>5</sup> Restatement (Third) of the Foreign Relations Law of the United States, § 514 (1986).

<sup>6</sup> Proc. No. 5928 (Dec. 27, 1988).

<sup>7</sup> United Nations Convention on the Law of the Sea, Dec. 10, 1982, 21 I.L.M. 1261 (entered into force Nov. 16, 1994)(hereinafter UNCLOS III).

<sup>8</sup> UNCLOS III arts. 2.1, 2.2, 3; *see also* United States v. California, 332 U.S. 19 (1947); Alabama v. Texas, 347 U.S. 272, 273-74 (1954).

<sup>9</sup> *See* United States v. California, 436 U.S. 32, 36 (1978); United States v. Alaska, 422 U.S. 184, 199 (1975); Alabama v. Texas, 347 U.S. 272, 273-74 (1954); United States v. California, 332 U.S. 19 (1947).

<sup>10</sup> UNCLOS III art. 33.

<sup>11</sup> United States v. De Leon, 270 F.3d 90, 91 n.1 (1st Cir. 2001); *see also* Vermilya-Brown Co. v. Connell, 335 U.S. 377, 381 (1948); Cuban Am. Bar Ass'n v. Christopher, 43 F.3d 1412, 1425 (11th Cir.1995) (control and jurisdiction is not equivalent to sovereignty).

<sup>12</sup> UNCLOS III arts. 56, 58.

<sup>13</sup> *Id.* art. 56.1 (emphasis added).

the protection and preservation of the marine environment.”<sup>14</sup> In almost all situations, the U.S. EEZ overlaps geographically with the Outer Continental Shelf (OCS), a geologically distinct area of appurtenant seabed referenced in several federal laws.<sup>15</sup>

Thus, it would seem clear that as against other nations, the United States would have legal authority to permit wind energy projects within the full range of its territorial sea, contiguous zone, and EEZ.

The relative jurisdiction of the federal government and the states is also of importance. The Submerged Lands Act of 1953<sup>16</sup> assured coastal states title to the lands beneath coastal waters in an area stretching, in general, three geographical miles from the shore.<sup>17</sup> Thus states, subject to federal regulation for “commerce, navigation, national defense, and international affairs” and the power of the federal government to preempt state law, may regulate the coastal waters within this area.<sup>18</sup> The remaining outer portions of waters over which the United States exercises jurisdiction are federal waters.<sup>19</sup>

In sum, it would seem relatively clear that the U.S. federal government would have permitting authority, supported by international law, for offshore wind farms. However, federal authority would be limited by the internationally recognized right of free passage and by the jurisdiction granted to the states under the Submerged Lands Act.

**Federal and State Permitting.** For *onshore* wind projects on federal public lands, the Department of the Interior, through the Bureau of Land Management, has created a comprehensive regulatory program under the Federal Land Policy and Management Act,<sup>20</sup> but no similarly comprehensive federal statutory or regulatory scheme exists for *offshore* wind energy development at this time. Still, the Army Corps of Engineers has undertaken the lead role in the federal permitting process, although some have questioned the Corps’ statutory authority to issue permits for wind energy facilities. States may also play a role in the permitting process in some

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<sup>14</sup> *Id.* art. 56.1(b).

<sup>15</sup> See U.S. Commission on Ocean Policy, *An Ocean Blueprint for the 21st Century: Final Report of the U.S. Commission on Ocean Policy, Primer on Ocean Jurisdictions: Drawing Lines in the Water*, Pre-Publication Copy 41-44 (2004), available at [[http://www.oceancommission.gov/documents/prepub\\_report/primer.pdf](http://www.oceancommission.gov/documents/prepub_report/primer.pdf)].

<sup>16</sup> 43 U.S.C. §§ 1301-1303, 1311-1315.

<sup>17</sup> *Id.* § 1301(a)(2). State jurisdiction typically extends three nautical miles (approximately 3.3 miles) seaward of the coast or “baseline.” Texas and the Gulf coast of Florida have jurisdiction over an area extending 3 “marine leagues” (9 nautical miles) from the baseline. Louisiana’s jurisdiction extends 3 “imperial nautical miles” (imperial nautical mile = 6080.2 feet) seaward of the baseline. 43 U.S.C. § 1301(a)(2).

<sup>18</sup> *Id.* §§ 1314(a), 1311(a)(2).

<sup>19</sup> *Id.* § 1302.

<sup>20</sup> 43 U.S.C. §§ 1701 *et. seq.*

instances, although their jurisdiction is more limited with regard to offshore projects located in federal waters. The following paragraphs will describe the nature of the permitting process as it is currently being implemented and the challenges to existing Corps practice.

*Federal Regulation.* Currently, the Army Corp of Engineers has taken the lead role in the federal permitting process, claiming jurisdiction under the Rivers and Harbors Act (RHA),<sup>21</sup> as amended by the Outer Continental Shelf Lands Act (OCSLA).<sup>22</sup> The Corps has jurisdiction under these laws to regulate obstructions to navigation within the “navigable waters of the United States”<sup>23</sup> and, under what are arguably more limited circumstances, on the Outer Continental Shelf — thus the Corps has authority over structures in state and federal navigable waters. No federal legislation explicitly addresses the permitting of offshore renewable energy facilities, and the Corps position is based on what some argue is an overly broad interpretation of its statutory authority. In addition to the Corps’ review for navigability-related purposes, the views of other federal agencies that have jurisdiction by law or special subject matter expertise, along with the views of state and local agencies, are taken into consideration during the environmental review process mandated by the National Environmental Policy Act (NEPA).<sup>24</sup>

NEPA requires federal agencies to take a “hard look” at the environmental consequences of their actions. In general, NEPA and its implementing regulations require various levels of environmental analysis depending on the circumstances and the type of federal action contemplated. Certain actions that have been determined to have little or no environmental effect are exempted from preparation of NEPA documents entirely and are commonly referred to as “categorical exclusions.”<sup>25</sup> In situations where a categorical exclusion does not apply, an intermediate level of review, an environmental assessment (EA), may be required. If, based on the EA, the agency finds that an action will not have a significant effect on the environment, the agency issues a “finding of no significant impact” (FONSI), thus terminating the NEPA review process. On the other hand, major federal actions that are found to significantly affect the environment require the preparation of an environmental impact statement (EIS), a document containing detailed analysis of the project as proposed, as well as other options, including taking no action at all. NEPA does not

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<sup>21</sup> 33 U.S.C. §§ 407-687.

<sup>22</sup> 43 U.S.C. §§ 1331-1356a.

<sup>23</sup> Corps regulations define the “navigable waters of the United States” as “those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.” 33 C.F.R. § 329.4. Under the RHA, navigable waters “includes only those ocean and coastal waters that can be found up to three geographic miles seaward of the coast.” *Alliance To Protect Nantucket Sound, Inc. v. U.S. Dept. of Army* 288 F.Supp.2d 64, 72 (D.Mass.,2003); see also 33 C.F.R. § 329.12(a). On the OCS, however, the Corps’ regulatory jurisdiction extends beyond that three-mile limit for, at least certain purposes. 43 U.S.C. § 1333(a)(1), (e).

<sup>24</sup> 42 U.S.C. §§ 4321 *et. seq.*

<sup>25</sup> 40 C.F.R. § 1508.4 (2003).

direct an agency to choose any particular course of action; the only purpose of an EIS is to ensure that environmental consequences are considered. Thus, in practice, NEPA review will provide information on wind energy projects beyond mere impacts on navigability, and will include impacts to:

existing resources of the final alternative sites in terms of physical oceanography and geology; wildlife, avian, shellfish, finfish and benthic habitat; aesthetics, cultural resources, socioeconomic conditions, and air and water quality. Human uses such as boating and fishing will also be described.<sup>26</sup>

In addition to the role interested parties and cooperating agencies may play under NEPA, certain federal agencies have independent sources of jurisdiction over specific ocean resources. Thus, they would also likely be involved in the permitting of offshore wind energy facilities. Some of the most relevant authorities are the Endangered Species Act (ESA)<sup>27</sup> and the Migratory Bird Treaty Act (MBTA).<sup>28</sup>

Briefly, each of these laws makes it illegal to inflict certain kinds of harm upon designated species of plants and animals. The ESA prohibits any person, including private entities, from “taking” a “listed” species.<sup>29</sup> “Take” is broadly defined as “to

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<sup>26</sup> See U.S. ARMY CORPS OF ENG'RS, ENVIRONMENTAL IMPACT STATEMENT: SCOPE OF WORK, WIND POWER FACILITY PROPOSED BY CAPE WIND ASSOCIATES, LLC 3, *available at* [<http://www.nae.usace.army.mil/projects/ma/ccwf/windscope.pdf>] (last visited Feb. 20, 2004).

<sup>27</sup> 16 U.S.C. §§ 1531-1544. It should also be noted that it is perhaps arguable that the ESA does not apply in certain U.S. waters or extraterritorially. However, section 9, which prohibits the taking of listed species, specifically states that it applies in the U.S. territorial sea and upon the high seas (i.e. areas beyond national jurisdiction). 16 U.S.C. § 1538(a)(1)(A), (C). So far, all U.S. wind farm proposals have been within the boundaries of the U.S. territorial sea and would thus appear to be covered by section 9. The section 7 consultation provision described above does not appear to expressly address applicability in U.S. waters or extraterritorially; however, the law states that it applies, to “any action authorized, funded, or carried out” by a federal agency, and regulations implementing section 7 make clear that consultation is required for actions taken within the United States and on the high seas. 16 U.S.C. § 1536; 50 C.F.R. § 402.01. The extent to which the phrase “within the United States” includes portions of the ocean under U.S. sovereignty or control is unclear; however, it may arguably include the territorial sea, over which the U.S. exercises full sovereignty. The application of the ESA in areas under the jurisdiction of other nations would be more questionable but is beyond the scope of this report. *See Lujan v. Defenders of Wildlife*, 504 U.S. 555, 589 (1992) (Stevens, J., concurring). In addition to ESA language pertaining to jurisdiction, the OCSLA does state that “[t]he Constitution and laws and civil and political jurisdiction of the United States are hereby extended to the subsoil and seabed of the outer Continental Shelf and to all artificial islands, and all installations ... to the same extent as if the outer Continental Shelf were an area of exclusive Federal jurisdiction located within a State....,” lending credence to the idea that the ESA will apply in U.S. waters. 43 U.S.C. § 1333(a)(1).

<sup>28</sup> 16 U.S.C. §§ 703-712.

<sup>29</sup> Under the ESA, species are listed as either “endangered” or “threatened” based on the risk of their extinction. An “endangered” species is “any species which is in danger of extinction (continued...)”

harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct.”<sup>30</sup> Additionally, a federal agency permitting or undertaking action that could impact a protected species is subject to section 7 of the ESA, which requires consultation with the U.S. Fish and Wildlife Service (FWS) or the National Marine Fisheries Service (NMFS or NOAA Fisheries), depending upon the species affected.<sup>31</sup>

The section 7 consultation process involves several initial steps leading to a determination of whether a listed species or its designated critical habitat is present in a project area.<sup>32</sup> If a species or critical habitat is present, then the permitting/acting federal agency must prepare a biological assessment, evaluating the potential effects of the action.<sup>33</sup> If the acting federal agency determines that a project may adversely affect a listed species or critical habitat, formal consultation and preparation of a biological opinion is required.<sup>34</sup> The biological opinion contains a detailed analysis of the effects of the agency action and contains the final determination as to whether the proposed action is likely to jeopardize the species or destroy or adversely modify its critical habitat.<sup>35</sup> If review results in a jeopardy or adverse modification determination, the biological opinion must identify any “reasonable and prudent alternatives” that could allow the project to proceed.<sup>36</sup> Projects that will result in a level of injury to a species or habitat that will fall short of jeopardizing survival may still be approved subject to certain terms.<sup>37</sup> The agency may be allowed to “take” some individuals of a listed species without triggering penalties under the act. These incidental takings are to be described in a statement accompanying the biological opinion.<sup>38</sup> Takings allowed under the consultation process are deemed consistent

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<sup>29</sup> (...continued)

throughout all or a significant portion of its range ....” A “threatened” species is “any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” 16 U.S.C. §§ 1532(6), (20).

<sup>30</sup> 16 U.S.C. § 1532(19).

<sup>31</sup> *Id.* § 1536(2).

<sup>32</sup> 50 C.F.R. § 402.12(c) (2004). It should also be noted that some protections also attach to “candidate” species, i.e. those proposed but not officially listed. Under current law, an agency must “confer” with the appropriate Secretary if agency action will likely jeopardize the continued existence of any candidate species or adversely modify critical habitat proposed for designation. This is distinct from the section 7 consultation process, less formal, and meant to assist planning early in the process should the species be listed and more definite protections attach. See 16 U.S.C. § 1536(a)(4); 50 C.F.R. § 402.10.

<sup>33</sup> 50 C.F.R. § 402.12(b), (d) (2004).

<sup>34</sup> *Id.* § 402.14(e).

<sup>35</sup> *Id.* § 402.14(h).

<sup>36</sup> *Id.* § 402.14(h)(3).

<sup>37</sup> *Id.* § 402.14(i).

<sup>38</sup> *Id.* § 402.14(i)(1)(i)-(v).

with the ESA and, thus, are not subject to the penalties under the act and no other authorization or permit is required.<sup>39</sup>

The MBTA is the domestic law that implements the United States' obligations under separate treaties with Canada, Japan, Mexico and Russia for the protection of migratory birds.<sup>40</sup> The MBTA generally prohibits the taking, killing, possession, transportation, and trafficking in of migratory birds, their eggs, parts, and nests.<sup>41</sup> Like the ESA, the general ban on taking protected birds can be waived under certain circumstances. Pursuant to section 704, the Secretary of the Interior is authorized to determine if, and by what means, the take of migratory birds should be allowed.<sup>42</sup> FWS is responsible for permitting activities that would otherwise violate the MBTA. Its regulations at 50 C.F.R. § 21 make exceptions from permitting requirements for various purposes and provide for several specific types of permits, such as import and export permits, banding and marking permits, and scientific collection permits.<sup>43</sup> More general permits for special uses are also provided for under the regulations, although an applicant must make "a sufficient showing of benefit to the migratory bird resource, important research reasons, reasons of human concern for individual birds, or other compelling justification."<sup>44</sup> It would not appear that FWS has promulgated regulations specific to the sort of unintentional harm caused by the rotating turbines of wind energy projects, thus it is not clear that the permitting process provided for under current regulations is immediately applicable to wind energy projects.<sup>45</sup> The Service has, however, adopted voluntary, interim guidelines for minimizing the wildlife impacts from wind energy turbines.<sup>46</sup> As these guidelines indicate, compliance does not shield a company from prosecution for MBTA violations; however, "the Office of Law Enforcement and Department of Justice have used enforcement and prosecutorial discretion in the past regarding individuals, companies, or agencies who have made good faith efforts to avoid the take of migratory birds."<sup>47</sup>

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<sup>39</sup> 16 U.S.C. § 1536(b)(4); 50 C.F.R. § 402.14(i)(5).

<sup>40</sup> Birds that receive protection under the MBTA are listed at 50 C.F.R. 10.13 (2003).

<sup>41</sup> 16 U.S.C. § 703.

<sup>42</sup> 16 U.S.C. § 704.

<sup>43</sup> 50 C.F.R. §§ 21.11-21.26 (2003).

<sup>44</sup> *Id.* § 21.27.

<sup>45</sup> See 69 Fed. Reg. 31074 (June 2, 2004) ("Current regulations authorize permits for take of migratory birds for activities such as scientific research, education, and depredation control. However, these regulations do not expressly address the issuance of permits for incidental take.").

<sup>46</sup> U.S. Fish and Wildlife Service, *Interim Guidelines to Avoid and Minimize Wildlife Impacts from Wind Turbines*, (May 2003) (*available at* [<http://www.fws.gov/r9dhebf/wind.pdf>]).

<sup>47</sup> U.S. Fish and Wildlife Service, *Memorandum, Service Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines at 2* (May 2003).

*State Regulation.* States may also play a regulatory role, whether the project is proposed for construction in federal or state waters. State jurisdiction over projects located in federal areas is substantially circumscribed; however, under the Coastal Zone Management Act<sup>48</sup> (CZMA) states are explicitly granted some regulatory authority. In general, the CZMA encourages states to enact coastal zone management plans to coordinate protection of habitats and resources in coastal waters.<sup>49</sup> The act establishes a policy of preservation alongside sustainable use and development that is compatible with resource protection.<sup>50</sup> Under the act, state coastal zone management programs that are approved by the Secretary of Commerce receive federal monetary and technical assistance. State programs must designate land and water conservation measures and permissible uses,<sup>51</sup> and must address various sources of water pollution.<sup>52</sup> Of particular importance here, the CZMA also requires that the federal government and federally permitted activities comply with state programs.<sup>53</sup> Responding to a Supreme Court decision that excluded OCS oil and gas leasing from state review under the CZMA, Congress amended the “consistency review” provision to include the impacts on a state coastal zone from federal actions in federal waters.<sup>54</sup> Thus, states have some authority to assure themselves that federally-permitted projects in federal waters will not result in a violation of state coastal zone management regulation.

In addition to consistency review, projects to be constructed in state waters, including any cables that would be necessary to transmit power back to shore, are subject to all state regulation or permitting requirements. Coastal zone regulation varies significantly among the states. The CZMA itself establishes three generally acceptable frameworks: (1) “[s]tate establishment of criteria and standards for local implementation, subject to administrative review and enforcement;” (2) “[d]irect State land and water use planning and regulation;” and (3) regulation development and implementation by local agencies, with state-level review of program decisions.<sup>55</sup>

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<sup>48</sup> 16 U.S.C. §§ 1451-1464.

<sup>49</sup> Coastal U.S. states and territories, including the Great Lakes states are eligible to receive federal assistance for their coastal zone management programs. Currently, there are 33 approved state and territorial plans. Of eligible states, only Illinois does not have an approved program. See National Oceanic and Atmospheric Administration, Office of Ocean and Coastal Resource Management, State and Territory Coastal Management Program Summaries, available at [<http://www.ocrm.nos.noaa.gov/czm/czmsitelist.html>].

<sup>50</sup> *Id.* § 1452(1), (2).

<sup>51</sup> *Id.* § 1455(d)(2), (9)-(12).

<sup>52</sup> *Id.* § 1455(d)(16).

<sup>53</sup> *Id.* § 1456(c).

<sup>54</sup> *Id.*; *Sec'y of the Interior v. California*, 464 U.S. 312, 315 (1984).

<sup>55</sup> 16 U.S.C. § 1455(d)(11).

Within this framework, several states, such as New Jersey, California, and Rhode Island, centralize authority for their programs in one agency.<sup>56</sup> In New Jersey, for instance, the state Department of Environmental Protection (through the Coastal Management Office within the Commissioner's Office of Policy, Planning, and Science) is the lead agency for coastal zone management under several state laws.<sup>57</sup> The majority of states, however, operate coastal zone management programs under "networks" of parallel agencies, with various roles defined by policy guidance and memoranda of understanding.<sup>58</sup> In Massachusetts, for instance, coastal zone management is tended to by a variety of agencies, including the Departments of Environmental Protection, Environmental Management, Fisheries and Wildlife, and Food and Agriculture, the Metropolitan District Commission, the Energy Facilities Siting Board, and the Executive Office of Transportation and Construction.<sup>59</sup> Based on a series of MOUs, each agency is obligated to issue and apply state regulations and permits consistently with the state's coastal zone management program.<sup>60</sup> Thus, depending on the state with jurisdiction, offshore wind energy projects can be subject to comprehensive regulation with permitting authority located within multiple state and local level agencies.

**Corps Regulation Challenge.** The authority of the Army Corps of Engineers to permit offshore wind energy projects has already been challenged in court in *Alliance to Protect Nantucket Sound v. United States Department of the Army*.<sup>61</sup> The case deals with the two primary obstacles to the current federal system applied to offshore wind energy permitting: (1) the limits of Corps jurisdiction on the outer continental shelf and (2) the current lack of administrative authority to convey OCS property rights for renewable energy.<sup>62</sup> In September 2003, a Massachusetts district court granted summary judgment in favor of the Army Corps interpretation, at least with respect to construction of an initial data gathering tower, although it would appear that its reasoning would be applicable to the larger-scale wind farm project itself. At present, the case is on appeal with the United States Court of

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<sup>56</sup> See Rusty Russell, *Neither Out Far Nor In Deep: The Prospects for Utility-Scale Wind Power in the Coastal Zone*, 31 B.C. ENVTL. AFF. L. REV. 221, 240-41 (2004).

<sup>57</sup> E.g. Freshwater Wetlands Protection Act N.J.S.A. 13:9B; Flood Hazard Area Control Act, N.J.S.A. 58:16A; Wetlands Act of 1970, N.J.S.A. 13:9A; Waterfront Development Act, N.J.S.A. 12:5-3; NJ Water Pollution Control Act - N.J.S.A. 58:10A; Coastal Area Facility Review Act (CAFRA), N.J.S.A. 13:19; Tidelands Act, N.J.S.A. 12:3.

<sup>58</sup> Rusty Russell, *supra* note 23, at 241.

<sup>59</sup> MASSACHUSETTS OFFICE OF COASTAL ZONE MGMT., MASSACHUSETTS COASTAL ZONE MANAGEMENT PLAN 113-121 (Mar. 2002), available at [<http://www.state.ma.us/czm/managementplan.pdf>].

<sup>60</sup> *Id.* at App. E.

<sup>61</sup> *Alliance to Protect Nantucket Sound v. United States Department of the Army*, 288 F.Supp.2d 64 (D. Mass. 2003).

<sup>62</sup> *Id.* at 67. Additional arguments were also presented regarding the adequacy of the Corps' NEPA analysis.

Appeals for the First Circuit.<sup>63</sup> The following paragraphs discuss the generally applicable jurisdiction concerns as well as the interpretation accepted in the *Alliance* case.

**Corps OCS Jurisdiction.** The first major issue facing offshore wind energy projects is the applicability of the Rivers and Harbors Act and the Outer Continental Shelf Lands Act to these projects. Section 10 of the Rivers and Harbors Act authorizes the Army Corps to review and permit any project that would obstruct the “navigable waters of the United States.”<sup>64</sup> Under this law, as interpreted by the Corps, jurisdiction is limited to state-controlled waters.<sup>65</sup> Thus, it would seem relatively clear that the Corps has permitting jurisdiction under the Rivers and Harbors Act for any wind energy project that would be sited in state-controlled portions of the territorial sea. The OCSLA extends the Corps’ jurisdiction to the OCS, although it is arguable that renewable energy projects to be sited in federal waters are beyond the scope of the Corps’ extended jurisdiction. In general, the OCSLA authorizes the Department of the Interior to lease certain mineral resources of the submerged lands in federal waters.<sup>66</sup> Leasing of the seabed can thus only occur for specified purposes. 43 U.S.C. § 1333(e) of the OCSLA extends Corp navigability permit jurisdiction to the OCS. It states:

The authority of the Secretary of the Army to prevent obstruction to navigation in the navigable waters of the United States is extended to the artificial islands, installations, and other devices referred to in subsection (a) of this section.<sup>67</sup>

43 U.S.C. § 1333(a), referenced in (e) states, in relevant part:

The Constitution and laws and civil and political jurisdiction of the United States are extended to the subsoil and seabed of the outer Continental Shelf and to all artificial islands, and all installations and other devices permanently or temporarily attached to the seabed, *which may be erected thereon for the purpose of exploring for, developing, or producing resources therefrom*, or any such installation or other device (other than a ship or vessel) for the purpose of *transporting* such resources ....<sup>68</sup>

The meaning of this section is subject to differing interpretations. Arguably, the language of these provisions indicates that Corps permitting authority on the OCS is limited to those structures that might be built and used for the purpose of exploring for, developing, producing, or transporting the resources that have been extracted from the seabed. Such an interpretation would appear to exclude wind energy

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<sup>63</sup> See Appellants' Designation of the Contents of the Appendix and Statement of Issues, *Alliance to Protect Nantucket Sound, Inc. v. U.S. Dep't of the Army*, 288 F. Supp. 2d 64 (D. Mass. 2003), appeal docketed, No. 03-2604 (1st Cir. Nov. 24, 2003).

<sup>64</sup> 33 U.S.C. § 403.

<sup>65</sup> 33 C.F.R. § 329.12.

<sup>66</sup> See generally 43 U.S.C. § 1337.

<sup>67</sup> 43 U.S.C. § 1333(e).

<sup>68</sup> 43 U.S.C. § 1333(a)(1).

facilities from the Corps' authority. On the other hand, the court in the *Alliance* case found significance in the use of the word "may," holding that Corp jurisdiction extends to all structures that *may or may not* be used to explore for, develop, or produce resources.<sup>69</sup> It is arguable, however, that the phrase "may be" implies only that construction may or may not occur and does not indicate that the designated purposes are optional. Thus, the language of the statute can be read so as to deny Corps jurisdiction over offshore renewable energy projects; however, OCSLA legislative history and agency interpretation indicate that Congress did not intend to limit the Corps' authority to structures used for mineral exploration, development, extraction, or transportation, as discussed below.

Army Corps regulations do not explicitly address the extent of its authority on the OCS. They do recognize that Corps jurisdiction over the OCS is based on the OCSLA, stating that Corps jurisdiction has been extended to "artificial islands, installations, and other devices located on the seabed, to the seaward limit of the outer continental shelf..."<sup>70</sup> Notably, unlike the OCSLA itself, this provision does not make reference to the purpose for which these structures are used, arguably indicating that the Corps interprets its jurisdiction broadly. Additionally, Guidance Letter 88-08, a Corps policy statement and not itself enforceable law, interprets the legislative history of the OCSLA to indicate that Congress intended that the Corps regulate all OCS structures regardless of the purpose served, including even such things as offshore gambling casinos.<sup>71</sup> The Letter does not provide the analysis leading up to this conclusion; however, the court in the *Alliance* case relied heavily on the statute's legislative history in upholding the Corps interpretation, according the Corps deference under the *Chevron* standard.<sup>72</sup>

As originally enacted, the OCSLA provided that the jurisdiction of the Corps "extended to artificial islands and fixed structures located on the outer Continental

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<sup>69</sup> *Alliance to Protect Nantucket Sound v. United States Department of the Army*, 288 F. Supp.2d 64, 75 (D. Mass. 2003).

<sup>70</sup> 33 C.F.R. § 320.2(b).

<sup>71</sup> Army Corps of Engineers, Regulatory Guidance Letter 88-08 (July 20, 1988), available at [<http://www.usace.army.mil/inet/functions/cw/cecwo/reg/rgls/rgl88-08.htm>]. Guidance Letter 88-08 was set to expire in 1990; however, the Corps indicates that unless superseded by subsequently issued regulations or guidance letters, "the guidance provided in RGL's generally remains valid after the expiration date." See Army Corps of Engineers, Regulatory Guidance Letters, at [<http://www.usace.army.mil/inet/functions/cw/cecwo/reg/rglsindx.htm>]. Regulations and subsequent guidance letters do not appear to address or revise the Corps position contained in the 1988 opinion.

<sup>72</sup> As established in *Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, an agency's interpretation of a statute it is charged with administering it is entitled to special deference. If Congressional intent is not clear from the face of a statute, agency interpretation is generally upheld so long as it is reasonable. *Chevron*, 467 U.S. at 842-45 (1984). If Congressional intent is clear from the face of the statute, "the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress." *Id.* at 843.

Shelf,” making no explicit reference to the purpose of such structures.<sup>73</sup> The provision was subsequently amended, taking on its current form so as to reference the resource development purposes of OCS structures. However, as the legislative history indicates, at the time of the amendment, Congress understood the Corps’ jurisdiction under the OCSLA to apply to all artificial islands and fixed structures on the OCS, regardless of purpose.<sup>74</sup> Further, the conference report indicates that Congress did not intend to limit the Corps’ jurisdiction in this respect, but rather to conform the section to other amended provisions.<sup>75</sup>

**Use of the OCS.** An additional issue relevant to the construction of offshore wind facilities is the matter of who is authorized to use the federally-controlled submerged lands of the OCS. Because any wind turbines would be attached to the seabed of the OCS, some authorization to occupy the submerged lands of the OCS would be required before construction could legally take place. Use of federal lands, including the OCS, requires some form of permission, such as a right-of-way, easement, or license.<sup>76</sup> Use or occupancy of the OCS without such authorization arguably constitutes common law trespass.<sup>77</sup> However, the Court of Appeals for the Fifth Circuit has held that because the United States does not own the OCS in fee simple, it cannot claim trespass based on unauthorized construction on OCS.<sup>78</sup> On the other hand, the court stated, “[n]either ownership nor possession is, however, a necessary requisite for the granting of injunctive relief,” because the United States has paramount rights to the OCS and an interest to protect.<sup>79</sup> Thus damages, available under trespass, may not be available for unauthorized construction on the OCS, while injunctive relief would appear possible even under more constrained interpretations of U.S. authority.

It appears that no federal agency, including the Army Corps of Engineers, which permits structures only for navigability purposes, can authorize the occupation and use of OCS lands for wind or other renewable energy purposes under current law. In the *Alliance* case, the plaintiffs claimed that the Corps had acted unlawfully by issuing its permit knowing that the project applicant would not be able to acquire the

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<sup>73</sup> Act of Aug. 7, 1953, ch. 345, 67 Stat. 462 § 4(f).

<sup>74</sup> H.R. Conf. Rep. No. 95-1474 at 82 (1978), reprinted in U.S.C.C.A.N. at 1674, 1681.

<sup>75</sup> *Id.*

<sup>76</sup> Several federal laws would appear to indicate that Congress intends usage of the OCS to be undertaken only when permission has been expressly granted. See 43 U.S.C. § 1332(1), (3) (“the subsoil and seabed of the outer Continental Shelf appertain to the United States and are subject to its jurisdiction, control, and power of disposition ....;” see also 42 U.S.C. § 9101(a)(1)(stating that the purpose of the Ocean Thermal Energy Conversion Act is to “authorize and regulate the construction, location, ownership, and operation of ocean thermal energy conversion facilities.”).

<sup>77</sup> See 43 U.S.C. § 1333(a)(2)(A) (applying the criminal and civil laws of states adjacent to the OCS as federal law); see also Guy R. Martin, *The World’s Largest Wind Energy Facility in Nantucket Sound? Deficiencies in the Current Regulatory Process for Offshore Wind Energy Development*, 31 B.C. Env’tl. Aff. L. Rev. 300, n.96 (2004).

<sup>78</sup> *United States v. Ray*, 423 F.2d 16, 22 (5th Cir. 1970).

<sup>79</sup> *Id.*

requisite property rights to construct its project.<sup>80</sup> The court did not directly address the issue of whether property rights on the OCS could be granted for renewable energy projects under the current administrative system; however, the court did decide that the Army Corps is not required to validate existing property rights or otherwise become involved in ongoing property disputes prior to issuing a navigability-related permit.<sup>81</sup> The Alliance to Protect Nantucket Sound argued, and continues to argue on appeal, that because the applicant for the permit could not legally obtain the requisite property rights, the Corps was in violation of its own regulations.<sup>82</sup> Corps regulations state:

A DA [Department of the Army] permit does not convey any property rights, either in real estate or material, or any exclusive privileges. Furthermore, a DA permit does not authorize any injury to property or invasion of rights or any infringement of Federal, state or local laws or regulations. The applicant's signature on an application is an affirmation that the applicant possesses or will possess the requisite property interest to undertake the activity proposed in the application. The district engineer will not enter into disputes but will remind the applicant of the above. The dispute over property ownership will not be a factor in the Corps public interest decision.<sup>83</sup>

The Corps interprets these regulations to require only that an applicant affirm that it possesses or will possess the requisite property rights prior to construction. The court found the agency's interpretation to be "entirely consistent with its regulations."<sup>84</sup> Thus, in accordance with this decision, the Corps does not have a responsibility to deny a permit even when property rights cannot presently be obtained; however, construction on the OCS without first obtaining these rights would remain unlawful. ]

**Recent Legislation.** Several bills that address offshore wind facility siting have been introduced. H.R. 793 would amend the OCSLA to authorize the Secretary of the Department of the Interior to grant easements or rights-of-way on the OCS for activities, such as renewable energy projects, not otherwise authorized in the OCSLA or other law.<sup>85</sup> Among other things, H.R. 793 would require the Secretary to establish "reasonable forms of annual or one-time payments" that are not based on "throughput or production" for any property interests granted under its provisions, and would also authorize the Secretary to establish "fees, rentals, bonus, or other

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<sup>80</sup> Alliance to Protect Nantucket Sound v. United States Department of the Army, 288 F.Supp. 2d 64, 67 (D. Mass. 2003).

<sup>81</sup> *Id.* at 77-78.

<sup>82</sup> *See id.* at 77.

<sup>83</sup> 33 C.F.R. § 320.4(g)(6).

<sup>84</sup> Alliance to Protect Nantucket Sound, 288 F.Supp.2d at 78.

