Thank you.

Sincerely,

Mary Luketich
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Austin, TX 78744

From: ocsenergywebmaster@anl.gov
To: mail_ocsenergyarchives;
Subject: OCS Alternative Energy and Alternate Use Programmatic EIS Comment 80052
Date: Thursday, May 17, 2007 4:46:06 PM
Attachments: Ecology_cmts_MMS_PEIS_80052.pdf

Thank you for your comment, Jennifer Hennessey.

The comment tracking number that has been assigned to your comment is 80052. Once the comment response document has been published, please refer to the comment tracking number to locate the response.

Comment Date: May 17, 2007 04:47:11PM CDT

OCS Alternative Energy and Alternate Use Programmatic EIS
Draft Comment: 80052

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Attachment: Z:\Ocean Energy\MMS Programmatic EIS\Ecology_cmts_MMS_PEIS.pdf

Comment Submitted:
Please see attached comment letter (Ecology_cmts_MMS_PEIS.pdf).

Questions about submitting comments over the Web? Contact us at: ocsenergywebmaster@anl.gov or call the OCS Alternative Energy and Alternate Use Programmatic EIS Webmaster at (630)252-6182.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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May 17, 2007

MMS Alternative Energy & Alternate Use Programmatic EIS
Argonne National Laboratory EVS/900
9700 S. Cass Ave
Argonne, IL 60439

To Whom It May Concern:

Washington State values responsible development of renewable energy. Last fall, voters approved a measure to encourage development of renewable energy by requiring utilities to increase the amount of renewable energy supplied to customers. Governor Gregoire recently announced efforts to address climate change in the state and with regional partners. While most efforts focus on reducing emissions, increasing the supply of renewable energy is one important component of reducing greenhouse gasses to address climate change. Accordingly, Washington supports MMS developing a program to facilitate siting and leasing of renewable energy projects.

In September 2006, the Governors of Washington, California, and Oregon established the West Coast Governors' Agreement on Ocean Health, a collaboration to address critical ocean and coastal protection and management issues faced by the states. This agreement is a pledge by the Governors to work together to advance goals such as ensuring healthy ocean ecosystems, reducing impacts of offshore development, and fostering sustainable economies of coastal communities. The Agreement also underscores the importance of managing activities that affect our oceans to account for the relationships among all ecosystem components, including people and other species and the environment in which they live. Under the Agreement, the states are currently developing a regional action plan, which may include items related to alternative energy projects.

The Washington State Department of Ecology (Ecology) submits the following comments regarding the Minerals Management Service's (MMS) draft programmatic Environmental Impact Statement (PEIS) for renewable energy and alternate uses on the Outer Continental Shelf (OCS). Since Washington's OCS does not contain oil or gas platforms, Ecology will direct its comments toward the alternative energy development aspect of the PEIS.[1]

[1] MMS stated these alternative energy sources include wind, wave, current, solar energy, and hydrogen. Section 388 does not allow for oil or gas exploration, pre-leasing, or related development in areas where it is currently prohibited by presidential moratorium – this moratorium includes the area offshore of Washington.

Ecology's primary interests and concerns involve our authorities as they relate to these projects, including: 1) the Coastal Zone Management Act (CZMA) and federal consistency with Washington's Coastal Zone Management Program, including the Ocean Resource Management Act (ORMA) and the Shoreline Management Act (SMA); 2) Clean Water Act water quality certifications (401 certifications); and 3) prevention, preparedness, and response to spills impacting state waters.

ORMA asserts Washington's interest in the management of federal waters adjacent to its coastal zone. This act gives priority to uses that will *not* have an adverse impact on renewable resources over those uses that will. In order to secure permission for projects that involve adverse impacts to renewable resources, ORMA requires project sponsors to meet the following criteria[2]:

- Demonstrate the project's need.
- Have no reasonable alternatives.
- Demonstrate that the project is not likely to cause long-term significant adverse impacts to marine resources or uses.
- Minimize impacts.
- Provide compensation to mitigate adverse impacts.
- Provide sufficient bonding for post-project rehabilitation.
- Take all reasonable steps to avoid and minimize environmental, social, and economic impacts.

Washington's ocean use guidelines[3] further outline shoreline permitting requirements for ocean uses. For energy production, this includes: 1) locating, constructing, and operating projects to have no detrimental effects on beach erosion or accretion and wave processes; 2) providing an assessment of effects on upwelling and other oceanographic and ecosystem processes; and 3) locating distribution facilities in existing utility corridors. In addition, Washington's Shoreline Management Act Guidelines requires no net loss of ecological functions.[4]

1. Describe the process for expanding or revising the scope of MMS's program.
The draft PEIS utilizes a limited length of time (5-7 years) and small coverage area (100 m depth) for MMS's alternative energy program. MMS does not indicate how it proposes to expand or revise the program as time passes and/or technologies advance. Ecology requests that MMS provide details on the process for revising or expanding its alternative energy program. 80052-001

For example, MMS states that certain technologies are not expected to be ready for testing or commercial deployment in the next five to seven years.[5] MMS also argues that current technology limits development to the 100-meter contour depth. MMS should indicate how and when it plans to incorporate and analyze the impacts of future technologies such as solar and hydrogen, and deeper water technologies such as floating wind turbines, under this program.

[2] See Revised Code of Washington 43.143 and Washington Administrative Code 173-26-360.
[3] See Washington Administrative Code 173-26-360, especially sections (7) a-y and (10) a-c.
[4] See Washington Administrative Code 173-26.
[5] See pages 3-1 and 4-197.

Furthermore, if MMS sets up a leasing process that is longer than five to seven years, the impacts from projects during this period will continue past the planning period in this PEIS. MMS's PEIS does not provide details on future impacts of development beyond the five to seven year timeframe. Ecology is concerned that projects leased for longer periods of time might increase the anticipated impacts past minor to moderate or even adverse for this and other developments. Ecology suggests MMS describe how it will assess these impacts if its program sets up longer leases than designated by this PEIS. 80052-001 (cont.)

Scale of projects will also influence the level of impact. For example, in section 5.3.5.4, MMS states noise generated by attenuators and point absorbers will be similar to that of a boat of the same size. The overall noise during operation of a wave project will depend on how many devices are placed in the water and their spacing over a project's area. Thus, the minor impact could be moderate or even major. Without an understanding of how MMS's program will address project scale, it is impossible to predict the true nature of impacts. 80052-002

2. Specify planning process and regulations proposed for MMS alternative energy program. Promote early involvement of all resource agencies, tribes, and coastal states in MMS's alternative energy program. Support utilizing ecosystem-based planning process.
MMS's PEIS does not cover details of the leasing program. It is unclear how MMS proposes to set up its leasing program, the process for applying for and granting leases, the length of leases, or the process for stakeholder and state, local, and tribal government involvement. While Ecology assumes these details will be part of rule-making, they are nonetheless critical to understanding potential impact of the program on OCS resources and on state waters.

With sea cables and related onshore facilities, offshore energy projects must obtain access to state waters and shorelines to bring electricity to the areas with energy demands. Therefore, coordination with state agencies and other stakeholders is critical. As mentioned previously, environmental impacts depend on the location and number of leases MMS pursues. Furthermore, multiple, and potentially conflicting, uses of ocean resources already exist in offshore areas. Where and how states authorize these types of facilities will play an important role in locating offshore leases efficiently and minimizing environmental impacts and conflicts with other uses. Ecology recommends MMS promote early involvement of resource agencies, tribes, coastal states, and other relevant stakeholders. Ecology also supports MMS adopting an ecosystem-based and regional planning process for locating potential leasing sites rather than having the site locations determined solely by applicants. 80052-003

3. Ecology supports pilot testing and monitoring for wave energy projects prior to commercialization. Ecology suggests monitoring development and operation of projects.
MMS's PEIS identifies many environmental impacts as unknown. In addition, MMS anticipates mostly demonstration and pilot testing for wave energy projects during the term of this EIS. Given the nascent nature of these technologies, it is unclear how MMS plans to manage monitoring and studies to confirm actual impacts and determine success of mitigation measures. Ecology supports pilot testing and monitoring of project impacts to improve understanding of technological and environmental issues for wave projects prior to commercial-scale 80052-004

developments. Furthermore, Ecology suggests monitoring projects throughout their development and operation. 80052-004 (cont.)

4. Clarify how MMS's program and regulatory process will relate to existing federal laws, agencies, and commissions.
In the introduction, MMS describes the relationship of its program to various other federal authorities. MMS does not include information or consideration of how the Federal Hydropower Act and the Federal Energy Regulatory Commission (FERC) relate to leases on the OCS or siting associated project works (e.g., cables and onshore facilities) through state waters. FERC has asserted jurisdiction over licensing new technologies that utilize water for power in state and territorial waters. Thus, it appears that two different federal regulatory processes may be set up for these technologies. In addition, it is uncertain whether MMS and FERC are entirely independent processes or whether they share responsibility for leasing and licensing portions of projects. Ecology requests that MMS clarify how its process will relate to FERC's authorities. Clarifying how these two entities relate to each other will reduce confusion for all interested parties. 80052-005

5. Specify mitigation goals and process. Provide a mechanism for adaptive management.
It is unclear when MMS will require mitigation measures and what process MMS will use for selecting or requiring certain mitigation measures. Ecology suggests MMS articulate a mitigation goal and process. The mitigation process should follow a standard sequence that first seeks to avoid impacts, then minimizes impacts (e.g., duration, redesign, relocation), and finally mitigates for impacts associated with the project.

Since many impacts are unknown at this point, it is uncertain whether mitigation measures will achieve their desired result of avoiding adverse impacts. In addition, mitigation measures may fail after a period of time. For example, erosion over time may expose buried sea cables, posing a danger to other uses such as fishing. Ecology suggests MMS adopt an adaptive management approach that supports monitoring and adjustment of mitigation measures based on their success. 80052-006

6. Include additional spill prevention and mitigation measures and mechanism for consulting with appropriate state and federal agencies during project siting and leasing.
MMS's draft PEIS acknowledges alternative energy projects could increase the risk of spills through leaked lubricant fluids, ships colliding with projects, and increased ship traffic. While MMS provides many appropriate mitigation measures for spills, Ecology remains concerned about the increased risk of spills and their impact on state waters and resources. In order to reduce potential for collisions, Ecology recommends MMS include a mechanism for early consultation with appropriate state and federal agencies as well as stakeholders to site projects in areas that minimize conflict with shipping, fishing, recreation, and other transportation uses. Ecology suggests MMS include alternative, nontoxic lubricants such as air and fresh water for wave devices, as a preferred spill avoidance measure for projects.[6] Finally, Ecology recommends 80052-007

[6] In particular, see Section 5.3.4.6 and Section 5.3.11.6 (Mitigation Measures)

as an additional mitigation measure requiring maintenance schedules that are frequent enough to prevent leaks and accidental spills.[7]

80052-007 (cont.)

7. Ecology supports burying submarine cables as needed to minimize conflicts with other uses and prevent impacts to coastal nearshore sediment processes. This includes adequate depth to prevent erosion of seabed cable and prevent need for reburial of cable.
MMS states that burying cable might not be necessary in some deep water areas, where cables might not interfere with other uses. However, MMS states that it anticipates most West Coast leases to occur nearshore in shallower waters, not deep waters – these are the same areas frequented by other marine uses, such as fishing. Ecology supports requiring burial of the cables in these cases.

80052-008

In section 4.4.1.5, MMS notes that scouring action can undermine foundation structures used for projects, including submarine cables and moorings. Historically, the Olympic Coast National Marine Sanctuary and Washington State required reburial of cables exposed by erosion. Ecology recommends MMS include a requirement to bury cables at depths that will prevent the need for reburial at a later time.

8. Ecology supports site-specific information and analysis as necessary to understand project impacts, especially impacts to coastal sediment processes.
Ecology supports assessing impacts on sediment transport and coastal processes in project-specific EISs. As noted by MMS, the Pacific region may have project proposals that occur closer to the shoreline and are more likely to influence onshore and longshore sediment processes (Section 5.2.1.3, see page 5-6 and Section 5.2.13.4). In recent years, coastal erosion along Washington's coast has resulted in lost homes, property, and public lands, as well as damaged infrastructure. As a result, Ecology is interested in preventing adverse impacts to coastal sediment processes. These impacts can only be fully understood with project-specific information and assessments.

80052-009

9. Clarify data and mitigation measures provided on Electromagnetic Fields (EMFs), and wave height analysis.
MMS's draft PEIS indicates that impacts from Electromagnetic Fields (EMFs) are largely unknown, but claims that enough individuals would successfully pass over cables to prevent population-level effects.[8] In another section, MMS indicates the possible effect of EMFs on marine life from other studies, but does not specify the results of those studies.[9] Ecology suggests providing data and citations that verify and clarify these statements.

The draft PEIS also indicates burying cables as an appropriate mitigation measure to shield marine life from EMF.[10] Ecology suggests adding information on any other appropriate shielding mitigation methods that might exist.

80052-010

[7] See section 5.3.6.6.
[8] See section 5.3.11.4, page 5-192.
[9] See section 4.2.7.3 and 4.4.7.
[10] See section 5.3.11.6, page 5-194.

MMS's draft PEIS states that large, wave-energy facilities could: 1) reduce wave height by 10 to 15 percent, and 2) lower wave energy, especially within 1.2 miles of the facility.[11] Ecology requests MMS provide citations for this wave-height impact analysis. Ecology recommends MMS require site-specific information on impact to wave height and energy for facilities sited closer to shore.

80052-011

10. Consider changes to mitigation measures for wetlands and sediment processes.
The PEIS' suggested mitigation measures for wave projects include reducing marsh losses through application of dredged material onto marsh surfaces.[12] Ecology requests MMS prevent wetland loss through project siting first.

80052-012

MMS's suggested mitigation measures include scour protection devices and routine inspections.[13] Hard scour protection devices such as riprap can actually increase erosion over time. Ecology recommends adding softer approaches to the potential mitigation measures for sediment and erosion management such as natural, softer materials or sediment nourishment.

80052-013

Miscellaneous corrections and clarifications
Section 4.4.8.1.3 Fissipeds. Please note that Washington State lists sea otters as endangered.

80052-014

Section 4.4.8.2.1 Cetaceans. Both state and federal agencies list the southern resident stock of killer whales as endangered. Adjust this information in table 4.4.8-1 as well.[14]

80052-015

Section 4.4.11.2.2. Demersal Fishes. In the Pacific region, there are six species of groundfish classified as overfished.[15] Please add information regarding the status of groundfish.

80052-016

Section 4.4.18.2 Sociocultural Systems. MMS states that northern California's subsistence and ceremonial purposes are similar to those of Oregon and Washington. However, MMS does not indicate what the specific uses are in Oregon and Washington. Please provide additional information on subsistence and ceremonial purposes to clarify this section.

80052-017

Section 4.4.22 Tourism and Recreation. MMS compares tourism and recreation to overall state employment and wages. This masks the importance of these sectors to coastal communities. Tourism and recreation contribute significantly to many coastal communities in terms of wages and employment rates. On Washington's outer coast, tourism provides between 9 and 17 percent of the jobs.[16] Visitor-generated sales make up a larger percentage of tax collections in outer coastal counties than the Washington average.

80052-018

[11] See Section 5.3.1.3, page 5-152.
[12] See section 5.3.13.6, page 5-206.
[13] See section 5.2.1.6, page 5-7.
[14] Source: Northwest Regional Office of NOAA's National Marine Fisheries Service.
[15] Source: Pacific Fisheries Management Council.
[16] Washington State Department of Community, Trade, and Economic Development, Tourism Office. October 2005. Washington State County Travel Impacts 1991-2004. Prepared by Dean Runyan Associates.