<sup>85</sup> H.R. 793, 108th Cong. (2003); *see also* H.R. 5156, 107th Cong. (2002).

payments” that would not appear to be subject to these limitations.<sup>86</sup> Additionally, the bill would require the Secretary to consult with other federal agencies and to prescribe any necessary regulations to assure “safety, protection of the environment, prevention of waste, and conservation of the natural resources of the outer Continental Shelf, protection of national security interests, and the protection of correlative rights therein.”<sup>87</sup>

Very similar language is contained in several versions of the Energy Policy Act of 2003, H.R. 6<sup>88</sup> and S. 2095.<sup>89</sup> Section 321 of both bills contains a measure not found in H.R. 793 that would exclude projects that have been constructed before the date of the bill’s enactment or for which a request for proposal has been issued by a public authority from resubmitting “documents previously submitted” or obtaining “reauthorization of actions previously authorized.”<sup>90</sup>

A different approach is taken in H.R. 1183,<sup>91</sup> which would amend the Coastal Zone Management Act to provide for the location and permitting of renewable energy facilities in the marine environment.<sup>92</sup> Unlike H.R. 793, this bill would apply solely to the siting of renewable energy facilities, defined in the bill as “a source of energy that is regenerative and is produced without depleting or otherwise diminishing the resource from which such energy is derived. Such term includes, but is not limited to, solar, thermal, and wind energy sources.”<sup>93</sup> The bill would establish a federal licensing program, managed under the authority of the Secretary of Commerce, for facilities in federal waters. Among other things, the bill contains provisions requiring environmental, national security, and safety regulation in consultation with other agencies and would require the Secretary of Commerce to identify those waters under federal jurisdiction that have the greatest renewable energy potential.<sup>94</sup>

**Conclusion.** Interest in developing offshore wind energy resources continues to grow, and projects are already in the initial stages of development. It would seem clear that the United States, vis-a-vis other nations, would have the right to permit offshore development in its territorial sea and on the Outer Continental Shelf, subject to state authority over offshore areas under the Submerged Lands Act. Currently,

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<sup>86</sup> H.R. 793, 108th Cong. § 1(b) (2003) (amending 43 U.S.C. 1337 and adding new subsection (p)).

<sup>87</sup> *Id.*

<sup>88</sup> H.R. 6, 108th Cong., § 321 (2003).

<sup>89</sup> S. 2095, 108th Cong. § 321 (2004).

<sup>90</sup> *Id.* § 321(c).

<sup>91</sup> H.R. 1183, 108th Cong. § 2(b) (2003).

<sup>92</sup> *Id.* § 101.

<sup>93</sup> *Id.* § 3(a) (amending 16 U.S.C. 1453 and adding new subsection (17)).

<sup>94</sup> *Id.* § 202.

there is no federal law that authorizes an agency to transfer property rights or license the use of federal offshore areas for renewable energy purposes. It is also questionable whether the Army Corps of Engineers, which has jurisdiction under the Rivers and Harbors Act and the Outer Continental Shelf Lands Act to permit obstructions to navigability, is authorized to issue permits for offshore wind development under current law. Multiple pieces of legislation have been introduced to respond to these concerns and would create significantly different regulatory regimes. At this time, however, offshore wind energy projects continue to move forward despite legal uncertainty and a lack of comprehensive regulation.



November 9, 2004

Colonel Thomas Koning  
U.S. Army Corp of Engineers  
New England District  
696 Virginia Road  
Concord, MA 01742

Dear Colonel Koning:

On behalf of the Oceans Public Trust Initiative (OPTI), I am writing to express our deep concern to learn that the Corps has set only a 60 day comment period on the Draft Environmental Impact Statement for the proposed Cape Wind project. Such action by the Corps suggests that the agency is not interested in a full and fair review of this project but is instead interested only in impeding criticism on what appears to be a severely flawed document that is biased in favor of this developer.

The national policy implications of this project alone require an extension of this inadequate period. The Corps has repeatedly refused to address the underlying lack of authority to allow this project to be built and also has failed to even take a position on whether a simple section 10 permit is adequate basis for a private developer to take over federal lands. The Corps' failure to address this point will force a public review and debate that requires more than 60 days.

In addition, the complexity of the proposed project, the serious data gaps, the Corps' lack of expertise, the massive opposition to private use of public trust resources, the length of the document, the decision to release the document during the off-season when the vast majority of adversely affected seasonal visitors to the Sound are gone, and the untested nature of the technology all require a comment period three to four times as long as the one currently allowed by the Corps.

For these reasons, OPTI requests a 240 day comment period on the draft EIS. A supplemental comment period should also be allowed during the summer season. Finally, this extension should be granted immediately. The procedural

unfairness and bias that characterizes the process to date will be further aggravated if the Corps waits until close to the end of the current period to grant this extension. Please confirm to OPTI this extension at the earliest opportunity.

Sincerely,

A handwritten signature in black ink that reads "Cindy Lowry". The signature is written in a cursive, flowing style with a long, sweeping tail on the "y".

Cindy Lowry  
Director

cc:

Governor Mitt Romney  
Attorney General Thomas Reilly  
Senator Edward Kennedy  
Senator John Kerry  
Congressman William Delahunt



Earl H. Stockdale  
General Counsel for the  
U.S. Department of the Army  
441 G Street, NW  
Washington, DC 20314

Dear General Counsel Stockdale:

I am writing to you on behalf of the Oceans Public Trust Initiative (OPTI), a project of the Earth Island Institute. The purpose of my letter is to ask for your legal position of the Department of the Army on the underlying question posed by the proposed Cape Wind project. This project would destroy the ecological values of Nantucket Sound while opening up federal waters, surrounded by state sanctuary waters, for private development with no compensation to the United States or comprehensive environmental review.

For over one year, OPTI has attempted to obtain an answer to the very fundamental question of whether the United States government considers a mere navigability permit under section 10 sufficient to allow a private developer to use and occupy federal lands and waters on the outer continental shelf. OPTI has written numerous letters to the Army Corps of Engineers, the Department of Justice, and the Department of Interior seeking an answer to this question. To put it bluntly, these agencies have dodged the question. OPTI therefore asks you, as legal counsel for the federal agency that is processing the only federal permit being sought for this controversial project, that very question.

OPTI considers it utterly irresponsible of the federal government to fail to answer this question when so much is at stake, not only for this project but for ocean governance generally. The U.S. government must stop playing games with this issue. A section 10 permit is either legally sufficient or it is not. Assuming it is not, then the U.S. government owes the public an explanation as to what it will do to prevent such a permit holder from using federally controlled lands on the basis of nothing more than a section 10 permit. We would very much appreciate a direct response from you on this critically important question under federal environmental law. Thank you for considering this request.

Very truly yours,

Cindy Lowry  
Director

cc: Colonel Koning  
Governor Mitt Romney  
Attorney General Thomas Reilly  
Senator Edward Kennedy  
Congressman William Delahunt



November 4, 2004

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
New England District  
696 Virginia Road  
Concord, MA 01742

Dear Colonel Koning:

By letter of November 21, 2003, the Oceans Public Trust Initiative (OPTI) wrote to the United States Army Corps of Engineers to request that the Draft Environmental Impact Statement (DEIS) on the Cape Wind project and other wind energy projects consider alternative technologies. Failure to consider alternative technologies that do not use federal public trust resources for unauthorized private development or that minimize the impacts of such projects is a clear violation of the Corps' National Environmental Policy Act duties.

It appears that the Corps has decided not to review alternate technologies, but has instead only reviewed proposals using the same technology advocated by the developer. OPTI strongly objects to this approach, which sacrifices the public trust, fails to consider the fundamental purpose of the project – i.e., provide power to the New England grid – and ultimately renders the record defective.

OPTI again requests that the Corps evaluate alternate technologies before releasing the DEIS for the Cape Wind project and when considering other projects. That alternate technologies are viable is well illustrated by the enclosed article, which confirms that General Electric, one of the leading manufacturers of wind turbines, recognizes the feasibility of other technologies. These alternate technologies should be included in the DEIS for any energy project before it is released for public review. General Electric's affirmation of this technology validates our previously stated position on this issue, and we ask that the Corps take appropriate action now, before the DEIS is released.

Sincerely,

  
Cindy Lowry  
Director

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## EXCLUSIVE REPORTS

From the October 22, 2004 print edition

### New Mass. wind plans aloft

As controversy swirls over Cape Wind, some look beyond horizon

Alexander Soule  
 Journal Staff

As the Army Corps of Engineers finalizes a massive environmental report on wind-power turbines off Nantucket, Massachusetts policymakers are crank-starting a plan to site turbines in the deeper reaches of the Atlantic Ocean.

Last week, the nascent Offshore Wind Energy Consortium hired a Washington, D.C.-based consulting firm called Resolve Inc. to produce a feasibility study by January.

The project currently has a budget of \$700,000 underwritten by General Electric Co., the Massachusetts Technology Collaborative and the U.S. Department of Energy.

The Offshore Wind Energy Consortium (OWEC) is initially considering the use of either floating platforms anchored to the ocean floor or, more likely, stilts set in up to 100 feet of water. But other possibilities could emerge as well.

Near-shore projects, such as the one promoted by Cape Wind Associates off Nantucket, have been limited to shallower waters with depths of up to 50 feet.

"Is this goal reasonable and realistic? We (want to) get the people to the table who will ask the thorniest questions," said Greg Watson, an MTC official who is spearheading OWEC. "The feedback we have gotten is right on -- this is doable, and it is something we should do."

But it could take until the end of the decade to pull it off, he said, as the consortium faces an array of engineering, environmental, climatic, regulatory and financial challenges.

Niskayuna, N.Y.-based GE Global Research originally approached MTC about the project 18 months ago. In January, 13 organizations

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attended an informational meeting in Boston. In August, MTC issued invitations for consulting firms to bid on the project.

OWEC's general goal is to produce plentiful supplies of electricity at 5 cents per kilowatt hour or less -- a price that would put it on a competitive stance with natural gas, but still about 2 cents per kilowatt hour more expensive than traditionally generated power.

But the organization also envisions building a cluster of Massachusetts businesses supporting wind farms across the globe. They might manufacture turbines, cabling, sensors and towers. Or they might mind the wind farms themselves, performing ocean surveying, construction, maintenance and ecological monitoring.

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March 5, 2004

Timothy J. Gallagher  
Colonel, Corps of Engineers  
District Engineer  
U.S. Army Engineer District, Alaska  
P.O. Box 6898  
Elmendorf AFB, Alaska 99506-6898

Dear Colonel Gallagher:

Thank you for your letter of February 20 regarding the use of section 10 of the Rivers and Harbors Act to authorize the use and occupancy of the Outer Continental Shelf by private parties. As my previous letters have indicated, Oceans Public Trust Initiative (OPTI) is very concerned about the use of this provision to allow the development of OCS lands and waters off the coast of Alaska.

The question presented in my letter to you of January 23, 2004 has not been answered by Mr. Woodley. As I requested in my last letter to you, OPTI would like to know the position of the United States as to whether a private party is legally authorized to use and occupy the OCS merely on the basis of a section 10 permit. Neither your last letter to me, nor Mr. Woodley's letter, answers this question. Thus far, the Corps has only asserted that it need not consider the property rights issue in deciding whether to issue a section 10 permit. While OPTI is very concerned about this position, and believes it is not legally sustainable we have not yet received clarification on the position of the United States as to whether the federal government will allow private parties that have not obtained any authorization to use or occupy the OCS to build facilities on federal public trust property on the basis of nothing more than a section 10 permit. My last letter to you requested the Corps' position on that specific issue or a referral to the federal agency that would provide such an answer.



September 15, 2004

Colonel Richard J. Polo, Jr.  
U.S. Army Corps of Engineers - New York District  
26 Federal Plaza  
New York, NY 10278

Dear Colonel Polo:

I am writing on behalf of the Oceans Public Trust Initiative (OPTI) regarding the offshore wind energy project being proposed by the Long Island Power Authority. OPTI – a project under the International Marine Mammal Project of the Earth Island Institute – was established more than a year ago to defend coastal and ocean resources from unregulated commercial appropriation and exploitation. OPTI has been active in the New England District of the U.S. Army Corps of Engineers' review of the nation's first proposed offshore wind energy facility in Nantucket Sound, as well as other public trust issues on a national level regarding the marine environment.

OPTI believes that review of offshore wind proposals at this juncture is premature. There are numerous, unresolved legal issues surrounding the development of coastal and offshore resources, not the least of which is the lack of authority and regulation for such development. With respect to offshore wind energy development, Corps' section 10 permits should not be issued until legislation is passed authorizing such development and the designated implementing agency has promulgated the necessary regulations. Allowing private or municipal developers to use offshore resources without appropriate Congressional authorization and direction would be an abdication of the federal government's public trust responsibilities to manage and protect offshore resources.

Colonel Richard Polo, Jr.  
September 15, 2004  
Page 2

For these reasons, OPTI objects to the Corps' review of LIPA's proposed project. Continuing review of offshore wind facilities without proper authorization is prompting other private developers, including groups like Florida Power & Light, to set their sites on developing precious coastal resources. Regulatory control of such development is first necessary if the federal government is to meet its trust responsibilities to protect valuable coastal and offshore resources.

Thank you for considering our views.

Very truly yours,

  
Cindy Lowry  
Director



July 30, 2004

Colonel Thomas Koning  
U.S. Army Corps of Engineers  
New England District  
696 Virginia Road  
Concord, MA 01742

Dear Colonel Koning:

I previously wrote to you to submit for the record of the Cape Wind project review the letters I have received from the U.S. Army Corps of Engineers that fail to address the key underlying question regarding Section 10 of the Rivers and Harbors Act. That question is whether the federal government will allow the holder of a Section 10 permit, in the absence of any other property right or authorization from the United States, to build private facilities on public trust lands and waters. As noted in my letter, to date the Oceans Public Trust Initiative (OPTI) has not received a direct answer to this question from the Corps. I also noted that OPTI had sent two letters to the Department of Justice asking the same question. I noted that I had not received any response from the Department.

Enclosed for the record is a copy of the letter that I have now received from the Department of Justice responding to my third letter. Unfortunately, that letter also does not answer this critical question. I further include a copy of my response back to the Department of Justice asking for clarification of the answer it provided.

OPTI is deeply concerned that such a critical question has not been answered by the United States government. The answers OPTI has received from the Corps and the Department of Justice deflect the question of whether the United States government will allow a project of this nature to be built with nothing more than a section 10 permit. If a section 10 permit is deemed to be adequate, OPTI assumes a simple "yes" answer would have provided. The fact that none of the response letters state that a section 10 permit is adequate implies that further authorization is needed. If that is the case, then the United States needs to indicate whether it

Colonel Thomas Koning  
July 30, 2004  
Page 2

would look the other way if the developer builds in Nantucket Sound with no other authorization or would instead take the necessary action to prevent this trespass on federal public trust lands and waters.

I once again request of the Corps, or any other agency that is willing and able to provide a definitive answer from the United States to provide clarification on this serious problem.

Thank you for considering this request.

Very truly yours,



Cindy Lowry  
Director

Enc.

Cc: The Honorable William Delahunt  
The Honorable Ted Kennedy  
The Honorable John Kerry  
The Honorable Thomas Reilly  
The Honorable Mitt Romney  
The Honorable Thomas Sansonetti



U.S. Department of Justice

Environment and Natural Resources Division

Assistant Attorney General  
950 Pennsylvania Avenue, N.W.  
Washington, DC 20530-0001

Telephone (202) 514-2701  
Facsimile (202) 514-0557

July 7, 2004

Cindy Lowry  
Director  
Oceans Public Trust Initiative  
233 Water Street #1  
Hallowell, Maine 04347

Dear Ms. Lowry:

Thank you for your letter of June 9, 2004 inquiring about the use of permits under Section 10 of the Rivers and Harbors Act for projects on the Outer Continental Shelf, and providing a portion of the recent report of the United States Commission on Ocean Policy. According to your letter, you wrote two previous letters on this subject, but we have no record of having received them.

The question you raise regarding the use of Section 10 is currently the subject of litigation, and hence I cannot discuss it in detail, but I can provide you with the following information which is public. An appeal has been filed by the plaintiffs from the decision in Alliance to Protect Nantucket Sound, Inc. v. United States Department of the Army, 288 F. Supp.2d 64 (D. Mass. 2003), which upholds the grant of a Section 10 permit for a Scientific Measurement Device Station on the Outer Continental Shelf. Both sides have filed their written arguments with the court, and an oral argument will take place on September 16, 2004 in the U.S. Court of Appeals in Boston.

In addition to this litigation, an omnibus energy bill is pending in Congress that could address some of the issues you raise regarding wind power projects on the Outer Continental Shelf.

Thank you for writing the Department.

Sincerely,

A handwritten signature in cursive script that reads "Tom Sansonetti".

Thomas L. Sansonetti  
Assistant Attorney General



June 30, 2004

Colonel Thomas Koning  
U.S. Army Corp of Engineers  
New England District  
696 Virginia Road  
Concord, MA 01742

Dear Colonel Koning:

As stated in previous correspondence, the Oceans Public Trust Initiative (OPTI) is deeply troubled that the U.S. Army Corps of Engineers is allowing private developers to use and occupy federally controlled lands and waters held in the public trust for their economic purposes on the basis of nothing more than a Rivers and Harbors Act section 10 permit. OPTI is aware of no basis upon which a section 10 permit can be used to confer such a right, especially at the expense of the public trust.

Unfortunately, the federal government does not appear to have taken a position on the underlying question of whether a section 10 permit alone can be used by private parties as the basis for asserting exclusive use over areas such as Nantucket Sound. This is a threshold question that should have been answered before the Corps even began processing the Cape Wind project application. OPTI has attempted to get an answer to this important question from numerous sources.

Enclosed for inclusion in the record of the Cape Wind project review are my letters to the Corps and their responses. In these letters, the Corps has declined to answer the question. Instead, it has done nothing more than state the Corps regulations prevent the agency from getting involved in property rights disputes. This issue, however, is not a property rights question. It concerns the manner in which the federal government makes public trust lands available to private parties for exploitation.

Also enclosed are my three letters to Assistant Attorney General Thomas Sansonetti asking the same question. Mr. Sansonetti has not responded to date.

Colonel Thomas Koning

June 30, 2004

Page 2

As a result, OPTI requests that the record on the Cape Wind project reflect at this time that the United States has declined to answer this very basic and important question. OPTI remains interested in receiving an answer, and would welcome such a response from you or any other federal agency or official with authority to address the issue.

Sincerely,

A handwritten signature in cursive script that reads "Cindy Lowry". The signature is written in black ink and has a long, sweeping tail that extends to the right.

Cindy Lowry  
Director

Enc.

Cc w/o enc.: Mr. Thomas Sansonetti  
Mr. John Paul Woodley, Jr.  
Mr. Timothy J. Gallagher  
Colonel Debra M. Lewis



DEPARTMENT OF THE ARMY  
OFFICE OF THE ASSISTANT SECRETARY  
CIVIL WORKS  
108 ARMY PENTAGON  
WASHINGTON DC 20310-0108



March 29, 2004

REPLY TO  
ATTENTION OF

Ms. Cindy Lowry  
Director  
Ocean Public Trust Initiative  
233 Water Street, #1  
Hallowell, Maine 04347-1343

Dear Ms. Lowry:

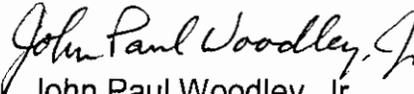
I am responding to your letter of March 9, 2004, regarding the scope of section 10 review and property rights issues related to wind energy project proposals for the outer continental shelf (OCS).

As noted in my December 11, 2003, and February 2, 2004, letters to you, the Army Corps of Engineers evaluates wind energy projects under the statutory authority of section 10 of the Rivers and Harbors Act of 1899. This Act requires the Corps to regulate structures affecting navigable waters of the United States. The Corps must evaluate permit applications it receives and may authorize those activities that are not contrary to the public interest.

Authorization by the Corps under section 10 simply means that the proposed project will not adversely affect waters of the United States, including navigation. No property rights are conveyed. The Corps does not consider property rights or disputes during their public interest review, assuming that the applicant has (or will have) the requisite property rights to construct projects they are proposing. All authorizations provided by the Corps clearly state that no property rights are conveyed, and that no rights for exclusive use are provided. The Corps relies on other Federal, State, and local jurisdictions to address property rights matters. The Corps would not be responsible for any legal action that might occur due to property rights disputes over the construction of wind energy projects on the OCS.

Thank you for your continued interest in the Army's Regulatory Program.

Very truly yours,

  
John Paul Woodley, Jr.  
Assistant Secretary of the Army  
(Civil Works)



March 9, 2004

John Paul Woodley, Jr.  
Assistant Secretary of the Army (Civil Works)  
108 Army Pentagon  
Washington, D.C. 20310-0108

Dear Assistant Secretary Woodley:

Thank you very much for your letter of February 2, 2004 responding to my follow-up questions regarding the scope of section 10 review and jurisdiction for private development activities occurring on the outer continental shelf (OCS). In particular, the Oceans Public Trust Initiative (OPTI) is concerned about the proposals to develop offshore wind energy projects under this authority. Despite your very helpful answers, OPTI remains deeply concerned over the lack of authority to authorize such projects and the manner in which the Corps in conducting its review of such proposals.

Your patience in responding to my previous requests for information is greatly appreciated. I believe there is only one additional inquiry that OPTI needs a response from the Corps on at this time.

If I understand the Corps position, your agency does not look into the question of whether a section 10 applicant has obtained, or can secure, property rights for use of the subject lands and waters. In addition, I believe the Corps has acknowledged there is no current authority under federal law through which a private party can obtain rights to use and occupy the OCS for offshore wind energy development projects.

OPTI is concerned that, in this situation, the Corps would nonetheless process a section 10 application knowing that there is no way for the applicant to ultimately obtain land use authorization. It would seem that, in such a situation, any section 10 permit was irrelevant because the applicant cannot build on the federal land. The Corps position seems to be contrary to the admonition to the U.S. Supreme Court in the United States v. Alaska case from 1992 that the public interest review under section 10 must account for the property interests of the United States. OPTI strongly encourages the

Assistant Secretary Woodley

March 9, 2004

Page 2

Corps to reconsider its position on this important issue, especially in light of the rapid proliferation of proposals for offshore wind energy projects, especially such large projects as those proposed for ocean areas off the coast of Massachusetts and New York.

Our remaining question for you is, what position does the United States take in the question of whether a private party holding a section 10 permit may proceed to use and occupy federal OCS lands for which no property rights or use and occupancy authorization has been obtained? Presumably, the federal government takes the position that a developer cannot build on the OCS or convert it to private use merely on the basis of a section 10 permit and with a property right from the United States. OPTI would appreciate confirmation of this position.

OPTI's position is that the United States has a duty to ensure that private development does not occur, even if a section 10 permit has been issued, in the absence of the acquisition of property rights from the United States. Thus, OPTI would like to be assured that the United States government would take legal action to ensure that no wind energy project is built in the absence of obtaining such land use authorization pursuant to the additional public review, competitive bidding, and payments that would necessarily be made, assuming legal authority ultimately were established to approve such use. We would greatly appreciate a response from you on these questions. If the Corps does not have a response to these questions, I would appreciate a reference to the appropriate federal official who would be in a position to provide the Administration's answers to these important questions.

Finally, OPTI must state for the record its disagreement with you regarding the need for a programmatic EIS for offshore wind energy development. It is already clear that numerous proposals are under development by the private sector. Areas of the OCS potentially subject to such use are vast, even exceeding an acreage the amount of land you identify in your letter as being subject to Bureau of Land Management review and approval for onshore wind facilities. Moreover, a programmatic EIS is particularly appropriate in this case because there is no prior experience with this technology or source of energy development in the United States. This is precisely the kind of situation that calls for review on a programmatic basis, rather than on the ad hoc and site specific approach that is currently being used by the Corps. OPTI strongly encourages the Corps to cease its review of all current offshore wind energy proposals

Assistant Secretary Woodley  
March 9, 2004  
Page 3

until the United States government has addressed the fundamental question of the need for land use authorization and conducted a full programmatic environmental impact review. Ultimately, such a review will expedite this potential important source of wind energy development and ensure that important areas of the marine environment are not subject to inappropriate development.

Thank you for considering these views and addressing these additional questions.

Very truly yours,

  
Cindy Lowry,  
Director  
Oceans Public Trust Initiative



DEPARTMENT OF THE ARMY  
OFFICE OF THE ASSISTANT SECRETARY  
CIVIL WORKS  
108 ARMY PENTAGON  
WASHINGTON DC 20310-0108



REPLY TO  
ATTENTION OF

2 FEB 2004

Ms. Cindy Lowry  
Director  
Ocean Public Trust Initiative  
233 Water Street, #1  
Hallowell, Maine 04347-1343

Dear Ms. Lowry:

Thank you for your letter dated December 23, 2003, requesting that the Army Corps of Engineers, like the Bureau of Land Management (BLM), complete a Programmatic Environmental Impact Statement (PEIS) for wind energy projects being proposed for the Outer Continental Shelf (OCS) along the Atlantic coast prior to making final permit decisions. In addition to this request, you also asked two policy questions related to property interests and public interest considerations, which also are addressed below.

First, there are a few important differences between the Corps and BLM programs that were considered when deciding not to prepare a PEIS. The BLM manages more than 261 million surface acres, with most of this public land in the western states, for multiple land-uses. Additionally, the BLM currently administers 25 wind energy right-of-way authorizations on public lands in California and Wyoming and has recently received some 30 new applications for projects in the region. A key difference between the BLM permitting program and the Corps section 10 permitting program for wind energy projects is that the BLM is evaluating permits for land under its jurisdiction, whereas the Corps evaluates proposals on lands and waters under the jurisdiction of others.

As stated in our December 11, 2003, letter to you, I continue to agree with the Corps that that undertaking a PEIS at this time would not improve their ability to analyze wind energy issues, increase the public's understanding of those issues, or meaningfully add information for the Corps permit decision-making process. The best way to evaluate energy alternatives and associated impacts, including cumulative impacts, is through the preparation of project-specific National Environmental Policy Act documents. I have been assured that the Corps will continue to monitor future OCS development activity related to wind energy and in the event another agency undertakes a programmatic analysis effort the Corps stands ready to participate.

Your first question had to do with property interests. The Corps regulations at 33 C.F.R. Part 325.1(7) are clear that any authorizations they provide do not convey property rights or exclusive privileges. The Corps does not address property rights or disputes during their public interest review, rather the Corps assumes that applicants

have (or will have) the requisite property rights to construct the projects they are proposing. The Corps relies on other Federal, state, and local jurisdictions to address property rights matters. Although the Department of the Interior Minerals Management Service (MMS) currently administers a licensing program for resource extraction on the OCS, no such process currently exists for offshore wind energy projects. The Corps is only responsible for evaluating project proposals under the authority of section 10 of the Rivers and Harbors Act of 1899, and relevant policy guidance.

Finally, I would like to address your second question regarding the degree of deference that the Corps will accord to affected state and local governments where political bodies affected by a section 10 permit object to a project. If a state or local permit authorization is denied, and it is a Federal prerequisite to making a decision on the Department of Army permit application, the Corps will immediately deny the permit without prejudice or continue processing the application to a conclusion. If the local political bodies object to a project, the Corps regulations (33 C.F.R. Part 320.4(j)) state that "... a state, regional, or local agency having jurisdiction or interest over the particular activity comments on the application, due consideration shall be given to those official views as a reflection of local factors of the public interest." The Corps is required to objectively evaluate a wide range of public interests including fish and wildlife values, aesthetics, economics, historic properties, erosion, recreation, water quality, energy needs and traditional navigation interests in addition to the comments received from other agencies and the public. The Corps is neither a project proponent nor a project opponent. Under its regulations the Corps must determine that projects are not contrary to the public interest before issuing a permit. I have been assured that the Corps Districts currently involved in the evaluation of wind energy projects are properly abiding by applicable laws, regulations, and policies.

Please do not hesitate to contact me if you have any questions. Your staff may contact Mr. Chip Smith, Assistant for Environment, Tribal and Regulatory Affairs at (703) 693-3655.

Very Truly Yours,



John P. Woodley, Jr.  
Assistant Secretary of the Army  
(Civil Works)



December 23, 2003

John Paul Woodley, Jr.  
Assistant Secretary of the Army (Civil Works)  
108 Army Pentagon  
Washington, D.C. 20310-0108

Dear Mr. Woodley:

On behalf of the Oceans Public Trust Initiative (OPTI), I am writing in response to your letter of December 11, 2003 regarding the use of section 10 of the Rivers and Harbor Act to authorize private activities occurring on federal lands and waters in coastal and ocean zones. As explained in my initial letter of September 16, 2003, OPTI is a new project of the Earth Island Institute concerned with the protection of the public trust resources of coastal and ocean areas. The use of section 10 by private developers as the sole source of permission to use and occupy these public trust resources is a matter of great concern to OPTI, and we encourage the U.S. Army Corps of Engineers to defend against the abuse of navigability permits for that purpose.

Before raising two specific questions in response to your letter, I want to thank you for your informative letter. The explanations you have provided are very useful and have clarified some matters of concern to OPTI. We hope to work closely with the Corps to ensure that the public trust held in coastal and ocean areas is protected.

In response to your letter, I must note OPTI's continuing concern over the failure to prepare a programmatic EIS on offshore wind energy development before considering specific projects. In our view, there clearly is "sufficient concrete information on the potential universe of wind energy projects." The Corps is currently processing two such applications, one in Massachusetts and one in Virginia. Another project is far-advanced off the coast of Long Island, so much so that it is the subject (along with the Cape Wind project) of a special provision in section 110 of the energy bill, which the President is prepared to sign. Numerous other projects have been proposed to the Corps, though some of these are "on hold" awaiting additional information. The absence of any environmental standards, siting criteria, coast-wide planning, feasibility studies, land use authorization power, or royalty/rental formulae all point to the need for a programmatic, "look before you leap" approach. The Bureau of Land Management is pursuing such an approach for onshore wind projects, and there is an even greater need for such guidance for the Corps, which has no experience with energy projects. Relying upon the Cape Wind

project as a "test case" as you suggest, when the public trust resources of Nantucket Sound are at stake, is no substitute for a comprehensive EIS covering these new energy programs. OPTI strongly urges the Corps to reconsider its position on this issue.

In addition to this concern, OPTI has two questions. First, thank you for clarifying that a section 10 permit does not convey property rights. That position comports with OPTI's understanding.

Unfortunately, private developers appear to believe that obtaining a section 10 permit is sufficient to allow use and occupancy of the Outer Continental Shelf (OCS) for offshore wind energy projects. OPTI's question is: Does the federal government agree with these developers that no property right or authorization other than a section 10 permit is required to allow the use of OCS lands and waters for offshore wind energy project development by the private sector? It is critically important to our mission to obtain the view of the Corps on this important question.

OPTI's second question concerns the degree of deference that the Corps will accord to affected state and local governments. OPTI considers the views of such governmental entities as important indicators of how the public trust is affected by specific projects. I note that the Corps' section 10 regulations are built upon a principle of comity, as set forth in 33 CFR p§ 320.4. OPTI's question is: If the political bodies representing the state and/or local governments affected by a section 10 permit object to a project, will the Corps defer to their position and deny the requested action? OPTI is not aware of any situation where a section 10 permit has been issued in the face of opposition from the affected state or local government.

Thank you again for your detailed and informative response to OPTI's previous letter. If you have any questions regarding this letter, or if OPTI can be of assistance to the Corps in ensuring protection of the public trust, please contact me.

Very truly yours,



Cindy Lowry  
Director

cc: Mr. Chip Smith  
Assistant for the Environment



DEPARTMENT OF THE ARMY  
OFFICE OF THE ASSISTANT SECRETARY  
CIVIL WORKS  
108 ARMY PENTAGON  
WASHINGTON DC 20310-0108



REPLY TO  
ATTENTION OF

11 DEC 2003

Ms. Cindy Lowry  
Director  
Ocean Public Trust Initiative  
233 Water Street, #1  
Hallowell, Maine 04347-1343

Dear Ms. Lowry:

Thank you for your letter dated September 16, 2003, expressing concerns regarding the Army Corps of Engineers authority to review applications by private entities seeking to develop offshore wind energy projects. In your letter, you indicate that the Corps does not have the statutory authority to review such permit applications, that the Corps is abdicating its responsibility to protect valuable marine resources, and that no new projects should be evaluated pending completion of a programmatic Environmental Impact Statement (EIS).

Section 10 of the Rivers and Harbors Act (RHA) of 1899 provides the statutory authority for the Corps to regulate structures affecting navigable waters of the United States. Under this authority, the Corps is obligated to evaluate permit applications it receives, and under current regulations and policies, the Corps may authorize those activities that are not contrary to the public interest, and where the effects are minimal. With respect to the Cape Wind Project, which is being evaluated by the Corps New England District, on September 18, 2003, Judge Joseph Tauro [United States District Court, District of Massachusetts, Civil Action No. 02-11749-JLT ] concurred with the Federal government that Section 10 of the RHA does pertain to proposed wind towers located on the Outer Continental Shelf (OCS) and that therefore the Corps has the legal authority to regulate them. Additionally, it is important to note that Corps regulations are clear that any authorizations provided by them do not convey property rights. The Corps does not consider property rights or disputes during their public interest review, assuming that the applicant has (or will have) the requisite property right to construct the projects they are proposing. Authorizations provided by the Corps clearly state that no property rights are conveyed, nor any rights for exclusive use. The Corps relies on other Federal, State, and local jurisdictions to address property rights matters.

In response to your concern about potential impacts to marine resources I would like to assure you that as part of its broad based public interest review the Corps is required to address a wide range of interests including fish and wildlife values, aesthetics, economics, historic properties, erosion, recreation, energy needs and water quality in addition to the traditional navigation interests similar to factors required by the National Environmental Policy Act. Additionally, the Corps will conduct an analysis of

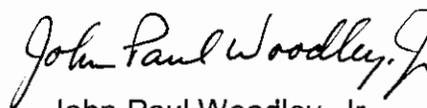
the potential site-specific, secondary, and cumulative impacts of wind energy proposals to the aquatic environment and the associated fish and wildlife, as well as other aspects of the public interest in conjunction with current regulations and policy. As a consequence, the Corps will prepare and circulate a site-specific EIS and Record of Decision for public review and disclosure of information considered in the decision-making process.