Section 5.2.20.2. Clarify that the Coastal Zone Management Act requires the federal agency to consult with states regarding consistency with their approved Coastal Zone Management Programs. 80052-019

Section 5.3.9 on marine and coastal birds does not indicate the possible impact of devices by encouraging perching and roosting by marine and coastal birds, except in the mitigation measures (see page 5-184). For consistency, MMS should also indicate this as possible impact of projects and provide information on the anticipated level of impact during operation and decommission of devices. 80052-020

Thank you for considering our comments.

Sincerely,

Gordon White
Program Manager
Washington Coastal Zone Management Program
Shorelands and Environmental Assistance Program

From: ocsenergywebmaster@anl.gov
To: mail_ocsenergyarchives; ocsenergywebmaster@anl.gov;
Subject: OCS Alternative Energy and Alternate Use Programmatic EIS Comment 80055
Date: Friday, May 18, 2007 11:50:04 AM
Attachments: windmms4_80055.doc

Thank you for your comment, Kenneth Molloy.

The comment tracking number that has been assigned to your comment is 80055. Once the comment response document has been published, please refer to the comment tracking number to locate the response.

Comment Date: May 18, 2007 11:51:15AM CDT

OCS Alternative Energy and Alternate Use Programmatic EIS
Draft Comment: 80055

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Questions about submitting comments over the Web? Contact us at: ocsenergywebmaster@anl.gov or call the OCS Alternative Energy and Alternate Use Programmatic EIS Webmaster at (630)252-6182.

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May 12, 2007

MMS Alternative Energy & Alternate Use Programmatic EIS
Argonne National Laboratory EVS/900
9700 S. Cass Ave.
Argonne, IL 60439

Re: Draft Programmatic EIS for Alternative Energy Development and Production & Alternate Use of Facilities on the OCS, March, 2007 MMS 2007-010

I have been studying the issues involved with offshore wind power in Europe and for the proposed Cape Wind project for more than five years. As part of this work I attended many Army COE, Mass. DEP and Cape Cod Commission meetings and hearings on the Cape Wind project and provided many comment letters. From the beginning, I urged that a thorough study and careful decision be made on which areas of the ocean are acceptable to our nation for wind farms.

I support the Proposed Action alternative outlined in the draft Programmatic EIS. Agencies, developers and the public need comprehensive regulations governing all aspects of activities on the OCS. My other comments on this important MMS document follow. Some comments refer to wind farms but also apply to other alternative energy projects. 80055-001

Section 3 Overview Of Potential Alternative Energy Technologies On The OCS
Section 3.2 Wind p. 3-8

As noted above, the Wind White Paper[1] recognizes the need for major modifications of European WTG and ESP designs because of the harsher U.S. environment (waves, ice, hurricanes, temperature extremes, etc.) Therefore the skipping of pilot and demonstration phases and the statements throughout Section 5.2 Technology Testing that "there should be little need to prove the concept on the OCS" is incorrect. Full equipment certification to expected U.S. conditions, based on European certification examples, should be required. 80055-002

Section 5.2 Wind Energy Activities on the OCS
5.2.11.4 Fish Resources and Essential Fish Habitat – Operation p. 5-62

This section discusses the impact of WTG noise, vibration and electromagnetic fields on fish. The WTG lights near the ocean surface will impact fish. Some fish species are nocturnal feeders and may be disturbed by the light. Other, possibly invasive, species may be attracted and may flourish. The impact of the lighting should be discussed in this section and in Section 7.5.2 Cumulative Impacts and evaluated for all projects. 80055-003

5.2.14.3 Seafloor Habitats - Construction p. 5-81

The section states that "Construction of platforms to support wind structures and placement of transmission lines on the seafloor to transport electricity to shore could affect seafloor habitats." The statement should be expanded to include the very significant transmission lines between all the WTGs and the ESP. For many wind projects this will involve disturbing hundreds of miles of seafloor habitat. Although the total area of the trenching activities is small compared with the total area of the wind farm, the trenching 80055-004

operation and surrounding trenching equipment could disperse turbid water and current borne sediments throughout a large area of the wind farm. 80055-004 (cont.)

5.2.23.4 Fisheries – Operation p. 5-140

This section states "As described in Sections 5.2.12 and 5.2.15, there is a possibility that projects with multiple platforms dispersed over large areas could act as artificial reefs, thereby resulting in changes in the abundance and diversity of fish and invertebrates within the area." This creates the possibility that invasive species may be attracted and may flourish. Artificial reefs are known to attract and encourage jellyfish. The jellyfish consume shellfish larvae and could be a disaster to nearby shellfish beds. This is critically apparent for the Cape Wind project in Nantucket Sound because of the shellfish beds in the area of the wind farm and the nearby famous Nantucket scallop habitat. This should be discussed in this section and evaluated for all projects. 80055-005

Section 7.4 Impacts of Other Energy Sources
7.4.3 Nuclear Power Plant Generation p. 7-18

This section is not up-to-date in light of the 30 nuclear power plants planned for construction by a group of Southern power companies and the ambitious nuclear power plants planned in Texas. 80055-006

Section 7.6.4 Mitigation of Adverse Affects p. 7-44

The section states that "At the project level, the MMS would develop regulations and stipulations that require lessees or operators to develop monitoring programs ..". To assure proper mitigation of adverse affects at the construction, operation and decommissioning phases, appropriate insurance policies and surety bonds should be required. This should be discussed in this section and possibly in other sections or in a separate section. 80055-007

Executive Summary
Summary of Potential Impacts and Mitigation for Alternative Energy Development
Wind Energy p. ES-4

This section of the Executive Summary provides an overly simplistic summary of the very complex issues surrounding offshore wind energy. The statements "are expected to be" and "is anticipated to" (e.g. page ES-5) should not be used unless they are followed by "what could happen". The impacts from some phases of wind farm projects could be moderate to major and irreversible. Some examples are: 80055-008

- the impacts on fish resources, which are frequently unknown but could be major
- the impacts on the fishing fleet, which could reach the point where vessels are taken out of service, sold or demolished (irreversible).

The very major Electronic Service Platform (ESP) and interconnecting cables should be listed on page ES-4 to provide a complete view of the system.

Technology Testing p. ES-5

The White Paper on Wind Energy[1] states that "Important differences exist between Europe and the United States regarding offshore wind environments. U.S. waters are generally deeper than those off the European coasts, and ocean conditions on the U.S. 80055-009

[1] MMS Technology White Paper on Wind Energy Potential on the U.S. Outer Continental Shelf, May 2006

OCS are more severe than those in Europe. Thus, the technologies designed for European offshore environments will need to be modified to adapt to the harsher U.S. OCS conditions." Therefore, the statement on page ES-5 that "developers would likely skip the pilot and demonstration phase and move directly to commercial operations," is not acceptable! The MMS should require developers to fully certify the equipment to be placed on the OCS. European countries provide excellent examples of such certification requirements.

80055-009 (cont.)

Impacts From Nonroutine Conditions p. ES-13

There is little said about the impact on public safety. Passenger ferries, fishing vessels and low flying aircraft near offshore wind farms can be impacted and should be referred to in the Executive Summary and considered in more detail in the Programmatic EIS. Accidents can impact the environment.

It is stated that "The likelihood of accidental vessel collisions with alternative energy facility structures can be decreased through the use of navigational aids". Inside most wind farms, the navigational aids are expected to be the WTGs themselves. These are not visible in fog and can mask small vessels on navigational radars. Therefore the quoted statement needs correction. There is more detailed information on this subject given below.

80055-010

I hope that the Minerals Management Service will seriously consider all of these comments as our country moves forward with the important development of alternative energy.

Sincerely,

Original signed by
Kenneth H. Molloy, P.E.

Wind Farm Navigation Risk

Re: Cape Wind FEIR Feb.15, 2007

Questions were raised by the Cape Wind DEIS about the WTG towers and the Service Platform reducing the sensitivity of shipboard radars to the point where small boats would not be visible on the radars. The FEIR Appendix 3.21-A Section 6.2.2. discusses a variety of conditions where ship radars experience blind and shadow areas. A key conclusion on Small Vessel Radar Performance (Page 42) is "Although such spurious echo effects can be limited to some extent by reducing receiver amplification (gain), this will also reduce the amplification of other targets, perhaps below their display threshold levels." This creates a situation where radars on large boats may not display small boats. Navigating in the wind farm would be dangerous, especially in the famous Nantucket Sound fog, and could lead to closing the complete wind farm to boating. This possibility is recognized in the FEIR Appendix 3.21-A Page ii where it is stated "It is possible that some recreational boaters may choose not to go out in the area of Horseshoe Shoal due to the combined presence of fog and the Wind Park."

80055-011

Another position in the FEIR that reinforces these concerns is in FEIR Appendix 3.21-A Page iv where it is stated "Mariners utilizing the areas in and around the Wind Park will require guidance on the potential effects of the WTGs on radar." and "CWA will work with the USCG to develop information that could be provided to local mariners to educate them regarding the potential effects of the WTGs on marine radar."

80055-011 (cont.)

It is not realistic to expect most boaters in and around wind farms to be educated and trained on the effects of the WTGs on marine radar. Nantucket Sound is full of transient boaters - both commercial and recreational - from around the country and other countries. These boaters will generally not have this unique training.

From: ocsenergywebmaster@anl.gov
To: mail_ocsenergyarchives; ocsenergywebmaster@anl.gov;
Subject: OCS Alternative Energy and Alternate Use Programmatic EIS Comment 80056
Date: Friday, May 18, 2007 2:45:47 PM
Attachments: OCS_Alternate_Energy_PEIS_May_2007_E_version_80056.doc

Thank you for your comment, Sarah Cooksey.

The comment tracking number that has been assigned to your comment is 80056. Once the comment response document has been published, please refer to the comment tracking number to locate the response.

Comment Date: May 18, 2007 02:46:53PM CDT

OCS Alternative Energy and Alternate Use Programmatic EIS
Draft Comment: 80056

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Comment Submitted:
Please see attachment

Questions about submitting comments over the Web? Contact us at: ocsenergywebmaster@anl.gov or call the OCS Alternative Energy and Alternate Use Programmatic EIS Webmaster at (630)252-6182.

STATE OF DELAWARE
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May 18, 2007

Minerals Management Service
Alternative Energy & Alternative Use Programmatic EIS
Argonne National Laboratory
EVS/900
9700 S. Cass Avenue
Argonne, IL 60439

Re: MMS Renewable Energy and Alternate Use Programmatic Environmental Impact Statement
Delaware Department of Natural Resources and Environmental Control Comments

The Delaware Department of Natural Resources and Environmental Control (DNREC) supports the exploration of the renewable energy potential of the outer continental shelf and the establishment of a consistent and thorough process for evaluating and permitting such activities. Such a process would encourage early coordination of federal and state agencies, take into account public input and allow for a more thorough project review. Added benefits would be reduction in project review timelines and associated permitting costs. 80056-001

Conversely, Delaware does not support the case by case or no-action alternatives presented in the Programmatic EIS as this will lead to a disjointed and inconsistent process for project review and permitting. Such a process is a disadvantage to all entities involved; project applicants, resource protection and permitting agencies, the public, and the biological resources of the OCS.

Furthermore, we encourage a comprehensive inventory of the resources of the OCS and the establishment of "resource development zones" for areas of considerable alternative energy potential and of "no development zones" for areas of significant biological importance as mentioned in Chapter 2, Proposed Action and Alternatives. This strategy is preferable to an industry driven approach to OCS exploration. Allowing industry to drive the site selection process may lead to a more reactive stance from natural resource protection agencies. Established zones would foster regional planning of the OCS development and encourage 80056-002

Delaware's good nature depends on you!

protection of biologically productive areas. Delaware is willing to provide information and assistance for the purpose of a comprehensive inventory and is open to exploring potential funding sources for such an endeavor.

80056-002 (cont.)

Although ancillary to the Alternative Energy and Alternative Use PEIS, I would like to take this opportunity to express my concern regarding the administrative boundaries extending from the Submerged Lands Act boundary seaward to the limit of the United States OCS as established by the Minerals Management Service. These boundaries were published in the Federal Register, Volume 71, No. 1, on January 3, 2006. Affected states were not granted opportunity to comment. The preliminary boundary lines described pertinent to Delaware are incorrect. The Delaware State Boundary Commission accepted a proposal from the State of New Jersey dated April 11, 1975, with respect to the Delaware New Jersey boundary offshore in the Atlantic Ocean from the intersection of the Delaware -New Jersey boundary set by the 1934 US Supreme Court Decree and a bay closing line between Cape Henlopen, Delaware and Cape May, New Jersey. From this intersection a line runs due east to the 200 mile Exclusive Economic Zone (EEZ). This accepted proposal is Delaware's understanding of the State's boundary in the Atlantic, not the administrative boundary in the OCS established by the Minerals Management Service. Documents from the 1975 agreement are being sent via U.S. Postal Service along with a hard copy of this letter.

80056-003

Finally, detailed comments dated February 6, 2006 were submitted previously from this office in response to the Advanced Notice of Proposed Rulemaking published in the December 30, 2005 Federal Register. Comments were also provided on June 21, 2006 during the scoping period for the Programmatic EIS. Additionally, the DNREC attended a stakeholders meeting on January 24, 2007 in Monmouth County, New Jersey and provided comments on the rulemaking process. The Draft PEIS omits mention of any input from the State of Delaware in Chapter 8, Coordination and Consultation. Please rectify this oversight.

80056-004

Thank you for the opportunity to comment on the Programmatic EIS. I look forward to coordinating with the Minerals Management Service as the rulemaking process continues.

Sincerely,

Sarah W. Cooksey

Sarah W. Cooksey, Administrator
Delaware Coastal Programs, DNREC

SWC/tka

Enclosures: Letter dated April 10, 1975 from Kemble Widmer NJ State Geologist to Robert Jordan, DE State Geologist
Boundary Line Proposal dated April 11, 1975
Letter dated May 2, 1975 from Robert Jordan to Kemble Widmer

Cc w/ enclosures: David Small-DNREC
John Talley-DGS

From: ocsenergywebmaster@anl.gov
To: mail_ocsenergyarchives; ocsenergywebmaster@anl.gov;
Subject: OCS Alternative Energy and Alternate Use Programmatic EIS Comment 80057
Date: Friday, May 18, 2007 2:53:49 PM
Attachments: CCC_PDEIS_Comments_80057.pdf

Thank you for your comment, Margo Fenn.

The comment tracking number that has been assigned to your comment is 80057. Once the comment response document has been published, please refer to the comment tracking number to locate the response.

Comment Date: May 18, 2007 02:55:00PM CDT

OCS Alternative Energy and Alternate Use Programmatic EIS
Draft Comment: 80057

First Name: Margo
Last Name: Fenn
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Privacy Preference: Don't withhold name or address from public record
Attachment: /Users/pdascombe/Desktop/CCC_PDEIS Comments.pdf

Comment Submitted:
Signed copy of attached letter is in the mail

Questions about submitting comments over the Web? Contact us at: ocsenergywebmaster@anl.gov or call the OCS Alternative Energy and Alternate Use Programmatic EIS Webmaster at (630)252-6182.

CAPE COD COMMISSION

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May 18, 2007

MMS Alternative Energy and Alternate Use Programmatic EIS
Argonne National Laboratory
EVS/900
9700 S. Cass Ave.
Argonne IL 60439

RE: Programmatic Environmental Impact Statement for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf (OCS).

Dear Sir or Madam:

The Cape Cod Commission (Commission) is the regional planning and regulatory agency for Barnstable County, which encompasses all of Cape Cod in southeastern Massachusetts. The Cape Cod Commission is made up of an appointed volunteer board of 19 members, one from each of the fifteen Cape towns as well as 4 at large representatives. The Commission is supported by a professional staff with expertise in planning, transportation, historic preservation, water, natural and coastal resources.

As you may be aware, the Commission is currently participating with the Minerals Management Service (MMS) review of the proposed Cape Wind Associates energy facility in Nantucket Sound. The Cape Cod Commission has not formally reviewed the Programmatic Draft Environmental Impact Statement (PDEIS), however, the Commission staff would like to offer the following comments for your consideration.

Section 2.4 of the PDEIS provides an overview of the alternatives considered but eliminated from detailed analysis, including a discussion of an alternative identifying and analyzing specific areas with the greatest resource potential (Section 2.4.2). The PDEIS states that at this early stage of program development, the MMS did not want to limit the possibilities of development in Federal waters by identifying locations with the best resources and that the MMS does not have the "requisite information to "map-out" the best areas for alternate energy project activity". This section of the PDEIS also indicates that MMS hopes that such information will be developed in the future and that as additional information is obtained it may be possible to establish "resource-specific

80057-001

development zones" or "no-development zones". The section concludes that for the present, the MMS will ask industry to identify those areas with the most potential for development.

The Commission staff would agree that at this early stage, possibilities for development should not be limited. However, it is important to prioritize OCS areas in order to direct offshore wind development to the most appropriate locations. As such, we strongly recommend that the MMS actively pursue the appropriate information that would facilitate establishing "resource-specific development zones" and "no-development zones" rather than leaving this up to private industry. There are several reasons for advocating this strategy:

- Firstly, as a regional planning agency, the Cape Cod Commission understands the importance of spatial and land use planning in the identification of appropriate sites for development on land. Comprehensive planning, associated zoning and land use policies establish a framework for development and a degree of certainty for both developers and citizens. It avoids the "land-grab" mentality that puts private development interests ahead of resource protection and community interest. As such, the Commission staff believes that the use and development of the OCS should be no less rigorous, and should not be left to industry alone to identify areas with the most potential.
- Secondly, the European development of offshore wind continues at a pace well in excess of the efforts in the United States. It is our view that one major reason for this fact is that European governments have established appropriate areas for offshore wind development thorough a pre-planning analysis and only open these areas for development through a competitive bidding process. If this planning process were replicated here it would provide a degree of certainty to developers of offshore wind projects that would be absent through the process envisioned in the PDEIS. This could significantly reduce the time and expense in bringing alternate energy projects to fruition by encouraging developers to pursue projects at the most appropriate sites with the least conflicts and environmental impacts.
- Thirdly, with a government entity establishing these areas the public is assured of a degree of neutrality that is absent if the site selection process is left to private entities alone. Obviously, private initiatives are driven by future returns on investment that will significantly effect selection of sites and this interest has the potential to over-ride concerns over environmental impacts that may be present.

80057-001 (cont.)

We look forward to reviewing and commenting on the draft rules as they are developed, thank you for the opportunity to comment,

Sincerely,

Margo Fenn
Executive Director

Cape Cod Commission

cc:
Cape Cod Legislative Delegation
Assembly of Delegates
Barnstable County Commissioners
Barnstable Town Council, President
Cape Town's Boards of Selectmen
Martha's Vineyard Commission
Nantucket Planning & Economic Development Commission
Cape Cod Commission members
Mr. Jim Gordon, Cape Wind Associates
Ms. Karen Adams, U.S. Army Corps of Engineers
Ms. Anne Canaday, MEPA Unit, Exec. Office of Environmental Affairs
Mr. Tim Timmerman, Office of Environmental Review, EPA-New England
Mr. Truman Henson, Coastal Zone Management

From: ocsenergywebmaster@anl.gov
To: mail_ocsenergyarchives; ocsenergywebmaster@anl.gov;
Subject: OCS Alternative Energy and Alternate Use Programmatic EIS Comment 80058
Date: Friday, May 18, 2007 4:20:30 PM
Attachments: CESA_Comments_on_MMS_Draft_PEIS_final_80058.pdf

Thank you for your comment, Mark Sinclair.

The comment tracking number that has been assigned to your comment is 80058. Once the comment response document has been published, please refer to the comment tracking number to locate the response.

Comment Date: May 18, 2007 04:21:33PM CDT

OCS Alternative Energy and Alternate Use Programmatic EIS
Draft Comment: 80058

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Privacy Preference: Don't withhold name or address from public record
Attachment: S:\mark\offshore wind\mms peis\CESA Comments on MMS Draft PEIS final.pdf

Questions about submitting comments over the Web? Contact us at: ocsenergywebmaster@anl.gov or call the OCS Alternative Energy and Alternate Use Programmatic EIS Webmaster at (630)252-6182.

CleanEnergy States Alliance

May 18, 2007

MMS OCS Alternative Energy & Alternate Use Programmatic EIS
Argonne National Laboratory
9700 S. Cass Avenue, EVS/900
Argonne, IL 60439

Re: Comments of Clean Energy States Alliance
Draft Programmatic Environmental Impact Statement for Alternative Energy Development and Alternate Use of Facilities on the OCS

Argonne National Laboratory & Minerals Management Service:

I write on behalf of the Clean Energy States Alliance (CESA), a multi-state coalition of eighteen state clean energy programs working together to promote clean energy technologies. CESA is a §501 (c)(3) nonprofit organization that represents these state energy programs and serves to coordinate their common goals. A primary objective of CESA and its state members, individually and collectively, is to address barriers to the development and growth of viable renewable energy resources in the United States. We direct you to our website, www.cleanenergystates.org, for detailed information on CESA's members and activities.[1]

CESA appreciates the opportunity to comment on the draft *Programmatic Environmental Impact Statement for Alternative Energy Development and Production & Alternate Use of Facilities on the Outer Continental Shelf* (March, 2007) (hereinafter, PEIS). We urge the Minerals Management Service (MMS) to use the EIS process to develop clear, consistent, and balanced regulations, policies, and best management practices – in coordination with affected coastal states – to advance responsible siting of alternative energy projects on the Outer Continental Shelf (OCS).

A. PEIS Formulation of Comprehensive Program Policies and Best Management Practices

According to the PEIS, concurrent with the preparation of the programmatic EIS, MMS is developing rules to guide the development of the program, including definition of processes and procedures for granting leases. PEIS at 1-2. However, the PEIS does not discuss the proposed regulatory approach and elements that will shape the new regulatory program. For example, it would be useful for the PEIS to discuss the merits and possible approaches to such major program issues as:

80058-001

[1] CESA members include state clean energy programs in Arizona, California, Connecticut, Illinois, Massachusetts, Minnesota, New Mexico, New Jersey, Oregon, Rhode Island, New York, Wisconsin, Pennsylvania, Vermont, and Ohio.

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- How the program will minimize multi-use conflicts?
- How MMS will balance competing uses of the OCS?
- What criteria MMS will use in deciding whether to approve a project?
- What will be the goals of environmental monitoring and management systems, and how will they be designed and implemented?
- How will MMS assess risks to resources?
- How will MMS balance the national interest in advancing clean energy development with uncertainty regarding the effects of alternative energy projects on OCS resources?
- What fees and payments will be established to encourage the development of alternative energy projects?
- How will MMS ensure effective consultation and coordination with affected state agencies and with other federal agencies?

80058-001 (cont.)

Surprisingly, the PEIS does not discuss these significant regulatory issues, but defers them to the rule-making process. To address this deficiency, CESA believes that, at a minimum, the final PEIS should discuss and propose the establishment of general programmatic policies and best management practices (BMPs) that MMS will use to shape the regulations and leasing program. Establishment of such policies and BMPs also will help to minimize delays for renewable energy development projects on the OCS and reduce costs. With these BMPs in place, the universe of issues that must be evaluated in detail at the project level will be reduced to site-specific issues.

While the draft PEIS does not identify specific policies and BMPs that will govern the development of alternative energy resources, MMS could readily do so in the final PEIS – based on the PEIS discussion of potential mitigation measures in Section 5. That is, in the final PEIS document, CESA recommends that the MMS outline the specific policies and BMPs that will be applicable to all wind, wave, and ocean current development projects. The "policies" should address the administration of the project development activities, while the "BMPs" should identify required mitigation measures that would need to be incorporated into project-specific Plans of Development. Additional mitigation measures then would be applied to individual projects to address site-specific and species-specific issues, as identified in project-specific environmental impact statements.

This is the approach that the Bureau of Land Management (BLM) employed in its preparation of the final *Programmatic Environmental Impact Statement on Wind Energy Development on BLM-Administered Lands in the Western United States* (BLM 2005). The BLM's PEIS identified programmatic policies and BMPs to address the administration of all wind development-related activities and to identify minimum requirements for mitigation measures. These programmatic

policies and BMPs then were adopted in the BLM program and made applicable to all projects on BLM public lands. Site-specific concerns, and the development of additional measures, are then addressed in project-level reviews. MMS should employ this same framework in its PEIS. 80058-001 (cont.)

B. Recommended Policies

CESA recommends that MMS adopt the following policies in the PEIS to guide the development and administration of the regulatory program:

1. MMS shall *not* issue authorizations for alternative energy development on the OCS in areas in which the development is incompatible with specific resource values, including areas of critical environmental concern, marine protected areas, marine sanctuaries, and major shipping lanes. Additional areas should be excluded on the basis of findings of resource impacts that cannot be mitigated. 80058-002
2. To the extent possible, OCS alternate energy projects shall be developed in a manner that does not prevent other uses. 80058-003
3. Applicants seeking to develop projects on the OCS shall be required to consult with all appropriate state and federal agencies regarding the project as early in the planning process as possible. 80058-004
4. MMS shall initiate government-to-government consultation with state government agencies whose interests might be directly and substantially affected by activities on the OCS as early in the planning process as possible to ensure that siting, construction, operation, and decommissioning issues and concerns are identified and adequately addressed. 80058-005
5. Entities seeking to develop projects on the OCS shall consult with the U.S. Department of Defense regarding the location of the project and siting as early in the planning process as possible. MMS shall develop an interagency protocol agreement with DOD to establish a consultation process. 80058-006
6. MMS shall consult with U.S. Fish and Wildlife Service (USFWS) as required by Section 7 of the Endangered Species Act regarding the location of projects as early in the planning process as possible. 80058-007
7. Site specific environmental analysis for individual projects shall tier from the PEIS and identify any cumulative impacts that are beyond the scope of the cumulative impact analysis addressed in the PEIS. 80058-008
8. Categorical exclusion may be applicable to some site monitoring and testing activities.
9. MMS shall consider the visual and scenic resource value of the OCS and coastal waters involved in proposed wind energy development projects. MMS shall work with the 80058-009

applicant to incorporate visual design considerations into the planning and design of wind energy development projects to minimize potential visual impacts. In evaluating the visual impacts of wind-energy projects, MMS shall focus ***not*** on whether people find the project attractive, but on the characteristics of the ocean-scape in which the project will be located, the features that contribute to scenic quality, the relative sensitivity of viewing areas, and the degree of degradation that would result to valued scenic resources, especially to documented scenic values. 80058-009 (cont.)

10. MMS shall consider the benefits (especially carbon-related benefits) of alternative-energy projects in (a) evaluating the relative acceptability of potential impacts on environmental, visual, and socio-economic resources, (b) making decisions regarding granting of leases on the OCS, and (c) establishing fees, payments, and mitigation requirements. 80058-010
11. Operators of project facilities shall consult with MMS and affected state and local agencies regarding any planned upgrades or changes to the facility design or operations. Proposed changes of this nature may require additional environmental analysis and/or revision of the plan of development. 80058-011
12. MMS shall implement adaptive management strategies to ensure that potential adverse impacts of OCS alternative energy development are avoided (if possible), minimized, or mitigated to appropriate levels. At the program level, the policies and BMPs shall be updated and revised as new data regarding the impacts of alternative energy projects become available. At the project-level, operators shall be required to develop monitoring programs, in conjunction with a comprehensive MMS environmental monitoring program, to evaluate the environmental conditions at the site through all phases of development, to establish metrics against which monitoring observations can be measured, to identify potential mitigation measures, and to establish protocols for incorporating monitoring observations and additional mitigation measures into standard operating procedures and project-specific agreements. 80058-012

C. Recommended Best Management Practices:

CESA recommends that MMS adopt the following BMPs in the PEIS as required elements of all project specific plans of development. Many of the suggested BMPs are based directly on the mitigation recommendations identified by MMS in Section 5 of the PEIS. 80058-013

Pre-Construction Planning

- *Applicants shall minimize the area disturbed by pre-construction site monitoring and testing activities and installations.*
- *Applicants shall be required to contact and consult appropriate affected state agencies early in the planning process for each proposed project to identify concerns and potentially sensitive uses.*

- *Applicants shall consolidate necessary infrastructure requirements between projects wherever possible.*

- *Applicants shall develop a monitoring program to ensure that environmental conditions are monitored during construction, operation, and decommissioning phases. The monitoring program requirements, including adaptive management strategies, shall be established at the project level to ensure that potential adverse impacts are mitigated. The monitoring program shall identify the monitoring requirements for each environmental resource that may be adversely affected, identify potential mitigation measures, and establish protocols for incorporating monitoring observations and additional mitigation measures into standard operating procedures.*

80058-013 (cont.)

Sea Floor Habitats

PEIS Sections 5.2.14.6 and 5.2.1.6 identify several recommended mitigation measures for addressing potential adverse effects on seafloor habitats. MMS should establish the following PEIS mitigation recommendations (p.5-7, 5-84) as standard BMPs, with additional recommendations by CESA in italics.

- Applicants shall conduct seafloor mapping in the early phases of a project to ensure the wind park is sited appropriately to avoid or minimize potential impacts associated with seafloor instability.

- Applicants shall conduct rigorous pre-siting surveys to identify and characterize potentially sensitive seafloor habitats and topographic features.

- Applicants shall avoid locating facilities near known sensitive seafloor habitats, such as coral reefs and hard-bottom areas.

- Lessees shall avoid anchoring vessels in areas containing sensitive seafloor habitats.

- Lessees shall minimize seafloor disturbance during construction and installation of the facility and associated infrastructure.

- Lessees shall employ appropriate shielding for underwater cables to control the intensity of electromagnetic fields.

- Lessees shall reduce scouring action by ocean currents around foundations and to seafloor topography by using scour protection devices and employing periodic routine inspections to ensure structure integrity.

- Lessees shall avoid the use of explosives when feasible to minimize impacts to benthic fish and organisms.

- *Lessees shall minimize the duration of construction to minimize disturbance.*

80058-014

- *Lessees shall use state-of-art hydraulic jet plows for cable installation to minimize seabed disturbance and sediment dispersion.*

- *Lessees shall lay and bury cables simultaneously to minimize bottom disturbance.*

80058-014 (cont.)

Marine Mammals

PEIS Section 5.2.8.6 identifies several recommended mitigation measures designed to greatly reduce the likelihood of impacts to marine mammals. MMS should establish the following PEIS mitigation recommendations (5-46, 5-47) as standard BMPs with additional BMP recommendations by CESA in italics.

- *Applicants shall evaluate marine mammal use of the proposed project area and design the project to minimize and mitigate the potential for mortality or disturbance. Scientifically rigorous marine mammal use surveys shall be conducted; the amount and extend of ecological baseline data required shall be determined on a project basis.*

- *Applicants should not locate projects in areas where there are high concentrations of marine mammals.*

- Applicants should not locate facilities near known cetacean congregation, mating, or feeding areas.