Also, for the Cape Wind project, as for all similar projects, the Corps will use public notices and meetings as tools for obtaining stakeholder and agency input, and input received will be considered during the permit evaluation process. The Corps is neither a proponent nor an opponent for wind energy projects, or any other kind of projects it authorizes under section 10 of the RHA. The Corps job is to objectively evaluate permit applications and input received from other agencies and the public, and to make permit decisions. I have been assured that the Corps Districts currently involved in the evaluation of wind energy projects are properly abiding by applicable laws, regulations, and policies.

Although the matter of conducting a programmatic environmental impact statement has been discussed, at this time there does not appear to be sufficient concrete information on the potential universe of wind energy projects to warrant the preparation of a programmatic EIS. The Corps does not believe that a programmatic EIS would improve the Corps analysis of wind energy issues; the public's understanding of those issues, or meaningfully add information for Corps permit decisions. We believe that the NEPA process is best served by the Corps' preparation of project-specific NEPA documents that evaluate a reasonable range of alternatives for both wind energy projects and other renewable energy sources such as hydro and solar power. The insight and information being gained through the Cape Wind EIS may help to guide future decisions regarding NEPA requirements in the future.

Please do not hesitate to contact me if you have any questions. Your staff may contact Mr. Chip Smith, Assistant for Environment, Tribal and Regulatory Affairs at (703) 693-3655.

Very Truly Yours,



John Paul Woodley, Jr.  
Assistant Secretary of the Army  
(Civil Works)

Oceans Public  
Trust Initiative

*A Project of Earth Island Institute*

233 Water Street, #1  
Hallowell, ME 04347  
207-622-3587

September 16, 2003

Mr. Charles R. Smith  
Assistant Secretary (Civil Works)  
U.S. Department of the Army  
108 Pentagon, Room 2E569  
Washington, DC 20310-0108

Dear Mr. Smith:

I am writing on behalf of the Ocean Public Trust Initiative ("OPTI") to state our opposition to the U.S. Army Corps of Engineers' review of applications by private entities seeking to develop offshore wind energy projects. OPTI is a recently established program of the International Marine Mammal Project ("IMMP") of the Earth Institute, an international organization with more than 70,000 members committed to developing and supporting projects that counteract threats to the biological and cultural diversity that sustain the environment. The OPTI arm of the IMMP focuses on protecting the public's coastal and ocean resources from unauthorized exploitation by private developers.

IMMP saw the need to establish OPTI to respond to the apparent willingness of the federal government, through the U.S. Army Corps of Engineers, to allow developers to exploit our coastal and offshore resources without any Congressional authorization to do so. This abdication of public trust responsibilities is occurring most profoundly in the offshore wind industry context, where the Army Corps is processing several applications to build offshore wind energy projects that would collectively span more than one hundred square miles of the ocean. Many of the issues raised by the offshore wind energy projects, including property ownership on the Outer Continental Shelf lands, use of those lands for energy development, and a national policy on wind energy, are clearly beyond the Army Corps' statutory authorities. Nonetheless, the Army Corps' District Offices are proceeding with their review of these applications, apparently with the view that the property rights issues do not have to be resolved, and a national policy on wind energy does not have to be devised, for the new industry that is emerging.

OPTI believes that these important issues must be resolved before the Army Corps should permit any offshore wind project. The limited authority under which the Army Corps is proceeding underscores the desperate need for a program expressly designed to protect our coastal resources. The Army Corps is reviewing applications for offshore wind projects under the Rivers and Harbors Act of 1899 ("RHA"), a law narrowly concerned with the issuance of permits for projects that impede navigation. Such projects typically include

wharves, docks and bridges, not massive grids of 400-foot wind turbines. This law does not empower the Army Corps to permit private parties to take control of federal offshore lands and waters that are held in the public trust to build wind energy projects. In fact, Congress has not yet authorized any agency to grant such rights to offshore wind energy developers. The Army Corps' decision to exceed its statutory authorization and process these permits without resolving these important issues is, therefore, an abdication of its responsibility to protect lands and waters that are held by the federal government in trust on behalf of the general public. In addition, the Army Corps' conduct establishes damaging precedent that presents a major threat to our coastal and marine resources.

In every federal land management and conservation context, it is well-established that the federal government cannot allow private developers to make use of public resources for private gain in the absence of express Congressional authorization to do so. Such public resources are held in trust for the public, as the courts have held in cases such as *Illinois Central Railroad Co. v. Illinois*, 146 U.S. 387 (1892), *Lake Michigan Federation v. United States Army Corps of Engineers*, 742 F. Supp. 441 (N.D. Ill. 1990), *United States v. 1.58 Acres of Land*, 523 F. Supp. 120 (D. Mass. 1981) and *Sierra Club v. Department of Interior*, 424 F. Supp. 172 (N.D. Cal. 1976). In every case where such an activity is to occur, the federal agency authorizing such use must be able to point to a specific source of legal authority to grant this right. If Congress has not granted such power to a federal agency, there is no basis upon which the public trust resources can be made available to private parties for exploitation and profit-making. This is one of the foremost principles of federal natural resource management, and it is the mission of OPTI to protect that public investment in our natural heritage.

The Army Corps has eschewed its public trust responsibilities by processing these offshore wind energy project permit applications. Projects are now proposed extending along the eastern seaboard from Massachusetts to Virginia. Not only has the Army Corps impermissibly begun to review offshore wind project permit applications, it has turned a blind eye to developers that have actually built their own private facilities on public lands and waters on the basis of an RHA permit only. Thus, instead of protecting the public trust, the Army Corps is actually defending the unauthorized private use of our oceans. The Army Corps' acquiescence in this misuse of public trust resources has positioned private developers to make huge profits, without any compensation to the public and without adequate protections for our ocean resources.

Many support this misuse of the public trust, citing the importance of developing alternative energy sources. OPTI recognizes the national importance of developing alternative energy, but it must be done thoughtfully, with a federal program in place that implements standards, protects the public safety, and prevents environmental degradation. Moreover, if the RHA is treated by the Army Corps as sufficient to allow offshore wind projects, there is nothing to prevent the use of the public trust for environmentally harmful projects such as large-scale

aquaculture sites, liquid and natural gas platforms, and other activities not authorized under federal law. The precedent the Army Corps' review is creating presents a great risk to the marine environment. It should immediately reverse its position and cease all review of offshore wind projects until Congress has considered the issue.

To adequately protect coastal and ocean resources, there must be Congressional review of the industry and a clear grant of federal authority for developing offshore wind projects. Such authority should be granted to an agency with expertise in ocean resources and energy, rather than the Army Corps, whose expertise lies elsewhere. That authority should require compensation for the use of these resources, and the revenues generated pursuant to that requirement should be invested in ocean conservation initiatives. In addition, it is critical that the program impose standards that ensure proper siting of such projects and protect important marine wildlife habitat. These and similar issues need to be addressed through a national program. Not until a complete national review of offshore wind energy potential is completed should individual projects be considered.

If the Army Corps continues to review offshore wind projects despite the lack of a national program, it must at least withhold action on any individual permits until a national environmental review of the entire offshore wind energy program is conducted under the National Environmental Policy Act ("NEPA"). NEPA requires a national-level review of the impacts of a new federal energy program *at the outset of the program*. A national review is the standard approach used for the development of other public resources, and the Army Corps' deviation from this requirement is legally indefensible.

OPTI strongly supports the development of alternative forms of energy that will help combat climate change. Wind energy projects, when properly sited, are one such source of energy. Unfortunately, the potential for offshore wind energy is being hindered by the failure of the federal government to first establish an adequate legal mechanism for the review and approval of any specific project. The Army Corps has no standards to apply in reviewing these projects. As the Nantucket Sound Project indicates, the current approach is extremely controversial and contentious. The process cannot adequately protect the public trust because of the unresolved property rights issues and the lack of federal standards. The Army Corps should stop this process, until these issues are resolved.

In addition, project opponents are raising legitimate concerns, many of which could be answered through a properly structured, Congressionally-authorized offshore energy program. Such a program, when established under the principles described in this letter, will actually facilitate and expedite the development of wind projects. The Army Corps' current desultory review is miring the offshore wind energy industry and the Army Corps in legal dispute and controversy. The result is a losing situation for all parties except the private developers, who hope to exploit the Army Corps' willingness to give way our natural

September 16, 2003

Page 4

resources before a federal program is enacted that requires appropriate protections and compensation for the public.

For these reasons, OPTI requests that the Army Corps advise all current offshore wind plant applicants that an RHA permit does not authorize their proposed development. The Army Corps should declare that such projects cannot be built until property rights are obtained under a clear grant of authority from Congress. In addition, the processing of such permits should be suspended until a national NEPA review is conducted through a programmatic environmental impact statement. National standards for siting, mitigation, payment for land use, access, navigation protection, decommissioning, and impact evaluation should be created under such a programmatic review. Areas of special concern and controversy should be set off-limits to development, and cumulative effects must be analyzed. Once this is done, and Congress grants the necessary approval power to the proper federal agency, then individual projects can be considered in what would doubtlessly be a streamlined and more effective approach. This approach will protect the public trust and expedite the development of wind energy facilities in appropriate locations and under adequate standards.

Thank you for considering these comments. Please include this letter in the record for the Cape Wind Project, the various projects proposed by Winergy LLC in both the Norfolk and New England offices, and any other currently pending offshore wind energy projects.

Sincerely,



Cindy Lowry  
Director

cc: Honorable James L. Connaughton  
Chairman, Council on Environmental Quality  
730 Jackson Place, NW  
Washington, DC 20503

Colonel Thomas L. Koning  
District Engineer  
U.S. Army Corps of Engineers  
New England District  
696 Virginia Road  
Concord, MA 01742-2751

September 16, 2003

Page 5

Mssrs. David La Roche and Bob Middleton  
White House Task Force on Energy Project Streamlining  
WH-1, Room 8E044  
100 Independence Ave., SW  
Washington, DC 20585

Colonel David L. Hansen  
District Engineer  
Army Corps of Engineers  
803 Front Street  
Norfolk, Virginia 23610

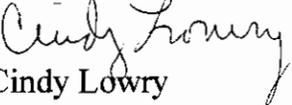
March 5, 2004

Page 2

My last letter to Mr. Woodley did not raise this specific issue. Based upon his last letter to me, I do intend to ask specifically for his position on this important unanswered issue. Certainly, I would be pleased to receive an answer from you.

Thank you again for your response to my letters. Please feel free to call me if you would like to discuss this issue directly. I look forward to your response.

Very truly yours,

  
Cindy Lowry  
Director

cc: Assistant Secretary Woodley



REPLY TO  
ATTENTION OF:

DEPARTMENT OF THE ARMY  
U.S. ARMY ENGINEER DISTRICT, ALASKA  
P.O. BOX 6898  
ELMENDORF AFB, ALASKA 99506-6898

FEB 20 2004

Regulatory Branch

Ms. Cindy Lowry  
Director  
Oceans Public Trust Initiative  
233 Water Street #1  
Hallowell, Maine 04347-1343

Dear Ms. Lowry:

In response to your letter dated January 23, 2004, concerning the U.S. Army Corps of Engineers (Corps) position concerning property rights within OCS waters as a result of the Corps jurisdiction under Section 10 of the Rivers and Harbors Act, I offer the following:

It is my understanding that Mr. Woodley, the Assistant Secretary of the Army (Civil Works), has already provided your office this position. Therefore, I will defer to Mr. Woodley's response.

If we can be of further assistance, please contact Mr. Larry L. Reeder, Chief of our Regulatory Branch, at 753-2712.

Sincerely,

  
Timothy J. Gallagher  
Colonel, Corps of Engineers  
District Engineer



January 23, 2004

Col. Timothy J. Gallagher  
Corps of Engineers District Engineer  
P.O. Box 6898  
Elmendorf AFB, AK 99506-6898

Dear Colonel Gallagher:

Thank you very much for your helpful and informative letter of January 13, 2004, regarding section 10 of the Rivers and Harbors Act. I greatly appreciate your prompt response.

There is one additional question that arises based upon your letter. While I understand from your letter that section 10 permits do not convey property rights, the issue remains whether any party obtaining such a permit can, in the absence of any other land use or occupancy authorization from any source, construct a private project on the OCS in an area under exclusive federal jurisdiction. What I am interested in obtaining is an explanation of what the position of the U.S. Army Corps of Engineers is on this question. It would appear that if a private developer were to build a project on the OCS with only a section 10 permit, that project would be in trespass on federal land that is held in the public trust.

This is not an academic concern, because private parties are now, in fact, seeking to use section 10 precisely for this purpose.

If it is not too much trouble, could you provide to me the Corps position on this question of federal law? If the Corps does not have a position on this issue, could you please direct me to the appropriate federal official who could provide an answer to this important question?

Thank you again for responding to my inquiry. Please contact me if you have any questions regarding this letter.

Sincerely,

  
Cindy Lowry, Director



REPLY TO  
ATTENTION OF:

DEPARTMENT OF THE ARMY  
U.S. ARMY ENGINEER DISTRICT, ALASKA  
P.O. BOX 6898  
ELMENDORF AFB, ALASKA 99506-6898

JAN 13 2004

Regulatory Branch

Ms. Cindy Lowry  
Director  
Oceans Public Trust Initiative  
233 Water Street #1  
Hallowell, Maine 04347-1343

Dear Ms. Lowry:

In response to your letter dated December 23, 2003, concerning the U.S. Army Corps of Engineers (Corps) authority to regulate property rights as it pertains to Section 10 of the Rivers and Harbors Act, I offer the following explanation:

Section 10 of the Rivers and Harbors Act (RHA) of 1899 provides the statutory authority for the Corps to regulate structures affecting navigable waters of the United States. Under this authority, the Corps is obligated to evaluate permit applications it receives, and under current regulations and policies, the Corps may authorize those activities that are not contrary to the public interest, and where the effects are minimal.

Corps regulations (33 C.F.R. Part 325.1(7)) are clear that any authorizations provided by them do not convey property rights or exclusive privileges. The Corps does not address property rights or disputes during their public interest review; rather the Corps assumes that applicants have (or will have) the requisite property rights to construct the projects they are proposing. The Corps relies on other Federal, State, and local jurisdictions to address property rights matters.

I hope this information is helpful and answers your questions. If we can be of further assistance, please contact Mr. Larry L. Reeder, Chief of our Regulatory Branch, at 753-2712.

Sincerely,

  
Timothy J. Gallagher  
Colonel, Corps of Engineers  
District Engineer

Enclosure



December 23, 2003

Col. Timothy J. Gallagher  
Commander and District Engineer  
U.S. Army Corps of Engineers  
Alaska District  
P.O. Box 6898  
Elmendorf, AK 99506-6898  
(907) 753-2504

Dear Col. Gallagher:

On behalf of Oceans Public Trust Initiative (OPTI), a project of the Earth Island Institute (EII), I am writing to ask for clarification regarding the significance of the issuance of a permit under Section 10 of the Rivers and Harbors Act for structures to be erected or attached to the seabed beyond state waters. OPTI is dedicated to the recognition and protection of the public interest in the ocean environment, including submerged lands, as embodied in the public trust doctrine.

Specifically, OPTI is very concerned that private developers are beginning to assert a right to use and occupy the seabed in offshore waters, for aquaculture and other uses, on the sole basis of a Section 10 permit, and in derogation of the public trust doctrine. It is our understanding that a Section 10 permit only authorizes an obstruction to the navigability of navigable waters, and is not an affirmative authorization to use and occupy submerged lands held in the public trust. Please clarify if our understanding is correct, or if not, please explain the legal basis for the use and occupancy of offshore lands on the sole basis of a Section 10 permit.

Thank you for your attention to this matter.

Very truly yours,

  
Cindy Lowry  
Director



December 23, 2003

Col. Debra M. Lewis  
Commander and District Engineer  
U.S. Army Corps of Engineers  
Seattle District  
P.O. Box 3755  
Seattle, WA 98124-3755  
(206) 764-3742

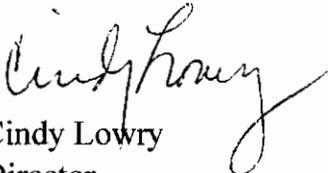
Dear Col. Lewis:

On behalf of Oceans Public Trust Initiative (OPTI), a project of the Earth Island Institute, I am writing to ask for clarification regarding the significance of the issuance of a permit under Section 10 of the Rivers and Harbors Act for structures to be erected or attached to the seabed beyond state waters. OPTI is dedicated to the recognition and protection of the public interest in the ocean environment, including submerged lands, as embodied in the public trust doctrine.

Specifically, OPTI is very concerned that private developers are beginning to assert a right to use and occupy the seabed in offshore waters, for aquaculture and other uses, on the sole basis of a Section 10 permit, and in derogation of the public trust doctrine. It is our understanding that a Section 10 permit only authorizes an obstruction to the navigability of navigable waters, and is not an affirmative authorization to use and occupy submerged lands held in the public trust. Please clarify if our understanding is correct, or if not, please explain the legal basis for the use and occupancy of offshore lands on the sole basis of a Section 10 permit.

Thank you for your attention to this matter.

Very truly yours,

  
Cindy Lowry  
Director



June 9, 2004

Thomas Sansonetti  
Assistant Attorney General  
Environment and Natural Resource Division  
United States Department of Justice  
Robert F. Kennedy Bldg.  
10th St. & Constitution Ave., N.W.  
Washington, DC 20530

Dear Mr. Sansonetti:

By letters of April 1 and April 13, 2004, I wrote to you raising serious questions regarding the actions that would be taken by the federal government to ensure that public trust property owned and controlled by the United States would not be turned over to private developers as a result of permits issued under section 10 of the Rivers and Harbors Act. As discussed in my letter, this is an issue of serious concern because of proposals for offshore wind energy projects that are seeking to use section 10 for this purpose. In fact, private developers already are using section 10 to use and occupy federal land on the Outer Continental Shelf (OCS), as is currently occurring in Nantucket Sound.

I have attempted to obtain information from the US Army Corps of Engineers to address the question of how the United States would protect public trust resources from unauthorized use and occupancy from the basis of a mere section 10 permit. Unfortunately, the Corps has not responded to my question with a direct answer. It was for that reason, that I wrote to you, as the principal federal government legal officer who would have responsibility for bringing an action against private developers who use a section 10 permit to serve as the basis for property rights on federally owned and controlled submerged lands.

The Oceans Public Trust Initiative (OPTI) would very much appreciate a response from you on this question. For your consideration, I am enclosing with this letter a section from the recent report issued by the US Commission on Ocean Policy. This Commission, charged by President Bush with evaluating federal programs for the management and conservation of ocean resources, specifically addresses offshore wind energy projects. The report concludes that section 10 is not a proper regulatory mechanism for developing such a program or authorizing offshore wind energy projects. This reports adds considerable strength to our

concerns about this question, and I wanted to make sure that you had this information available to you for consideration in preparing a response to my letter.

Thank you for considering OPTI's request for an explanation as to how the United States will protect against unauthorized use and occupancy of public trust OCS resources. If you have any questions regarding this inquiry, please feel free to contact me.

Very truly yours,

  
Cindy Lowry, Director

Enc.

## CHAPTER 24:

### MANAGING OFFSHORE ENERGY AND OTHER MINERAL RESOURCES

*Chapter 6 addressed the complexities associated with developing a coordinated offshore management regime and recommended one that is among other characteristics: comprehensive, transparent, and predictable; brings a fair return to the public; and promotes a balance between economic and environmental considerations. Activities related to the management of nonliving resources in federal waters are inextricably linked to many of the fundamental policy questions raised by that discussion. From the politically contentious but administratively mature outer Continental Shelf (OCS) oil and gas program to the new and emerging offshore uses that lack coordinated and comprehensive regimes, much can be learned. But much still needs to be understood about what it may take to develop a system that unlocks the treasures of the sea while protecting the marine environment and providing all affected parties a voice in the decisions that manage that process.*

### EXERCISING JURISDICTION OVER NONLIVING RESOURCES IN FEDERAL WATERS

In addition to its responsibilities for living marine resources, the federal government also exercises jurisdiction over nonliving resources, energy and other minerals located in the waters and seabed of the more than 1.7 billion acres of the outer Continental Shelf (OCS). Offshore oil and gas development has the most mature and broadest management structure of all such resources. It also has the longest and richest history, one characterized by major changes to the underlying law that established the more comprehensive administrative regime, as well as intense political conflict resulting from divisions among stakeholders and tensions inherent in American federalism. The development of other ocean energy resources—some of which are newly emerging technologies—have differing levels of management, but none are currently making any noteworthy contributions to domestic production numbers. Historically, there also have been varying expressions of commercial interest in non-energy minerals in the U.S. exclusive economic zone (EEZ), but only sand and gravel have been used in recent years by coastal states and communities, because of a change which eased access to those resources.

### MANAGING OFFSHORE OIL AND GAS RESOURCES

As noted in Chapter 2, from its beginning the federal offshore oil and gas program faced controversy over ownership issues, as states unsuccessfully sued the federal government over control of offshore waters. Once that issue was settled legislatively, there was a short but relatively stress-free period. Conflict, however, soon emerged over issues of management, environmental risks, and the costs and benefits of energy exploration and production on the OCS that continues to this day. Proponents point to the program's contributions to the nation's energy supplies and economy, significant improvements in its safety and environmental record, and noteworthy technological achievements. Opponents argue that offshore oil activities harm coastal communities economically and the marine environment unacceptably. The ongoing debate is carried out in the halls of Congress, federal agencies, state and local governments, trade associations, and nongovernmental

organizations. OCS oil and gas development is a classic example of the politics of multiple use resource management, including federal-state tensions, competing user issues, arguments over the interpretation of data, and disagreements concerning tolerable levels of risk.

Despite its political problems, which are best understood through an awareness of the historical context associated with it, today the OCS oil and gas program has a well institutionalized and reasonably comprehensive management regime. While not without its critics, the program seeks to balance the many competing interests involved in offshore energy activity, requires state and local government input in federal decisions, and specifies detailed procedures to be followed by those seeking offshore leases. It also manages the various processes associated with access to non-energy minerals on the OCS.

Energy development in federal waters is big business and has become an important part of the fabric of the U.S. ocean policy mix. Most observers agree that the federal OCS oil and gas program benefits America by helping to meet energy needs, creating thousands of jobs, and contributing billions of dollars to the U.S. Treasury. Despite the limited offshore geographic area from which production flows and in which leasing is authorized, the amount of oil and gas production from the OCS is significant. In 2002 and 2003, federal offshore waters produced more than 600 million barrels of oil annually<sup>1</sup> and about 4.5 trillion cubic feet of natural gas.<sup>2</sup>

### **From a Quiet Beginning to Prohibitions on Leasing**

In 1953, Congress enacted the Submerged Lands Act, which codified coastal states' jurisdiction off their shores out to three nautical miles (or, for historic reasons, nine nautical miles for Texas and the Gulf coast of Florida). That same year, regulation of OCS oil and gas activity seaward of state submerged lands was vested in the Secretary of the Interior with the passage of the Outer Continental Shelf Lands Act (OCSLA), which established federal jurisdiction over the OCS for the purpose of mineral leasing. For a period of some fifteen years, the offshore energy program was relatively quiet, being confined largely to leasing off of Louisiana and Texas. In the late sixties, however, the relative peace on the OCS would be dramatically changed.

As discussed in Chapter 2, the 1969 Santa Barbara blowout took place during an era of rapidly expanding environmental awareness and helped spur the enactment of numerous major environmental laws, including the National Environmental Policy Act (NEPA), the Coastal Zone Management Act (CZMA), the Marine Mammal Protection Act (MMPA), and the Marine Protection, Research, and Sanctuaries Act (MPRSA).

Just as the nation's environmental consciousness rose, so too did recognition of the need for secure supplies of oil and gas. Also, as noted in Chapter 2, the 1973 Arab oil embargo prompted President Nixon to announce plans to lease ten million OCS acres in 1975, an area equal to the entire amount leased prior to that time. Sales were scheduled not only in areas of earlier OCS activity, but also along the Atlantic and Pacific coasts. The result was a nationwide debate that raged through the remainder of the decade, pitting the oil and gas industry and its allies against various representatives of coastal states, commercial and sport fishing interests, and environmental organizations.

Congress responded to this debate by virtually rewriting the OCSLA in 1978, requiring the Secretary of the Interior to balance the nation's needs for energy with the protection of human, marine, and coastal environments, make certain that the concerns of coastal states and competing users were taken into account, and ensure that some of the newly enacted environmental laws were integrated into the OCS process. However, before regulations and procedures could be fully developed to support the amended law, in the early 1980s the Reagan administration proposed to terminate funding for the Coastal Zone Management Act (CZMA) and its Coastal Energy Impact Program (CEIP). The CEIP was specifically designed during the debate over the OCSLA amendments to provide grants and loans to coastal states to deal with the environmental effects occasioned by OCS activities. At the same time these budget cuts were put forward, the Secretary of the Interior was pursuing an aggressive offshore program that would make one billion acres

available for oil and gas leasing over the ensuing five years. Thus began the modern day version of the battle over offshore oil, one that has endured for over two decades and has included major legislative and executive branch negotiations, actions to restrict leasing in so-called “frontier” areas, Supreme Court cases, federal-state battles over administrative procedures and the sharing of revenues, and the buyback of some OCS leases by the federal government.

In its initial reaction to the proposed budget cuts, Congress was able to save the CZMA, but not the CEIP. It then turned its attention to restricting and ultimately prohibiting a substantial part of the OCS leasing schedule of the U.S. Department of the Interior (DOI). Using its appropriations process in 1982, Congress put four basins offshore northern California off limits to leasing. For the next few years, every annual DOI funding bill included leasing prohibitions on additional regions until practically all offshore planning areas outside of the Gulf of Mexico and Alaska were excluded.

Additionally, Presidents have expanded on congressional action, providing longer term restrictions than those covered in annual appropriations bills. In 1990, President Bush withdrew areas offshore California, southern Florida, the North Atlantic states, Washington, and Oregon from leasing consideration until after 2000. A few years later, the Clinton Administration added additional areas to the restricted list, extended all of the withdrawals until 2012, and included a permanent prohibition on leasing in national marine sanctuaries. These presidential and congressional actions have removed some 610 million acres from leasing consideration and effectively limited access to the OCS program to the central and western Gulf of Mexico (95 percent of offshore production), a small portion of the eastern Gulf, and virtually all areas off Alaska (Figure 24.1).

**Figure 24.1. Offshore Oil and Gas Leasing has been Limited to a Few Planning Areas**



Shown above are the outer Continental Shelf planning areas in the Minerals Management Service's 2002-2007 leasing program. The entire West Coast and almost all of the East Coast have been restricted from leasing through 2012, leaving only areas of the central and western Gulf of Mexico (and a small area of the eastern Gulf) and virtually all areas off the Alaskan coast available for development.  
Figure Courtesy of Minerals Management Service, Department of the Interior, Washington, DC.

### The OCS Leasing, Exploration, and Development Process

As already noted, the OCSLA is a relatively comprehensive resource management statute. Besides authorizing the Secretary of the Interior to hold competitive lease sales for offshore tracts, regulate and oversee lease activities, and encourage efficient, safe, and diligent production, the law specifies the steps potential lessees

must take to bid on offshore tracts and the process that occurs after receiving a lease. For example, the OCSLA requires consultation with coastal states and localities at a number of points in the federal offshore decision-making process, including during the development of a five-year leasing program, individual lease sale delineations, exploration and development-production plans, and environmental studies and oil and gas information programs. Further, the law carries provisions on offshore safety regulations, citizen suits and judicial review, enforcement authority, the applicability of NEPA, geological and geophysical exploration, export limitations, documentation requirements for offshore vessels and rigs, and numerous opportunities to address other environmental issues.

DOI's Minerals Management Service (MMS) characterizes its administration of the OCSLA as being "process rich" (Figure 24.2). Through the initial years of promulgating regulations to implement the 1978 amendments, and through litigation about the meaning of certain provisions, the current OCS leasing and development program is one that is, on balance, coherent and reasonably predictable. Although the comprehensiveness of the program has not precluded the political battles noted above nor avoided restrictions on leasing in frontier areas, in those areas of the nation where offshore development is accepted, the internal administrative process is well known and understood by those who invest in offshore leases and those who choose to observe and comment on such activity. The OCSLA is replete with references to the applicability of other statutes and the authority of other departments in the oil and gas process, and presents a clearer roadmap than most other offshore resource management laws or programs.

After an initial bumpy start in the implementation of major amendments to its basic law, the problems encountered by the offshore oil and gas program today are generally external to its day-to-day administration and regulatory requirements. Although a number of different variables have to be taken into consideration in crafting a regime for other ocean uses, the scope and comprehensiveness of the OCS oil and gas program can be a model for the management of a wide variety of offshore activities.

### **Trends in Domestic Offshore Oil and Gas Production**

Currently, energy development in federal waters accounts for more than 30 percent of domestic oil production and 25 percent of natural gas. Further, the offshore areas of the United States contain an estimated 60 percent of the oil and natural gas yet to be discovered domestically.<sup>3</sup>

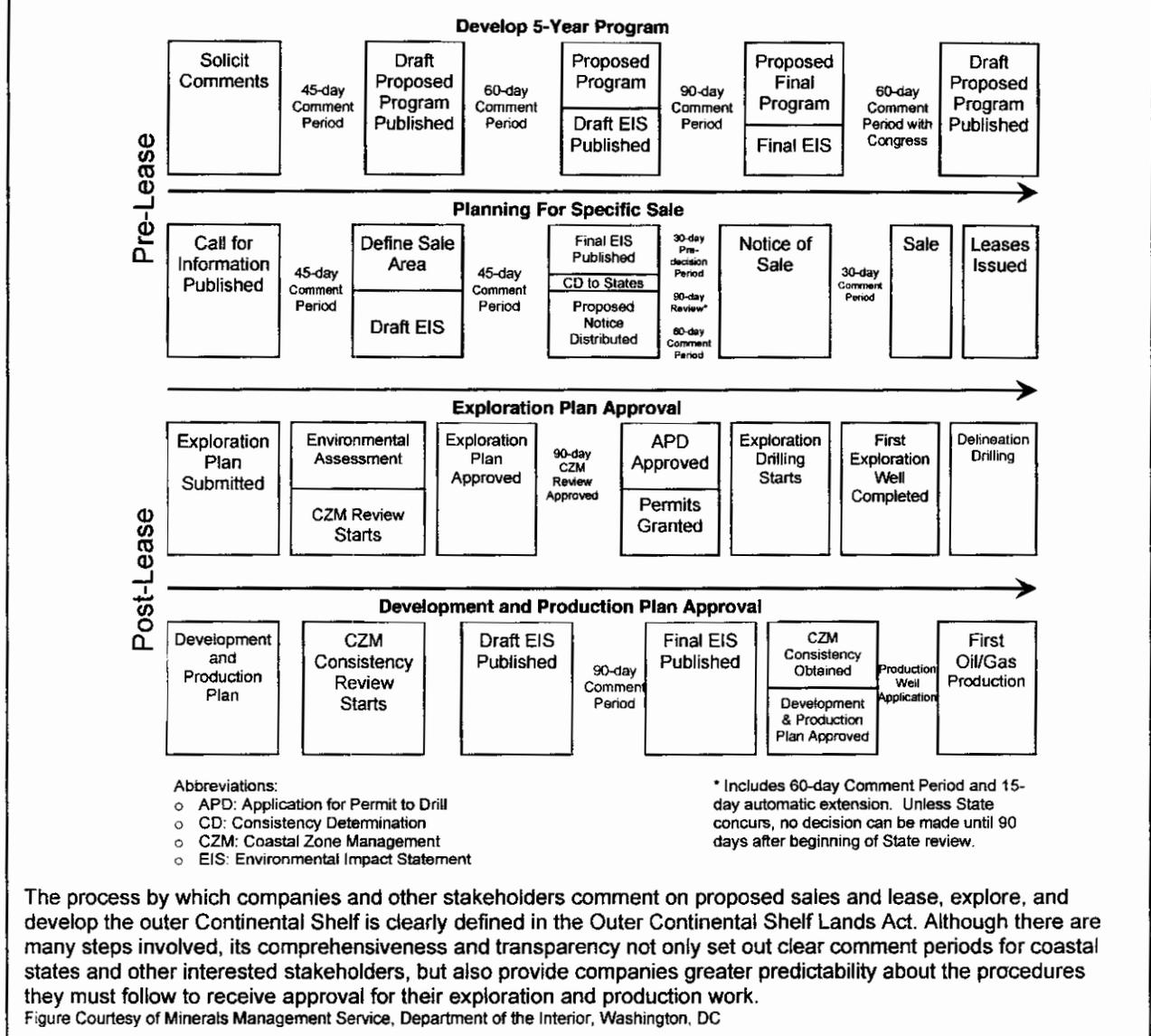
Virtually all (more than 95 percent) of U.S. offshore oil and gas production takes place in the western and central Gulf of Mexico, where there is an established infrastructure and general public acceptability. There is still some offshore production in Southern California and limited leasing and exploration in federal waters off Alaska. The first oil production from a joint federal-state lease in the Beaufort Sea (Alaska) commenced in 2001.

The importance of offshore oil and natural gas to the nation's total energy portfolio is expected to increase. The U.S. Energy Information Administration projects the United States will need about 35–40 percent more natural gas and about 45 percent more oil by 2025 to meet demand, even as new energy conservation measures are mandated and efforts to develop alternative power sources continue.<sup>4</sup> Government and industry experts are concerned that rising demand for and limited supplies of natural gas will continue to boost heating and electricity costs, affecting homeowners and a range of major industries. Nearly all U.S. electric-generating plants built since 1998 are fueled by natural gas.