- Applicants should avoid locating facilities near known coastal rookeries and haul-outs of pinnipeds.

- Applicants should avoid locating facilities along major migratory routes of marine mammals.

80058-015

- *Lessees shall avoid and minimize impacts to marine species and habitat in the project area by posting a NMFS-certified observer on-site during construction activities.*

- *Lessees shall avoid and minimize impacts to marine species and habitat by implementing a post-construction monitoring program to document habitat disturbance and recovery. Lessees shall implement additional mitigation measures that are developed through an ongoing consultation process with NMFS.*

- Lessees shall time major noise generating activities to avoid periods when marine mammals may be more common in the project area.

- *Vessels related to project planning, construction, and operation shall travel at slow speeds (10 knots or below).*

- *Lessees shall minimize potential vessel impacts to marine mammals and sea turtles by requiring project-related vessels to follow NOAA Fisheries Regional Viewing Guidelines while in transit. Operators shall be required to undergo training on applicable vessel guidelines.*
- *Lessees shall conduct "soft-start" procedures for pile-driving to minimize potential impacts to marine mammals associated with underwater sound levels created by pile-driving activities.*
- *Lessees shall conduct underwater sound monitoring during initial construction activity.*

80058-015 (cont.)

Fish Resources & Essential Fish Habitat

PEIS Section 5.2.11.6 identifies several recommended mitigation measures designed to greatly reduce the likelihood of impacts to fish populations. MMS should establish the following PEIS mitigation recommendations (5-64, -65) as standard BMPs with additional BMP recommendations by CESA in italics.

- *Applicants shall conduct pre-siting surveys to identify important, sensitive, and unique marine habitats in the vicinity of the project and design the project to avoid, minimize, or mitigate significant impacts to these habitats.*
- Lessees shall minimize construction activities in areas containing anadromous fish during migration periods.
- Applicants shall avoid locating facilities near known sensitive fish habitats, such as marine protected areas.
- Lessees shall minimize seafloor disturbance during construction of towers and installation of underwater cables.

80058-016

The PEIS also should note that the introduction of wind turbine foundations in sandy coastal areas may generate new fish habitat and may attract fish and other fauna. Further, MMS should note that the areas within and immediately around a wind farm effectively constitute a marine protected area in which fishing is restricted and other activities are banned. Consequently, it is expected that a more diverse fish fauna will develop in a wind farm area compared to surrounding sand habitats.

Sea Turtles

PEIS Section 5.2.12.6 identifies several recommended mitigation measures designed to greatly reduce the likelihood of impacts to sea turtles. MMS should establish the following PEIS mitigation recommendations (5-73, -74) as standard BMPs.

80058-017

- Applicants shall conduct rigorous onshore preconstruction surveys for sea turtle nest sites and delay construction until hatchlings have emerged and moved into open water.
- Applicants shall avoid locating onshore facilities near know onshore nesting areas for sea turtles.
- Applicants shall locate cable landfalls and onshore facilities to avoid impacts to known nesting beaches.

80058-017 (cont.)

Avian Impacts

Section 5.2.9.6 identifies several recommended mitigation measures for addressing impacts to marine and coastal birds by offshore wind development.

MMS should establish the following PEIS mitigation recommendations (5-54) as standard BMPs with additional recommendations by CESA in italics:

- *The Applicant shall evaluate avian use of the project area and design the project to minimize or mitigate the potential for bird strikes and habitat loss. Scientifically rigorous avian use surveys shall be conducted; the amount and extent of ecological baseline data required shall be determined on a project basis.*
- *Standardized studies shall be conducted before siting and after construction of wind-energy facilities to evaluate the potential and realized impacts on avian species. Post-construction studies should focus on evaluating impacts, actual versus predicted risk, causal mechanisms of impact, and potential mitigation measures to reduce risk.*
- The Applicant shall conduct surveys of coastal and offshore areas to identify important feeding, nesting, and wintering areas, and avoid siting facilities or cables in or near those areas
- Lessees shall use tubular rather than lattice support towers to minimize perch sites.
- *To reduce perching opportunities, a perimeter fence shall be established on platforms, equipped with thin wire, to deter perching by birds.*
- Lessees shall time major noise-generating activities, such as pile driving and cable trenching, to avoid periods when marine and coastal birds are nesting.
- Turbine rotors shall not come within 30 meters of the ocean surface to minimize impacts to water birds.
- Lessees should avoid use of bright lights to reduce attractiveness of towers to birds. Lessees should use low-intensity strobe lights when complying with FAA lighting guidelines.

80058-018

- *Applicants should use wide spacing between turbines to reduce potential for bird collisions with towers.*

- *The Applicant shall develop a post-construction monitoring program to ensure that the project is in compliance with laws created to protect avian species. Evaluation of the monitoring studies should involve use of a technical advisory committee.*

80058-018 (cont.)

CESA disagrees with the PEIS recommendations to "avoid locating facilities in areas of known high migratory bird use" and "reduce or stop operation of turbines that are located directly in migration paths during peak migration periods." (5-54). There is insufficient information to indicate that offshore wind projects will have significant impacts on migratory birds or that areas with migratory bird use should be off-limits to development and year-round operation. Rather, early OCS wind projects should be monitored to determine if offshore wind projects pose a significant risk to migratory bird species before establishing such a blanket siting restriction.

Recent studies in Europe support this perspective. In the recent Danish study of two major offshore wind farms, *Danish Offshore Wind Environmental Issues* (November, 2006), radar, infra-red and video monitoring and visual observation confirmed that most of bird species showed avoidance responses to offshore wind farms, although responses were highly species specific. Birds tended to avoid the vicinity of turbines and there is considerable avian movement along the periphery of the Danish offshore wind farms. *Id.* at 15. According to the Danish study, slightly extended migration distances are unlikely to produce consequences for any avian species. Although bird displacement represents habitat loss, it is important to assess the loss in terms of the proportion of potential habitat affected relative to the areas which remains outside the project. For most species, the proportion lost will be relatively small and therefore of little biological consequence.

80058-019

Areas of Special Concern

PEIS Section 5.2.15.6 identifies several recommended mitigation measures designed to greatly reduce the likelihood of impacts to areas of special concern from offshore wind energy development. MMS should establish the following PEIS mitigation recommendations (5-90, -91) as standard BMPs with additional BMP recommendations by CESA in italics.

80058-020

- Applicants shall not locate facilities near or in marine protected areas.

- CESA *disagrees* with the MMS mitigation recommendation that applicants should "avoid, to the extent practicable, placement of OCS wind energy facilities within visible distance from areas of special concern, especially National Parks and National Seashores." As discussed below under visual impacts, wind energy projects located within sight of areas of high scenic quality are not necessarily in conflict with the public enjoyment of these areas. When evaluating the visual impacts of wind projects, the essential question is not whether people will see wind turbines, but instead to what degree they may adversely affect important visual resources associated with areas of special concern. Location of wind projects relatively near scenic resources and parks should not be prejudged by MMS as having unacceptable visual impact.

80058-021

80058-021 (cont.)

Acoustic Environment

PEIS Section 5.2.5.6 identifies several recommended mitigation measures designed to greatly reduce the likelihood of noise impacts. MMS should establish the following PEIS mitigation recommendations (5-29, 5-30) as standard BMPs with additional BMP recommendations by CESA in italics.

- *Applicants shall perform acoustic modeling of underwater operational sound at the proposed site of a wind farm project to determine the baseline and predicted underwater sound levels from operation of the project.*

- Applicants should avoid the use of seismic surveys for site characterization, instead employing geophysical means to obtain measurements for characterization of the sea bottom.

- *Lessees shall take efforts to minimize disruption and disturbance to marine life from sound emissions during construction activities. The most important factor is to reduce underwater noise during construction. Construction activities are generally noisy, especially pile driving operations that generate very high sound pressures.* Lessees shall reduce sound emissions into the water by using proven means to deter fish and mammals (such as horn blasts, strobes, electric seines), avoiding migration periods, and ramping up noise levels gradually.

80058-022

- *During installation of foundations systems, lessees shall minimize impacts to fish, marine mammals and sea turtles from underwater sound levels from pile driving by using a "soft start" of the pile driving equipment for each event.*

- *During construction, a NMFS approved observer should be present during initial pile driving to ensure no listed marine species are within a 500 meter initial safety radius.*

- *Lessees shall employ, to the extent practicable, state-of-the-art, low noise turbines to minimize operational sound effects.*

Fisheries

PEIS Section 5.2.23.6 identifies several recommended mitigation measures for addressing impacts on catchability of targeted fish, access to fishing areas and damage to vessels by offshore wind development. MMS should establish the following PEIS mitigation recommendations (5-143) as standard BMPs with additional BMP recommendations by CESA in italics:

80058-023

- Applicants shall avoid locating facilities and cables near known sensitive fish habitats and within known high-use fishing areas.
- *Lessees shall work cooperatively with commercial/recreational fishing agencies and interests to ensure that the construction and operation of a project will minimize potential impacts to commercial and recreational fishing interests.*
- Lessees shall review planned activities with potentially affected fishing organizations and port authorities to prevent unreasonable fishing gear conflicts. *Lessees shall minimize conflict with commercial fishing activity and gear by notifying registered fisherman of the location and timeframe of project construction activities well in advance of mobilization with updates throughout the construction period.*
- Lessees shall use practices and operating procedures that reduce the likelihood of vessel accidents and fuel spills.
- *Lessees shall avoid or minimize impacts to the commercial fishing industry by placing no restrictions on fishing activities within a wind park during project operation.*
- *Lessees shall avoid or minimize impacts to the commercial fishing industry by marking turbines with U.S. Coast Guard-approved lighting to ensure safe vessel operation.*
- *Lessees shall avoid or minimize impacts to the commercial fishing industry by burying cables to a minimum of 6 feet below the seabed to avoid conflict with fishing vessels and gear operation. Lessees shall inspect cable burial depth periodically during project operation to ensure adequate coverage is maintained to avoid interference with fishing gear/activity.*

80058-023 (cont.)

Coastal Habitats

PEIS Section 5.2.13.6 identifies several recommended mitigation measures designed to greatly reduce the likelihood of wave energy development impacts to coastal habitats. MMS should establish the following PEIS mitigation recommendations (5-77, -78) as standard BMPs with additional BMP recommendations.

- Applicants shall avoid sea-grass communities.
- Lessees shall implement turbidity reduction measures to minimize effects to sea grasses from construction activities.
- Lessees shall minimize scarring to sea-grass beds by restricting vessel traffic to established traffic routes.

80058-024

- Lessees shall minimize impacts to wetlands by maintaining buffers around wetlands, by implementing best management practices for erosion and sediment control, and by maintaining natural surface drainage patterns.

80058-0024 (cont.)

Electromagnetic Fields

PEIS Section 5.2.7.6 identifies one recommended mitigation measure to address electromagnetic fields from ocean-based electrical transmission lines, which MMS should establish as a standard BMP.

80058-025

- Lessees shall use submarine cables that have proper electrical shielding and bury the cable in the ocean floor.

Transportation & Vessel Traffic

PEIS Section 5.2.17.6 identifies several recommended mitigation measures designed to greatly reduce the likelihood of impacts to marine vessel traffic and navigation. MMS should establish the following PEIS mitigation recommendations (5-96) as standard BMPs with additional BMP recommendations by CESA in italics.

- Applicants shall site wind parks to avoid interference with major ports and shipping lanes.
- Applicants shall not site wind parks near airport flight paths and other controlled airspaces, and Wind Turbine Generators (WTGs) shall be marked with lighting consistent with FAA guidelines.
- Lessees shall place proper lighting and signage on wind park structures to aid navigation in and around the wind park.
- Lessees shall not prohibit vessels from entering, operating, or anchoring in the designated wind park area or establish exclusionary zones in the wind park area, except as necessary for security and safety reasons.
- Lessees shall initiate manual shutdown of WTGs that experience severe icing conditions if conditions warrant.
- Lessees shall install and maintain seabed scour control mats or rock armor for scour protection to reduce changes to sea bottom contours in the vicinity of the WTGs.
- Lessees shall work with USCG and NOAA to ensure inclusion of wind parks on NOAA nautical charts covering the area.

80058-026

- Lessees shall immediately shutdown all or relevant portion of WTGs upon notification by USCG that Search-and-Rescue aircraft are responding to an incident within or adjacent to the wind park.
- Lessees shall bury submarine cable systems at least 6 feet below the sea bottom.
- Applicants shall perform project-specific studies of potential interference of proposed WTGs with commercial air traffic control radar systems, national defense radar systems, and weather radar systems, including identification of possible solutions.

80058-026 (cont.)

Visual Resources

Section 5.2.21.6 identifies several recommended mitigation measures for addressing the visual impacts of offshore wind development. MMS should establish most of these measures as standard best management practices.

However, CESA believes that the MMS mitigation recommendation for "Project Siting" is flawed and should be revised. Under Project Siting (p. 5-131), the PEIS states that "consideration should be given to locating developments as far offshore as possible, and as far as possible from sensitive visual resources…" CESA disagrees with this recommendation as arbitrary and contrary to establishing a regulatory review process that addresses aesthetic issues in a rational, methodological manner. Wind energy projects closer to shore are not necessarily in conflict with areas of high scenic quality. When evaluating the visual impacts of wind projects, the essential question is not whether people will see wind turbines or find them beautiful or not, but instead to what degree they may affect important visual resources. Location of wind projects in relatively close proximity to shore and near scenic resources should not be prejudged as having unacceptable visual impact.

Rather than recommending that all wind farms be located as far offshore as possible, MMS should establish a formal visual assessment method or system to analyze the significance of visual resources involved and the effects of a project on the scenic resources and character. The general approach should be similar to the Scenery Management System established by the US Forest Service and the BLM's Visual Impact Assessment.

80058-027

Among the factors that such a methodology should evaluate in determining whether the location and design of an offshore wind farm creates an unacceptable visual impact are:

1. Has the applicant provided sufficient information with which to base a decision on unacceptable visual impacts?
2. Are scenic resources of national significance located near the project?
3. Would the scenic resources be significantly degraded by the project?
4. Would the scale of the project interfere with the general enjoyment of scenic features?
5. Has the applicant employed reasonable mitigation measures in the design and layout of the project?

CESA directs MMS to the framework identified in Appendix D to the recent NAS Report, *Environmental Impacts of Wind-Energy Projects* (May, 2007), as a potential process for evaluating aesthetic impacts of offshore wind projects. While this process addresses land-based wind projects, many of the principles are applicable to offshore wind.

80058-027 (cont.)