#### ***Rise in Deep-water Oil Production***

Although production in the Gulf's heavily leased shallow waters has been steadily declining, production in the Gulf's deeper waters (more than 1,000 feet), which tend to produce more oil than natural gas, increased by 276 percent between 1996 and 2000.<sup>5</sup> In part, this growth was attributable to technological breakthroughs, the

Figure 24.2. A "Process Rich" but Clear Path to Offshore Leasing, Exploration, and Development Activities



relative stabilization of crude oil prices, and the enactment of legislation in 1995 granting various levels of royalty relief to lessees willing to make the risky investment in the Gulf's deeper waters. Deep-water oil production now accounts for more than half of the Gulf's total production.<sup>6</sup> Additionally, the technology for ultra-deep-water development continues to advance with the drilling of a number of exploratory and production wells in water depths greater than 7,000 feet. Recently, a world record exploratory well was drilled in 10,000 feet of water.

### A Promising Future for Natural Gas from Shallow Water

MMS estimates there is up to 55 trillion cubic feet (tcf) of natural gas available for production in the deep shelf areas of the Gulf (15,000 feet below the seabed but in shallow-water depths of less than 656 feet). This estimate is 175 percent greater than the previous projection of 20 tcf just a few years ago. This is a hopeful sign of additional sources of natural gas to meet a portion of the nation's future needs. Natural gas production from this deep shelf area of the Gulf increased from a relatively low 284 billion cubic feet (bcf) in

2000 to 421 bcf in 2002. This 2-year, 50 percent increase follows immediately after a 3-year, 21 percent decrease between 1997 and 2000.<sup>7</sup> To bolster industry interest in this high-cost deep drilling area, in 2001, MMS instituted a program of deep shelf royalty relief for natural gas production. This economic incentive, combined with more sophisticated cost-effective technology, improved seismic data, better understanding of the potential from the deep shelf, and increased public demand, is likely to provide the impetus for even further accelerated natural gas production from the OCS.

### Federal Revenues from Offshore Oil and Gas Leasing and Production

The federal government receives substantial sums of revenue from energy companies for offshore oil and gas leasing and production. OCS lessees make three categories of payments: bonus bids when a lease is issued, rental payments before a lease produces, and royalties on any production from the lease. In the half century of the oil and gas program's existence, between 1953 and 2002, it has contributed approximately \$145 billion in federal revenues.<sup>8</sup> In recent years, the revenues generated from offshore energy activity have averaged \$4–\$5 billion annually (Table 24.3). Although most of the revenues have been deposited directly into the U.S. Treasury, a significant portion has gone to the Land and Water Conservation Fund and the National Historic Preservation Fund.

**Table 24.3. Federal Revenues from Offshore Mineral Development**

Significant funds are paid into the U.S. Treasury each year from outer Continental Shelf (OCS) bonuses, royalties, and rents. This money is used in part to help support federal conservation and preservation programs and a small amount generated from near shore development is shared with some OCS producing states.

Year	Oil and Gas Royalties	Bonuses, Rents and Other Revenue	Total by Year
1997	\$3,444,561,989	\$1,814,666,046	\$5,259,228,035
1998	\$2,703,722,873	\$1,618,914,459	\$4,322,637,332
1999	\$2,611,742,229	\$576,646,226	\$3,188,388,455
2000	\$4,094,576,078	\$1,115,086,564	\$5,209,662,642
2001	\$5,448,825,260	\$1,056,762,550	\$6,505,590,810
<b>Total</b>	<b>\$18,303,428,429</b>	<b>\$6,182,075,845</b>	<b>\$24,485,504,274</b>

Source: Minerals Management Service, Department of Interior. <[http://www.mrm.mms.gov/Stats/pdfdocs/coll\\_off.pdf](http://www.mrm.mms.gov/Stats/pdfdocs/coll_off.pdf)> (Accessed March, 2004). Year 2001 data courtesy of MMS Revenue Management Office, Lakewood, CO.

#### *A Question of Equity: Sharing OCS Receipts with Coastal States*

Mineral resources on federal land, whether onshore or offshore, benefit the nation as a whole. The primary law governing onshore mineral development is the Mineral Leasing Act (MLA), and the comparable law for offshore minerals is the OCSLA. These two statutes are analogous in many ways except for one – the sharing of revenues with states. Under the MLA, each of the lower 48 states directly receives 50 percent of all mineral leasing revenues from public lands within its boundaries and an additional 40 percent through the Reclamation Fund; the state of Alaska receives 90 percent directly. Also, there is a broad array of additional federal land onshore receipts sharing programs, including the National Forest Receipts Program, the Taylor Grazing Act, and others. Eligible uses of the shared receipts vary widely. Some programs require that the funds be used by the recipient jurisdiction for specific purposes such as schools, roads, or land and resource improvements, while others allow the states more discretion.

Furthermore, once leased under the MLA or some other land management statutes, federal onshore lands are generally subject to most state and local taxes; the most noteworthy in many cases is the ability of states to levy severance taxes from minerals developed on federal lands within their borders. Additionally, if local governments lose property tax revenue because of the existence of federal lands, there are a variety of federal agency programs that provide localities with payments in lieu of taxes.

In contrast, the OCSLA specifically prohibits the applicability of state taxes to the OCS. Moreover, there is no comparable general offshore revenue sharing program like the MLA for coastal states. Proponents of such an initiative argue that although the energy development occurs in federal waters outside of coastal state boundaries, many of the impacts resulting from such activity occur locally, in and near the states' coastal zones. They contend that affected states and communities should receive assistance in coping with the costs of facilitating offshore development, including actions to minimize the risk of environmental damage. Officials in the executive branch have traditionally opposed revenue sharing, largely because of the potential loss to the federal treasury.

For decades, Congress has debated proposals to enact a general OCS revenue sharing statute—including the Coastal Energy Impact Program in the mid-1970s—to help states address the effects of offshore production and remedy the apparent inconsistency with onshore mineral development. Disputes over the fair division of revenues from resources discovered in fields that straddle state and federal submerged lands were resolved in 1986. In that year, Congress amended the OCSLA to require that 27 percent of revenues from federal leasing and production activity within three nautical miles seaward of the federal–state offshore boundary be given to the affected state. Through the release of money that was being held in escrow, the awarding of past payments owed to the states, and subsequent entitlement to 27 percent of current and future royalties from the three-mile area, the seven OCS “producing” states have received slightly more than \$3 billion since 1986. Currently, this program provides only some \$50-60 million annually to such states. In fiscal year 2001, Congress authorized and appropriated \$142 million for a Coastal Impact Assistance Program to be allocated among the producing states by the National Oceanic and Atmospheric Administration (NOAA). However, this was a one-year authorization, and no further funding has been provided.

### ***Enhancing the Federal-State Ocean and Coastal Partnership***

In various parts of this report, recommendations are made not only to strengthen the coordination of ocean policy and agency organization at the federal level, but also the involvement of non-federal governmental and nongovernmental stakeholders through a formal mechanism of a presidential council of advisors, regional ocean councils, and other less formal structures. In effect, the time has come for a new ocean and coastal partnership between the federal government and state, local, and tribal governments. This partnership should include a recognition that much of the responsibility for the management of the nation's ocean and coastal resources rests with coastal state and local governments. In fact, that recognition is the foundation of the CZMA, permeates many other natural resource management programs, and is specifically acknowledged in Chapter 30.

As the federal-state ocean and coastal partnership began to evolve, the nation determined that the activities associated with development of nonrenewable resources should not be pursued at the expense of the long-term health of renewable resources. That is why the OCSLA, the CZMA, and other applicable federal statutes call for the balanced management of offshore oil and gas, the protection of the ocean and coastal environment, and the involvement of state and local governments. The day will come when oil and gas will no longer be found or developed in the nation's submerged lands, but if the proper policies are pursued, the renewable resources of the estuaries, coasts, oceans, and Great Lakes, and the economic activities that depend upon them, will remain healthy and strong.

To make certain that the federal-state partnership is strengthened and that critical marine ecosystems are protected, more investment of the resource rents generated from OCS energy leasing and production into the sustainability of ocean and coastal resources is necessary. Specifically, some portion of the revenues received by the federal government annually for the leasing and extraction of *nonrenewable* offshore resources need to be allocated to all coastal states for programs and efforts to enhance the conservation and sustainable development of *renewable* ocean and coastal resources. A larger portion of the allocation will need to be granted to the OCS-producing states to help them address the environmental and socioeconomic impacts

from offshore oil and gas-related activity. None of the programs that currently receive revenues from OCS oil and gas activity should be adversely affected by this allocation.

**Recommendation 24–1.** Congress, with input from the National Ocean Council, should ensure that a portion of the revenues that the federal government receives from the leasing and extraction of outer Continental Shelf (OCS) oil and gas is invested in the conservation and sustainable development of renewable ocean and coastal resources through grants to all coastal states. States off whose coasts OCS oil and gas is produced should receive a larger share of such portion to compensate them for the costs of addressing the environmental and socioeconomic impacts of energy activity in adjacent federal waters.

### State Involvement in OCS Oil and Gas Decision-making

The partnership between the federal and state governments with respect to activities in federal waters should involve more than the sharing of some revenues. The central role of states in the new ocean policy framework is addressed in practically every chapter of this report. For example, Chapter 6 specifically calls for a more robust federal-regional-state dialogue in the building of coordinated offshore management regime. Chapter 9 addresses the link between coastal and offshore management, including the role of the federal consistency provision of the CZMA, despite some disagreements between levels of government, in enhancing cooperative federalism.

With respect to offshore oil and gas, the 1978 amendments to the OCSLA were intended, among many purposes, to bring state and local governments into much clearer and statutorily specified consultative roles at various points in DOI's decision-making process. Further, the amendments made clear that the federal consistency provision of the CZMA applied to exploration, development, and production plans submitted to the Secretary of the Interior under the OCSLA. (For further information, see the box on "The Federal Consistency Provision and Offshore Oil and Gas Development.")

### Environmental Issues Related to Offshore Oil and Gas Production

As with most industrial development activities, along with the economic and energy-related benefits of OCS oil and gas production are actual and perceived risks to the environment, coastal communities, and competing users. Since the 1969 Santa Barbara blowout, the U.S. oil industry's environmental and safety record has improved significantly, as has the regulatory regime of DOI. Today, safety stipulations are more stringent, technologies are vastly improved, inspections are regular and frequent, and oil spill response capabilities are in place. Nevertheless, there remain numerous environmental issues associated with the development and production of oil and gas from the OCS. Foremost among these are:

- physical damage to coastal wetlands and other fragile areas by OCS-related onshore infrastructure and pipelines.
- physical disruption of and damage to bottom-dwelling marine communities.
- discharge of contaminants and toxic pollutants present in drilling muds and cuttings and in produced waters.
- emissions of pollutants from fixed facilities, vessels, and helicopters.
- seismic exploration and production noise impacts on marine mammals and fish and other wildlife.
- immediate and long-term ecological effects of large oil spills.
- chronic, low-level impacts on natural and human environments.
- cumulative impacts on the marine, coastal, and human environments.

The most obvious of these risks and the one most commonly cited, is the potential for oil spills including drill rig blowouts, pipeline spills, and chronic releases from production platforms. The impacts of large oil spills can last from years to decades, particularly in critical habitats, such as wetlands and coral reefs.

### **The Federal Consistency Provision and Offshore Oil and Gas Development**

The application of the federal consistency provision of the CZMA to offshore energy development has been among the most contentious issues among the federal government, coastal state governments, and OCS lessees. In the mid 1970's, Congress amended the original version of the federal consistency provision to add a section that explicitly covered certain OCS activities. Of the thousands of exploration and development plans submitted by oil and gas companies over the years and approved by MMS, states have concurred with the consistency of such plans with their state coastal management program in virtually all of the cases. But there have been a handful in which states have objected and these are generally cases of high visibility, of which fifteen have been appealed to the Secretary of Commerce. These appeals resulted in fourteen decisions by the Secretary, half of which overrode the state's objection and half did not.

In a case that reached the highest court in the land in 1984, the U.S. Supreme Court held that OCS lease sales were not subject to the consistency provision of the CZMA. In 1990, Congress enacted a law which reversed the decision, clarified that such sales are subject to a state consistency review, and made a number of other changes to the interpretation of the federal consistency provision that resulted in a lengthy rule-making process by NOAA. The final rule was published in 2000.

In 2001, the Vice President submitted the National Energy Policy report of the National Energy Policy Development Group to the President.<sup>9</sup> The report contained a section on the OCSLA, as administered by MMS, and the CZMA, as carried out by NOAA. It noted that the effectiveness of these programs is "sometimes lost through a lack of clearly defined requirements and information needs from federal and state entities, as well as uncertain deadlines during the process." The report recommended that the Secretaries of Commerce and the Interior reexamine the legal and policy regimes to see if changes were needed regarding energy activities in the coastal zone and the OCS.

In 2003, after a series of negotiations between the two departments, the Department of Commerce published a proposed rule addressing the information needs of states, coordination of timing requirements between the OCSLA and the CZMA, definitive time limits on the Secretary of Commerce's appeals process, and additional procedural matters. (For a more detailed discussion of the OCS-specific federal consistency provisions of the CZMA and the issues related to their implementation, including a history of related litigation, see Appendix 6.)

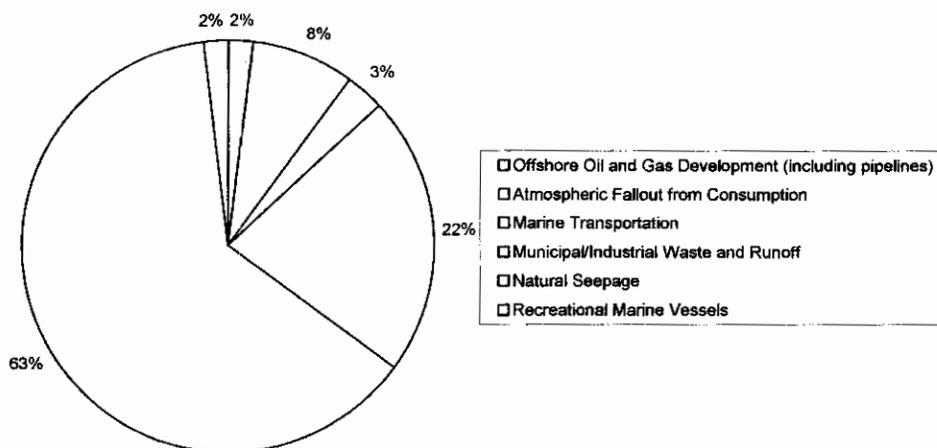
According to MMS, 97 percent of OCS spills are one barrel or less in volume and U.S. OCS offshore facilities and pipelines accounted for only 2 percent of the volume of oil released into U.S. waters for the period 1985-2001 (Figure 24.4).<sup>10</sup> The total volume and number of such spills over that period have been significantly declining due to industry safety practices and improved spill prevention technology. By comparison, the National Research Council estimated that 690,000 barrels of oil enter North American ocean waters each year from land-based human activities, and another 1,118,000 barrels result from natural seeps emanating from the seafloor.<sup>11</sup>

However, spills from aging pipelines are a continuing concern. Since 1981, the volume of oil spilled from OCS pipelines is four to five times greater than that from OCS platforms (Figure 24.5).<sup>12</sup> Long-term exposure to weather and marine conditions make pipelines older than 25 years considerably more susceptible to spills and leaks as a result of stress fractures and material fatigue. Also, these older pipelines do not incorporate the advanced oil spill detection and prevention technology that has been developed in more recent years.

MMS's Environmental Studies Program (ESP) is a major source of information about the impacts of OCS oil and gas activities on the human, marine, and coastal environments. Since 1986, annual funding for the program has decreased, in real dollars, from a high of \$56 million to approximately \$18 million in 2003. Even accounting for the contraction in the areas available for leasing, the erosion in ESP funding has occurred at a time when more and better information, not less, is needed. There continues to be a need to better

understand the cumulative and long-term impacts of OCS oil and gas development, especially in the area of low levels of persistent organic and inorganic chemicals, and their cumulative or synergistic effects.

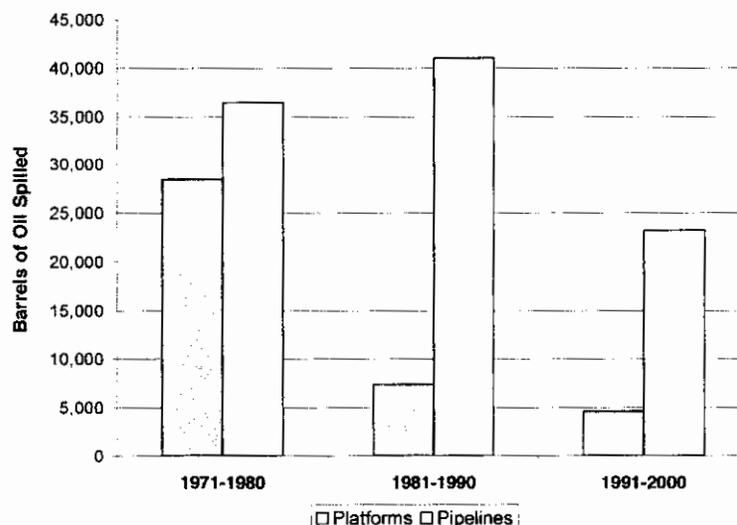
**Figure 24.4. Sources of Oil in the North American Marine Environment**



Offshore oil and gas development contributes only 2 percent of the 1.8 million of barrels of oil released into North American waters each year. Natural seepage from the sea floor is by far the largest input, while runoff and waste from human land-based activities contribute roughly a quarter of the oil present in the marine environment. When calculated worldwide, the oil released from offshore oil and gas development still only accounts for 4 percent of the total 8.9 million barrels. (One barrel is equal to 42 gallons.)

Source: Minerals Management Service. *OCS Oil Spill Facts*, 2002. <[http://www.mms.gov/stats/PDFs/2002\\_OilSpillFacts.pdf](http://www.mms.gov/stats/PDFs/2002_OilSpillFacts.pdf)> (Accessed March, 2004).

**Figure 24.5. Aging Pipelines are a Leading Source of Oil Leaks from OCS Infrastructure**



In the last thirty years, the amount of oil spilled from OCS platforms and pipelines has continued to decrease. However, the increasing disparity between the number of barrels spilled from platforms versus pipelines indicates that the pipeline infrastructure—which is more exposed to the effects of weather and saltwater—needs updating to prevent future spills.

Source: Minerals Management Service. *OCS Oil Spill Facts*, 2002. <[http://www.mms.gov/stats/PDFs/2002\\_OilSpillFacts.pdf](http://www.mms.gov/stats/PDFs/2002_OilSpillFacts.pdf)> (Accessed March, 2004).

Also, as noted, OCS oil and gas exploratory activities in the Gulf of Mexico are now occurring in water depths approaching 10,000 feet with projections that the industry will achieve 15,000 feet drilling capabilities within the next decade. The technological ability to conduct oil and gas activities in ever deeper waters on the OCS places a significant and important responsibility on MMS to collect the essential environmental deep-

water data necessary for it and other agencies to make informed management and policy decisions on exploration and production activities at those depths. Thus, as our knowledge base increases and the industry expands its activities further offshore and into deeper waters, new environmental issues are emerging that cannot all be adequately addressed under the current ESP budget.

**Recommendation 24–2. The U.S. Department of the Interior should reverse recent budgetary trends and increase funding for the Minerals Management Service’s Environmental Studies Program.**

*Increased funding should be used for:*

- *conducting long-term environmental monitoring at appropriate outer Continental Shelf (OCS) sites to better understand cumulative, low-level, and chronic impacts of OCS oil and gas activities on the natural and human environments.*
- *working with state environmental agencies and industry to evaluate the risks to the marine environment posed by the aging offshore and onshore pipelines in the Gulf of Mexico.*

**Opportunities for Sharing Ocean Observation Information and Resources**

Floating drilling rigs and production platforms are able to maintain position over the tops of wells thousands of feet below without the need for mooring or permanent structures. Dynamic positioning systems compensate for wind, waves, or currents to keep the vessel stationary relative to the seabed, and new hull designs maintain stability. Three- and four-dimensional subsurface images allow operators to obtain a better idea of how a reservoir behaves and increase the likelihood of drilling success. And the use of horizontal and directional drilling creates more flexibility in deciding where to site offshore platforms.

The movement of oil and natural gas exploration, development, and production activities further offshore into deeper waters and into more harsh marine environments, such as the Arctic, affords an excellent opportunity for incorporating the industry’s offshore infrastructure into the national Integrated Ocean Observing System (IOOS), as discussed in Chapter 26. In addition to its offshore infrastructure, the industry has great technological capacity for collecting, assimilating, and analyzing environmental data of direct importance to the IOOS. The U.S. offshore industry has a history of partnering with ocean scientists by allowing them to use production platforms for mounting environmental sensors, and in some cases, collecting and providing them with environmental data and information. The industry would benefit from partnering in the IOOS as a user of the system’s data and information products and by being involved in its design, implementation, and future enhancement.

**Recommendation 24–3. The National Oceanic and Atmospheric Administration, working with the Minerals Management Service and the offshore oil and gas industry, should establish a partnership that will allow the use of industry resources, including pipelines, platforms, vessels, and research and monitoring programs, as part of the Integrated Ocean Observing System (IOOS).**

*Specifically, this partnership should:*

- *facilitate the transfer of nonproprietary data to research and academic institutions while protecting the security of proprietary data and meeting other safety, environmental, and economic concerns.*
- *include the offshore oil and gas industry as an integral partner in the design, implementation, and operation of the IOOS, notably in the regional observing systems in areas where offshore oil and gas activities occur.*

**ASSESSING THE POTENTIAL OF OFFSHORE METHANE HYDRATES**

Conventional oil and gas are not the only fossil-based fuel sources located beneath ocean floors. Methane hydrates are solid, ice-like structures composed of water and natural gas. They occur naturally in areas of the world where methane and water can combine at appropriate conditions of temperature and pressure, such as in thick sediments of deep ocean basins, at water depths greater than 500 meters.

The estimated amount of natural gas in the gas hydrate accumulations of the world greatly exceeds the volume of all known conventional gas resources.<sup>13</sup> A 1995 U.S. Geological Survey (USGS) estimate of both marine and Arctic hydrate resources revealed the immense energy potential of hydrates in the United States.<sup>14</sup> These deposits have been identified in Alaska, the east and west coasts of the United States, and in the Gulf of Mexico. USGS estimated that the methane hydrates in U.S. waters hold a mean value of 320,000 trillion cubic feet of natural gas, although subsequent refinements of the data have suggested that the estimate is a slightly more conservative 200,000 trillion cubic feet.<sup>15</sup> Even this more conservative estimate is enough to supply all of the nation's energy needs for more than 2,000 years at current rates of use.<sup>16</sup>

However, there is still no known practical and safe way to develop the gas and it is clear that much more information is needed to determine whether significant technical obstacles can be overcome to enable methane hydrates to become a commercially viable and environmentally acceptable source of energy.

In the United States, federal research concerning methane hydrates has been underway since 1982, was intensified in 1997-98, and received further emphasis with the passage of the Methane Hydrate Research and Development Act in 2000. That Act established an interagency coordination mechanism that includes the Departments of Energy, Commerce, Defense, and the Interior, and the National Science Foundation, and directed the National Research Council (NRC) to conduct a study on the status of research and development work on methane hydrates. The NRC study is scheduled for release in September 2004.

**Recommendation 24-4. The National Ocean Council (NOC), working with the U.S. Department of Energy and other appropriate entities, should review the status of methane hydrates research and development and seek to determine whether methane hydrates can contribute significantly to meeting the nation's long-term energy needs. If such contribution looks promising, the NOC should determine how much the current investment in methane hydrates research and development efforts should be increased, and whether a comprehensive management regime for private industry access to methane hydrates deposits is needed.**

## DEVELOPING OFFSHORE RENEWABLE ENERGY RESOURCES

Environmental, economic, and security concerns have heightened interest among many policy makers and the public in renewable sources of energy. Although offshore areas currently contribute little to the nation's supply of renewable energy, the potential is significant and could include offshore wind turbines, mechanical devices driven by waves, tides, or currents, and ocean thermal energy conversion, which uses the temperature difference between warm surface and cold deep ocean waters to generate electricity.

### Offshore Wind Energy Development

While the offshore wind power industry is still in its infancy in the United States, it is being stimulated by improved technology and federal tax credits that have made it more attractive commercially. Additionally, developers are looking increasingly to the lead of European countries such as Denmark, the United Kingdom, and Germany, where growing numbers of offshore projects are being licensed.

In fact, the United States already has a wind energy management program applicable on some federal lands onshore. This comprehensive program carried out by DOI's Bureau of Land Management, under broad authority provided by the Federal Land Policy and Management Act.

Conversely, there is no comprehensive and coordinated federal regime in place to regulate offshore wind energy development or to convey property rights to use the public space of the OCS for this purpose. In the absence of a specific regime, the U.S. Army Corps of Engineers (USACE) is the lead federal agency responsible for reviewing and granting a permit for this activity. Its authority, however, is based on Section 10

of the Rivers and Harbors Act, which, although it has a public interest requirement, primarily regulates obstructions to navigation, including approval of any device attached to the seafloor.

In reviewing a proposed project under Section 10, the USACE is required by the National Environmental Policy Act to consult other federal agencies. Depending on the circumstances, these agencies and authorities may include:

- The U.S. Coast Guard, which regulates navigation under several federal statutes.
- The Federal Aviation Administration, which regulates objects that may affect navigable airspace pursuant to the Federal Aviation Act.
- The U.S. Environmental Protection Agency, which may conduct a review for potential environmental impacts of a project pursuant to the Clean Water Act and Clean Air Act.
- The National Marine Fisheries Service, which may review projects for potential impacts to fishery resources pursuant to the Magnuson-Stevens Fishery Conservation and Management Act. In addition, NMFS review includes assessing potential impacts to endangered or threatened species under the Endangered Species Act or the Marine Mammal Protection Act.
- The U.S. Fish and Wildlife Service, which may review projects for potential impacts to endangered species or marine mammals under its jurisdiction pursuant to the Endangered Species Act or the Marine Mammal Protection Act.
- In addition, depending on its location, a wind energy project or at least the Section 10 permit may be subject to review by one or more state coastal management programs in accordance with the CZMA federal consistency provisions.

The Section 10 review process stands in stark contrast both to the well established DOI regulatory program for onshore wind energy and, in the marine setting, to the robust regulatory program for offshore oil and gas that has developed under the OCSLA. Using the Section 10 process as the primary regulatory vehicle for offshore wind energy development is inadequate for a number of reasons. First and foremost, it cannot grant leases or exclusive rights to use and occupy space on the OCS. It is not based on a comprehensive and coordinated planning process for determining when, where, and how this activity should take place. It also lacks the ability to assess a reasonable resource rent for the public space occupied or a fee or royalty for the energy generated. In other words, it lacks the management comprehensiveness that is needed to take into account a broad range of issues, including other ocean uses in the proposed area and the consideration of a coherent policy and process to guide offshore energy development.

### **A Mighty Wind Blows in Cape Cod**

The first proposal for offshore wind energy development in the United States is testing the ability of the federal system to manage this emerging industry. The proposal calls for use of approximately 23 square miles of Nantucket Sound, some 5.5 nautical miles off the coast of Cape Cod, Massachusetts. It would consist of 170 wind turbines, each of which would be sunk into the ocean floor and reach up to 420 feet above the ocean surface. The project would generate an annual average of approximately 160 megawatts of electrical power.<sup>17</sup>

This project has divided local citizens, elected officials, environmentalists, business interests, and other stakeholders. Supporters cite the project's potential to reduce pollution, global warming, and reliance on foreign oil, while opponents warn of bird deaths, harm to tourism, interference with commercial and sports fishing, and obstructed views.

Despite the controversy, the project is proceeding through the Section 10 review process. In the meantime, proposals for offshore wind development projects up and down the East Coast are proliferating.

## Wave Energy Conversion—Current and Tidal

Various technologies have been proposed to use wave or tidal energy, usually to produce electricity. The wave energy technologies for offshore use include floating or pitching devices placed on the surface of the water that convert the horizontal or vertical movement of the wave into mechanical energy that is used to drive a turbine. Currently, the offshore wave, tidal, and current energy industry is in its infancy. Only a small proportion of the technologies have been tested and evaluated.<sup>18</sup> Nonetheless, some projects are moving forward in the United States, including one to install electricity-producing wave-energy buoys more than three nautical miles offshore Washington State, in the Olympic Coast National Marine Sanctuary. Internationally, there is considerable interest in wave, tidal, and current energy, but the projects are almost all in the research and development stage.

The Federal Energy Regulatory Commission (FERC) asserts jurisdiction, under the Federal Power Act (FPA), over private, municipal, and state (not federal) hydropower projects seaward to 12 nautical miles. FERC has formally asserted jurisdiction over the Washington State project, and is likely to assert jurisdiction over all forms of wave or tidal or current energy projects whose output is electricity, from the shoreline out to 12 nautical miles offshore, on the basis that they are “hydropower” projects under the FPA.

Although in issuing a license for a wave, current, or tidal project FERC is directed by the FPA to equally consider environmental and energy concerns, it is not an agency with a broad ocean management mission. As with wind energy, several other federal laws may apply to ocean wave projects. For example, NEPA, the federal consistency provision of the CZMA, the National Historic Preservation Act, and the Fish and Wildlife Coordination Act may apply, as may the consultation provisions of the Endangered Species Act and the Marine Mammal Protection Act. But there is no comprehensive law that makes clear which of these individual laws may be applicable, nor is there any indication that overall coordination is a goal, thus leaving implementation, again, to mixed federal authorities.

## Ocean Thermal Energy Conversion

The surface waters of the world’s tropical oceans store immense quantities of solar energy. Ocean thermal energy conversion (OTEC) technology could provide an economically efficient way to tap this resource to produce electric power and other products. The U.S. government spent over \$200 million dollars in OTEC research and development from the 1970s to the early 1990s that produced useful technical information but did not result in a commercially viable technology.<sup>19</sup>

Early optimism about the potential of OTEC led to the enactment of the Ocean Thermal Energy Conversion Act of 1980, and the creation of a coordinated framework and licensing regime for managing that activity if and when economic considerations permitted. NOAA issued regulations to implement the Act, but because of investor risk for this capital-intensive technology and relatively low fossil fuel prices, no license applications were ever received and NOAA subsequently rescinded the regulations in 1996. Thus, the United States currently has no administrative regulatory structure to license commercial OTEC operations.

## Comprehensive Management for Offshore Renewable Energy

Offshore renewable technologies will continue to be studied as a means of reducing U.S. reliance on potentially unstable supplies of foreign oil, diversifying the nation’s energy mix, and providing more environmentally benign sources of energy. Similar to offshore aquaculture described in Chapter 22, the offshore renewable processes described in this section present obvious examples of the shortcomings in federal authority when it comes to regulating specific new and emerging offshore activities. As long as federal agencies are forced to bootstrap their authorities to address these activities, the nation runs the risk of unresolved conflicts, unnecessary delays, and uncertain procedures. What is urgently needed is a comprehensive offshore management regime, developed by the National Ocean Council, which is designed to review all offshore uses in a greater planning context (see Chapter 6). A coherent and predictable federal

management process for offshore renewable resources that is able to weigh the benefits to the nation's energy future against the potential adverse effects on other ocean users, marine life, and the ocean's natural processes, should be fully integrated into the broader management regime.

**Recommendation 24–5. Congress, with input from the National Ocean Council, should enact legislation providing for the comprehensive management of offshore renewable energy development as part of a coordinated offshore management regime.**

*Specifically, this legislation should:*

- *streamline the process for licensing, leasing, and permitting renewable energy facilities in U.S. waters.*
- *subsume existing statutes, such as the Ocean Thermal Energy Conversion Act, and should be based on the premise that the oceans are a public resource.*
- *ensure that the public receives a fair return from the use of that resource and development rights are allocated through an open, transparent process that takes into account state, local, and public concerns.*

## MANAGING OTHER MARINE MINERALS

The ocean floor within the U.S. EEZ contains vast quantities of valuable minerals other than oil and gas, but the economics of recovering them, especially in areas far offshore, are not welcoming. These resources include more than two trillion cubic meters of sand and gravel reserves on the Atlantic shelf of the OCS alone, enormous phosphate deposits off the East Coast from North Carolina to northern Florida, titanium-rich heavy mineral sands from New Jersey to Florida, manganese nodules from South Carolina to Georgia, gold deposits off of Alaska, polymetallic sulfides off of Oregon, barite resources off of southern California, and quantities of cobalt and platinum in Hawaii. It is likely that substantial amounts of other valuable minerals will be identified in the future as exploration proceeds. Access to these minerals for commercial recovery, including offshore sand and gravel for use as construction aggregate, is through the competitive leasing process of the OCSLA.

In 1994, Congress authorized coastal communities to use sand and gravel from the OCS for public works projects without going through the statute's bidding process. Since then, MMS has used this authority to allow federal, state, and local agencies to mine OCS sand to protect shorelines, nourish beaches, and restore wetlands. Between 1995 and 2004, MMS provided over 20 million cubic yards of OCS sand for 14 coastal projects.<sup>20</sup> Louisiana alone is expected to seek millions of cubic yards of OCS sand for various barrier island restoration projects and levee systems.<sup>21</sup>

The depletion of OCS sand in state waters after decades of excavation, and growing environmental opposition to the activity in areas close to shore are exacerbated by the acceleration of erosion, ever-expanding coastal populations, and on the increasing vulnerability of fragile beaches, exposed beachfront property, and coastal-dependent industries to coastal storms. With the need for sand increasing and its availability in state waters decreasing, the OCS provides the obvious remedy. It is not, however, a remedy without associated problems.

MMS has numerous environmental studies underway or planned to evaluate the effects of OCS dredging on the marine and coastal environment and to identify ways to eliminate or mitigate harmful impacts. There remains, nevertheless, significant uncertainty about the long-term, cumulative impacts of sand and gravel mining on ocean systems and marine life. Changes in bathymetry can affect waves and currents in a manner that could increase shoreline erosion. Alterations to the ocean bottom can affect repopulation of the benthic community, cause increased turbidity, damage submerged resources such as historic shipwrecks, and kill marine organisms, including fish. For economic reasons, the demand for sand and gravel leases will most likely concentrate on OCS areas that are relatively close to shore. Some environmentalists and fishing representatives have opposed mining in state waters and may well oppose similar projects in adjacent federal waters.

A vital component of a national strategy to manage mineral resources located on the OCS is the need for an overall assessment of: (1) the nation's OCS mineral endowment (sand and gravel, as well as other strategic minerals vital to the long-term security of the nation); (2) the need for those resources (highest and best uses); (3) the long-term environmental impacts associated with use of those resources and; (4) the multiple-use implications of other uses of the OCS (including wind farms, cables, and pipelines). While resource managers have identified large volumes of sand off the nation's shores, the ultimate volumes that may be recovered remain unknown. Sand and gravel resources from the OCS are key to protecting the nation's shores and wetlands and to supplementing ever-diminishing onshore supplies of aggregate to support construction activities.

**Recommendation 24–6. The Minerals Management Service should systematically identify the nation's offshore non-energy mineral resources and conduct the necessary cost-benefit, long-term security, and environmental studies to create a national program that ensures the best uses of those resources.**

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- <sup>1</sup> U.S. Department of the Interior, Minerals Management Service. "Total OCS Gas Production." <[http://www.mms.gov/stats/PDFs/OCSNaturalGasProduction\\_March2004.pdf](http://www.mms.gov/stats/PDFs/OCSNaturalGasProduction_March2004.pdf)> Accessed March 11, 2004.
- <sup>2</sup> U.S. Department of the Interior, Minerals Management Service. "Federal Offshore Crude and Condensate Production: 1992-2003." <[http://www.mms.gov/stats/PDFs/FederalOffshoreCrudeCondensateProduction92-03\\_March2004.pdf](http://www.mms.gov/stats/PDFs/FederalOffshoreCrudeCondensateProduction92-03_March2004.pdf)> Accessed March 11, 2004.
- <sup>3</sup> U.S. Department of the Interior, Minerals Management Service. "Offshore Minerals Management." <<http://www.mms.gov/offshore/>> Accessed March 9, 2004.
- <sup>4</sup> Energy Information Administration. *Annual Energy Outlook 2004*. DOE/EIA-X053. Washington, DC: U.S. Department of Energy, January 2004.
- <sup>5</sup> Statement by Chris C. Oynes to the U.S. Commission on Ocean Policy, Appendix 2.
- <sup>6</sup> Ibid.
- <sup>7</sup> U.S. Department of the Interior, Minerals Management Service. "Deep Shelf Gas May Be More Abundant in Gulf Than Earlier Forecast Probabilistic Estimate Increases by 175%." <<http://www.gomr.mms.gov/homepg/whatsnew/newsreal/031119.html>> Posted November 19, 2003; accessed March 12, 2004.
- <sup>8</sup> Statement by J. Steven Griles (Deputy Secretary, U.S. Department of the Interior) before the Senate Energy and Natural Resources Committee. February 27, 2003.
- <sup>9</sup> National Energy Policy Development Group. *National Energy Policy: Reliable, Affordable, and Environmentally Sound Energy for America's Future*. Washington, DC: Executive Office of the President, May 2001.
- <sup>10</sup> Minerals Management Service. "OCS Oil Spill Facts." Washington, DC: U.S. Department of the Interior, September 2002.
- <sup>11</sup> National Research Council. *Oil in the Sea III: Inputs, Fates and Effects*. Washington, DC: National Academy Press, 2003.
- <sup>12</sup> Minerals Management Service. *OCS Oil Spill Facts*. Washington, DC: U.S. Department of the Interior, September 2002.
- <sup>13</sup> U.S. Department of the Interior, U.S. Geological Survey. "Gas Hydrates—Will They be Considered in the Future Global Energy Mix?" <[http://www.usgs.gov/public/press/public\\_affairs/press\\_releases/pr1824m.html](http://www.usgs.gov/public/press/public_affairs/press_releases/pr1824m.html)> Posted December 10, 2003; accessed March 12, 2004.
- <sup>14</sup> National Oil and Gas Resource Assessment Team. *1995 National Assessment of United States Oil and Gas Resources*. U.S. Geological Survey Circular 1118. Washington, DC: U.S. Government Printing Office, 1995.
- <sup>15</sup> Congressional Research Service. "Methane Hydrates: Energy Prospect or Natural Hazard?" <<http://www.cnre.org/nle/crsreports/energy/eng-46.pdf>> Updated February 14, 2004; accessed March 12, 2004.
- <sup>16</sup> R. Monastersky. "The Ice That Burns: Can Methane Hydrates Fuel the 21st Century?" *Science News* 154, no. 20 (November 14, 1998): 312.
- <sup>17</sup> U.S. Army Corps of Engineers. "Commercial Scale Wind Energy Generation Project for the NE Grid." <<http://www.nae.usace.army.mil/projects/ma/ccwff/farmfact.pdf>> Posted March 3, 2004; accessed March 11, 2004.
- <sup>18</sup> California Energy Commission. "Ocean Energy." <<http://www.energy.ca.gov/development/oceanenergy/>> Accessed December 16, 2003.
- <sup>19</sup> Jones, A.T., and W. Rowley. "Global Perspective: Economic Forecast for Renewable Ocean Energy Technologies." *Marine Technology Society Journal* 36, no. 4 (Winter 2002–2003).
- <sup>20</sup> U.S. Department of the Interior, Minerals Management Service. "Offshore Sand and Gravel Facts." <<http://www.mms.gov/sandandgravel/pdf/sandandgravelfactsheet.pdf>> Accessed March 12, 2004.
- <sup>21</sup> U.S. Department of the Interior, Minerals Management Service. "Sand and Gravel Program—Offshore Minerals Management: Louisiana." <<http://www.mms.gov/sandandgravel/louisiana.htm>> Updated January 29, 2004; accessed March 12, 2004.



April 13, 2004

The Honorable Thomas Sansonetti  
United States Department of Justice  
Robert F. Kennedy Bldg.  
10<sup>th</sup> St. & Constitution Ave, N.W.  
Washington, DC 20530

Dear Mr. Sansonetti:

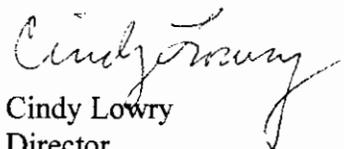
As a follow-up to my letter to you dated April 1, 2004, the enclosed letter and OPTI's prior correspondence with the U.S. Corps of Engineers clearly indicates the need for the Department of Justice to answer the questions posed regarding building a private wind energy project on the OCS under the authority of a section 10 permit.

The federal government's response to this inquiry is very important considering the ongoing review of several private projects that seek to use federally controlled, public trust OCS lands for private purposes based on nothing more than a section 10 permit.

Unfortunately, the Corps of Engineers has not responded to the question presented in my last letter to you, and OPTI is not aware of any explanation from the federal government as to how it will protect such lands against unauthorized use and occupancy. The fact that the Corps is processing permits for this purpose, and private developers are using, and intend to use, section 10 permits as the basis for their construction of facilities on the OCS demonstrates the importance of obtaining an explanation from the United States of its position on this issue.

I look forward to your response to these critical questions regarding the protection of our public trust resources of coastal and ocean areas from unauthorized use and development in these specific circumstances.

Sincerely,



Cindy Lowry  
Director

Enclosures



April 1, 2004

The Honorable Thomas Sansonetti  
United States Department of Justice  
Robert F. Kennedy Bldg.  
10th St. & Constitution Ave., N.W.  
Washington, DC 20530

Dear Mr. Sansonetti:

I am writing to you on behalf of the Oceans Public Trust Initiative (OPTI), a project of the International Marine Mammal Project of the Earth Island Institute, regarding an important question of federal law and the duty of the United States to protect public trust resources in coastal and ocean areas. The specific issue of concern is the use of section 10 of the Rivers and Harbors Act to authorize the use and occupancy of the outer continental shelf (OCS) for the development of private facilities, in particular offshore wind energy plants. This issue is presented most dramatically by the proposed Cape Wind project, which seeks to make use of an extensive area of Nantucket Sound for a private energy facility. Although OPTI favors the development of alternative energy sources, we are opposed to allowing any use of public trust resources by private businesses without proper authorization under federal law.

The U.S. Army Corps of Engineers has taken the position that a section 10 permit does not convey property rights to the OCS. OPTI is aware of no federal law that would authorize the use of Nantucket Sound, or any other offshore area, for a private wind energy plant. As a result, it appears that there is no legal basis upon which the applicant for a section 10 permit could build such a facility in this location, even if it receives approval under the Rivers and Harbors Act. Certainly, such a development would be in trespass on lands and waters that are under the control of the United States government on behalf of the public trust.

Despite the considerable controversy over this project and similar proposals, no federal agency has explained how such a project can be built under existing law. OPTI believes it is the responsibility of the Department of Justice to bring a legal action against any private party who seeks to build such a facility exclusively based upon the issuance of a section 10 permit. Clearly, the applicant for this section 10 permit intends to build its private plant on the OCS if it receives a section 10 permit. By this letter, I am requesting that the Department of Justice confirm that it would take legal action against the Cape Wind Associates, or any other similarly situated developer, should they seek to build a private project on the OCS on the mere authority of a section 10 permit. If there is some other explanation as to how the

Mr. Thomas Sansonetti

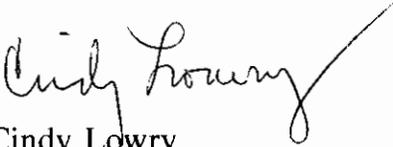
April 1, 2004

Page 2

public trust resources of coastal and ocean areas will be protected from unauthorized use and development in these circumstances, we would greatly appreciate obtaining such information from you.

The answer to these questions is of great interest to OPTI and to the general public. Please contact me if you have any questions regarding OPTI's position on the protection of the public trust resources.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Cindy Lowry". The signature is written in black ink and is positioned above the printed name.

Cindy Lowry

cc: The Honorable Mitt Romney  
The Honorable Thomas Reilly



April 1, 2004

Ms. Karen Kirk Adams  
Permit Manager, Regulatory Division  
U.S. Army Corps of Engineers  
New England District  
696 Virginia Road  
Concord, MA 01742-2751

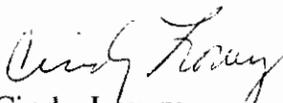
Dear Ms. Adams:

On behalf of the Ocean Public Trust Initiative (OPTI), a project of the International Marine Mammal Project of the Earth Island Institute, I hereby submit to the record of the Cape Wind project permit application review the legal memorandum prepared by our counsel regarding the amendment included in the energy bill that would exempt this project, and a similar project off the coast of New York, from the new provisions of that legislation.

As discussed in this memorandum, this amendment creates the potential to provide special exemptions for those two projects from the legal requirements that would otherwise apply under federal law. OPTI is strongly opposed to any actions that would prevent the project from undergoing full and adequate environmental review.

As we have previously stated, OPTI does not believe that adequate legal authority exists to authorize the use of the outer continental shelf for private wind energy projects or other facilities not expressly authorized by federal law. It is disturbing that proponents of this amendment would seek to limit their burden of proof on issues as important as protection of public trust resources which they seek to use for private gain. Thank you for considering this memorandum and including it in the record of the Cape Wind proceeding.

Very truly yours,

  
Cindy Lowry

Enc.

Donald B. Mooney  
Law Offices of Donald B. Mooney  
129 C Street, Suite 2  
Davis, California 95616  
530-758-2377

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## MEMORANDUM

TO: Cindy Lowry, Oceans Public Trust Initiative, a project of Earth Island Institute  
FROM: Donald B. Mooney *DBM*  
RE: **Section 321(c) of the Energy Bill (H.R. 6)**  
DATE: February 25, 2004

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### I.

#### INTRODUCTION

This memorandum responds to the Oceans Public Trust Initiative's ("OPTI") request for a legal analysis of section 321(c), as set forth in H.R. 6, the energy bill currently pending before the United States Congress. Section 321(c) provides as follows:

(c) SAVINGS PROVISION. — Nothing in the amendment made by subsection (a) [the Cubin bill amendment to the OCSLA] requires, with respect to any project—

- (1) for which offshore test facilities have been constructed before the date of enactment of this Act; or
- (2) for which a request for proposals has been issued by a public authority,

any resubmittal of documents previously submitted or any reauthorization of actions previously authorized.

OPTI is concerned about section 321(c)'s effect on the potential development of wind energy facilities off the coasts of Massachusetts and New York. OPTI's specific concern is that these facilities would be developed under an inadequate legal process that fails to give precedence to the public trust principles that govern the oceans.

As a result, on behalf of OPTI, you asked me to consider the following two questions associated with section 321(c):

1. Is section 321(c) limited in application to the so called "data tower" constructed by Cape Wind Associates ("Cape Wind") in Nantucket Sound, or

does it potentially apply to the entire wind energy project that is now undergoing review by the U.S. Army Corps of Engineers?

2. Does section 321(a) exempt the Cape Wind project, or the project under consideration by the Long Island Power Authority ("LIPA") in waters off the coast of southern Long Island, from the new offshore energy program that would be established under the energy bill and invested in the Department of Interior?

Apparently, the developers involved in the Cape Wind project and the LIPA project are arguing that section 321(c) has minimal effect and is intended only to ensure that they do not have to start over again. Some supporters of the Cape Wind project have made the same claim. You have asked me to provide an objective and independent analysis of these questions in response to these claims and to guide OPTI's involvement in these issues.

## II.

### DISCUSSION

Section 321(c) is not limited to the Cape Wind's data tower. Although the precise meaning of section 321(c) remains uncertain, it definitely applies to the entire project.

The meaning of the provision is very unclear. It cannot be said with any certainty that the "only plausible" interpretation is that these projects would have to comply with the new offshore energy provisions of H. R. 6 should they be enacted. See H.R. 6, section 321(a). Indeed, while OPTI would certainly argue for such a result in the event the energy bill passes,<sup>1</sup> it is conceivable and very likely that the project applicants would argue that section 321(c) exempts them from those procedures.

Before addressing the two specific questions, I offer three general observations about section 321(c). First, it is a model of ambiguity and lack of clarity. Whether as a result of poor drafting, or by intention, section 321(c) is confusing and difficult to interpret. It lends itself different possible interpretations. The confusing nature of the provision could, in fact, be intentional inasmuch as it would allow the project applicant, or other parties, to argue for a broad interpretation that could lead to the result of exempting the entire project from future regulation. Certainly, OPTI would argue for the opposite result. The bottom line is, however, that a number of different interpretations are plausible.

Second, it is quite clear that section 321(c) deals with two specific projects, the Cape Wind project for Nantucket Sound and the LIPA project for the waters off of Long Island.

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<sup>1</sup> The overall energy bill, and the provisions on offshore energy in particular, are highly damaging to the environment. OPTI has opposed the bill, and it is to be hoped that the legislation does not pass. It should be noted, however, that there currently is no law or procedure in place to govern offshore wind permitting, which is the situation that these developers are seeking to exploit.

Congress generally disfavors special interest legislation of this nature, where individual projects are singled out for special treatment. This rule-of-thumb is especially true in a law as general and sweeping as the proposed energy bill. This provision is found in no previous version of H.R. 6 and did not emerge until the last possible moment. Thus, this provision has a very strong flavor of "behind closed doors" lobbying and deal-cutting. This reinforces the view that section 321(c) was not drafted to promote wind energy generally, but instead to favor two specific parties.

Third, OPTI and other environmental groups should strenuously oppose this amendment. As noted above, section 321(c) is a classic example of special interest legislation included in a bill that is bad for the environment. It establishes the undesirable precedent of allowing private energy developers to seek ways to gain special treatment under administrative law. Even if section 321(c) does nothing more than ensure that Cape Wind and LIPA do not need to submit new documentation under existing processes, the current procedure being used to review offshore wind energy projects is inadequate. Thus, to say no new documentation should be filed is to perpetuate an already flawed system. Section 321(c) has all of the hallmarks of anti-environmental legislation, and the fact that it is attached to so-called "green energy" projects does not justify supporting it.

**A. Section 321(c) is Not Limited to Cape Wind's "Data Tower."**

The effect of not requiring a submission of new information quite clearly applies to the overall Cape Wind project. This conclusion is based upon the following factors. First, the introductory clause of the provision specifically refers to "any project." That term, under its plain meaning, covers more than a single structure, such as the data tower. See *Stenberg v. Carhart*, 530 U.S. 914, 983, 120 S.Ct. 2597, 2637 (Courts interpret statutes according to their plain meaning.).

Second, the internal structure of the provision makes a distinction between the project and the data tower. The term "project" is used in the introductory phrase; the term "offshore test facilities" is used in subsection (c)(1). Thus, section 321(c) makes a clear distinction between the two elements of the overall Cape Wind proposal within the context of the provision itself. It is a cardinal principle of statutory construction that courts must give effect, if possible, to every clause and word of a statute. *Williams v. Taylor*, 529 U.S. 362, 365, 120 S.Ct. 1495, 1498 (2000). If the authors of the amendment intended the terms "project" and "offshore test facilities" to be one and the same, then there would be no reason to use different terms.

Third, section 321(c) provides that it is the existence of the "offshore test facilities" that defines which "project" is covered by the exemption from the need to submit new information. The clear language of section 321(c) defines two projects subject to the exemption. The first is the project "for which offshore test facilities have been constructed." The second is the project "for which" a public authority has issued a "request for proposals." At this time, I am aware of only two such projects: Cape Wind and LIPA.

Fourth, no reason exists to enact legislation that would be limited to just Cape Wind's data tower. Cape Wind's has already constructed the data tower and the United States Army Corps of Engineers has already issued a permit for the data tower. It is a standard legal

principle that laws do not apply retroactively, unless expressly provided for by Congress. *Immigration & Naturalization Service v. St. Cyr*, 533 U.S. 289, 315, 121 S.Ct. 2271, 2287-88 (2001) ("the first step in determining whether a statute has an impermissible retroactive effect is to ascertain whether Congress has directed with the requisite clarity that the law be applied retrospectively") citing *Martin v. Hadix*, 527 U.S. 343, 352, 119 S.Ct. 1998 (1999); *Lindh v. Murphy*, 521 U.S. 320, 328, n. 4, 117 S.Ct. 2059, (1997) ("[C]ases where this Court has found truly 'retroactive' effect adequately authorized by statute have involved statutory language that was so clear that it could sustain only one interpretation.") As a result, as currently drafted, the new provisions of the energy bill that transfer responsibility to the Department of the Interior would not apply to a previously constructed and previously permitted facility.

Finally, if the intent of section 321(c) were to cover only the data tower, the provision would have been narrowly drafted. It would have provided something like: "Nothing in the amendment made by subsection (a) requires, [with respect to any project - (1) for which] offshore test facilities that have been constructed before the date of enactment of this Act . . . to be subject to any resubmittal of documents previously submitted . . ."<sup>2</sup>

For all of foregoing reasons, section 321(c) covers much more than Cape Wind's data tower. Section 321(c) is clearly directed at the overall projects for Cape Wind's and LIPA's specific offshore wind energy proposals. Of all the projects potentially covered by section 321, section 321(c) singles out these two projects for separate and special treatment.<sup>3</sup>

**B. A Plausible Interpretation of Section 321(c) Exempts Cape Wind and LIPA From the New Authorization Requirements of the Energy Bill**

The question of how section 321(c) affects permitting for the overall projects under the new authorization procedures established by the energy bill is a more difficult question. The poor drafting of section 321(c) and its inherent ambiguity provide no clear answer. Certainly, the proposed language provides the project developers the ability to argue (hopefully unsuccessfully) that section 321(c) allows them to avoid the requirements of the new law, should it be enacted, and escape with the currently inadequate review.

As an initial matter, it is necessary to look at the new offshore energy provisions of the proposed energy bill in context. At this time, offshore wind energy developers seek to use nothing more than a section 10 permit under the Rivers and Harbors Act issued by the U.S. Army Corps of Engineers to cover their projects. 33 U.S.C. § 403.<sup>4</sup> Section 10 has its

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<sup>2</sup> Deletions indicated by brackets; additions indicated by underscores.

<sup>3</sup> Section 321 is not limited to offshore wind projects. Instead, it covers a wide variety of non-oil and gas projects. Even for only wind projects, over 20 possible projects have been identified.

<sup>4</sup> Section 10 of the River and Harbors Act, 33 U.S.C., § 403, provides in full:

own procedures, and a weak but nonetheless well-established set of requirements exists for project review. This review is already underway for the Cape Wind project.

Supporters Cape Wind appear to claim that section 321(c) simply intends to ensure that these two projects do not have to start over again or submit new documents. This argument makes no sense. What is underway now is the section 10 review process conducted by the Corps of Engineers. Nothing in the energy bill touches the applicability of section 10. As a result, no provisions in section 321 would require an applicant to start again or resubmit any new information to obtain a section 10 permit. The section 10 permitting process will continue to proceed under the existing application documents. If the intent of section 321(c) were to ensure that no additional filings would be necessary for section 10, then it would have been drafted in that manner.<sup>5</sup>

Section 321(c) calls into question whether Cape Wind and LIPA could avoid complying with the new procedures of section 321, such as an application for an easement to obtain land use authorization for offshore areas, competitive bidding to pursue such a property right, and compliance with new regulations that would be developed to administer the issuance of easements for offshore energy projects and establish environmental standards. These are all new procedures separate and apart from the existing section 10 permitting process. Because nothing in subsection (a) would change the section 10 procedure currently underway and for which the documents that have been filed, the question becomes, why was this provision included at all if not intended to create an exemption from the new offshore energy requirements? No logical answer exists other than that it creates an exemption for Cape Wind and LIPA's projects. As a result, the interpretation of this provision by the project developers and their supporters is suspect. Such an interpretation renders the provision itself potentially meaningless.

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That the creation of any obstruction not affirmatively authorized by Congress, to the navigable capacity of any of the waters of the United States is hereby prohibited; and it shall not be lawful to build or commence the building of any wharf, pier, dolphin, boom, weir, breakwater, bulkhead, jetty, or other structures in any port, roadstead, haven, harbor, canal, navigable river, or other water of the United States, outside established harbor lines, or where no harbor lines have been established, except on plans recommended by the Chief of Engineers and authorized by the Secretary of War; and it shall not be lawful to excavate or fill, or in any manner to alter or modify the course, location, condition, or capacity of, any port, roadstead, haven, harbor, canal, lake, harbor of refuge, or inclosure within the limits of any breakwater, or of the channel of any navigable water of the United States, unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of War prior to beginning the same. (Emphasis added.)

<sup>5</sup> For example, the provision would have read: "Nothing in the amendment made by subsection (a) requires, for purposes of section 10 of the Rivers and Harbors Act, with respect to any project . . ."

This leaves open the question, could this language serve as the basis to argue that no new applications would have to be submitted for these projects if H.R. 6 became law. Unfortunately, such a claim could be made.

An applicant such as Cape Wind could readily argue that documents "previously submitted" for section 10 permitting purposes also must, under this provision, be considered sufficient for compliance with section 321(a) (the new offshore energy requirements of the energy bill). The mere fact that the savings provision is included within section 321 leads to the argument that the savings provision was specifically intended to make "previously submitted documents" subject to use for purposes of that section, not simply to preserve their use for the section 10 permitting purposes.

Moreover, there exist a number of documents currently under process for section 10 that the project developers could claim would now have to be used for section 321(c). For example, an environmental impact statement ("EIS") is being prepared under section 10. Cape Wind could readily claim that the section 10 EIS would now have to be used for section 321(a). They could claim it does not have to be "resubmitted" to cover the section 321(a) process but instead would have to be used for that review as well. Such a result would shortchange environmental review because section 321(a) covers different federal actions, with different consequences, and under different standards. A new EIS should be prepared, and it is quite likely Cape Wind would argue this provision would prohibit the preparation of a new EIS to cover the actions under 321(a).<sup>6</sup>

An equally important question is whether the section 10 application/permit (if issued) would suffice to serve as the authorization for these projects if issued before H.R. 6, or section 321, is enacted. While the parties professing that section 321(c) would not allow either developer to avoid submitting new documents under the new law, they have conveniently overlooked the second aspect of the provision, which says there is no requirement for "reauthorization of actions previously authorized." This is different from the "no new documentation issue."

This provision is more clear, and it is quite troubling. It seems, for example, to grandfather the data tower. That structure lacks any land use or property right to occupy the Nantucket Sound seabed. Section 321(a) appears to confirm that such an authorization is not needed, especially if it is an "offshore test facility" that has been "constructed for" an energy plant subsection to this new law. Cape Wind could argue that because the "action" of building the data tower has been "previously authorized," it does not need a land use authorization under section 321(a). In effect, under this provision, the private Cape Wind

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<sup>6</sup> Many other documents present the same problem, including an Endangered Species Act biological opinion, a National Historic Preservation Act compliance review, a Marine Mammal Protection Act incidental take authorization, etc.

developer would be given this land under the terms of its existing section 10 permit by means of this provision.<sup>7</sup>

The result is troubling enough, but its potential significance is even greater when the possibility of permit issuance for the entire project is considered. It is not at all inconceivable that this energy bill (or the so-called Cubin amendment aspect of, which relates to section 321) would not become law until after final action on the section 10 permit application for the entire Cape Wind project, or the LIPA project (which is not as far advanced, but does not appear to be subject to as much controversy and could be processed more quickly). If this occurs, and the Corps of Engineers issues permits, the energy developers could be expected to argue their entire projects have been "previously authorized" under section 10 and are now exempted from any further authorization under section 321(a). OPTI should view such a result as highly problematic, as it would give the project developers free use of vast areas of public trust ocean lands and waters for free without adequate review.

Once again, had Congress intended a different result, it could have drafted a more precise and clear provision. For example, Congress could have specified that nothing in section 321(a) requires any "reauthorization of actions previously authorized under other applicable laws; provided, however, that the requirements of this subsection shall be fully satisfied before such projects can be undertaken."

### III.

#### CONCLUSION

In the unfortunate event the H.R. 6, or section 321, passes and becomes law, OPTI will be able to develop arguments opposing the interpretations set forth above. It can be by no means discounted, however, that Cape Wind, LIPA, or the supporters of these projects will advance arguments along the lines discussed above and seek to avoid the requirements of section 321(a). Although section 321(a) is weak and relatively ineffective, it does provide for standards and requirements that go beyond the current inadequate process under section 10 of the River and Harbors Act. If the approach being used for Cape Wind and LIPA of proceeding solely under section 10 succeeds, then a very damaging precedent will be established for a wide array of offshore development projects. Thus, it can be expected that any party seeking to advance these offshore wind projects would prefer the status quo to the requirements of H.R. 6. I recommend that OPTI continue to oppose H.R. 6 and section 321, and that OPTI make very clear the threat that this special interest legislation for Cape Wind and LIPA in section 321(c) poses to the public interest and to the oceans' public trust resources.

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<sup>7</sup> Such a result is especially troubling because the data tower itself is subject to two pending lawsuits. Hence, this provision also appears to be an attempt to allow the Corps and Cape Wind to escape existing lawsuits.



Colonel Thomas Koning  
U.S. Army Corp of Engineers  
New England District  
696 Virginia Road  
Concord, MA 01742

Dear Colonel Koning:

On behalf of the Oceans Public Trust Initiative (OPTI), I am writing to express our strong objections to the approach being used by the Corps to analyze alternatives to the Cape Wind project. OPTI has written to you previously on this subject, and we have joined with the Safewind Coalition in expressing concerns over the October 29 public meeting on alternatives.

At the heart of OPTI's objection is the fact that this proposal is being considered at all. There is no authority to allow a private developer such as Cape Wind to exploit the public trust resources of Nantucket Sound for its personal gain. The Cape Wind application should have been rejected out-of-hand. This is especially true in a case where the Governor of the affected State has opposed the project. OPTI is aware of no situation where the Corps has approved a section 10 permit over the objection of the affected State. At the very least, the Corps should have qualified its review by stating that any permit issued under section 10 does not provide a basis upon which any developer can use and occupy coastal and ocean waters. Failure to take these steps has biased the review from the outset.

In addition, the Corps has a legal duty to vindicate the public trust by ensuring a full review of alternatives. That is not occurring here. Instead, the Corps is considering sites that appear to have been handpicked by the project developer to ensure a result that meets its profit-making objectives. Following such an approach violates NEPA and places the public trust at risk.

Unless the Corps immediately modifies its approach to alternatives, the entire process will be invalid. The alternatives that now should be under consideration and receiving consideration should start with no action – project denial. The Corps appears to be ignoring this alternative, which under current law is the only acceptable outcome due to the absence of legal authority to sacrifice the public trust for this developer. The Corps should be fulfilling its obligation to analyze this option.

November 21, 2003

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Instead, all of the effort is focused on development within the public trust waters of Nantucket Sound, as the developer so fervently desires.

In addition, smaller-scale projects clearly need to be considered. Such projects could be located in areas where public trust issues are not implicated at such a fundamental level because land use authority exists. In addition, such alternatives are likely to present less significant environmental impacts while promising considerable alternative energy benefits. The only reason such alternatives appear to have been rejected is because the private developer does not want to pursue them. That is not an acceptable reason under law or policy.

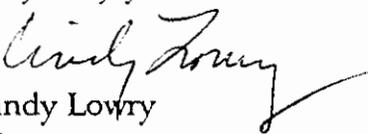
Still another alternative is the possibility of a mere pilot project, based on a smaller scale and in an environmentally-benign location. Other wind energy developers have scaled back their proposals to pilot project status, and the Corps has a duty to consider this option. So too must it consider the emerging technologies set forth in OPTI's last letter to you on this subject.

For purposes of NEPA, other offshore sites would require consideration (e.g., all of the Winergy sites, the Long Island Power Authority site, Nantucket Shoals, etc.) From OPTI's perspective, however, those sites involving the Outer Continental Shelf share the same defects as the Nantucket Sound location because there is no legal authority to allow their use by private parties.

As a final point, OPTI does not believe the pending energy bill addresses these problems. The provisions included in that law intended to establish a mechanism for granting property rights does not adequately account for the public interest and is a biased, pro-development provision that does not ensure adequate protection to coastal and ocean resources. The concerns noted above are not resolved by that bill.

Thank you for considering these comments. OPTI urges the Corps to accept these recommendations in its review of not only the Cape Wind Project, but also other projects that seek to exploit public resources for private gain under section 10.

Very truly yours,

  
Cindy Lowry  
Director



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS  
696 VIRGINIA ROAD  
CONCORD, MASSACHUSETTS 01742-2751

November 3, 2003

Regulatory Division

Ms. Cindy Lowry, Director  
Oceans Public Trust Initiative  
233 Water Street, #1  
Hallowell, Maine 04347

Dear Ms. Lowry:

This is in response to your letter of October 24, 2003 regarding our October 29<sup>th</sup> Public Information Meeting. This meeting was an opportunity for us to provide an update on the screening of alternatives and our response to comments received subsequent to the March 12, 2003 MTC Stakeholders meeting. The presentation materials from the October 29<sup>th</sup> meeting are available on our website at [www.nae.usace.army.mil](http://www.nae.usace.army.mil).

This was not a public hearing and there is no formal comment period. I welcome your input at any time throughout our review. There will be ample opportunity for public comment, including an announced public comment period, when the Draft Environmental Impact Statement is available for review.

Sincerely,

A handwritten signature in black ink, appearing to read "TK", written over a horizontal line.

Thomas I. Koning  
Colonel, Corps of Engineers  
District Engineer

Oceans Public  
Trust Initiative

A Project of Earth Island Institute

233 Water Street, #1  
Hallowell, ME 04347  
207-622-3587

October 24, 2003

Colonel Thomas L. Koning  
U.S. Army Corps of Engineers  
New England District  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Koning:

We are writing to thank you in advance for providing a public information meeting for the proposed wind project in Nantucket Sound. We are looking forward to hearing about the Corps of Engineers' alternatives screening methodology and site selection process at the meeting scheduled for October 29, 2003.

We are also writing to request that the Corps of Engineers provide a 45-day public comment period following the scheduled public information meeting. The purpose of this comment period is to allow members of the public to respond to what the Corps of Engineers has presented at the meeting. We feel the Corps of Engineers' methodology for alternatives screening and site selection is an issue that raises a number of technical and public policy questions that can only be addressed through a public comment period. Accepting public comment on your presentation is essential to ensuring that proper decisions are made on which alternatives to consider in the Draft Environmental Impact Statement (DEIS). Failure to take such a step at this time will result in considerable controversy and dispute at the DEIS stage.

Thank you for your attention to this matter.

Very truly yours,

  
Cindy Lowry  
Director

Oceans Public  
Trust Initiative

233 Water Street, #1  
Hallowell, ME 04347  
207-622-3587

A Project of Earth Island Institute

September 23, 2003

Mr. Thomas Koning  
U.S. Army Corp of Engineers  
New England District  
696 Virginia Road  
Concord, MA 01742

Dear Colonel Koning:

By letter of September 8, 2003, I wrote to you to provide notice of a new organization, the Oceans Public Trust Initiative (OPTI), which has been established under the auspices of the Earth Island Institute's International Marine Mammal Project. OPTI's mission is to protect coastal and ocean resources from development activities not properly authorized by law and that violate the public trust. As explained in that letter, the manner in which the Corps is using section 10 of the Rivers and Harbors Act to allow virtually any private development to proceed without securing property rights, compensating the public, or establishing national standards is placing our oceans at great risk, creating a dangerous precedent, and violating the public trust doctrine. These problems are most acutely evident in the Corps' review of private offshore wind energy projects.