CESA recommends that MMS adopt the following, additional best management practices related to visual impacts (largely consistent with PEIS mitigation recommendations on 5-131, 5-132)

- *Applicants for wind projects shall address key design elements including visual uniformity, use of tubular towers, proportion and color of turbines, and prohibition of commercial messages.*
- *Applicants for wind projects shall use rigorous viewshed mapping, photographic and virtual simulations, computer simulation and field inventory techniques to determine with reasonable accuracy the visibility of the proposed project. Simulations should illustrate sensitive and scenic viewpoints.*
- *Eliminating or reducing lighting should be a high priority, within the requirements of FAA. Daytime lighting should be prohibited if possible by use of light-colored WTGs.*
- *Applicants should use WTGs of a color that reduces contrast with sea and sky.*
- *The Applicant shall inform and involve the public in evaluating the visual site design elements of proposed wind energy facilities.*
- *Applicants should design and configure offshore wind facilities to provide visual order and unity among clusters of turbines.*
- *Applicants should design and configure offshore wind facilities to create visual uniformity in the shape, color, and size of rotor blades, nacelles, and towers, and use of tubular towers.*
- *Applicant shall maintain the WTGs in good working order during operation. Inoperative turbines shall be promptly removed, repaired, or replaced.*
- *Within FAA guidelines, directional aviation lights should be used that minimize visibility from shore.*

80058-028

D. Approach to Addressing Scientific Uncertainty and Information Gaps

In the PEIS, the MMS should identify and recommend an approach that it will employ for effectively addressing the limited experience with the environmental consequences of alternative energy technologies in the OCS context. CESA believes that the MMS should adopt an approach that allows projects, despite some uncertainty regarding resource impacts, to proceed in

80058-029

this early stage of program development based on establishment of baseline data, post-construction monitoring, and adaptive management.

Many impacts of offshore alternative energy development are uncertain, especially impacts on marine mammals. The PEIS should acknowledge that there are limits to the ability to predict impacts absent actual experience with offshore installations. And in this early stage of development, the MMS should confirm that it will use initial OCS alternative energy projects as vehicles for monitoring to determine actual impacts and reduce uncertainty. Knowledge and experience gained then will assist in future site selection and permitting (*see infra*, related recommendation regarding use of adaptive management).

80058-029 (cont.)

E. Establish MMS Monitoring & Research Program

Given the current level of uncertainty, the proposed action should include a MMS commitment to establish and fund a comprehensive approach to research and data collection. The MMS should establish, within its Environmental Studies Program, an Alternative Energy Study Initiative and a dedicated Study Fund for the purpose of supporting comprehensive environmental studies to assist in the early stages of development of the alternative energy industry. The Fund could be based upon various royalty payments and the interest accruing from financial deposits made by developers.

Among other activities, the new Alternative Energy Study Program should monitor environmental conditions before, during, and after the construction of the first offshore alternative energy projects – to reduce the financial burden on early developers and to ensure comprehensive nationally-relevant information to advance the MMS oversight of these activities. The program should be designed to perform baseline and monitoring studies for "first phase" projects. The studies would establish a reference for later analyses to be able to compare the existing environmental conditions with conditions after the development of the first alternative energy projects. The Program also should identify and commission environmental studies of a generic nature to benefit the offshore industry as a whole.

80058-030

Where possible, MMS should apply the "Before-After Control-Impacts" (BACI) approach for the first projects in the monitoring program. The aim of the BACI method is to estimate the state of the environment before and after any changes and to control changes at the reference site with the actual area of impact.

In developing the study program, CESA recommends that MMS consider employing an approach similar to the UK's Research Advisory Group (RAG). This program is funded by the UK Department of Trade and Industry (DTI) and focuses on providing developers with the generic information needed to supplement project-specific site investigations to secure development approvals. The program seeks to identify problems and barriers to offshore wind development and measures to mitigate impacts. The key areas of impact being investigated by RAG include impacts on navigation, fishing, birds, seabed coastal processes and seascape, and decommissioning. The UK also has expanded the funding and scope of RAG research programs to evaluate the impacts and mitigation measures for wave and tidal devices.

F. Identify Responsibility and Financing Mechanisms for Major Grid Upgrades that May Be Required to Accommodate Power Flows and Connections to Offshore Projects

The draft PEIS is largely silent on the planning, financing, grid management and siting challenges of ensuring the delivery and injection of large amounts of wind-based generation into existing electrical grids. As a PEIS program policy, MMS should commit to work with FERC, Regional Transmission Offices, and state energy offices to assess the responsibility for planning, financing, and developing an offshore transmission network, with responsibility shared with relevant system operators and transmission asset owners. To inform MMS program development, the PEIS should address the following transmission issues:

- Identification of potential transmission investments and strategies to make development scenarios feasible in the major regions.
- Assessment of what major grid upgrades may be required to accommodate power flows and connections to offshore projects.
- Assessment of the responsibility for planning, financing, and developing an offshore transmission network, with responsibility shared with relevant system operators and transmission asset owners.
- Evaluation of the UK approach to these transmission issues.

80058-031

G. Recognizing Beneficial Impacts of the Proposed Action

PEIS Section 7 provides a summary analysis of the major potential resource impacts of the proposed action and its alternatives. However, in describing and characterizing the potential impacts to specific resources, the PEIS does ***not*** consider the broader "externality" benefits to these environmental and wildlife resources from reduction in greenhouse gas emissions that is achieved from the development of OCS renewable energy projects (through displacement of other energy resources). [2]

80058-032

As an example, the PEIS states, at page 7-3, that OCS renewable energy projects may have "possible moderate impacts" for bird species that fly over wind facilities. However, the PEIS fails to consider and address that these projects will reduce the net ecosystem damage to bird species associated with climate change by reducing greenhouse gas emissions.

[2] The Section 7 analysis does address the potential adverse affects associated with electricity production by other energy sources if MMS does not go forward with an OCS regulatory program for alternative energy technologies (the no action alternative). MMS further references a 2007 report, *Assessing the Costs and Benefits of Electricity Generation Using Alternative Energy Resources on the Outer Continental Shelf* (OCS Study MMS 2007-013), concerning the potential benefits and costs from energy development on the OCS.

Therefore, CESA recommends that the PEIS,:

(1) in defining the level of resource impacts in Section 5.1, consider and include the "benefits" to environmental, public health, and socioeconomic resources from offshore alternative energy relative to the onshore generation that these projects might displace, and

(2) explain how MMS intends to consider, credit, and facilitate these benefits in the regulatory program. That is, MMS should state how it intends to develop the regulatory program, define the regulatory criteria for granting leases, establish fees, and impose mitigation requirements for site-specific environmental impacts in a manner that recognizes the broader environmental benefits associated with reductions in greenhouse gas emissions from OCS renewable energy projects.

Of major significance, the PEIS should clearly articulate the benefits of alternative energy technologies on the OCS in reducing the release of greenhouse gas emissions. Overall, the PEIS should summarize the net externality benefits from development of offshore renewable energy projects for the following environmental, socioeconomic, human health, and national security categories:

- Reduced damage to ecosystems associated with reduced release of criterion pollutants and greenhouse gases (e.g. changes in storm intensity and frequency, climate shifts, increased acidity of the ocean from the buildup of CO_2, sea level rise, and other potential harmful effects), and reduced water use and waste production.
- Reduced degradation to ecosystems from mining processes
- Reduced impact on aesthetic resources and visibility due to reduced presence of fossil fuel mining and onshore electricity generating facilities and associated atmospheric haze from emissions
- Decreased likelihood of floods and increased water availability from construction of fewer hydropower facilities
- Reduced loss in commercial activity and other economic impacts due to potential effects of climate change
- Increased national security from decreased reliance on foreign sources of energy
- Increased national security from reduced potential for attack on sensitive energy generating facilities (such as nuclear facilities)
- Reduced human health risks associated with atmospheric releases from fossil fuel generation
- Reduced human health risks associated with greenhouse gas emissions.

80058-032 (cont.)

H. Describe Decisional Framework for Weighing Degrees of Adverse & Beneficial Impacts of the Proposed Action

CESA recommends that MMS attempt to define the "degree" of adverse or beneficial effects of a proposed alternative energy project that it will consider critical for approving or disallowing a proposed project. That is, MMS should address in the PEIS how it will weigh and balance the

80058-033

costs and benefits of a proposed project with regard to a single project or in comparison with alternatives if the project is not built.

For example, in Section 7, MMS finds that offshore projects may have "possible moderate impacts" to marine mammals, marine and coastal birds, and fish resources (p.7-3).(MMS employs a four level impactc classification system from "negligible" to "major"). MMS, however, does not indicate whether a moderate impact will be considered as a threshold for disapproving projects and/or how a moderate (or major) impact will be weighed with other beneficial impacts associated with a project.

In short, MMS should address its proposed decision framework and approach for considering and weighing impacts and benefits in making leasing decisions. For example, MMS could consider establishing an advisory group of state regulators and affected interest groups to determine acceptable impact thresholds which recognize the public interest in increasing renewable energy resource deployment as a strategy to address climate change.

80058-033 (cont.)

I. Evaluation of an Additional Alternative: Strategic Planning Approach to Siting

As in our prior scoping comments, CESA continues to urge MMS to evaluate an alternative under which MMS would employ a strategic planning approach to program deployment and regulatory decision-making. This approach is in sharp contrast to the proposed action in which MMS proposes to establish a program characterized by MMS reaction to, and review of, developer-selected projects with no advanced stakeholder/MMS planning process. (For detailed recommendations on CESA's strategic planning recommendations, see CESA Comments on Advanced Notice of Rulemaking, February 27, 2006; CESA Comments on Notice of Intent to Prepare PEIS, June 27, 2006.)

Rather than eliminating altogether the strategic planning approach as an alternative for detailed analysis, MMS should perform a detailed evaluation of the costs and benefits of such a coordinated, anticipatory planning approach in comparison to the proposed action. Under this "planning" alternative (as described fully in CESA prior comments), MMS would establish a program that identifies, through an integrated stakeholder process, several strategically-selected areas to foster consensus-based project development. This approach would be similar to the highly successful approaches being employed by Great Britain and other European countries to advance offshore wind development.

80058-034

The recent report by the National Academy of Sciences, *Environmental Impacts of Wind-Energy Projects*, May 2007, recommends just this type of anticipatory planning approach for regulatory review of wind projects:

> Regulatory review of individual wind-energy projects should be preceded by coordinated, anticipatory planning whenever possible. Such planning for wind-energy development, coordinated with regulatory review of wind-energy proposals, would benefit developers, regulators, and the public because it would prompt developers to focus on proposals on locations and

> site designs most likely to be successful. .. Anticipatory planning for wind-energy development also would help researchers to target their efforts where they will be most informative for future wind-development decisions.

Id.

While the NAS study was addressing land-based wind projects, the reasoning applies equally to offshore wind energy projects. Such a planning approach could reduce regulatory conflicts and development delays.

In the draft PEIS, however, MMS rejects this strategic planning approach at this early stage of development because the Service "did not want to limit the possibilities for development" and because "MMS does not have (and cannot reasonably attain) the requisite information to 'map-out' the best areas for alternative energy project activity." *Id.* at § 2.4.2. However, MMS could implement a strategic planning process to develop the requisite information while, at the same time, allowing developers to apply for developer-initiated projects in the first phase of the program (5 to 7 years), based on environmental screening and assessment performed by the applicant.

80058-034 (cont.)

Under the planning-oriented alternative, MMS could allow for early projects to go forward on a project-specific review. Concurrently, MMS would launch, in cooperation with interested coastal states, a strategic planning process for several selected regions to develop additional resource information to identify the best areas for alternative energy development. In fact, in the PEIS, MMS states that "it may in the future establish 'resource-specific development zones' or 'no-development zones' likely through coordination with potential affected states." *Id.*

Therefore, to evaluate the merits and elements of this planning approach and its possible future phase-in, CESA urges MMS to include this strategic planning alternative in the final PEIS as a formal alternative. Specifically, MMS should provide a more detailed analysis of the possible framework, elements, timing, and merits of such an anticipatory planning approach.

Even if MMS rejects this recommendation, CESA encourages MMS to commit to the establishment of a formal collaborative process with interested coastal state agencies and key wind developers to foster the identification and development of future strategic project areas, with incentives for streamlined permitting and reduced fees (while allowing for developer-driven project development in the early years of the program).

Through such a regional/state stakeholder process, MMS would sponsor the development of *regional* programmatic EISs to:

- Identify, to the extent possible, zones where there would be a presumption for and against development, areas where special conditions may be applied, and areas that could not be developed because of their sensitivities;
- Recommend the characteristics (lease terms, project locations, etc.) of leasing rounds or requests for proposals;

80058-035

- Assess the significance of environmental and socio-economic impacts arising from different, realistic scales of wind farm development in strategic areas.

80058-035 (cont.)

J. Use of Adaptive Management

In the PEIS, the MMS should expressly define and embrace adaptive management strategies to ensure that potential environmental impacts are minimized. This is consistent with the statement by MMS in the PEIS, that:

> This first consideration of the environmental consequences will be used to establish initial mitigation measures that are needed at this early stage. As the program evolves and more is learned, the mitigation measures may be modified or new measures developed.

Id. at 1-2.

In the final PEIS, therefore, MMS should expressly describe its intention to adopt an adaptive management approach to manage the uncertainties attendant to offshore renewable energy development. This approach would allow early projects to be approved in spite of some uncertainties, but placing controls on the facilities through setting of management objectives, and monitoring and adaptive management conditions.

The proposed action should define and endorse adaptive management strategies that MMS will employ to ensure that potential environmental impacts to OCS resources are kept to a minimum. In the PEIS, MMS should identify the following elements for a successful adaptive management program:

80058-036

- clear, objective and verifiable program goals;
- a requirement to adjust management and/or mitigation measures if those goals are not met; and
- a timeline for periodic reviews and adjustments.

MMS should commit to employing adaptive management strategies both at the programmatic and project level. At the program level, MMS should state that programmatic policies and BMPs will be reviewed and revised to strengthen mitigation measures as new data regarding the impacts of alternative energy development becomes available. Use of the adaptive management process would serve as an effective means to test mitigation, siting criteria, and BMPs so as to determine their effectiveness in reducing potential adverse affects to OCS resources.

At the project level, operators should be required to develop monitoring programs to evaluate environmental conditions at the site through all phases of development. The monitoring programs would include metrics against which monitoring observations can be measured, a process to identify potential mitigation measures, and protocols for incorporating monitoring observations and new mitigation measures into standard operating procedures.

Successful adaptive management also will require a firm commitment by lessees to accountability and remedial action in response to new information indicating that the impacts to OCS resources are greater than predicted. This commitment should be included in lease conditions so that a mechanism is available to implement mitigation recommendations after the project is constructed.

80058-036 (cont.)

K. Facilitate Pilot Projects

In the proposed action, MMS should identify how it intends to facilitate the authorization of pilot projects – with an assessment of the potential impacts, benefits, and mitigation approaches for "fast-tracking" pilot projects. Pilot projects will advance the understanding of the environmental and technology issues associated with offshore alternative energy development. An expedited permitting and leasing process for pilot projects should be created to encourage the deployment and gathering of information that can serve as the basis for determining the merits of future commercial project proposals and for advancement of technology.

80058-037

L. Create Partnership Framework with States and Other Federal Agencies for Consultation and Review

The PEIS is largely silent on how MMS intends to coordinate and consult with other federal agencies and with the affected states in implementing the new regulatory program. The PEIS simply states that MMS must coordinate and consult with numerous federal agencies and any affected state or local government under the OCS Lands Act, and that the MMS Regional Offices will work directly with the State Coastal Zone Management lead agency in reviewing projects. *Id.* at 1-13, 1-22.

As a key element of the proposed action, CESA recommends that MMS describe and commit to the establishment of a formal state/federal partnership with state officials, state resource agencies, and other key federal agencies to coordinate state and federal agency review of alternative energy projects.

As the PEIS notes, states will play a major regulatory role in the new MMS regulatory program pursuant to the Coastal Zone Management Act (CZMA). Of particular importance to the MMS program administration, the CZMA requires federal agencies and federally permitted activities to be consistent with a state's federally approved coastal management program to the maximum extent practicable.

However, coastal zone regulation varies significantly among the coastal states. For example, New Jersey and Rhode Island have centralized authority for their coastal programs in one agency. In Massachusetts and many other states, on the other hand, coastal zone management programs fall under networks of parallel agencies, with various defined roles. The multitude of state agencies involved in ocean management represents a challenge for the MMS regulatory framework. Federal and state responsibilities may overlap and even conflict. The web of federal

80058-038

and state approvals and consultations could delay OCS projects and not necessarily contribute to better siting decisions.

Therefore, the PEIS should explain how the MMS intends to address this regulatory coordination and consultation challenge. In the PEIS proposed action, the MMS should commit to establishing a coordinated consultation and review process for project applications by all federal and state agencies with project jurisdiction, and work with coastal states upfront to identify lead state agencies responsible for partnering with MMS to coordinate review by all affected state agencies. Specifically, in the proposed action, MMS should evaluate and propose:

- A specific framework and protocol for consulting with relevant state permitting agencies to coordinate and frontload the permitting process for transmission lines and facilities involving state waters, and for ensuring OCS project compliance with the CZMA.
- A state-federal collaborative arrangement and partnership to provide a forum through which the MMS and adjacent state governor(s) can plan, consult, and coordinate concerns associated with the offering of the OCS for alternative energy development leasing.
- Consolidation of permitting/environmental review procedures and timelines in affected coastal states with federal permitting/leasing requirements.
- Multi-agency evaluation teams that include key contact individuals from relevant state permitting agencies to coordinate the regulatory requirements of all affected agencies and foster inter-agency cooperation between states and MMS.
- Development of memoranda of understanding between MMS and relevant federal and state regulatory agencies to incorporate their regulatory and permitting requirements into MMS project-specific environmental impact statements, and to hold joint hearings and require joint study plans.
- Creation of strategic partnerships between MMS and coastal states, such as Massachusetts and New Jersey, to facilitate the planning and permitting of individual projects and test projects in an expeditious, coordinated fashion in strategic geographic areas of the OCS.
- Creation of regional stakeholder groups, with significant participation by the affected governor(s), state agencies with relevant statutory obligations, and affected local governments, to identify appropriate study regions and begin to identify/screen sites with promising development characteristics.

80058-038 (cont.)

Conclusion

CESA remains committed to working closely with MMS as the PEIS process goes forward.

Sincerely,

Mark Sinclair
Vice President, Clean Energy Group
Deputy Director, Clean Energy States Alliance

cc:
Director Burton, MMS
Maureen Bornholdt, MMS

From: ocsenergywebmaster@anl.gov
To: mail_ocsenergyarchives;
Subject: OCS Alternative Energy and Alternate Use Programmatic EIS Comment 80059
Date: Friday, May 18, 2007 4:28:01 PM

Thank you for your comment, Paul Benavidez.

The comment tracking number that has been assigned to your comment is 80059. Once the comment response document has been published, please refer to the comment tracking number to locate the response.

Comment Date: May 18, 2007 04:29:16PM CDT

OCS Alternative Energy and Alternate Use Programmatic EIS
Draft Comment: 80059

First Name: Paul
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Privacy Preference: Don't withhold name or address from public record

Comment Submitted:
It is my feeling that ocean current turbine renewable energy technology is way overdue. This incredibly vast, dense, renewable energy source is truly the best alternative for generating clean electricity for America's increasing needs. Given the fact that petroleum and natural gas will run out as close as 50 years and possibly sooner considering rapidly increasing energy use in developing nations, Americans and indeed world populations are clearly facing a disastrous future without a viable energy alternative becoming operational in the near future. It is paramount America develops ocean current renewable energy immediately and without delay.

80059-001

Questions about submitting comments over the Web? Contact us at: ocsenergywebmaster@anl.gov or call the OCS Alternative Energy and Alternate Use Programmatic EIS Webmaster at (630)252-6182.

From: ocsenergywebmaster@anl.gov
To: mail_ocsenergyarchives;
Subject: OCS Alternative Energy and Alternate Use Programmatic EIS Comment 80060
Date: Saturday, May 19, 2007 9:56:00 AM

Thank you for your comment, christian walter.

The comment tracking number that has been assigned to your comment is 80060. Once the comment response document has been published, please refer to the comment tracking number to locate the response.

Comment Date: May 19, 2007 09:57:08AM CDT

OCS Alternative Energy and Alternate Use Programmatic EIS
Draft Comment: 80060

First Name: christian
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Last Name: walter
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Comment Submitted:
please stop helping the rich get richer & the poor along with the rich lose the only true wealth we have ...planet earth dont be so short sighted or blinded by fake wealth think of people in 100 years not your checks this year.. these things you know very well help yourselves(ourselves..) please

80060-001

Questions about submitting comments over the Web? Contact us at: ocsenergywebmaster@anl.gov or call the OCS Alternative Energy and Alternate Use Programmatic EIS Webmaster at (630)252-6182.

From: ocsenergywebmaster@anl.gov
To: mail_ocsenergyarchives;
Subject: OCS Alternative Energy and Alternate Use Programmatic EIS Comment 80061
Date: Saturday, May 19, 2007 12:32:50 PM

Thank you for your comment, Janis Mooradian.

The comment tracking number that has been assigned to your comment is 80061. Once the comment response document has been published, please refer to the comment tracking number to locate the response.

Comment Date: May 19, 2007 12:33:53PM CDT

OCS Alternative Energy and Alternate Use Programmatic EIS
Draft Comment: 80061

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Comment Submitted:
Talk about inappropriate job placement! Please!

80061-001

Questions about submitting comments over the Web? Contact us at: ocsenergywebmaster@anl.gov or call the OCS Alternative Energy and Alternate Use Programmatic EIS Webmaster at (630)252-6182.

From: ocsenergywebmaster@anl.gov
To: mail_ocsenergyarchives;
Subject: OCS Alternative Energy and Alternate Use Programmatic EIS Comment 80062
Date: Saturday, May 19, 2007 1:54:41 PM

Thank you for your comment, Arthur Kopelman, Ph.D..

The comment tracking number that has been assigned to your comment is 80062. Once the comment response document has been published, please refer to the comment tracking number to locate the response.

Comment Date: May 19, 2007 01:55:43PM CDT

OCS Alternative Energy and Alternate Use Programmatic EIS
Draft Comment: 80062

First Name: Arthur
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Last Name: Kopelman, Ph.D.
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Comment Submitted:
One paragraph from your executive summary has particular significance, namely: "Potential cumulative impacts from alternative energy facilities could be most significant
for water quality, acoustic environment, marine mammals, marine and coastal birds, fish
resources and essential fish habitat, sea turtles, coastal and seafloor habitats, commercial
fisheries, and visual resources."

All else being said, it is clear that the negative impacts of OCS alternative energy generation far outweigh the benefits.

80062-001

Reduced carbon emmissions can and should be achieved first through increased efficiencies and appropriate changes to land based facilities.

80062-001 (cont.)

When and if OCS facilities are sited, they must be sited such that the impacts on marine mammals, seabirds, sea turtles, fishes and fisheries are negligable. Vulnerability indices (sensu Garthe and Huppo, 2004)should be developed.

80059-001

(Garthe, Stefan and Ommo Hüppop. "Scaling possible adverse effects of marine wind farms on seabirds: developing and applying a vulnerability index." Journal of Applied Ecology 41 (2004): 724-734.)

Questions about submitting comments over the Web? Contact us at: ocsenergywebmaster@anl.gov or call the OCS Alternative Energy and Alternate Use Programmatic EIS Webmaster at (630)252-6182.

From: ocsenergywebmaster@anl.gov
To: mail_ocsenergyarchives;
Subject: OCS Alternative Energy and Alternate Use Programmatic EIS Comment 80063
Date: Saturday, May 19, 2007 7:50:37 PM

Thank you for your comment, diana shannon.

The comment tracking number that has been assigned to your comment is 80063. Once the comment response document has been published, please refer to the comment tracking number to locate the response.

Comment Date: May 19, 2007 07:51:51PM CDT

OCS Alternative Energy and Alternate Use Programmatic EIS
Draft Comment: 80063

First Name: diana
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Comment Submitted:
Dear Mr. Chris Oynes:

Thank you for the opportunity to comment on your draft Programmatic Environmental Impact Statement.

I am concerned that MMS plans to allow energy companies to abandon unused oil platforms instead of requiring companies to remove them as mandated by federal law. MMS should not allow energy companies to avoid paying the costs of removing their rigs, estimated to be $9.9 billion from 1985-2020, when nothing in the 2005 Energy Act gives MMS such new authority.

80063-001

I also am concerned that MMS plans to establish a program to permit industrial fish farming in federal waters even though Congress has not specifically authorized this activity. This would exceed MMS's mandate and capacity, which is clear given that the draft PEIS does not adequately address the ecological, human health, and economic impacts of fish farming. Specifically, fish farms anchored off oil rigs may:

80063-002

* Cause long-term contamination of the marine environment due to the abandoned oil rigs.
* Threaten the environment and consumers because of the connection between oil and gas rigs and elevated mercury levels in surrounding sediments and fish.
* Harm consumers by using chemicals, antibiotics, and hormones to raise fish in crowded conditions.
* Harm the marine environment through transmission of disease and parasites to wild fish populations.
* Deplete wild fish populations because farmed finfish require wild fish for feed.
* Harm marine ecosystems when non-native or genetically distinct farmed fish escape and interact with wild fish populations.

80063-002 (cont.)

I respectfully request that you consider these factors and do not exceed the authority granted to you under the Energy Act of 2005.

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Take Action

The Minerals Management Service should manage oil and minerals, not our

seafood.

Diana Shannon

Questions about submitting comments over the Web? Contact us at: ocsenergywebmaster@anl.gov or call the OCS Alternative Energy and Alternate Use Programmatic EIS Webmaster at (630)252-6182.

From: ocsenergywebmaster@anl.gov
To: mail_ocsenergyarchives;
Subject: OCS Alternative Energy and Alternate Use Programmatic EIS Comment 80064
Date: Sunday, May 20, 2007 9:39:57 PM

Thank you for your comment, G L LEBLANC.

The comment tracking number that has been assigned to your comment is 80064. Once the comment response document has been published, please refer to the comment tracking number to locate the response.

Comment Date: May 20, 2007 09:41:09PM CDT

OCS Alternative Energy and Alternate Use Programmatic EIS
Draft Comment: 80064

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Email: gleblanc@uoregon.edu
Privacy Preference: Don't withhold name or address from public record

Comment Submitted:
I don't know a lot of science, but I DO know these things.

The U.S.A. must decrease carbon dioxide emissions, methane emissions, and nitrous oxide emissions. Therefore we must put all of our resources in developing the energy sources that cause the lease of these emissions without other serious harmful effects: solar and wind power, followed by the type of hydrogen power that does not require a huge amount of farming--i believe it is called hydrogen-cell, and uses water.

80064-001

In other categories, we absolutely must close all oil and gas leasing, both onshore and offshore in front of, or on the north side of, ANWR. The polar bear deserves no less. It is up to us to find energy sources that do not cause the polar bear to drown. It is up to us to find energy sources that return the ice to the Arctic.

See studies by Derocher, Amstrup, Servheen, and more.

Thank you for accepting these official comments.

G. L. LeBlanc
student
UO Law

Questions about submitting comments over the Web? Contact us at: ocsenergywebmaster@anl.gov or call the OCS Alternative Energy and Alternate Use Programmatic EIS Webmaster at (630)252-6182.

From: ocsenergywebmaster@anl.gov
To: mail_ocsenergyarchives;
Subject: OCS Alternative Energy and Alternate Use Programmatic EIS Comment 80065
Date: Sunday, May 20, 2007 9:51:28 PM

Thank you for your comment, G L M LEBLANC.

The comment tracking number that has been assigned to your comment is 80065. Once the comment response document has been published, please refer to the comment tracking number to locate the response.

Comment Date: May 20, 2007 09:52:48PM CDT

OCS Alternative Energy and Alternate Use Programmatic EIS
Draft Comment: 80065

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Comment Submitted:
RE: COMMENT 80064

I just sent in comments that said we must "develop the energy sources that will cause the LEASE of these emissions."

I meant to say the LEAST of these emissions. Please add this addendum to my comments. THANK YOU.

Questions about submitting comments over the Web? Contact us at: ocsenergywebmaster@anl.gov or call the OCS Alternative Energy and Alternate Use Programmatic EIS Webmaster at (630)252-6182.

From: ocsenergywebmaster@anl.gov
To: mail_ocsenergyarchives; ocsenergywebmaster@anl.gov;
Subject: OCS Alternative Energy and Alternate Use Programmatic EIS Comment 80066
Date: Monday, May 21, 2007 7:06:03 AM
Attachments: MAS_comment_on_Progm_DEIS_80066.doc

Thank you for your comment, John clarke.

The comment tracking number that has been assigned to your comment is 80066. Once the comment response document has been published, please refer to the comment tracking number to locate the response.

Comment Date: May 21, 2007 07:07:16AM CDT

OCS Alternative Energy and Alternate Use Programmatic EIS
Draft Comment: 80066

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Attachment: C:\Documents and Settings\jclarke\My Documents\JACK-NEW \Energy\MMS Programmatic EIS\MAS comment on Progm DEIS.doc

Questions about submitting comments over the Web? Contact us at: ocsenergywebmaster@anl.gov or call the OCS Alternative Energy and Alternate Use Programmatic EIS Webmaster at (630)252-6182.

Mass Audubon
Protecting the Nature of Massachusetts

6 Beacon St., Suite 1025
Boston, MA 02108

May 21, 2007

Deleted: ¶
¶

USDOI/MMS Alternative Energy & Alternate Use Programmatic EIS
Argonne National Laboratory EVS/900
9700 S. Cass Ave.
Argonne IL 60439

Re: *OCS Alternative Energy and Alternate Use Programmatic EIS*

Dear Sir/Madam:

Thank you for the opportunity to comment on the Outer Continental Shelf *(OCS) Alternative Energy and Alternate Use Draft Programmatic Environmental Impact Statement (EIS).*

Mass Audubon works to protect the nature of Massachusetts for people and wildlife. Together with more than 100,000 members, we care for 32,000 acres of conservation land, provide educational programs for 200,000 children and adults annually, and advocate for sound environmental policies at local, state, and federal levels. Mass Audubon's mission and actions have expanded since our beginning in 1896 when our founders set out to stop the slaughter of birds for use on women's fashions. Today we are the largest conservation organization in New England. Our statewide network of 43 wildlife sanctuaries welcomes visitors of all ages and serves as the base for our conservation, education, and advocacy work.

We understand that the US Department of the Interior's Minerals Management Service (MMS) has prepared this draft EIS to support the establishment of a program that provides for the efficient and orderly development of alternative energy projects on the federal OCS as well as the alternate use of offshore facilities for other energy and marine-related activities. We also observe

that the draft Programmatic EIS takes a first look at the potential environmental, social, and economic impacts from and mitigation measures for the activities that could be initiated in the next five to seven years. We support both objectives.

Mass Audubon recognizes that all energy choices have environmental impacts. MMS must, however, evaluate the potential environmental risks associated with the operation of appropriately sited offshore wind energy facilities against the proven destructive effects on the marine environment associated with the production and consumption of fossil fuels.