OPTI takes the position that there is no legal basis upon which the Corps can review such projects. While OPTI considers it clear that the Corps lacks authority to allow the construction of such projects on the Outer Continental Shelf, it is nonetheless necessary to comment on various aspects of the ongoing agency reviews of such facilities. In this regard, OPTI requests that the interagency review team on the EIS for the Cape Wind Project consider our views on the important issue of alternatives.

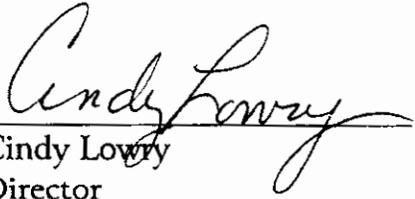
The Corps' alternative analysis - if it is substantially similar to the analysis proposed last winter - is critically flawed. The problem with the analysis lies with the purpose and need statement, which effectively limits the range of reasonable alternatives to the proposed project. In the past, the Corps has so narrowly defined the purpose and need of the Cape Wind Project that it has foreclosed the consideration of *any* alternatives. Such a result defies logic, violates NEPA, and undermines the credibility of the Corps' review. Clearly, there are possible sites for onshore wind energy development to occur, in an environmentally sound manner that do not pose the

September 23, 2003

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same public trust issues as these massive offshore projects that lack proper authorization and review. In addition, there are alternatives for developing phased projects, smaller projects, and projects involving other alternative energy technologies. In addition, there are emerging technologies (i.e., floating turbines, deepwater turbines) that could reduce environmental impacts and public trust conflicts that need to be considered. Discussion of these promising technologies are discussed in Enclosures 1 and 2 of this letter. NEPA requires a full and detailed consideration of all reasonable alternatives. The public trust will be placed at great risk if the applicant's narrow vision of alternative sites, compelled merely by profit motive, is allowed to control federal decisionmaking. OPTI urges the Corps and the interagency review team to ensure that a full range of alternatives is analyzed in the EIS. Also, site-specific reviews such as are now occurring should not be undertaken until a program-wide NEPA review is conducted, which would make it possible to first analyze the full-range of potential wind facility locations, onshore and offshore, to facilitate an efficient and environmentally acceptable approach to alternative energy development and pave the way for the kind of decision-making that adequately protects the public trust.

Thank you for considering these views.



Cindy Lowry  
Director

cc: Senator Kennedy  
Congressman Delahunt  
Governor Romney  
Attorney General Reilly

**World's first deep water offshore windfarm**

28/08/2003

The world's first deep water offshore windfarm is to be developed with government support from Scotland and the UK.

First Minister Jack McConnell today announced a research grant of up to £194,000 for offshore oil operator Talisman and its research partner Scottish and Southern Energy.

The Executive's contribution will be matched by funding from the Department of Trade and Industry, and the money will be used to fund a study to design the world's first deep water offshore windfarm.

The companies envisage building up to 200 turbines linked to Talisman's existing Beatrice oilfield which could generate up to 1000 megawatts - or about half of the new generation needed to meet the Scottish government's target of generating 40 per cent of all electricity from renewable sources

Speaking before he flew out to the Beatrice oilfield, Jack McConnell said:

"We cannot meet our aspirations of renewable energy generation by onshore wind alone. Opening up Scotland's seas, even in the deep and difficult waters of the North Sea, will genuinely make us world leaders in renewable energy - just as we are among the world's leading oil and gas producers.

"We have set ourselves the target of generating 40 per cent of Scottish electricity from renewable energy sources by 2020. We are also committed to supporting our oil and gas industries sustain their current global success through diversification and extending the life of our North Sea oil and gas reserves.

"This announcement represents a big step towards meeting these goals. Offshore wind has the potential to provide a significant proportion of Scotland's energy needs. Between them, Talisman and Scottish and Southern Energy have the world class expertise needed to develop the new technology, and Aberdeen's position as the energy capital of Europe means the city has the skilled workforce needed to exploit this new form of energy.

"And this new technology could have significant export potential, as well as create hundreds of new jobs in the North. This announcement is good news for Aberdeen, good news for Scotland and good news for the environment.

"We want nothing less than a world beating renewable energy industry. This work by Talisman and SSE, supported by us and by the Department for Trade and Industry, will make that aspiration closer than ever before."

Talisman Vice President Paul Blakeley commented:

"We are delighted to have received funding for this study. It enables us to keep moving forward on what is clearly a project with enormous potential. Although there are many hurdles yet to overcome, today's announcement is a demonstration of the shared commitment of all the partners to realising that potential."

Iain Marchant, Chief Executive of Scottish and Southern Energy, said:

"This project has the potential to make a real difference. Fulfilling this potential will require a sustained partnership involving the companies, the Scottish Executive and the UK government. In this context, today's announcement by the First Minister is a very important and encouraging development."

The grant from the Executive and the DTI will be used to fund a front end engineering study to develop a full scale demonstrator adjacent to the Beatrice oil field.

"By utilising offshore technologies and expertise Talisman hope to demonstrate the potential for windfarms in deeper waters, further offshore than conventional windfarms.

Talisman Energy is one of the biggest independent Canadian oil and gas producers with operations in Canada, the North Sea, and the Far East.

Scottish and Southern Energy is one of the largest energy companies in the UK, involved in the generation, transmission, distribution and supply of electricity. It is the UK's leading generator from renewable sources in the UK, owning and operating nearly half of the country's renewable energy capacity.

## FLOATING OFFSHORE WIND FARMS – AN OPTION?

Andrew R. Henderson<sup>†,‡</sup>, Gillian M. Watson<sup>†</sup>, Minoo H. Patel<sup>†</sup>, Jim A. Halliday<sup>†</sup>

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### UNITED KINGDOM

### ABSTRACT

The location of multiple wind turbines on large floating structures offshore offers the obvious advantages of no land usage and probably a more reliable wind resource. Although many northern European countries are fortunate in that they have large areas of shallow seas, in many other European seas - such as the Mediterranean Sea - the land shelf falls away quickly leaving little room for seabed-mounted wind turbines. If these regions are to benefit significantly from offshore wind energy, floating turbines will be needed. However, there are potentially significant technical and cost drawbacks.

This paper describes final results of a UK research council project aimed at developing analytical tools for evaluating the performance of multiple turbine floating offshore wind farms and evaluating the likely costs and potential sites. The principal problems that have been addressed include the determination of an optimum hull-form for the floating structure and the development of analytical tools for modelling the resultant turbine loads and fatigue damage.

The paper presents an overview of the project together with a summary of its results and discusses some of the major siting considerations for floating offshore wind farms. In addition the paper presents estimates of the relative cost of floating offshore wind energy compared to a seabed-mounted development. Finally, some possible future applications of floating offshore wind developments are suggested.

### KEYWORDS

Floating, Offshore, Design, MUFOW, Optimisation, Feasibility, Models (Mathematical), Innovative Concepts, Siting, Comparative costs

### 1 INTRODUCTION

Over the last decade, interest in offshore wind farms has grown steadily, with the current handful of small experimental wind farms likely to be joined by full-scale commercial schemes in the very near future. All current and planned wind farms are in shallow water and based around structures resting on or piled to the seabed. Floating wind farms could enable exploitation of the massive wind resource in far offshore and deep water areas.

This paper describes the results from an EPSRC (Engineering and Physical Sciences Research Council, UK) funded project aimed at developing analysis tools for investigating the behaviour and performance of wind turbines mounted on large floating structures. The project concentrated on the Multiple Unit Floating Offshore Wind farm (MUFOW) concept [1] which was originally developed by W.S. Atkins Consultants Ltd., University College London and the Netherlands Energy Research Foundation (ECN). The basic idea of the MUFOW is to mount several wind turbines on a single floating structure anchored to the seabed.

The floating hull concept under investigation here is already well-proven in the oil-industry, namely the *semi-submersible* (Figure 1) design. The main structure of the vessel is located below the ocean surface giving a number of advantages over traditional structures with hull forms close to the water surface.

These include reduced wave loads, (since the wave kinematics decay exponentially with depth) and longer natural periods of motions (hence reduced response motion). The hull could be fabricated of reinforced concrete which should make it relatively cheap and straightforward to construct. This project has considered the use of one type of vessel mooring system - multiple point catenary chains moorings to anchor points on the seabed - but there are other mooring technologies, such as tension-leg systems that could be investigated.

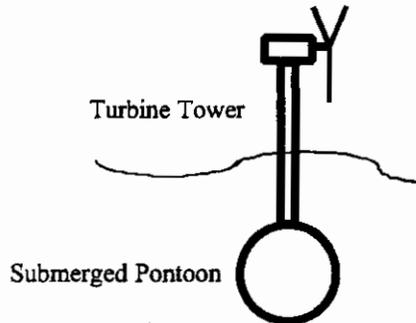


Figure 1 - The Semi-submersible Concept

The deep submergence of the pontoons combined with a structure made up of pontoons, columns and bracing yields the above characterisation of low motion response to waves. This feature has made the semi-submersible a work-horse for drilling, production and well servicing in the offshore oil industry. These vessels have typical dimensions of from 80 to 120 m and displacements of from 12,000 to 40,000 tonnes. However the floating wind farm application requires considerably larger semi-submersible structures with deeper drafts and larger displacements. At the same time, the structural configuration has to be easy to build and of intrinsically low cost. This scale up and characterisation of the resultant technical performance is one of the principal objectives of the project.

This paper provides an overview of the project and briefly describes results from the main tasks in the project, namely:

- To develop a software tool that can calculate the motion response and structural loads of vessels suitable for floating offshore wind farms;
- To develop a software tool that can calculate the effect that vessel motions will have on wind turbine performance and loads;
- To establish the optimum hull-form for the MUFOW vessels;
- To investigate potential sites for floating offshore wind farm developments;
- To model the costs associated with floating offshore wind farms and to determine the comparative cost of a floating offshore wind farms with respect to a seabed-mounted development.

The problems posed by the project are not as daunting as they sound initially. It has to be remembered that considerable work has been done around the world on a variety of large structures for use as floating airports, industrial sites and other applications. See [2] and [3] for details. In a wider context, the use of floating offshore wind energy will depend critically on two factors - whether costs can be brought down and whether land-use pressure in shallower waters will encourage the utilisation of deeper water regions.

Intermediate results from this project were previously reported at the BWEA conference of 1998 [4] and the EWEA conference of 1999 [5].

## 2 FLOATING VESSEL ANALYSIS

The analysis of the floating vessel was focused on developing methods to evaluate and select the optimum hull-form for the vessel structure. For this purpose, simplified methods to calculate the vessel motion response and the resulting structural loads were developed to enable large numbers of candidate vessel layouts to be analysed and evaluated. A detailed description of the methods used to calculate the dynamic loads are given in [6].

## 2.1 Structural Loads

In order to make a preliminary vessel design, the structural loads were calculated from the previously calculated wave loads, with inertia relief and buoyancy-stiffness loads being determined from the motion response. From evaluation of the extreme and fatigue loads, preliminary recommendations for the pontoon wall thickness and cost could be made, thus generating a *vessel cost performance parameter*. Hence both parameters are a reflection of the electricity generation cost: for the turbine and the vessel respectively.

## 2.2 Stability and Diffraction Analyses

A stability analysis of the vessel was undertaken which demonstrated, as expected, that the design was suitable. In order to validate the general approach, it was necessary to run parallel diffraction analyses, to ensure that the Morison equation method was suitably accurate. Because of the highly unorthodox geometry of the layout, the existing mesh generation routines for the diffraction program were not suitable, requiring the development of a new procedure. The main difficulty with this task is to define the surface at the joints, with arbitrary numbers, orientations and sizes of pontoons. Details of how the upper surface is defined at an example pontoon-joint (with tower) are shown in Figure 2 below. A detail of how part of the surface is subdivided into triangular regular panels is shown in Figure 3 below.

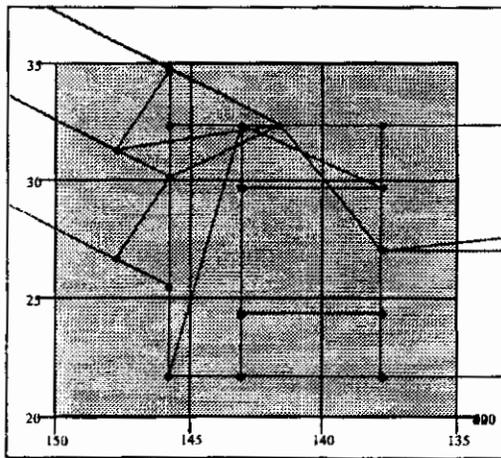


Figure 2 - Plan View of Pontoon Joint

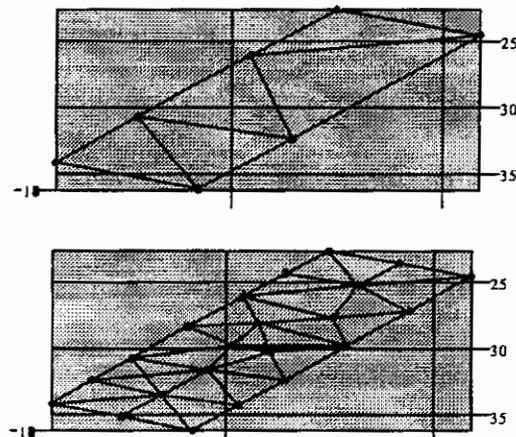


Figure 3 - High Resolution Mesh Generation

A section of an example vessel-mesh is shown in Figure 4 below. (Note some superfluous lines are drawn on all these charts due to software limitations).

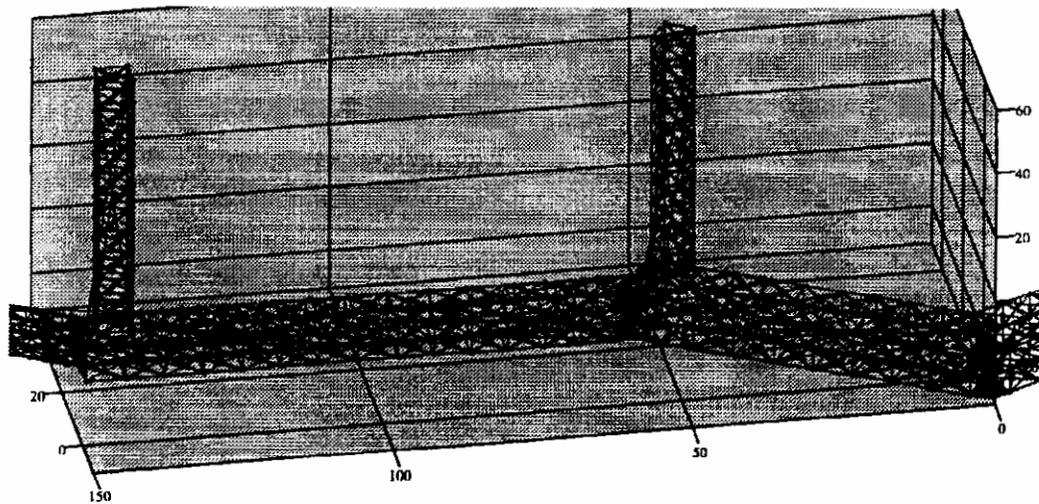


Figure 4 - Example-Section of Vessel Mesh

### 2.3 Evaluation and Optimisation Method

Two types of vessel design were examined: weather-vaning and non-weather-vaning configurations, depending on whether a more expensive design with rotating mooring joint would be used. The design criterion used in the analysis is to minimise fatigue damage experienced by the turbine (described briefly in the following section 3.2), the *motion performance parameter*, and to minimise the cost of the vessel, the *cost performance parameter*, it being then necessary to balance these two objectives. In the charts, the motion parameter is normalised against a base vessel layout and the cost parameter is given in terms of the estimated contributory cost of the pontoon to the total electricity sale cost, in p/kWh. It can unfortunately be seen that the pontoons alone appropriate a large slice of a competitive electricity selling price.

A typical wind and wave climate was applied, such as for the North Sea as given in Patel [7]. This explains why the optimised designs are not the same as those presented in previous papers ([4] and [5]): the designs are now optimised for a particular location, fatigue damage is used as the motion evaluating criterion (instead of unweighted nacelle motion) and the likely pontoon cost is reflected more accurately by considering the structural loads (instead of just the pontoon lengths).

### 2.4 Optimised Vessel Layouts

A weather-vaning vessel will be able to rotate so that it is always facing into the wind, hence the more expensive turret mooring will be needed, which could make up a very significant part (typically 20%) of the total cost. The turbines should therefore be arranged so that none are in each others' wakes, which suggests a design based on a line. The optimised layout for 80m diameter turbines is shown in Figure 5 below.

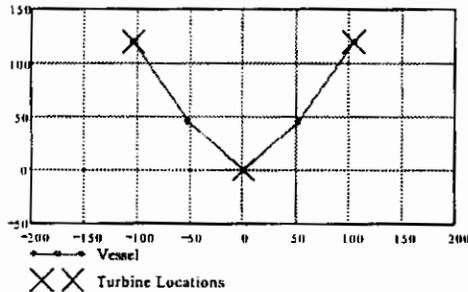


Figure 5 – Optimised Vessel Layout Weather-vaning - 3 x 80m Turbines

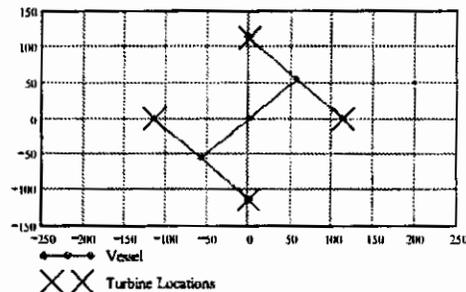


Figure 6 – Optimised Vessel Layout Non-Weather-vaning - 4 x 80m Turbines

A non-weather-vaning vessel cannot rotate to face into the wind, hence turbines will inevitably operate in another turbine's wake at times. If the distribution of wind direction is uniform (unlikely), a symmetrical design is required, i.e. the turbines should be located in a ring and analysis undertaken for how they should be connected. The designs investigated here were based on *polygon*, *star* and *fractal* shapes. A comparison of performance for a vessel with varying numbers of turbines is shown in Figure 7 below. It can be concluded that one of the fractal designs, Figure 6 above, offers the best compromise of minimised fatigue loads and minimised pontoon cost.

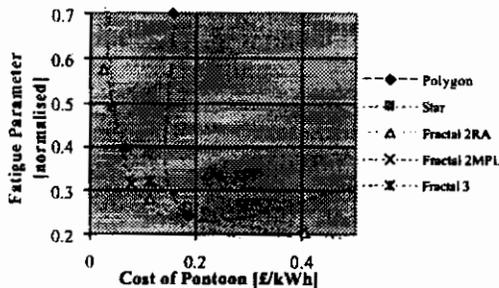


Figure 7 - Performance of Non-weather-vaning Designs

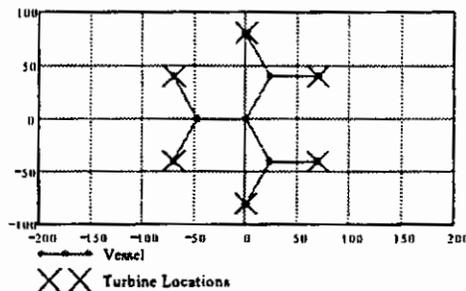


Figure 8 – Optimised Vessel Layout Non-Weather-vaning - 6 x 40m Turbines

The above optimisation process was for a hypothetical 80m offshore turbine, for typical North Sea wave and wind conditions. To conclude, a modified linear layout (Figure 5 above) and a fractal layout (Figure 6 above) were found to be most suitable for the weathervaning and non-weathervaning configurations respectively. The optimised layout varied slightly depending on the parameters, for example, Figure 8 above shows the optimised layout for a non-weathervaning vessel with the smaller turbines. This optimal vessel layout is in this case an alternative fractal design.

### 3 WIND TURBINE ANALYSIS

A wind turbine model was developed to calculate the effect that the vessel motion has on the turbine loads and power output. Although a large number of wind turbine models have already been developed, as far as the authors are aware, none is able to model the effect of large amplitude deterministic base motion, hence it was necessary to develop the new model described here. Other wind turbine model aspects have been included where possible and practicable. The main features of the model are:

- Rigid structures assumed,
- Steady-state aerodynamics assumed (except for a simple dynamic stall model [8]),
- Turbulence (i.e. stochastic) effects ignored,
- Loads calculated in the state-domain and evaluated in the frequency domain.

Even though wind turbulence is a major source of fatigue damage, it was not included in this analysis because of the complexity of incorporating it into this frequency domain model. One of the notable recent achievements by researchers in wind turbine theory has been to model the effect of turbulence in frequency domain models; however, it has been assumed that only one degree of freedom experiences large amplitudes of motion: i.e. the blade rotation. This allows all other effects to be linearised without excessive loss of accuracy. In this model, there is a second degree of freedom with a large amplitude of motion: the vessel motion, hence the inclusion of turbulence has not attempted.

#### 3.1 Calculation of Loads

The loads experienced by the wind turbine are predominantly due to two sources:

- Blade aerodynamics,
- Blade, nacelle, tower inertia and gravity.

The aerodynamic model used was based on the multiple streamtube approach of standard aerodynamic-momentum theory, as described widely including in [9]. The effects of momentum theory breakdown, tip-loss correction, 3D lift correction, wind-shear, yaw, tilt and cone misalignment, streamtube expansion, dynamic stall, wake effects and tower shadow were all included, however, as stated previously, neither wind turbulence, nor structural dynamics are modelled.

The purpose of including as many turbine model modifications as possible was to enable a qualitative evaluation of the significance of the deterministic base motion to be made, against other load-sources that fixed turbines currently experience. Hence attention was paid to modelling tower shadow, wake and dynamic stall loads. Inertia and gravity loads are generally of an equal or greater magnitude than aerodynamic loads, and in the case of a floating turbine, this tendency is extended. The loads are found by applying Newton's II law to the acceleration vectors. Consistent and disciplined application of the vessel and turbine axes systems means all inertia loads, including gyroscopic loads, will be present.

The loads are initially calculated in a two-dimension state-domain matrix of solutions, the dimensions representing blade azimuth angle and vessel motion respectively. This is undertaken for a single blade only, as all the blades are assumed to be identical. The state-domain blade root loads (direct loads and bending moments) are then calculated.

Analysis and evaluation of the loads is faster and more accurate in the frequency domain, hence the loads are transformed from the state domain using a double Fourier-transform, with respect to each of the state-space dimension. This results in discrete deterministic frequency-domain load spectra.

The nacelle and tower inertia and gravity loads are calculated and transformed in a similar but simpler manner, as there is only one dimension in the state-domain load matrix.

### 3.2 Turbine Loads and Performance

Using axes transformations and translations, the loads can be calculated at any location and in any axes, with the following locations selected as critical design loads:

- Blade root edgewise loads (subsequently ignored as these loads are primarily due to gravity and hence relatively unaffected by the vessel motion – see Figure 9 below),
- Blade root flapwise loads,
- Rotor shaft loads,
- Nacelle yaw loads,
- Tower root sideways loads,
- Tower root fore-aft loads.

The zero frequency components of the rotor shaft axial-direct-load and roll-bending-moment give the average turbine thrust loads and power output respectively. These values tend to be relatively unaffected by the base motion. The accepted method for assessing the fatigue damage due to load histories is by applying rainflow analysis in the time domain, which would necessitate the slow task of generating and analysis of a time history. Various approaches have been put forward to skip this stage by making an estimate directly from the load spectrum, the most accurate being the method proposed by Dirlik[10], which has been used here in a modified form.

The normalised fatigue damage values resulting from turbine base motion ( $0.5 \times$  unit response) in each degree of freedom are shown in Figure 9 below. It can be seen that rotational motion imposes more severe loads than translational motion, that there are coupling effects between the directions of motion and most importantly, that with the exception of the blade root flapwise load, all fatigue loads are dramatically increased. The motion-weightings used to optimise the vessel layout are based on this information.

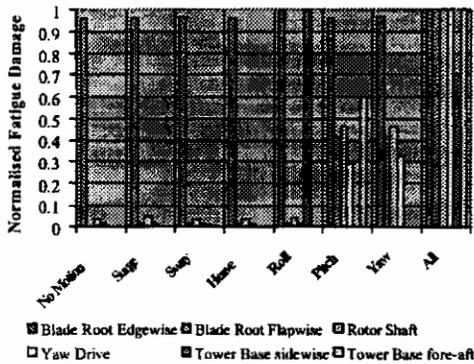


Figure 9 – 50% RAO Turbine Loads

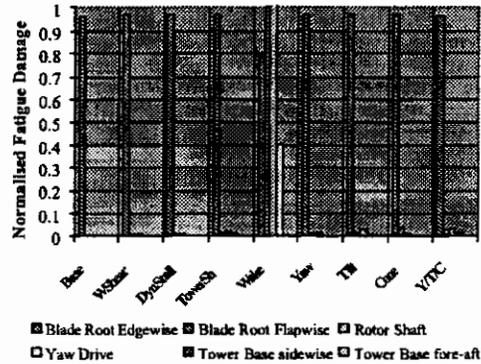


Figure 10 - Typical Fixed Turbine Loads

Figure 10 above allows a qualitative comparison to be made between the loads experienced by a fixed turbine under various conditions and against the floating turbine. It can be seen that the fixed-turbine tower base loads are minimal compared with those on a floating vessel, as would be expected. However, the blade root (flapwise and edgewise), rotor shaft and yaw loads are of the order of those that occur during wake operation. This suggests that for the turbine, the fatigue damage due to the most extreme motion will be similar to operating continuously in this worst-case wake condition. Since an objective of this design exercise is to minimise these loads, the values experienced on the optimised vessel will be lower than those shown in Figure 9 above.

## 4 POTENTIAL SITES FOR MUFOW DEVELOPMENTS

### 4.1 Siting considerations for MUFOW vessels

As with all engineering developments, there are a large number of issues that must be taken into consideration when selecting deployment sites for MUFOW vessels. These can be divided into three basic categories:

- Technical considerations
- Economic considerations
- Environmental impact considerations

#### *Technical considerations*

Each MUFOW vessel will be subject to technical design limits associated with its physical dimensions and will have been designed to withstand a given set loads from winds, waves and currents. Clearly the design envelopes for the structures will vary according to the vessel size, layout and construction.

#### *Economic considerations*

The economic factors influencing MUFOW site selection are two-fold. First, variations in wind energy resource between potential sites can have a major effect on the power generated by a MUFOW vessel and therefore on the price of the energy produced or the revenue from the development. Second, the deployment, maintenance and operational costs are closely linked to the location of the vessel.

#### *Environmental impact considerations*

Any large-scale engineering development is inevitably going to have an environmental impact. Potential MUFOW sites must be selected to be sensitive to the marine environment and to other marine users and aim to keep disruption to other marine activities to a minimum. Clearly, the details of environmental impacts associated with individual MUFOW developments are highly site specific. These impacts should be considered during the formal environmental impact and risk assessment (EIA) performed for any future floating offshore wind development and are discussed here in a brief and generic way only.

### **4.2 Siting constraints for MUFOW vessels**

It is unlikely to be feasible to deploy a single vessel at a site, so each floating offshore wind development is likely to consist of an array of MUFOW vessels. Each MUFOW vessel will be several hundred meters across and for safety reasons the vessels will need to be surrounded by a clearance/exclusion area. Therefore, any floating offshore wind development is likely to cover several km<sup>2</sup> of sea area and most other marine activities will need to be excluded from this zone. The range of suitable locations for MUFOW vessels will be subject to two main types of restrictions:

*Natural constraints:* available water depth; wind energy resource; wave conditions; currents; icing; distance to land; disturbance to birds and marine fauna *etc.*

*Man-made constraints:* shipping lanes, military operation zones; marine pipeline and cable routes; permanent offshore structures such as oil or gas platforms, navigation aids and meteorological stations; commercially important sea areas for other users such as the offshore oil and gas, fishing and aggregate dredging industries; electromagnetic compatibility issues; availability of onshore grid connections; public acceptability *etc.*

There will be an envelope of acceptable conditions for each constraint based on the technical, economic and environmental impact design considerations. The overlap between the various constraining envelopes define regions where MUFOW vessels could operate.

The following sections consider some of the major constraints to MUFOW deployment in more detail.

#### *Water depth*

There will be both minimum *and* maximum water depth restrictions on MUFOW deployment sites.

As with all semi-submersible vessels, MUFOWs will typically have a relatively deep draught - for example the keel of the “standard” MUFOWs described in section 2.4 is 32.5m below the vessel’s waterline. The vessels will require a minimum available water depth to ensure the hull does not come into contact with the seabed. In addition, any catenary chain mooring system requires a minimum water depth to operate effectively. Given these technical limitations, it has been estimated that the minimum acceptable water depths for the “standard” MUFOWs studied is 75m. However, it should be possible to design a “shallow” MUFOW that could be deployed in as little as 50m water depth although there will be both cost and performance penalties associated with the design.

By contrast, the main limiting factor on the maximum acceptable water depth for MUFOWs is cost. The costs associated with the MUFOW vessel mooring system are likely to rise sharply with water depth. It has been estimated that the maximum economic water depth for a catenary chain mooring system is approximately 500m. Although it has not been investigated in this project, it may be appropriate to consider alternative mooring technologies such as tension-leg systems, but these too are likely to be very expensive in deep water. At the moment, the MUFOW mooring system is likely to be prohibitively expensive at water depths greater than 500m, however, it should be noted that future developments in deep ocean mooring technologies may relax this limitation.

#### *Offshore wind resource*

Each MUFOW vessel will be designed with the capacity to produce a given amount of power based on the total rated power of the turbines mounted upon it. However, the amount of power actually delivered by the MUFOW will depend to a large degree on the wind resource available at the deployment site. As with both land-based and seabed-mounted wind farms, there is likely to be a minimum mean annual wind speed below which it is not economically feasible to deploy MUFOW vessels.

#### *Waves*

It has already been noted that MUFOW vessels have a relatively low motion response to wave excitation. The size and design of the vessels and their catenary mooring systems means they will be more susceptible to low frequency, long wavelength wave energy (and associated second-order motion responses) generated by swell waves than to high frequency, short wavelength waves such as wind sea. Each MUFOW vessel and mooring system will be designed to withstand a set of wave loads and motions. As the wave regime becomes more severe, the associated loads, motions (and therefore fatigue loads on the turbines) will increase. The design of a vessel may be modified to make the structure more robust, but there will be associated cost penalties. Furthermore, there will be upper limits associated with the strength of the construction materials and the need to retain adequate structure buoyancy. Finally, there will also be an upper limit on acceptable wave conditions for installation of the vessels and subsequent access for maintenance.

#### *Tides*

The tidal range at a site will not affect deployment of MUFOW vessels directly, provided the minimum water depth available during the Lowest Astronomical Tide (LAT) falls within the acceptable water depth envelope. However, the mooring system must be designed to cope with the maximum water depth associated with the Highest Astronomical Tide (HAT). Therefore, if the vessel is moored at a relatively shallow site with a large tidal range, there is likely to be significant slack in the mooring at some points in the tidal cycle. This may result in large vessel excursions from its mean moored position. In these circumstances the clearance/exclusion zone around each vessel in the MUFOW array will need to be increased to compensate for the relative movement of the vessels.

MUFOW vessels will be affected by tidal currents in three ways. First, the vessel mooring system must be designed to cope with the additional current loading and the associated vessel excursions. Second, weathervaning MUFOW vessels are free to pivot about a single mooring turret under the action of wind, wave and current forces on the hull. In conditions where the wind, wave and current stream directions are perfectly aligned this presents no difficulties. However, for the majority of the time, the wind, wave and current forces are not aligned and the vessel will settle at an equilibrium orientation where the environmental forces acting on the hull are balanced. In strong tidal streams, the current forces on the hull may dominate and the vessel may habitually lie at a significant angle to the wind. This may have a severe consequences for the relative arrangement of the turbines and their associated wakes and hence on both the power output and fatigue loading. Finally, strong currents may affect the time to install the MUFOW systems and restrict access to the MUFOW vessel for maintenance visits etc.

It has been estimated that the maximum acceptable current for MUFOW vessels is approximately 2 knots (1 knot = 1 nautical mile per hour).