Consistent with MMS' desire to establish the Alternative Energy and Alternative Use Program, Mass Audubon has undertaken the following activities:

- On May 25, 2006, we provided oral testimony to MMS at the Boston, Massachusetts Area Hearing on the *Renewable Energy & Alternate Use Programmatic EIS Scoping*.
- We followed this up on December 21, 2006, by providing MMS with written comments on the *Renewable Energy & Alternate Use Program on the Outer Continental Shelf EIS Scoping*.
- On January 11, 2007, as invited by MMS, we participated in the regional stakeholder meeting in Boston on the development of the alternative energy and alternate use program on the Outer Continental Shelf (OCS) under Section 388 of *The Energy Policy Act of 2005*.
- On April 26, 2007 in Newton, Massachusetts, we provided oral testimony to MMS on the *OCS Alternative Energy and Alternate Use Draft Programmatic EIS*.
- As further invited by MMS, we have also agreed to continue this conversation by participating in a *Workshop to Identify Alternative Energy Environmental Information Needs* on June 26-28, 2007 at MMS headquarters in Herndon, VA.

We also have direct experience in this matter having commented both orally and in writing on the following first-in-the-nation offshore wind energy project– the Cape Wind Energy Project. Our participation has taken the following forms:

- Comments to MMS on the *Notice of Intent to Prepare an EIS on the Cape Wind Project*, July 11, 2006;
- Comments to the U.S. Army Corps of Engineers, New England District on the *Draft Environmental Impact Statement/Report/Development of Regional Impact* (DEIS) *for the Cape Wind Energy Project,* Dec. 23, 2005 (NAE-2004-338-1.)

Also in this regard and as requested, we provided to MMS comments from Mass Audubon, The Nature Conservancy, and the Berkshire Natural Resources Council on The Commonwealth of Massachusetts' failed attempts to draft avian and bat guidance for onshore wind energy facilities. Lessons learned from this effort can assist MMS in furthering its draft EIS goals.

As responsible citizens, stewards, and advocates, Mass Audubon strongly supports public policies and private projects that advance energy conservation and efficiency. We also support the development of wind farms as a renewable energy source to offset the effects of global climate change produced by the burning of fossil fuels.

Rapid climate warming is one of the most serious long-term threats to the nature of Massachusetts and planet. This warming primarily results from the burning of fossil fuels to power cars, trucks, planes and trains, and generate electricity. Though we make up just 4 percent of the world's population, Americans produce 25 percent of the world's carbon dioxide pollution.

The development production, and consumption of fossil fuels also damages the public's health and environment including destruction of wildlife habitat from drilling and mining; the closure of shell fisheries and fouling of beaches by oil spills; damage to human health from air and water pollution; and contamination of groundwater from the disposal of solid and hazardous waste.

To reduce these impacts, the reliance on fossil fuels as a major source of energy must be dramatically reduced. Simultaneously, there must be an aggressive increase in the amount of energy derived from renewable sources. As such, we endorse MMS' alternative energy and alternative use program. 80066-001

Of the renewable energy options currently available, wind power has the greatest potential to mitigate the harmful environmental effects of rapid climate warming caused by the burning of fossil fuels. Technology to harvest wind is among the more advanced, widely available, and environmentally benign of the renewable energy options. While all energy choices have environmental impacts, the potential environmental risks associated with the operation of wind energy facilities must be evaluated against the proven destructive effects associated with the production and consumption of fossil fuels. That evaluation should be made based on the standards established by MMS through the alternative use program and against each individual project proposal off our coast.

The potential environmental risks of wind energy development can be reduced by the development of responsible and informed standards for siting wind energy facilities. The development of wind energy on the OCS should also include standards for the installation and decommissioning of these facilities.

Again, we support MMS' efforts to establish offshore wind energy standards. While some existing regulatory programs do apply to wind energy projects, such as those developed by the Bureau of Land Management, as noted in the PEIS, these programs were developed prior to today's large-scale proposals and do not address potential risks to birds, wildlife and remote habitats in the offshore environment. We therefore believe that the wind energy industry and permitting agencies would benefit from a framework of comprehensive planning and facility siting criteria to guide projects to the most appropriate locations, as proposed here.

Measures needed to promote the development of wind energy and manage its effects include:

- Establishing leasing programs to compensate the public for use of state and federal lands and waters;
- Developing planning and siting criteria to guide environmentally sound facility site selection, including on state and federal lands and waters; 80066-002
- Refining regulatory permitting procedures;
- Establishing protocols for multi-year pre- and post-construction monitoring; and
- Establishing procedures for decommissioning abandoned wind energy facilities.

In the planning, permitting, operation and decommissioning of wind energy facilities, the location and scale of wind farms must not pose a significant threat to terrestrial, marine, and avian wildlife and habitat. Unless it can be shown that the construction and operation of wind turbines would not significantly lower the habitat value or pose undue mortality risks for wildlife at a proposed site, we recommend, that wind energy facilities avoid:

- Sites documented as important habitat for state and federally listed endangered species;
- Important Bird Areas; and
- Commonwealth of Massachusetts BioMap Core Habitat.

Based on the habitat value criteria noted above, Mass Audubon will undertake a risk analysis of certain wind energy projects and weigh the benefits and detriments as we review and comment on each proposal.

As renewable energy technologies advance and more is learned about this growing and promising industry, the early permitted projects and leased areas should be closely monitored for their overall impacts on the environmental – both beneficial and adverse. This information and data can then be used by MMS to inform future phases of lease sales consistent with monitoring protocols (see below.)

Mass Audubon continues to recommend that an Adaptive Management Plan be a central and necessary component to the permitting of wind energy facilities on the OCS. An Adaptive Management Plan for wind energy facilities should include but not necessarily be limited to the following requirements:

- Solid and adequate baseline data on the existing project-area environment based on multiple years of pre-construction monitoring;
- A comprehensive, rigorous, and scientifically valid three-year monitoring program on area avian life beginning at the construction phase;
- Independent scientific review panel responsible for analyzing data collected during monitoring, and preparing reports for peer review and dissemination to relevant agencies, applicant(s), and public;
- Mitigation measures in the event that a project results in any ecologically significant adverse impacts to the marine environment;
- Agency permit, license, authorization, and lease adjustments made over the life of a project based on the need to mitigate against any ecologically significant adverse impacts to the marine environment;
- Monitoring and mitigation should be funded by applicants, supplemented with contributions from independent institutions and government agencies as appropriate. Independent third parties should administer any mitigation funds;
- Mitigation funds established for conservation of habitat in and around a project site;
- Fair and adequate compensation for the use of public lands and waters; and
- Enforceable procedures for decommissioning any abandoned facilities.

Thank you again for the opportunity to comment. We look forward to your response in the Final Programmatic EIS.

Sincerely,

John J. Clarke
Director of Public Policy & Government Relations

80066-003

80066-004

From: ocsenergywebmaster@anl.gov
To: mail_ocsenergyarchives;
Subject: OCS Alternative Energy and Alternate Use Programmatic EIS Comment 80067
Date: Monday, May 21, 2007 8:54:12 AM

Thank you for your comment, Ted Tupper.

The comment tracking number that has been assigned to your comment is 80067. Once the comment response document has been published, please refer to the comment tracking number to locate the response.

Comment Date: May 21, 2007 08:55:27AM CDT

OCS Alternative Energy and Alternate Use Programmatic EIS
Draft Comment: 80067

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Comment Submitted:

I have two homes, one in York Springs, PA and a second home in Pine Beach, Ocean County, NJ. The EIS notes that Ocean County has the highest ozone measurement readings in the region.

I have four comments on the EIS.

First the EIS uses a four level classification scheme of impacts: negligible, minor, moderate and major. This scheme is in error. There is a fifth classification of impacts which is enhancements to the environment. 80067-001

My second comment concerns marine habitat. The oil and gas OCS experience as documented in the EIS is that man made structures attract marine life. This marine life then attracts recreational fishing. The EIS references a study that 22% of recreational fishing trips in the Gulf of Mexico OCS are to artificial structures like OCS platforms. This is an improvement to marine habitat which is an example of an enhancement of the environment. The fish resources, tourism, recreation parts of section 7 need to be modified to reflect the enhancement of the environment already documented earlier in the EIS. 80067-002 (cont.)

My third comment concerns air quality. If alternative energy projects on the OCS do come to operations, they will be an enhancement to the air quality environment to places like York Springs, PA and Pine Beach, NJ. 80067-003

My fourth and final comment concerns a study referenced about extracting 4% of the energy from the Florida Current. This study is about a third of a century old. This analysis needs to be revisited. 80067-004

Questions about submitting comments over the Web? Contact us at: ocsenergywebmaster@anl.gov or call the OCS Alternative Energy and Alternate Use Programmatic EIS Webmaster at (630)252-6182.

From: ocsenergywebmaster@anl.gov
To: mail_ocsenergyarchives; ocsenergywebmaster@anl.gov;
Subject: OCS Alternative Energy and Alternate Use Programmatic EIS Comment 80068
Date: Monday, May 21, 2007 8:55:58 AM
Attachments: EDF_ocean_energy_MMS_PEIS_comments_052107_80068.pdf

Thank you for your comment, Rod Fujita.

The comment tracking number that has been assigned to your comment is 80068. Once the comment response document has been published, please refer to the comment tracking number to locate the response.

Comment Date: May 21, 2007 08:57:10AM CDT

OCS Alternative Energy and Alternate Use Programmatic EIS
Draft Comment: 80068

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Questions about submitting comments over the Web? Contact us at: ocsenergywebmaster@anl.gov or call the OCS Alternative Energy and Alternate Use Programmatic EIS Webmaster at (630)252-6182.

Comments of Environmental Defense Concerning MMS's Draft Alternative Energy and Alternate Use Programmatic EIS

May 19, 2007

Contact: Rod Fujita
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Telephone: 510 658 8008 Email: rfujita@environmentaldefense.org

Overview

Environmental Defense is a worldwide, not-for-profit organization, whose hallmark is "finding the ways that work," environmentally, economically, and legally. Our organization is deeply committed to durable strategies that meet people's needs for energy while taking dramatic action to reduce global warming pollution. Achieving this goal will entail the use of a variety of tools including energy conservation and renewable energy production.

"Blue" Ocean Energy

Meeting America's on-going energy needs while at the same time addressing the global warming challenge will require a new age of energy conservation, and the tapping of sustainable options for ecofriendly energy production. There is no doubt that firm limits on emissions of greenhouse gases, and increased energy conservation, are critical to slowing global warming. But it seems increasingly unlikely that conservation alone can meet the nation's energy demands. As the world turns to "low carbon" or "clean" energy sources that minimize contributions to global warming, it is increasingly likely that the sea will be a part of the "greening" (or, maybe more appropriately in this case, "bluing") of our energy-production portfolio.

There are key ocean energy sources (like wind, tide, wave, and current) that are potentially sustainable, and that will help us address global warming, while others will not help us move closer to a sustainable future (for example, methane clathrates from the deepsea).

Ocean energy development should occur under the following guiding principles:

1. Ocean energy development should be based on clearly defined standards and criteria, and consistent with a national policy of protecting and restoring healthy ocean ecosystems, including cumulative impacts.

2. The public should benefit from the use of public resources, and appropriate incentives should be in place to encourage green energy development; decision processes should encourage public engagement, and meet the highest standards of transparency.

3. The federal government should support the research needed to develop cutting-edge green technologies, to understand and mitigate their potential impacts, and to accelerate technologies that are less polluting, and consistent with sustainable oceans.

4. The federal government should invest in the science needed to manage marine ecosystems effectively; government decisions should be based on peer-reviewed science.

Protecting Ocean Ecosystems

Today, it appears that while some ocean energy technologies have unacceptable impacts on coastal ecosystems, many others may have fairly low and manageable environmental impacts. Even so, our decision processes are not currently adequate to distinguish among projects that are consistent with sustainable oceans and those that are not.

To make the challenge even greater, many of the technologies available today have the very real potential for much greater cumulative impacts at larger scales. Little has been done to assess the consequences of commercial scale operations in the ocean, or to identify ways to minimize and mitigate those effects. For example, a small wave energy facility may have a negligible impact, but many such facilities or a very large scale facility could have adverse impacts on local circulation patterns that could be critical for maintaining transport of fish larvae, sediment and nutrient delivery, and other important ecological processes and services. Similarly, the way ocean energy projects are implemented, and the specific kind of technology employed, could have a large bearing on the size of their cumulative environmental impact. For example, slow-speed turbines that are phased in over time would be expected to have lower environmental impact than the damming of an estuary to construct a tidal barrage.

Incentives and Public Benefits

The ocean is a vast common resource, presenting significant challenges for policy makers on how to avoid unsustainable use while encouraging appropriate development. Few "use privileges" or other conservation incentives exist in the sea that could institutionalize orderly and controlled development of marine resources. Environmental Defense has

recently completed a study of approaches that have been used in this country to manage public trust resources, called "Sustaining America's Fisheries and Fishing Communities." We found that while granting use privileges is a common tool in resource management, the way those privileges are administered can achieve other social benefits.

There is also a strong need for a new "social contract" with regard to ocean resource use similar to the evolution of natural resource policies on land, where emphasis has shifted through time from rapid extraction at all costs ("use-it-or-lose-it," with no economic rents) to sustainable use (appropriate regulation coupled to positive incentives, and including economic rents, e.g. auctions of electromagnetic spectrum).

Current Challenges

The United States lags behind others in assessing, experimenting and investing in truly sustainable ocean energy technologies, and has fallen far short on investing in the science necessary to manage ocean ecosystems effectively. Basic information on the distribution, abundance and function of marine habitats is woefully inadequate. In fact, much of the information available on deepwater ecosystems has been developed directly by private project proponents. Until we properly understand habitat function and oceanographic processes that support habitats and biodiversity, we will remain unable to adequately avoid impacts on important habitats, and mitigate for unavoidable impacts. Until we adequately understand the array of perspective technologies available, and their likely implications for marine ecosystems, it will remain difficult to plan for sustainable ocean energy.

Recent debates have centered on the risks and environmental dangers of specific installations, and on perceived impacts on coastal ways of life, rather than on defining broad science-driven criteria and standards for ocean energy development that transcend individual projects while conserving coastal landscapes and seascapes. Certainly, coastal communities and other ocean resource users (e.g., fishermen) should have a voice in where development occurs. However, fully understanding the potential costs (such as habitat degradation) and benefits (including reducing the impacts of global warming) is critical to ensuring rational decision-making that is in the best interest of all.

Management authority for ocean uses is split among many agencies with unaligned legal requirements. There is neither a clearly defined approval process for "blue" energy development nor are there set conditions for decision-making. Getting past this fractured system of ocean governance will require the development and implementation of programs that people can trust to ensure that the coastal environments they hold dear will not be destroyed by industrial development for renewable energy production.

Recommendations for Blue Energy

An effective management system for blue ocean energy in the outer continental shelf (OCS) needs to include the following:

1) A national ocean policy that brings together the many expanding offshore uses under a unified vision for healthy and sustainable oceans.
2) Clearly defined standards and criteria for decision-making that align incentives to provide for clean (i.e. low-carbon), renewable ocean energy development *and* conservation of the ocean environment.
3) A mechanism for capturing value associated with use privileges (e.g. permits) that is put towards ocean conservation.
3) A lead regulatory entity (such as an agency or regional council) with an ecosystem-protection mission and substantial capacity (including knowledge, authority, and funding) on both energy and marine ecosystem health.
4) A transparent and robust project planning and evaluation process that includes integrating input from stakeholders, states and other agencies;
5) Long-term development plans that:
   - meet the defined standards and criteria for decision-making;
   - project and address cumulative impacts;
   - establish clear and efficient siting parameters for specific installations;
   - establish measurable objectives for evaluation;
   - are compatible with regional ecosystem fishery management plans;
   - are based on appropriate social and economic incentives and strong science, including enhanced investments in understanding and mapping benthic habitats;
   - have strong accountability measures for unanticipated adverse environmental impacts, such as performance bonding.
6) Sustained funding for ocean and energy science and management.