#### *Commercially important sea areas*

As with oil and gas structures, fishing vessels will be vulnerable to snaring nets, trawls and other fishing gear on the MUFOW vessel pontoons and the anchors and chains that make up the catenary mooring systems. In addition, the cables used to transmit the power generated by the development ashore will pose an additional hazard to fishing activities and should be well protected. Furthermore MUFOW developments will represent an additional hazard to dredging activities as well as other shipping and low-

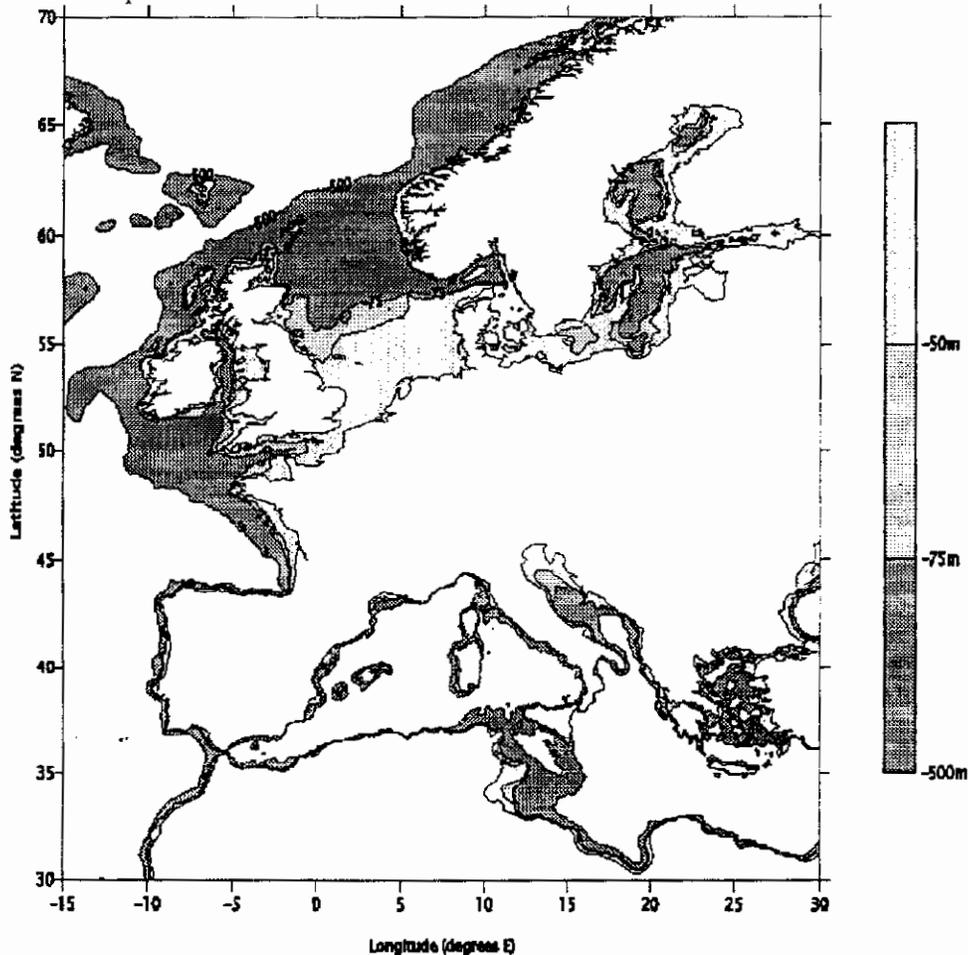
flying air traffic. MUFOW deployment sites will need to be selected to avoid areas of particular commercial importance to other marine users.

The populations of commercial fish species in many parts of Europe are currently thought to be at dangerously low levels. Paradoxically, MUFOW developments may in fact benefit the fishing industry by acting as artificial reefs providing additional habitat and food species as well as protected nursery areas. It has been suggested that offshore oil and gas platforms as well as the existing seabed-mounted offshore wind structures have had a positive effect on fish populations. However, the effectiveness in this regard of floating MUFOW structures is not known.

#### 4.3 Potential MUFOW deployment sites in European waters

Figure 11 shows the seabed bathymetry throughout European waters and most of the Mediterranean Sea. On this plot areas with water depths of 50m or less, which are shallow enough for seabed-mounted wind turbines, but which are too shallow for MUFOW developments are shaded light grey. Areas with water depths of between 50m and 75m, where it would be possible to site a floating offshore wind farm made up of "shallow" MUFOW vessels but not "standard" MUFOW vessels, are shaded mid grey. The dark grey shading indicates sea areas with water depths between 75m and 500m, where both "shallow" and "standard" MUFOW vessels could be deployed.

This plot clearly demonstrates the scarcity of suitable shallow water areas for seabed-mounted turbines off the Spanish and Norwegian coasts and throughout most of the Mediterranean. Similarly, it shows that the seabed drops away very steeply in these areas making the seas around the Iberian peninsula as well as large parts of the Mediterranean basin too deep to moor MUFOW vessels cost effectively. The plot also serves to highlight that the most extensive areas for both seabed-mounted *and* MUFOW developments are in northern Europe.



Source data: National Geophysical Data Center, NOAA

Figure 11 - Plot showing the seabed bathymetry throughout European waters

[11] includes plots showing predictions of mean annual and mean monthly wind speeds throughout European waters made during the POWER project. These plots indicate that the highest mean annual wind speeds are found in along the Atlantic margin, the North Sea and Baltic regions. By contrast, the most of Mediterranean basin is less windy, with extensive regions experiencing mean annual wind speeds of less than  $6\text{ms}^{-1}$ . However, good wind speeds are to be found in parts of the Aegean. These results suggest the best locations for MUFOW developments would be the north and west of Scotland and the northern North Sea, as these areas have the largest wind energy resource.

The waters around the UK have been used as a case study to identify potential MUFOW sites taking account of all the major siting considerations. It was found that:

- In UK waters there are extensive sea areas with depths in the 50 - 500m range in the northern and central North Sea, the western half of the Irish Sea, the western half of the English Channel, the Celtic Sea and north and west of Scotland. However, most nearshore areas as well as the eastern part of the Irish Sea, the eastern half of the English Channel and the southern part of the North Sea basin are too shallow for MUFOW developments.
- The UK is blessed with one of the best offshore wind energy resources in Europe with mean annual wind speeds at 50m above sea level in excess of  $9.0\text{ms}^{-1}$  in most areas. The highest wind speeds are experienced north and west of Scotland and the lowest wind speeds are expected in the English Channel.
- In UK waters, MUFOW vessels studied should be able to withstand the wave conditions experienced throughout the North Sea basin, and in the Irish Sea, the English Channel and the Minch. The sea areas north and west of Scotland, the Norwegian Sea and the Celtic Sea experience severe wave conditions and may be unsuitable for MUFOW vessels due to excessive wave and fatigue loading, mooring system limitations and structure inaccessibility.
- Many parts of Europe, and in particular the Baltic and Mediterranean Seas, have very weak tidal streams. By contrast, UK waters experience some of the strongest tidal currents in the World with significant areas subject to tidal currents in excess of 2 knots. This constraint rules out MUFOW developments in the Bristol Channel, St Georges Channel, the North Channel, the Little Minch, the Pentland Firth and the Fair Isle Channel as well as most of the English Channel and the coastal waters along the east coast of England south of Flamborough Head. It should be noted that many of these areas are already unsuitable because of the available water depth or for their importance as major shipping routes.
- The configuration of the UK onshore power transmission system means there are few suitable landfall sites for power from MUFOW developments. The best strategy may be to bring the power ashore at existing coastal power generation sites.

Figure 12 shows UK waters and neighbouring sea areas divided into potential MUFOW site selection areas. Table 1 summarises the status of each of these sea areas with regard to the major MUFOW siting constraints.

In view of the siting constraints discussed in this paper, the most promising areas for MUFOW developments in UK waters are the northern and central sections of the North Sea. This region has an excellent wind resource and also falls within the acceptable water depth, wave and current condition envelopes. These areas are also clear of major traffic routes and are relatively well placed for transmitting power ashore. However, it should be noted that depth constraints in the central North Sea means that developments made up of "shallow" MUFOW vessels only may be required in this area. Furthermore, these areas are of commercial importance to both the existing UK oil and gas and fishing industries, so potential MUFOW developers would need to liaise closely with these industries to identify mutually acceptable sites.

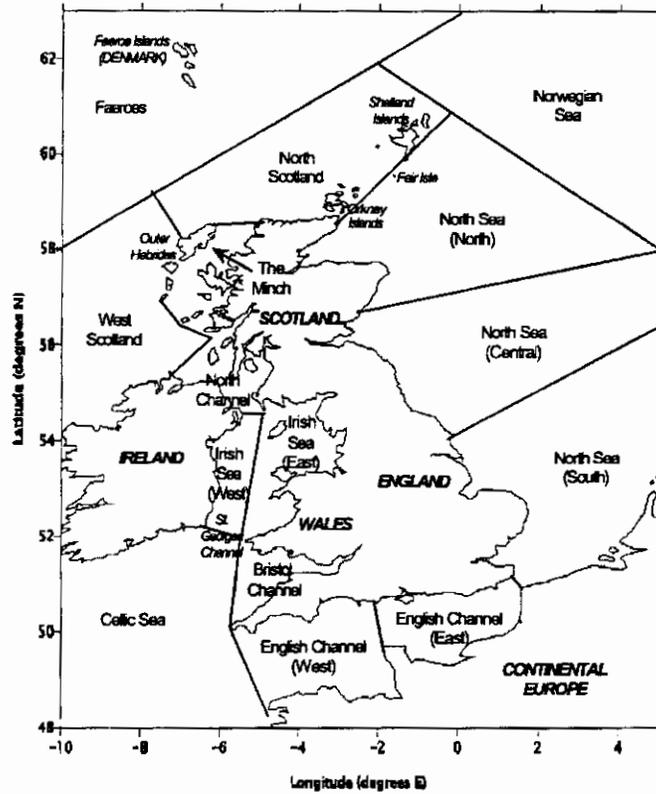


Figure 12 – Schematic showing potential MUFOW site selection areas around the UK

MUFOW siting constraint	WATER DEPTH	WIND RESOURCE*	WAVES	CURRENTS	POWER LINKS*	FISHING ACTIVITY*	OIL AND GAS INDUSTRY ACTIVITY*	OTHER SHIPPING ACTIVITY*
Sea Area (see Figure 12)								
English Channel (West)	✓	moderate	✓	X	moderate	moderate/high	low	high
English Channel (East)	X	moderate	✓	X	moderate	low	low	very high
North Sea (South)	X	moderate/good	✓	X	moderate	low/moderate	high	very high
North Sea (Central)	✓	good	✓	✓	excellent	moderate	moderate	moderate
North Sea (North)	✓	good/very good	✓	✓	good	high	high	low
Norwegian Sea	✓	good/very good	X	✓	..	..	high	..
North Scotland	✓	very good	X	but not in Pentland Firth or Fair Isle Channel	poor	high/very high	increasing?	moderate
Faeroes	X	very good/excellent	X	..	..	..	increasing?	..
West Scotland	✓	excellent	X	✓	very poor	high/very high	increasing?	moderate
The Minch	✓	very good/excellent	✓	but not in Little Minch	very poor	high	low	moderate
North Channel	X	very good/excellent	✓	X	moderate	moderate	low	very high
Irish Sea (West)	✓	good	✓	but not in St Georges Channel	..	moderate	low	high
Irish Sea (East)	X	good	✓	X	very good	moderate	moderate	high
Bristol Channel	X	good	✓	X	very good	low	low	high
Celtic Sea	✓	good/very good	✓/X	✓	poor	..	..	high

\* - qualitative comparison with remaining UK sea areas studied

Key: ✓ Parameters within the acceptable envelope for MUFOW vessels in most of sea area  
 X Parameters outside acceptable envelope for MUFOW vessels in most of sea area  
 .. Insufficient data available to the project for this sea area

Table 1 - Summary of suitability of UK waters for MUFOW developments

## 5 COMPARATIVE COSTS

### 5.1 Cost considerations for MUFOW developments

A floating offshore wind farm made up of an array of MUFOW vessels will be subject to many of the same cost considerations and drivers as a seabed-mounted development. These will include the material, construction and installation costs of the turbines and the support structures (i.e. the hull and mooring system of the MUFOW vessels), the cost of connection to the onshore electricity grid, operational and maintenance (O&M) costs, the cost of decommissioning the development and also the overall cost of managing the project. Both types of development will benefit from the potential cost savings associated with large developments of say 100-300MW compared to small, single unit schemes.

Similarly, both floating and seabed-mounted developments are likely to require a high level of initial capital investment to enable design, construction and installation/deployment of the wind farm to be accomplished. Both types of development will generate revenue by selling the power produced by the turbines, but it is likely to take a considerable time, probably several years, for the initial investment to be paid back and for the development to make an overall profit. Therefore, the challenges of financing the projects will be very similar. However, until the MUFOW concept has been proven many investors are likely to regard a floating development as a more risky venture than a seabed-mounted scheme.

### 5.2 Relative costs of MUFOW vessel designs

The *structure* costs of five different optimised MUFOW vessel designs have been estimated and compared. Table 2 presents a summary of the vessels considered as well as a normalised cost per MW of rated power compared to a "base case" vessel and a percentage cost breakdown showing the relative contribution of turbine, hull and mooring costs. The vessels have been classified by vessel type (weathervaning/non-weathervaning), vessel layout and in terms of vessel category - "shallow" (see section 4.2); "small" (vessels fitted with 1.2MW turbines) or "large" (vessels fitted with 3.5MW turbines). *NOTE: this cost analysis was based on preliminary vessel designs and should be treated with caution. In particular, there is only superficial information available on the design and costs of suitable mooring systems which form a significant proportion of the overall cost of each vessel. The results will be very sensitive to alterations in the mooring cost estimates.*

VESSEL DETAILS	BASE CASE				
Category	Shallow	Small	Small	Large	Large
Vessel type	Weathervaning	Weathervaning	Non-weathervaning	Weathervaning	Non-weathervaning
Vessel shape	∨	∨	"fractal"	∨	"fractal"
Layout shown in:			Figure 6	Figure 3	Figure 4
Water depth (m)	50	75	75	75	75
Number of turbines	5	5	6	3	4
Turbine rating (kW)	1 200	1 200	1 200	3 500	3 500
Total vessel rating (kW)	6 000	6 000	7 200	10 500	14 000
RELATIVE COST/LW	1.30	1.31	0.73	1.00	0.69
% COST BREAKDOWN					
Turbines	9%	9%	17%	16%	24%
Hull	54%	48%	48%	44%	42%
Moorings	37%	43%	35%	40%	34%

Table 2 - Summary of relative cost of MUFOW vessel designs

The results in Table 2 suggest that it is more cost effective to produce MUFOW vessels mounted with a small number of large turbines (each rated at 3.5MW) than a larger number of smaller turbines each rated at 1.2MW.

This analysis also suggests that a non-weathervaning vessel is likely to be cheaper than an equivalent weathervaning structure. This is primarily because in each category of vessel an extra turbine can be mounted on a non-weathervaning compared to a weathervaning MUFOW. This is because the more compact layout of a non-weathervaning vessel hull means that it is possible to make the vessel pontoons structurally robust enough to support the extra turbine. In addition, it is not necessary to fit the expensive turret mechanism needed to allow the hull of a weathervaning vessel to pivot. However, it must be recognised that on non-weathervaning vessels, some of the turbines will be operating in another's wake. This has severe implications for achievable energy production and fatigue in the structure.

Finally, the results in Table 2 indicate that the “shallow” and the “small” standard depth weathervaning MUFOW vessels will have similar costs. As the main pontoons of the “shallow” vessel are closer to the surface, this type of vessel experiences more severe motions and loads. To account for this, the hull needs to be strengthened and is therefore more expensive than its “standard” equivalent. However, this extra cost is offset by the less expensive mooring system that can be used in shallow water.

### 5.3 Cost comparison with a seabed-mounted development

A preliminary comparison of *total development* costs associated with a seabed-mounted wind farm and floating MUFOW developments has been made. Relative costs and anticipated energy production have been estimated for a number of schemes, each with the same nominal total rated power of 252MW. In all cases the same wave, current and ground conditions as well as materials, plant and labour costs were used in the analysis. Each of the developments were taken to be at 20km from land as this simplifies the task of comparing grid connection, installation and O&M costs. In addition, the energy production from each development was estimated for wind speed distributions and turbine availability values typical of a nearshore site in UK waters.

The total development costs associated with a 252MW seabed-mounted wind farm have been estimated using the cost model developed for the Opti-OWECS project [12]. This “base case” scheme is made up of 84 turbines, each with rated power of 3MW supported by a tower on a monopile foundation. The seabed-mounted structures were taken to be in 25m water depth, with 25m of pile penetration and hub height of 53m above mean sea level. The seabed-mounted turbine spacing was taken to be ten times the rotor diameter.

In view of the level of uncertainty associated with the design, deployment, O&M and decommissioning costs for the MUFOW developments, it was considered appropriate to indicate a range of relative energy costs for the floating wind farms.

A summary of the results of this cost comparison are presented in Table 3. *NOTE: this cost comparison was based on preliminary vessel designs and should be treated with caution. In particular, there is only superficial information available on the design and costs of suitable MUFOW mooring systems as well as likely O&M and decommissioning costs which together form a significant proportion of the overall cost of a floating wind farm. The results will be very sensitive to alterations in these cost estimates.*

DEVELOPMENT DETAILS	BASE CASE					
Development type	Seabed-mounted	Floating	Floating	Floating	Floating	Floating
MUFOW Category	..	Shallow	Small	Small	Large	Large
Vessel type	..	Weathervaning	Weathervaning	Non-weathervaning	Weathervaning	Non-weathervaning
Number of vessels	..	42	42	35	24	18
Total number of turbines	84	210	210	210	72	72
Turbine rating (kW)	3 000	1 200	1 200	1 200	3 500	3 500
RELATIVE COST (\$/Wh)	1.00	2.9 to 4.0	2.7 to 2.8	2.2 to 2.3	2.1 to 2.4	1.8 to 2.2
<b>% COST BREAKDOWN</b>						
Turbines	19.1%	5.1%	5.5%	10.3%	12.4%	13.6%
Support structure	23.5%	44.3%	43.8%	38.5%	35.8%	34.2%
Grid connection	9.4%	3.3%	3.5%	4.7%	5.7%	6.2%
O&M	35.2%	35.8%	35.9%	36.4%	36.6%	36.7%
Decommissioning	11.8%	11.1%	10.9%	9.6%	8.9%	8.6%
Project management	1.0%	0.4%	0.4%	0.5%	0.6%	0.7%

**Table 3 - Summary of relative cost of seabed-mounted and floating wind farm developments**

These results suggest that energy from the most cost effective floating wind farm (consisting of an array of 18 non-weathervaning MUFOW vessels, each fitted with four 3.5MW turbines) is likely to be approximately twice as expensive per kWh as energy from an equivalent seabed-mounted development. However, energy from a small, weathervaning MUFOW development may be as much as four times as expensive as that from the seabed-mounted wind farm. It is also clear that compared to a seabed-mounted development, turbine costs account for a smaller proportion of the total project costs, but the proportional cost of the support structures (the vessel hull and mooring) is significantly higher.

One of the main advantages of the MUFOW concept is that the vessels may be deployed in deeper water than the deepest seabed-mounted turbines. In southern Europe and the Mediterranean where very little of the sea area is shallow enough to install seabed-mounted wind farms, MUFOWs could be used to extend exploitation of the offshore wind resource in some areas. Unfortunately, it has already been shown that these areas generally have a relatively poor wind resource. Even at a site with a favourable Mediterranean wind resource, it has been estimated that a MUFOW development could produce less than 50% of the energy generated at a nearshore UK site. In view of this the corresponding cost of the energy produced per kWh could be as much as eight times that of energy from a nearshore seabed-mounted wind farm in UK waters.

In northern Europe, MUFOW vessels may be sited further offshore and thus could exploit the slightly higher wind speeds experienced in these areas. It has been estimated that a MUFOW development could produce approximately 13% more energy if it is exposed to a wind regime typical of far offshore parts of the North Sea compared to nearshore UK wind conditions. However, it is highly unlikely that it will prove to be cost effective to use these sites as the grid connection, installation and O&M costs will rise steeply with distance from land and also structure accessibility (and therefore turbine availability) is likely to be much reduced. Therefore, the cost of the energy produced per kWh is likely to be significantly higher than at nearshore UK sites. Although future developments in mooring and power transmission technologies may be able to reduce these aspects of the far offshore, deep water floating wind farm costs, it is difficult to see how installation and O&M costs could be brought down significantly compared to a seabed-mounted development as these aspects are closely related to the frequency and duration of acceptable weather windows and transit times to and from remote sites.

## 6 DISCUSSION

The main disadvantage of the floating wind energy concept is cost. While land-based windfarm generation costs are nudging 2p/kWh in Ireland and the first experimental seabed-mounted offshore wind farms in Denmark came in at around 6p/kWh several years ago, the analysis suggests that for floating wind farms, the costs will be at least twice the seabed-mounted value. Clearly a reduction of almost an order of magnitude and significant innovative thinking is needed. Possible ways in which this could be achieved would be to make the vessel more compliant or smaller (the resulting increase in turbine fatigue loads would need to be monitored carefully) or following one of the more radical options below:

Many offshore oil fields also have a small quantity of gas present, but it is often uneconomical to pipe the gas to the shore. At present, money is spent on re-injecting this gas into the oil field (as regulations do not allow it to be burnt off). If a floating wind-farm were to be located in the vicinity of the gas field, gas-burning generators could be used to supplement the energy generated by the wind turbines, especially during calm periods, providing a valuable and steady supply of power. In this way, the combined use of small, currently uneconomic gas deposits together with wind turbines on a floating structure could offer a more economic and strategically worthwhile means of power generation. Once the gas field is exhausted, the floating wind-farm could be moved on to another gas field.

In the last couple of years, there has been a renewal of interest in wave and ocean current energies around the world. Many of the concepts instinctively suggest that wind turbines could be constructed on the structure and indeed the original plans for the OSPREY device did include two wind-turbines, however these technologies are not as mature as for wind energy and are still in the prototype stage.

The greater distances from the electricity-user means that the power transmission is significant cause for the overall greater energy costs from far offshore floating wind farms. As an alternative, the energy generated by the turbines could be used to produce hydrogen which could be delivered ashore as an alternative transmission media.

## ACKNOWLEDGEMENTS

The authors would like to thank EPSRC, who funded the research, undertaken jointly by the Department of Mechanical Engineering at University College London and the Energy Research Unit at CLRC, Rutherford Appleton Laboratory. Gillian Watson would also like to thank Dr Tim Cockerill of the University of Sunderland for his generous help in running the Opti-OWECS cost model.

## REFERENCES

- [1] N. Barltrop; Multiple Floating Offshore Wind Farm (MUFOW), Wind Engineering Vol. 17 No. 4, pp. 183 – 188, 1993
- [2] Kobayashi, K. et al; Large-scale on-sea experiment of mega-float structures, Sumitomo, 17th international conference on Offshore Mechanics and Arctic Engineering; May-1998.
- [3] Iijima, K. et al; Structural response characteristics of very large semi-submersible and design considerations; 17th international conference on Offshore Mechanics and Arctic Engineering; May-1998.
- [4] Henderson, A.R. & Patel, M.H.; Floating Offshore Wind Energy, BWEA Conference 20, Cardiff University. September 1998.
- [5] Henderson, A.R., Patel, M.H, Halliday, J.A. and Watson, G. W., Multiple Turbine Floating Offshore Windfarms
- [6] Henderson, A.R.; Development of Analysis Tools for Large Floating Offshore Wind Farms, PhD Thesis, University College London, 2000
- [7] Patel, M.H.; Dynamics of Offshore Structures. Butterworth. ISBN 0-480-01074-6. 1989
- [8] Øye, S.; Dynamic stall - simulated as time lag of separation, Proc. of the 4<sup>th</sup> IEA Symposium on the Aerodynamics of Wind Turbines; January 1991.
- [9] Freris, L.L.; Wind Energy Conversion Systems, Prentice Hall. ISBN 0-13-960527-4. 1990
- [10] Dirlik, T.; Application of computers to fatigue analysis; University of Warwick Thesis; 1985
- [11] Watson, G. M. *et al*; POWER – a methodology for predicting offshore wind energy resources, *paper in preparation for this conference*
- [12] Cockerill T. T.; User Guide OWECs cost model, Opti-OWECs Final Report Vol. 5, JOULE contract JOR3-CT95-0087, 1997



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS  
696 VIRGINIA ROAD  
CONCORD, MASSACHUSETTS 01742-2751

September 15, 2003

Regulatory Division  
CENAE-R-200201108

Ms. Cindy Lowry, Director  
233 Water Street, #1  
Hallowell, Maine 04347

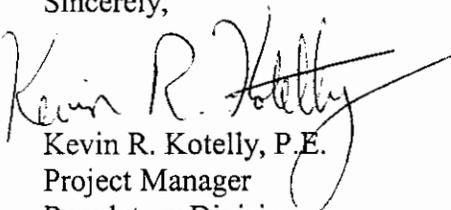
Dear Ms. Lowry:

Thank you for your comments concerning the application by Winery, LLC for a project that is located at one or more locations in navigable waters off the coast of Massachusetts. The project involves the installation of wind turbine generators.

We have made your comments part of the official file and they will be considered, along with all other comments received, in determining what permit action is in the public interest. We will inform you of our final decision.

If you have any questions, please contact me at (978) 318-8703, (800) 343-4789, or (800) 362-4367 if calling within Massachusetts.

Sincerely,

  
Kevin R. Kotelly, P.E.  
Project Manager  
Regulatory Division

Oceans Public  
Trust Initiative

233 Water Street, #1  
Hallowell, ME 04347  
207-622-3587

A Project of Earth Island Institute

September 8, 2003

Colonel David L. Hansen  
District Engineer  
Army Corps of Engineers  
803 Front Street  
Norfolk, Virginia 23610

Rick Henderson  
Permit Manager  
Army Corps of Engineers  
803 Front Street  
Norfolk, Virginia 23610

Colonel Thomas L. Koning  
District Engineer  
U.S. Army Corps of Engineers  
New England District  
696 Virginia Road  
Concord, MA 01742-2751

**Re: Winergy LLC Norfolk Office Section 10 Application**

Dear Colonels Hansen and Koning, and Mr. Henderson:

I am writing on behalf of the Oceans Public Trust Initiative (OPTI) to submit comments on the application for an offshore wind energy facility submitted by Winergy, LLC. OPTI is deeply concerned with Winergy's application, both because of the impacts such a facility will have on the environment and, more broadly, because of the lack of adequate federal oversight for this type of development.

OPTI is a newly-formed initiative under the International Marine Mammal Project (IMMP) of the Earth Island Institute. IMMP established the OPTI in response to the increasing, unfettered exploitation of our ocean resources. For well over 100 years, the courts have recognized that governmental institutions hold public waters "in trust" for all U.S. citizens. Neither the states nor the federal government, in their respective capacities as public trustees, can give away public lands or waters to private parties absent an express legislative grant to do so. Usually such a grant includes a mechanism to compensate the public weal.

The federal government, however, has largely abdicated its responsibilities as trustee of our ocean resources. This is perhaps because the development of technology allowing the exploitation of ocean resources has outpaced legislative action. Regardless of the reason, Congressional failure to properly administer our public trust resources has resulted in overfishing, over-development of our coasts, increasing pollution from cities and agriculture, and a general decline of ocean wildlife and the ocean ecosystems.

Nowhere is that abdication more apparent than with the newly developing offshore wind energy industry. In virtually all other uses of public resources, detailed standards exist, qualified government trustees are appointed, proper authorities to grant rights to use the public resources are established and mechanisms for compensation are in place. With offshore wind, none of these protections exist.

Instead, developers see a loophole in federal law through which they believe they can construct a massive wind energy plant in the middle of a public resource on the basis of a Rivers and Harbors Act section 10 permit alone. A section 10 permit is completely inadequate to the task at hand and does not authorize this activity. The Rivers and Harbors Act is concerned with navigability, not with offshore energy development. Moreover, the Corps is ill-equipped to address the complex issues presented by offshore wind energy development. Its expertise lies elsewhere, with the permitting of docks, piers, and other potential impediments to navigation. Before any developer is permitted to use our offshore resources for energy development, there must be federal legislation permitting these proposed uses and an agency with the necessary experience in administering the public trust.

In addition, OPTI believes that it is vital that the federal government conduct a systematic and comprehensive review of the impacts associated with offshore development before our ocean resources are exploited. It has been less than two years since the first wind plant was proposed; today, proposals for offshore wind plants blanket the eastern seaboard. Winergy's Northampton proposal is one of many.

To look comprehensively at the impacts such development will have on ocean resources and marine mammals, the Corps must look beyond one project. While even one ill-sited project alone can potentially damage a fragile marine environment and the marine mammals that depend on that environment, multiple projects could devastate the ecosystem. The Corps must look before it leaps. Looking requires an assessment of impacts on a programmatic level. The proposed

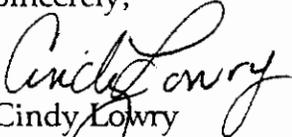
development does not simply impact the immediate area. What impacts species in Massachusetts has the potential to impact species in Virginia. It is therefore necessary to investigate this type of development on a regional scale, and a programmatic review is the proper vehicle.

Finally, OPTI is deeply concerned by Winergy's proposal to develop a wind energy plant off the coast of Virginia. As the Army Corps' July 7, 2003 Public Notice indicates, Winergy has proposed to construct 150 individual wind turbine generators impacting a 25 square mile area between 1 and 3 miles east of Smith Island off the coast of Northampton County. This area provides valuable habitat for many marine mammals, sea turtles, finfish and other aquatic life. In addition, a tremendous variety of avian species depend on the area, including gannets, scoters, loons, cormorants, gulls, terns, and other seabirds. The potential for adverse impacts on these resources is acute.

Despite the clearly massive scale of the proposed development and the obvious impacts such development will have on the ocean environment, the Corps appears to be soliciting comments on whether an environmental impact statement is required. Development of this scale clearly necessitates a comprehensive environmental impact statement under the National Environmental Policy Act. Any thing less would violate federal law.

We appreciate the opportunity to comment on Winergy's proposal. OPTI plans to be an active participant in the Corps' review of Winergy's proposal, should that review go forward. Please feel free to contact me at (207) 622-3587 should you have any questions regarding this matter.

Sincerely,

  
Cindy Lowry  
Director

## ATTACHMENT II



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SERVICE  
Silver Spring, Maryland 20910

DEC 20 2004

Ms. Cindy Lowry  
Director, Oceans Public Trust Initiative  
233 Water Street, #1  
Hallowell, Maine 04347

Dear Ms. Lowry:

Thank you for your follow up questions on the implementation of Executive Order (E.O.) 13158 of May 26, 2000, the Commonwealth of Massachusetts' marine sanctuaries and other potential marine protected areas (MPAs). We appreciate your interest in determining the eligibility of these sites for the National System of MPAs (National System) and resulting List of MPAs (List). However, in implementing E.O. 13158, we are required to consult with agencies and stakeholders, as well as develop the Framework for the National System (Framework) that will include specific criteria and processes for including sites in the National System and on the List.

We have therefore initiated a consultative process to gather input from agency and public stakeholders to develop the Framework. The information received through this process will guide the participation of state, territorial, and tribal MPA authorities not subject to the E.O and further define the specific criteria that will determine the eligibility of sites to be MPAs in the National System and on the resulting List. These will likely include definitions of unclear terms found in the E.O. Section 2(a) definition of "MPA" such as "marine" and "lasting," as well as other criteria relating to specific national objectives for natural and cultural MPA resources. The Framework will also lay out consultative processes for qualifying MPAs to be brought into the National System, placed on the List, and therein afforded protection under the "avoid harm" provision of E.O. 13158 Section 5 consistently across the United States.

In response to your questions about whether Massachusetts' marine sanctuaries and other sites should immediately qualify for the National System and subsequent List, we maintain that no such determination can be made until the final criteria for eligibility and processes for inclusion are published in the Framework. Once completed, we will ensure that all sites are reviewed in a timely fashion to determine their eligibility and carry out the established consultation processes with the relevant agencies for the inclusion of qualifying sites. Meanwhile, these sites are safeguarded by state law and federal actions therein are subject to review under the federal consistency authority under the Coastal Zone Management Act.

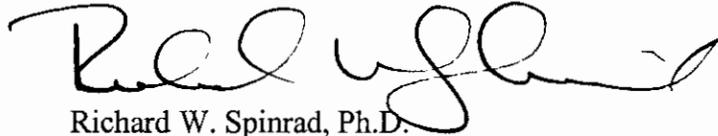


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We believe that the process described above satisfies requirements and intent of E.O. 13158 and will result in an equitable, effective National System of MPAs. If you have any further questions, please feel free to contact Joseph Uravitch, Director, National MPA Center, by phone at (301) 713-3100 extension 195, or via email at [Joseph.Uravitch@noaa.gov](mailto:Joseph.Uravitch@noaa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Richard W. Spinrad". The signature is fluid and cursive, with a long horizontal stroke at the end.

Richard W. Spinrad, Ph.D.  
Assistant Administrator

cc: Alan Neuschatz, Associate Assistant Administrator for Management  
Eldon Hout, Director, Office of Ocean and Coastal Resource Management  
Joseph Uravitch, Director, National MPA Center  
Daniel Bromley, Ph.D., Chair, MPA Federal Advisory Committee  
Larry Maloney, Special Assistant to the Assistant Secretary for Lands and Minerals  
Management, U.S. Department of the Interior  
Col. Thomas L. Koning, U.S. Army Corps of Engineers, New England District



October 18, 2004

Richard W. Spinrad, Ph.D.  
U.S. Department of Commerce  
National Oceanic and Atmospheric Administration  
National Ocean Service  
Silver Spring, MD 20910

Dear Dr. Spinrad:

Thank you for your letter of October 6, 2004, regarding implementation of Executive Order 13158 on Marine Protected Areas. The Oceans Public Trust Initiative (OPTI) is keenly interested in this issue, and we appreciate your prompt response. The purpose of this letter is to raise some follow-up questions.

As a general matter, OPTI remains greatly concerned over the pace of implementation for Executive Order 13158. More than four years have elapsed since the Order was issued, and it appears that no formal action has occurred to identify definitively non-federal Marine Protected Areas (MPAs) subject to the Executive Order or to apply the all-important "harm" prohibition. If this is indeed the case, the result is that the action-forcing provisions of the Executive Order have no value, despite numerous threats to MPAs that clearly qualify for protection. The process described in your letter, while no doubt well-intentioned, offers little hope of action in this regard for the foreseeable future.

In light of this concern, OPTI seeks clarification from you on the following issues:

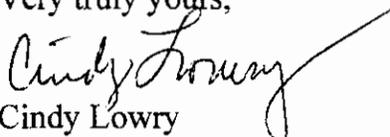
1) Is there any doubt that an area designated as a "sanctuary" under state law qualifies as an MPA under the Executive Order, if that designation is made under state legislation and provides lasting legal protection to specified marine resource values?

2) Obviously, there are numerous areas that qualify as MPAs under the Executive Order, and some of these may require judgment calls to identify. On the other hand, there are also many areas that easily meet the definition and require no analysis or debate. Those areas that fall under question 1 above would be included in this group. What is being done to expedite the identification of those areas as MPAs under the Executive Order? Is action being taken to set priorities?

3) If an area clearly qualifies as an MPA, but has not yet been formally identified as such under the process described in your letter, what steps are being taken to ensure that such areas are fully protected under the "harm" prohibition of the Order? Needless to say, OPTI would be deeply troubled by a federal approach to implementation of the Executive Order that effectively writes the harm prohibition out of the mandate to federal agencies for clearly qualified areas while a lengthy process is followed for the evaluation of the over 1,000 marine sites mentioned in your letter.

Thank you for considering this request for further information. Please contact me if you have any questions regarding OPTI's interest in MPAs.

Very truly yours,

  
Cindy Lowry

cc: Jamison Hawkins, Deputy Assistant Administrator, NOAA  
Eldon Hout, Director, Office of Ocean and Coastal Resource Management  
Joseph Uravitch, Director, National MPA Center  
Daniel Bromley, Ph.D., Chair, MPA Federal Advisory Committee  
Larry Maloney, Special Assistant to the Assistant Secretary for Lands and Minerals Management, U.S. Department of the Interior  
Col. Thomas L. Koning, U.S. Army Corps of Engineers, New England District



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SERVICE  
Silver Spring, Maryland 20910

OCT 6 2004

Ms. Cindy Lowry  
Director  
Oceans Public Trust Initiative  
233 Water Street, #1  
Hallowell, Maine 04347

Dear Ms. Lowry:

Thank you for your inquiry regarding the Commonwealth of Massachusetts' marine sanctuaries and the List of U.S. Marine Protected Areas (MPAs) called for under Section 4(d) of Executive Order (E.O.) 13158 of May 26, 2000. We appreciate your interest in immediately listing certain sites as U.S. MPAs. However, pursuant to the intent and requirements of the E.O., we must ensure agency and stakeholder engagement in the identification of U.S. MPAs, development of the List, and other E.O. activities. Therefore, we can not take the expedited action that you have requested.

We have begun a consultative process to develop the National System of MPAs, of which the List of U.S. MPAs is one step. Key steps in this sequential process are:

1. Establishment of an MPA federal advisory committee (MPA FAC) to provide expert advice and recommendations on the development of the national system of MPAs.
2. Identification and classification of areas of the marine environment managed currently at the federal, state, and tribal level and development of a publicly accessible national inventory.
3. Conduct of a consultative process to define criteria leading to establishment of the List of U.S. MPAs and the national system based on publicly developed criteria.

To date we have: established the MPA FAC; made significant progress on the national inventory, identifying to date over 1,000 "marine" sites across the nation; and initiated public and agency discussions about the national system, which will lead to development of the List. Current, detailed information about the progress of this process can be found at [www.mpa.gov](http://www.mpa.gov).

We believe that the process described above satisfies the consultation, listing requirements and intent of E.O. 13158. If you have any further questions, please feel free to contact Joseph Uravitch, Director, National MPA Center, by phone at (301) 713-3100 ext. 195, or via email at [Joseph.Uravitch@noaa.gov](mailto:Joseph.Uravitch@noaa.gov).

Sincerely,

Richard W. Spinrad, Ph.D.  
Assistant Administrator



cc: Jamison Hawkins, Deputy Assistant Administrator  
Eldon Hout, Director, Office of Ocean and Coastal Resource Management  
Joseph Uravitch, Director, National MPA Center  
Daniel Bromley, Ph.D., Chair, MPA Federal Advisory Committee  
Larry Maloney, Special Assistant to the Assistant Secretary for Lands and Minerals  
Management, U.S. Department of the Interior  
Col. Thomas L. Koning, U.S. Army Corps of Engineers, New England District



September 15, 2004

Dr. Daniel Bromley  
Chair, Federal Advisory Committee on Marine Protected Areas  
Department of Agricultural and Applied Economics  
University of Wisconsin  
427 Lorch Street  
Madison, WI 53706

Dear Dr. Bromley:

On August 4, 2004, I wrote on behalf of the Oceans Public Trust Initiative (OPTI), a project of Earth Island Institute, to Mr. Joseph A. Uravitch requesting that the Marine Protected Area Center immediately place all Massachusetts marine sanctuaries on the list of marine protected areas (MPAs) defined in federal Executive Order 13158. 65 Fed. Reg. 34,909. These designated state sanctuaries enjoy special, permanent protections that prohibit any development that would damage their ecological and aesthetic health. As such, the Commonwealth's ocean sanctuaries qualify as MPAs under section 2 of the Executive Order.

I am writing to you directly because OPTI has not yet received any response to my August 4 letter. As I explained to Mr. Uravitch, the urgency for these determinations is well illustrated by the U.S. Army Corps of Engineers' review of a proposed offshore wind energy plant for Nantucket Sound. The Corps has been reviewing this massive proposed project for several years, but has failed to acknowledge that the Sound and any other affected sanctuaries should be treated as MPAs under the Executive Order. The proposed project is totally at odds with the protection accorded under State law, so by simply deflecting the issue the Corps is rendering Executive Order 13158 virtually meaningless. The Department of the Interior claims that the MPA status of the Sound should not be considered because NOAA has not taken the simple task of confirming the MPA status of the state sanctuaries. This seems to us to be inconsistent with the President's reaffirmation of the importance and viability of the Executive Order.

As important as this issue is for the Massachusetts sanctuaries, it is even more significant as it relates to the overall implementation of the MPA Executive Order on a national basis. Numerous areas qualify for MPA status and are entitled to protection



August 4, 2004

Mr. Joseph A. Uravitch  
National MPA Center  
National Oceanic and Atmospheric Administration  
1305 East-West Highway  
Silver Spring, MD 20910

Dear Mr. Uravitch:

On behalf of the Oceans Public Trust Initiative (OPTI), a project of Earth Island Institute, we are petitioning the Marine Protected Area Center, pursuant to the Administrative Procedure Act, to immediately place all marine sanctuaries in Massachusetts on the list of marine protected areas (MPAs). These areas currently are included on the list of marine managed areas under Executive Order 13158, 65 Fed. Reg. 34, 909. Without question, all of these sanctuaries qualify for MPA status under the Executive Order. These areas are set aside under Massachusetts law, and each one of them includes objectives and requirements designed to protect the natural resources and other values of each area. As a result, they clearly fit the definition of an MPA under section 2 of the Order.

OPTI is troubled by the length of time it has taken to list areas as MPAs under the Executive Order. Final listing, not only for these areas in Massachusetts, but also for other MPAs throughout the country, will greatly advance the ultimate goal of the Executive Order – the long-term protection of our ocean's precious natural and cultural resources. Though MPA listing is not prerequisite for the Executive Order's protections to be triggered, MPA listing will help to ensure that federal agencies avoid harm to these special areas designated by the Commonwealth of Massachusetts. *See* 65 Fed. Reg. at 34, 911 (Executive Order 13158, §5). While we appreciate the heavy workload confronted by the MPA Center, there is no reason that areas that easily meet the definition and require immediate protection should not be listed. Failure to do so has the effect of undermining the purpose of an Executive Order that has now been in effect for nearly four years.

This is an issue of particular concern in Massachusetts, where federal actions are now under consideration that could clearly have an effect on these MPAs. Most notably, the U.S. Army Corps of Engineers is considering permit applications under section 10 of the Rivers and Harbors Act to construct large-scale wind energy facilities at various locations along the Massachusetts

Joseph A. Uravitch  
August 4, 2004  
Page 2

coast. The areas subject to such applications include all of the following: Nantucket Sound, Provincetown, and Davis Bank. Virtually all of these areas have the potential to adversely affect Massachusetts MPAs. Some of the proposals are located within MPA boundaries, and others have the clear potential to adversely affect such areas, even if they are located outside of the boundaries of the MPA. At least one of these projects, the Cape Wind proposal, is relatively far advanced in the federal decisionmaking process. The proposed project location, as well as alternatives under consideration, have the clear potential to adversely affect the protected values of the Cape and Islands Ocean Sanctuary.

While OPTI has not yet taken a position on any of the proposed wind energy facilities, we have expressed strong concern over the sufficiency of the review procedure being used by the Corps of Engineers. The problems presented by that procedure are only enhanced by the failure of the federal government to take Executive Order 13158 into account as part of its decisionmaking. For this reason, we request a prompt reply from you as to whether the MPA Center will respond to this request and list all of the Massachusetts sanctuaries as MPAs under Executive Order 13158.

A list of those sanctuaries is as follows: Cape Cod Ocean Sanctuary, Cape Cod Bay Ocean Sanctuary, Cape and Islands Ocean Sanctuary, North Shore Ocean Sanctuary, and South Essex Ocean Sanctuary

Thank you for your consideration of this petition.

Very truly yours,



Cindy Lowry  
Director

cc: Colonel Koning  
Secretary Herzfelder

Oceans Public  
Trust Initiative

233 Water Street, #1  
Hallowell, ME 04347  
207-622-3587

A Project of Earth Island Institute

September 26, 2003

Joseph Uravitch  
Director  
National MPA Center  
National Oceanic and Atmospheric Administration  
1305 East-West Highway  
Silver Spring, MD 20910

Dear Mr. Uravitch:

I am writing to you on behalf of the Oceans Public Trust Initiative (OPTI), a new program established under the auspices of the International Marine Mammal Project of the Earth Island Institute (EII), an international environmental organization with more than 70,000 members. OPTI's mission is to ensure that the federal government adequately fulfills its public trust duties regarding the protection of the marine environment. The OPTI program has been established because of recent actions being taken by the federal government. Those actions are placing coastal and ocean resources at risk, especially by opening federal lands and waters to private use and development in the absence of legal authority and decision-making standards that adequately protect the public trust.

OPTI is commenting on the notice published in the Federal Register on July 23, 2003 regarding Marine Protected Areas (MPAs). The notice is intended to implement Executive Order 13158, issued in May 2000 by President Clinton and affirmed by President Bush. OPTI strongly supports the Executive Order and urges NOAA to take immediate action to put that directive into immediate effect. To date, very little has been done to put the Executive Order into effect. Numerous federal agency decisions are proceeding without regard to the requirements of the Executive Order.

OPTI is concerned that the approach reflected in the Federal Register notice is an approach of deferral of meaningful action. The notice seems to envision a lengthy bureaucratic process that postpones any action that will force federal agencies to consider marine protected area conservation into ongoing actions and decision-making procedures. The Executive Order leaves no room for such delay. OPTI therefore requests that the Order be given immediate application for all projects and

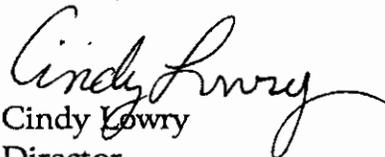
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agency actions that impact areas covered by the definition of "marine protected area." Formal designation will be useful for public education purposes, but further delay in implementing a Presidential Order that has been in effect for well over three years is unacceptable.

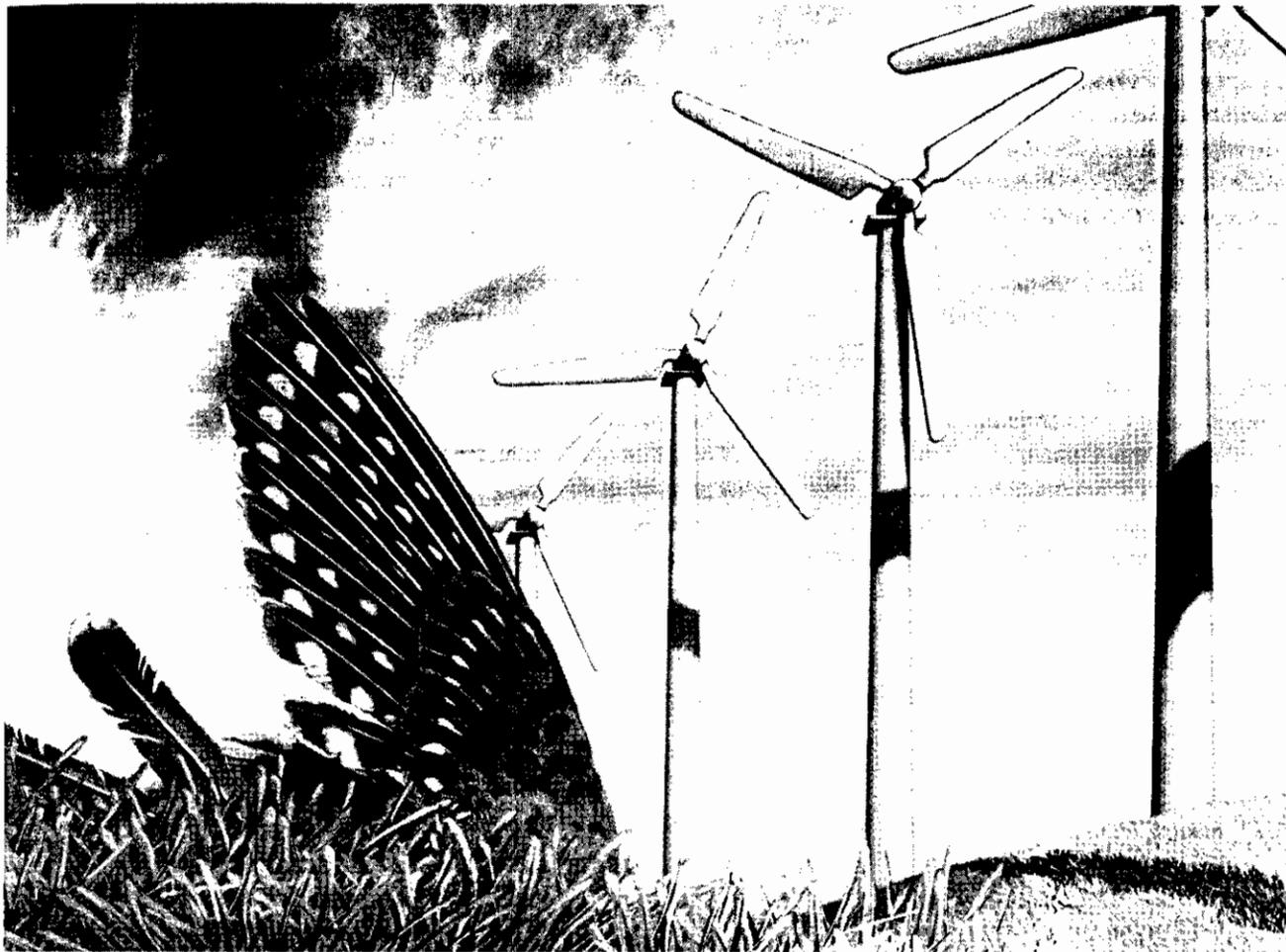
Thank you for considering these comments. If you have any questions regarding OPTI's position on this issue, please contact me.

Sincerely,

A handwritten signature in cursive script that reads "Cindy Lowry". The signature is written in black ink and is positioned above the printed name and title.

Cindy Lowry  
Director

## ATTACHMENT III



Carl Dennis Buell

# Killer Wind

by Joe Eaton

The wind turbines of Altamont Pass, blades glinting in the afternoon sun, have become a welcome signpost of home for me over the years. As the plane I'm on begins its descent into Oakland, the wind farm – more than the Sierra, more than the flatness of the Central Valley – marks a kind of boundary. Part of it is esthetic, part symbolic: I'm back where clean, renewable energy is taken seriously.

But wind power is not just a California eccentricity any more. Propelled by state policies requiring utilities to purchase more wind energy, a federal production tax credit, and a decrease in manufacturing and construction costs, US wind energy capacity increased by over 40 percent in 2001, and another 10 percent in 2002. The trend has been even stronger in Europe, where 70 percent of the planet's wind energy is produced, with Germany and Spain the leading players. New facilities are planned or under construction from the Black Sea coast of Bulgaria to South Gippsland in Australia.

Annie Dillard, author of *Pilgrim at Tinker Creek* and *Holy the Firm*, has spoken eloquently of the esthetic side of wind power: "Wind farms are beautiful. Silently they witness the winds. Their motion adds value and beauty, as sailboats and kites do. Their fixed bases bespeak fidelity and acceptance, as windmills do."

There's another side, though, a reminder that no energy source, however "green," is without its costs. Five years ago, when Enron's wind power division proposed building a wind farm near Gorman in the mountains of Southern California, The National Audubon Society's Vice President Daniel Beard responded: "It is hard to imagine a worse idea than putting a condor Cuisinart next door to critical condor habitat... Enron is proposing to build a death trap."

There's no question that wind farms kill birds. And that's not their only environmental impact: a recent study by S. Baidya Roy at Duke University indicates large windmill arrays could influence local climates, increasing ground-

level wind speeds, boosting temperatures by about two degrees Celsius, and drying out the soil. And a broader computer simulation by David Keith at the University of Calgary and Stephen Pacala at Princeton suggests that expanding wind generation to ten percent of today's North American energy budget would produce cooling in the Arctic and warming across the southern portion of the continent.

So far, though, avian mortality has been the primary concern. Although I'm unaware of any California condor casualties, the death toll has included golden eagles at Altamont, griffon vultures in Spain, migratory songbirds, even bats (4,000 red bats in a single migration season at Backbone Mountain, Virginia). But how grave is the threat, and does the risk of wildlife kills outweigh the potential benefits of this non-fossil-fuel power source? These questions have riven environmental and animal-welfare groups, pitting Greenpeace against the Humane Society, creating internal schisms in other organizations. Each side can claim support from ornithological field studies. The dispute is sure to become more contentious as wind farms proliferate and as wind generation expands from landbased sites to offshore facilities.

What follows is an attempt to provide context for this highly charged issue, and a survey of some of the flash points: the rolling hills of Altamont, the Strait of Gibraltar, the shores of Cape Cod.

In winter, the greening hills around Altamont Pass become prime hunting grounds for birds of prey. Local golden eagles and red-tailed hawks are joined by visitors from the north – ferruginous and rough-legged hawks, the Harlan's subspecies of the red-tail, northern harriers. I've seen over a dozen red-tails strung out along a ridge, each holding station in the wind, watching for rodent movements in the grass below. The Altamont hills are part of a significant

raptor migration corridor and home to the highest concentration of golden eagles in North America. Since 1982 those hills have sprouted a metal forest of wind turbines – some 5,400 at latest count – that generate over 600 megawatts of power.

Inevitably, hawks, eagles, and other birds have collided with the turbines' blades – 881 to 1,300 raptors each year, according to the Center for Biological Diversity (CBD). "Altamont Pass has the worst bird kill problem of any wind facility in North America," says CBD's Jeff Miller, pointing out that the wind farms were built without a thorough review of potential avian mortality.

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### *The windmill bird kill issue has riven environmental and animal-welfare groups.*

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Some of the raptors affected are species of conservation concern, or are protected under federal legislation such as the Bald Eagle and Golden Eagle Protection Act and Migratory Bird Treaty Act. The birds may hit the towers in flight, or attempt to use them as roosts or as vantage points from which they scan for prey.

Although over 40 species, including burrowing owls, western meadowlarks, loggerhead shrikes, and the occasional mallard, have been documented as wind turbine victims at Altamont, the majestic golden eagle has received most of the attention. Eagles appear to have declined around the Altamont Pass Wind Resource Area (APWRA) since the wind farms have been in place, according to a 1990s study by Grainger Hunt, an ecologist with the Predatory Bird Research Group of the

University of California at Santa Cruz. Hunt's subsequent research involving radio-tagged eagles found disproportionate mortality among subadult birds and adult "floaters," rather than breeders with a home territory.

But it's not universally agreed that windmill mortality was responsible for the decline. Ornithologist Paul Kerlinger, former director of the Cape May Bird Observatory, blames other factors: "A new reservoir destroyed foraging and nesting habitat within the wind resource area; the City of Livermore has pushed its boundaries up against the wind farms; and it is beginning to look like the oak trees that exist outside the wind resource area are not coming back due to cattle grazing. These are the oaks golden eagles nest in. As the trees go, so go the eagles."

The most recent Altamont study, a massive report prepared by consultants Shawn Smallwood and Carl Thelander for the California Energy Commission and released in 2004, was based on carcass searches at over 4,000 of the APWRA's turbines. Their conclusion: "Over the past 15 years, the risk to birds of turbine-caused fatalities increased substantially in the APWRA." They were critical of previous consultant studies whose reliance on the reporting of bird kills by turbine maintenance workers and other methodological flaws may have resulted in underestimating mortality.

Smallwood and Thelander found that golden eagle mortality was higher at turbines located in canyons, and that red-tailed hawk deaths reflected concentrations of pocket gophers around the towers. They also discovered that some tower configurations are more lethal than others, with raptor deaths associated more with tubular towers and turbines with larger rotor diameters. Placement seemed to make a difference: isolated turbines killed more birds, while parallel rows of

turbines with alternating tower heights were less dangerous. (Hunt's eagle studies had previously shown that areas with Type-13 turbines, which account for about half the APWRA's turbines, had the most blade-strike fatalities).

The CEC report offered a menu of suggestions for reducing raptor deaths at Altamont: primarily, replacing the current configuration of many small turbines with fewer but larger towers. Failing that, Smallwood and Thelander recommended removing the most dangerous towers, ending a counterproductive rodent control program that actually increased the clustering of gophers and other prey species under the towers, moving rock piles away from turbines, and choosing safer designs for new towers.

Prior to the release of the Smallwood-Thelander report, CBD had filed suit against the Florida-based FPL Group Inc. and the Danish company NEG Micon A/S for their role in killing protected birds in the APWRA. However, when Federal Judge Claudia Wilkins made it clear that she would limit the scope of the litigation, CBD dropped its suit in August and decided to wait for the wind companies' response to the CEC report's recommendations. But that response was disappointing: a draft mitigation plan to be implemented on a volunteer basis on a small percentage of the Altamont turbines, with no shutdown of killer turbines and no commitment to offsite mitigation. The CEC called the plan inadequate, charging that it "does not apply the mitigation measures in the manner recommended by [the report] to directly reduce bird kills." CBD went back to court in November, this time alleging violations of the California Fish and Game Code and federal legislation by FPL and eight other wind power companies.

If Altamont has the worst bird-kill record in North America, the most

controversial wind farm sites in Europe would have to be those in Spain – in Galicia on the Atlantic Coast, in Navarra on the border of Basque country, and at the Strait of Gibraltar, a major concentration point for Africa-bound migrant birds. Mark Duchamp, a Belgian living in Spain, has raised the alarm about raptor deaths at these sites. He points to a 1995 tally of 89 birds, including 14 protected species, killed at two wind farms in Tarifa, on the Strait. He considers this an undercount.

Duchamp also reports that a one-year survey by biologist J. M. Leukona at a 400-turbine facility in Navarra found the carcasses of 432 raptors (mostly

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*Navarra found the carcasses of 432 raptors, 6,152 songbirds and other smaller species, and 671 bats under the towers.*  
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griffon vultures), 6,152 songbirds and other smaller species, and 671 bats under the towers. Extrapolating this to Spain's 10,000 existing turbines, Duchamp sees a major threat to endangered resident raptor species such as the Bonelli's, booted, and short-toed eagles, the lammergeier, and the griffon, black, and Egyptian vultures, as well as migrants.

Other Spanish data is more equivocal. A study by Luis Barrios and Alejandro Rodriguez found that wind farm mortality mainly affected two resident raptor species – the griffon vulture and common kestrel – and that only a small fraction of migrating birds were at risk from turbine collisions. And Alvaro Camina, monitoring the Sierra de la Hez Wind Resource Area in La Rioja province, reported no fatalities during his study period and only one

documented death prior to that.

The raptor fatalities at Altamont and the Spanish wind farms have fueled opposition to new facilities elsewhere. BirdLife International has objected to the proposed facility at Balchik, Bulgaria, where 87,000 storks, 9,000 pelicans, and 7,000 raptors pass through a migration bottleneck each year. Environmentalists have opposed Chatauqua Windpower's proposed project in upstate New York as a threat to nocturnal songbird migrants. But perhaps the hottest debate centers on a new frontier in windpower generation, at least in North America: the offshore wind farm. The battle has been joined on Cape Cod, pitting Cape Wind, the developer, against the local Alliance to Protect Nantucket Sound, and enlisting at least two members of Congress.

Northern Europe has pioneered in offshore wind power development, beginning in 1990 off the Swedish coast; last year there were nine operational offshore wind farms in Europe. But data on their impact on birds and other wildlife is sparse. As of 2003, only three of the European facilities had completed avian impact studies, and only the Danish National Environmental Research Institute had released the results of such a study. Rather than migrant birds, the Danish research focused on two sea ducks, the common eider and black scoter, both of which winter in Danish waters near the Tuno Knob wind farm. No data on bird collisions with the wind towers were presented: findings included a sharp drop in eider and scoter numbers within two years after construction of the facility, but the connection with the wind farm was clouded by a concurrent decline in the local population of blue mussels, the ducks' preferred prey.

What's at stake at Cape Cod? Cape Wind's project is ambitious: the largest turbines manufactured by General Electric, each 417 feet tall with three ►

50-meter-long blades and a generation potential of seven to ten megawatts. The 130 turbines would cover over 28 square miles in an area of Nantucket Sound called Horseshoe Shoals, six miles from Hyannis and nine miles from Martha's Vineyard. Proponents claim the wind farm's output would replace 113 million gallons of oil or 500,000 tons of coal each year.

But the Alliance – supported by Earth Island Institute's Oceans Public Trust Initiative and the Humane Society of the United States – contends Cape Cod is a dubious place for a massive windpower facility, and that Cape Wind is taking advantage of regulatory loopholes and less-than-stringent oversight by the Army Corps of Engineers to push the project through.

It's not all about wildlife. Unlike Annie Dillard, not all Cape Codders see the visual appeal of wind power arrays. "The viewshed issue is not unimportant," says the Humane Society's Sharon Young. "Property values on Cape Cod are astronomical. A median-income family can't afford to buy a median-priced house. And property owners don't want to look at turbines."

Young is quick to point out the unknown effect of the Cape Wind project on birds and marine mammals, though. Nantucket Sound is on the migration path of the northern right whale, and is used regularly by minke, humpback, and fin whales, as well as harbor porpoises. According to ornithologist Ian Nisbet, tens of millions of land birds migrate through the Cape Cod area each fall, and a quarter of a million long-tailed ducks winter at sea southeast of Nantucket, commuting into the Sound's sheltered waters every evening. About a third of the East Coast's piping plover population nests on Nantucket, the Vineyard, and adjacent islands.

And then there's the roseate tern,

a federal endangered species. Nisbet has studied these graceful seabirds since 1970 and helped lead their recovery program. It's because of the roseates, along with the state-listed common tern and the threatened piping plover, that the American Bird Conservancy has designated Cape Cod and the nearby islands as an Important Bird Area. Historically, the terns' nesting colonies were devastated by plume hunters and eggers, and much of their original coastal habitat has been lost to development. Most of the remaining roseate terns are concentrated in a few colony sites between Long Island and Cape Cod, where they've

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*Raptor fatalities at  
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experienced several poorly understood population crashes. In mid-September, after staging around Cape Cod, the terns begin a perilous flight down the Atlantic Coast and across the Caribbean, in hurricane season, to South America. In the Guyanese portion of their winter range, they're netted by jacklight-equipped market hunters.

In a March 2002 letter to the Corps of Engineers, Ian Nisbet pointed out that roseate and common terns feed, breed, and rest at locations all around the Sound from April through mid-October. In late summer, half the roseate terns in North America roost at night at South Beach in Chatham, flying in from other parts of Nantucket Sound. Nisbet suspects many of these birds cross Horseshoe Shoals, the designated site for the wind farm. Nisbet also suggested, in an article

written with Jeffrey Spendelow for the journal *Waterbirds*, that roseate terns specialize in feeding over shoals, and that their distribution is limited by the availability of suitable shoal habitat.

Cape Wind has downplayed the offshore farm's potential impact on the terns and other birds in Nantucket Sound. But both the US Fish & Wildlife Service and the Massachusetts Division of Fisheries & Wildlife have been scathingly critical of the company's data, which relied on Audubon's Christmas Bird Counts – an all-day, multi-nation census of early-winter bird populations – and winter waterfowl surveys instead of migration studies. In 2001, State Ornithologist Bradford Blodget said his agency was "quite concerned by the magnitude of this proposal, especially in light of the facts that it has essentially no historical precedent and little is known about what effect, if any, the turbines will actually have on all migratory birds." He noted that roseate tern restoration sites "literally surround the Horseshoe Shoals," and called for more thorough field studies. Blodget was seconded by FWS Regional Supervisor Michael Bartlett, who called both the studies so far and those proposed by Cape Wind inadequate, since they did not include the remote sensing technology needed to document nocturnal migration.

Ironically, the wildlife agencies have, in fact, taken a stronger position than some environmental groups. National Audubon has been silent, and statements from the independent Massachusetts Audubon Society have been guarded in the extreme. But Massachusetts Audubon's Jack Clarke did recommend that Important Bird Areas and lands and waters important for endangered species remain off-limits for wind power development. Greenpeace has said it will oppose the project if the Environmental Impact Statement shows significant impact – an unlikely contingency, since the EIS

was written by Cape Wind. Gary Skulnick of Greenpeace calls the opposition to the project "a very interesting case of NIMBYism," noting that no one had complained about two coal-burning power plants nearby. "Wind turbines don't make a lot of noise," says Skulnick. "They don't spew toxic chemicals. If I lived in the area, I would feel great about being on the cutting edge of innovation."

Apart from the wildlife controversy, there are issues of process and precedent. Cindy Lowry of the Oceans Public Trust Initiative says Cape Wind "is trying to slip through the cracks." Both the recent federal oceans report and the Pew Commission report (see *EIJ* Winter 2004) recommended establishing a regulatory framework for offshore projects. Lowry worries that Corps approval of the Cape Cod wind farm could open a Pandora's box, encouraging problematic aquaculture or Liquefied Natural Gas projects. "There has not been a programmatic environmental impact statement on offshore wind energy," she says. "The Corps shouldn't be processing applications in the absence of environmental standards."

Although the Army Corps of Engineers is only one of 17 state and federal agencies involved in the Cape Wind review process (others include the Federal Aviation Administration and the Environmental Protection Agency), it claims primary jurisdiction based on the antiquated Rivers and Harbors Act, a 19th-century law dealing with navigational hazards on private property. Both Lowry and Young are leery of the close relationship between regulators and developer. The Corps' draft EIS, delayed by higher-level Pentagon review, was released in November. Young calls it "horrible" and "distressing," claiming it lowballs the avian impact potential (2.8 birds per turbine per year, reflecting data from land-based facilities), ignores radar

migration studies, underestimates marine-mammal impacts, and uses an erroneous definition of "cumulative impacts."

If approved, Cape Wind could be only the first of a string of Atlantic Coast wind farms. Twenty or more sites from Rhode Island to North Carolina are under consideration. In September, Winergy LLC applied for a permit for five projects off the New Jersey coast, including one off Cape May—sited on a major migration corridor for hawks and songbirds. This prompted US Representative Frank Pallone (D-NJ), whose district includes coastal Monmouth County, to

*Wildlife agencies have taken a stronger position than environmental groups.*

demand a moratorium on offshore wind farm construction until the Corps has "completed a comprehensive assessment of all potential environmental and socioeconomic impacts."

At the same time, Senator John Warner (R-VA), who chairs the Armed Services Committee, attached an amendment to the pending Defense Authorization Act, which would have frozen the permitting process until Congress approved new regulations for offshore wind development. Cape Wind cried foul: "At a time when Americans are more concerned than ever about our dependence on Mideast oil, with our soldiers dying in Iraq and with record high oil prices, Senator Warner is attempting to block one of America's options for reducing our dependence on the Middle East – developing clean, offshore, American wind power." After Republican members of the House also objected, the Warner amendment was dropped.

Young, Lowry, Miller, and other critics of specific wind power projects

have made it clear that they don't oppose wind energy development. But they say they want to see it done right. "We know that when things aren't done correctly they can come back to haunt you," Lowry says. "We want the legal and scientific framework in place and agency oversight." Young agrees with the need for careful risk assessment before new offshore facilities are built: "Let's not repeat the mistakes made with terrestrial plants." She advocates using GIS data to pinpoint high-risk sites so farms won't be situated " smack in the middle of a migratory corridor." For the Cape Cod project, she says, "Cape Wind just looked at where the wind was and where the electrical grid was" without considering the consequences. And Miller emphasizes that the CBD doesn't want to shut down the Altamont wind farm, only to force the industry to address the raptor kills and learn from the California experience. "We're hoping the controversy will ensure that any future siting is done only after a thorough review."

The wind power issue "is a really tough one for environmental groups," says Young. "We all believe we need to look at alternative energy technologies for the greatest benefits and least risks. There are no risk-free options, but where we can avoid loss, we need to do that." The old adage about the nonexistence of free lunches seems to apply. At a minimum, it makes sense to put a regulatory framework for offshore wind energy development in place, to give environmental values more weight in site selection, and to push for risk reduction and mitigation at existing land-based arrays. We need to ensure that there's still room in our skies for eagles, vultures, and terns – as well as the whirling blades that harness the wind. \* — Joe Eaton is a freelance natural history writer and a frequent contributor to *Earth Island Journal*. He lives in Berkeley.