<u>General Comments of the Programmatic Environmental Impact Statement (PEIS)</u>:

In general, the strengths of this PEIS include:

- its systematic nature.
- good descriptions of the affected environment and resources.
- the fact that cumulative impacts are considered at all.
- inclusion of sections on environmental justice and the acoustic environment.

Weaknesses include:

- a tendency to minimize adverse impacts with regard to migratory birds and fisheries. 80068-001
- a tendency to emphasis the benefits of alternative uses and to minimize potential adverse effects. For example, the description of impacts associated with removing oil and gas rigs is heavily skewed toward the negative impacts on the ecological communities associated with the rigs, rather than on any potential benefits for the restoration of the natural communities that were displaced by the rigs originally. 80068-002

The description also emphasizes the benefits of rig communities to sportfishing etc. and does not describe any of the controversies associated with this issue (e.g., do rig communities increase exposure of vulnerable species that are attracted to the rigs away from natural reefs to fishing pressure?). 80068-002 (cont.)

- failure to adequately consider scaling of impacts (another type of "cumulative impact") as offshore energy and alternative uses scale up to meet projected demand. 80068-003
- failure to comprehensively consider alternative uses of offshore facilities. For example, the PEIS fails to consider deep water carbon sequestration activities that may involve the use of offshore facilities or facilities onshore in Hawaii or other places where deep water lies close to shore, which could potentially affect federal waters (e.g., through the development of large dead zones associated with mortality from liquefied CO2). 80068-004
- in many places, the PEIS seems to assume that many impacts will be offset after decommissioning: e.g., reclamation of the sites for other purposes, recycling of construction materials, etc. However, at the same time, PEIS is bullish on the alternate use of offshore facilities to avoid impacts and costs associated with removal. This is internally inconsistent. 80068-005
- failure to consider the framing of a national policy to define how use privileges (e.g., leases for ocean energy facilities and permits for alternative uses) will be allocated and how resource rents will be tapped to help fund ocean conservation, mitigation, and restoration efforts. Because this PEIS and the proposed AEAU program deal with new uses of the OCS, such a national policy should be front and center. 80068-006
- a presumption that offshore aquaculture should be regulated under the proposed project.

We urge that MMS exclude aquaculture from the PEIS and subsequent rulemaking. Congress is now considering legislation to regulate offshore aquaculture. MMS should not bypass or prejudice this process. The 2005 Energy Act gives MMS the authority over "authorized" marine-related uses, and Congress has not specifically authorized offshore aquaculture. Moreover, some types of marine aquaculture are already known to pose significant threats to ocean ecosystems and wild fisheries, and the expansion of offshore aquaculture may create additional risks. MMS should defer any decisions or rules pertaining to offshore aquaculture until Congress has had the opportunity to establish sound standards to protect the environment from aquaculture-related impacts. Only then can siting, construction, technology choices, and risk mitigation be properly analyzed. 80068-007

<u>Specific Comments</u>

Executive Summary

Page ES-1. The PEIS assumes that given rapid evolution of industry, MMS cannot foresee all possible alternative energy and alternate uses and impacts; hence, the focus of 80068-008

the PEIS is on industry proposals. This is short-sighted and too passive. The PEIS could instead focus on defining and promulgating performance standards (e.g., site ecosystem structure and function – or health – standards, construction impacts standards, regional-scale cumulative impact standards) that would apply to proposed, anticipated, as well as unanticipated projects. This would create incentives for innovation to meet the standards and provide guidance for projects that are still in the pipeline or not even conceived of yet.

80068-008 (cont.)

Page ES-1. The area of interest of the PEIS is restricted to 500 m. This fails to consider the rapidly evolving interest in deepwater carbon sequestration technologies. They could be classified an alternate use (if, e.g., oil rigs are used to support deepwater carbon injection) and thus subject to regulation under the proposed AEAU program.

80068-009

Page ES-2. Hawaii is not included in analysis due to deep waters nearshore and inclusion of waters in National Marine Sanctuaries, not subject to MMS jurisdiction. It seems illogical to exclude Ocean Thermal Energy Conversion (which has already been piloted in Hawaii) from the PEIS or AEAU. While OTEC is not listed directly in the Energy Policy Act, it should be interpreted to include OTEC as it is a leading ocean energy technology. Hawaii's ocean environment in particular may be suitable for OTEC and deepwater carbon sequestration, but these kinds of technologies should be subject to stringent performance standards and review processes before development begins.

80068-010

Page ES-2. Tide energy is excluded from the analysis because of it will be pursued nearshore outside MMS jurisdiction. However, can offshore projects of sufficient scale interact with nearshore projects, necessitating some coordination and integration of nearshore and offshore standards and policies?

80068-011

Page ES-3. Among the benefits of an AEAU program, relative to the alternatives, is that it should provide a mechanism for assessing, preventing, and mitigating cumulative impacts from multiple projects.

80068-012

Page ES-5. There is a disturbing lack of attention to the potential for cumulative impacts of multiple projects, or of potential impacts from scaled-up projects in the discussion of environmental impacts of alternative ocean energy technologies.

Page ES-5. The conclusion that impacts associated with offshore wind energy are likely to be negligible given proper siting, testing, operation, and decommissioning seems naïve at best given the state of knowledge of ocean ecosystem structure and function. Biodiversity levels are not known even within an order of magnitude. New species of large organisms (e.g. sharks, octopi, squid) have been discovered in the last decade. Substock structure of metapopulations remains largely uncharacterized. Reaching such a conclusion in the face of such lack of information is not prudent.

80068-013

Page ES-5. While it is true that several ocean energy technologies have already been tested, long-term impacts are not well characterized. Durability in extreme events has also not been well tested, and this has been the bane of many well-intentioned offshore engineering attempts (e.g., floating kelp farms of the 1970's that were destroyed in mild storms). Environmental impacts associated with facility failure and destruction in extreme events should be described here.

80068-014

Page ES-7. Once again, projected impacts associated with testing wave energy conversion plants are expected to be minimal but no attention is given to impacts associated with scaled-up operations or cumulative impacts.

80068-015

Page ES-8. There is a distressing lack of attention to the effects of wave attenuation itself, as opposed to impacts associated with siting and other facets of wave energy. At large geographic scales (again, the cumulative impacts associated with regional-scale projects) or at high intensity levels (facilities that very efficiently attenuate waves and capture energy from them) or in sites where waves are highly focused, large impacts on sediment transport, surf breaks, sediment type, etc. – attributes that are exceedingly important for the distribution and abundance of marine organisms as well as for proper ecosystem functioning – would be expected.

80068-016

Page ES-9. Is the Florida current really the only OCS current that provides strong, steady flows?

80068-017

Page ES-11. The description of impacts associated with removing oil and gas rigs is heavily skewed toward the negative impacts on the ecological communities associated with the rigs, rather than on any potential benefits for the restoration of the natural communities that were displaced by the rigs originally. The description also emphasizes the benefits of rig communities to sportfishing etc. and does not describe any of the controversies associated with this issue (e.g., do rig communities increase exposure of vulnerable species that are attracted to the rigs away from natural reefs to fishing pressure?).

80068-018

Page ES-12. No mention is made of an increased risk of escape of organisms cultivated offshore, though increased risk seems likely due to the occurrence of more extreme events offshore and difficulties in monitoring offshore facilities. Also, no mention is made of the need for aquaculture operations to improve feed-conversion ratios or to prevent the spread of disease to wild organisms in the Mitigation section. There is also an assumption inherent in this analysis that cultivating native species only will alleviate most concerns with escapes; however, this does not take into account the risk that cultivation will result in some degree of selection and a shift in genetic structure of the cultivated stocks, and that escapes and genetic introgression with wild stocks may occur, not to mention risks associated with the cultivation of genetically-modified native species.

We urge that MMS exclude aquaculture from the PEIS and subsequent rulemaking.

80068-019

Congress is now considering legislation to regulate offshore aquaculture. MMS should not bypass or prejudice this process. The 2005 Energy Act gives MMS the authority over "authorized" marine-related uses, and Congress has not specifically authorized offshore aquaculture. Moreover, some types of marine aquaculture are already known to pose significant threats to ocean ecosystems and wild fisheries, and the expansion of offshore aquaculture may create additional risks. MMS should defer any decisions or rules pertaining to offshore aquaculture until Congress has had the opportunity to establish sound standards to protect the environment from aquaculture-related impacts. Only then can siting, construction, technology choices, and risk mitigation be properly analyzed. 80068-019 (cont.)

Page ES-14. The inclusion of a cumulative impacts section is laudable, but the approach seems reactionary rather than proactive. Essentially, the plan is to allow industry to propose any project it wants, and then assess the cumulative impact of all projects as new projects are assessed and reviewed. We believe it would be better to set caps on impacts (percentage wave attenuation, percentage reduction in circulation, etc.) -- with adaptive management built-in to deal with uncertainty – within regional management areas and guide industry projects in a way that results in the provision of a planned amount of energy within these constraints. This may be akin to natural resource conservation and development planning, which provides more regulatory certainty (something industry tends to like) while safeguarding the public trust. 80068-020

Chapter 2. Proposed Action and Alternatives.

Sec. 2.4.2. This section describes why MMS did not analyze a zoning approach: "At this early stage, MMS did not want to limit the possibilities of development in federal waters by identifying locations with the best [energy] resources". It is assumed that MMS cannot reasonably identify zones that are best for particular kinds of energy projects due to data deficiencies. Instead, MMS would rely on industry proposals and cooperation with coastal states to perhaps someday come up with a zoning plan. This approach has the advantage of fostering creativity on industry's part, but is passive and does not constrain the development of industry plans with clear environmental standards. A better approach may be to identify areas that seem incompatible with OCS energy production, be it renewable or oil/gas. Alternatively, detailed performance standards (e.g., limits for impacts on ecosystem structure and function during construction, operation, and decommissioning phases) could be used, thus avoiding detailed prescriptions that would hamper industry's ability to innovate. Yet another alternative would be to couple the planned "call for interest" with an effort to map energy potential from various technologies based on industry interest and with an analysis of sensitive areas that should be protected because they may be incompatible with certain or all proposed technologies. 80068-021

Chapter 4. Affected Environment

More discussion of the ecological processes that shape coastal ecosystems and maintain diversity and ecological services, especially those processes that may be affected by various ocean energy technologies, would be extremely useful. These processes may include sediment loading, wave action, tidal flows, nearshore circulation, and wind patterns. The document includes dozens of pages of description of coastal habitats, but it is difficult to find any mention of these critical processes in this chapter. At large scales, attenuation of waves by wave energy technologies, attenuation of winds that shape dunes and beaches by offshore wind technology, etc. may have profound impacts on the fundamental physical processes essential for maintaining biodiversity, ecological functions, and ecosystem resilience to climate change and other factors. 80068-022 (cont.)

With respect to the socioeconomic environment, scant mention is made of demographic, real estate, property value, or other trends that may by influenced by the development of ocean energy. For example, ocean energy may have secondary impacts (through the provision of more infrastructure, workers, etc.) on rural and isolated areas of the coast which may have retained their fishing heritage or other valued attributes in part due to isolation. 80068-023

Sec. 4.2.5.4. This section should describe and cite recent studies of the effects of mid-range sonar tests conducted by the Navy on Cuvier's beaked whales which showed mortality, with clear signs of damage from pressure waves. 80068-024

Sec. 4.2.5.5. This section should describe the SOFAR layer (a sound-concentrating layer that can conduct sound over long distances) and whether or not sound emanating from ocean energy facilities during any phase of their construction, operation, or decommissioning could be transmitted beyond a projected sphere of influence based on propagation outside the SOFAR layer. 80068-025

Sec. 4.2.18.3. The concept of analyzing environmental justice impacts is laudable; however, the analytical approach described, with its focus on description of low income communities and communities of color and their distribution, may reduce its effectiveness. Research suggests that the most salient attribute of families and communities that are disproportionately affected by large infrastructure projects and/or pollution tends to wealth and mobility, not necessarily income or color. 80068-026

Chapter 5. Potential Impacts of Alternative Energy Development

Based on a rapid review, the PEIS description of potential impacts seems quite comprehensive. There are likely to be some conflicting opinions about the impacts of geophysical surveys on fish and marine mammals (i.e., the PEIS tends to characterize them as negligible or minor, but some mammologists may characterize some survey techniques using powerful sonar, explosions, and/or other sources of sound as dangerous). 80068-027

Sec. 5.2.1.3. Impacts of construction of offshore wind turbines might include interference with fishing operations (increased vessel traffic, dock operations, fuel dock traffic, etc.). 80068-028

Removal of boulders to prepare sites would likely impact fish and invertebrates that shelter in boulder piles. 80068-029

Sec. 5.2.5. It is laudable to include section on impacts to the acoustic environment.

Chapter 7. Analysis of the Proposed Action and Its Alternatives

Sec. 7.1.1. This section references a collaborative effort between government agencies and industry to develop policies that would guide the development of ocean energy and alternate uses. We strongly suggest that this process include environmental organizations, community interests, and policy experts. 80068-030

The summary of potential impacts in this section seems, overall, reasonable with two possible exceptions:

1. Impacts on migratory birds (including endangered species), which are characterized as moderate. This should probably be upgraded to moderate to major. 80068-031
2. Impacts on fisheries, characterized as negligible to minor. Consider upgrading to minor-moderate, especially when considered within the context of highly regulated fisheries with already complex zoning (no-trawl zones, etc.) that restrict opportunities. 80068-032

Sec. 7.1.2. Alternate Uses. While the PEIS is bullish on it, the logic of using existing offshore infrastructure to support renewable ocean energy is less clear. First, the PEIS should not pre-empt Congressional action regarding offshore aquaculture. Second, it is not clear that the projected benefits of offshore aquaculture will outweigh the projected economic risks (to capture fisheries) and environmental risks. If such action is taken, the PEIS should require some level of compensation to the public by the owners of existing infrastructure for the avoidance of decommissioning costs and commitments significant enough to avoid altering the cost structure for oil/gas exploitation in the OCS (substantially reduced decommissioning costs may incentivize lower-margin oil/gas operations). 80068-033

Sec. 7.5. Cumulative Impacts. It is laudable that the PEIS addresses cumulative impacts; however, the definition that is applied is somewhat limited: impact of the proposed action when added incrementally to other past, present, or future actions. Environmental Defense applies a broader definition when we refer to "cumulative impacts", including in the definition impacts that scale up with an increasing number of offshore energy projects or alternative uses of offshore structures. The PEIS description and analysis appears to fail to give due consideration to these types of cumulative impacts. 80068-034

Sec. 7.6.2. The PEIS concludes that impacts associated with construction of offshore facilities would be short term and mitigable; however, this may not be the case regarding the displacement or mortality of extremely long-lived species such as cold water corals. 80068-035

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Date: Monday, May 21, 2007 8:57:43 AM
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Thank you for your comment, Kathleen Leyden.

The comment tracking number that has been assigned to your comment is 80069. Once the comment response document has been published, please refer to the comment tracking number to locate the response.

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OCS Alternative Energy and Alternate Use Programmatic EIS
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Questions about submitting comments over the Web? Contact us at: ocsenergywebmaster@anl.gov or call the OCS Alternative Energy and Alternate Use Programmatic EIS Webmaster at (630)252-6182.

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May 18, 2007

MMS Alternative Energy and Alternative Use Programmatic EIS
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RE: Comments on Draft Programmatic Environmental Impact Statement (DPEIS)

Dear MMS PEIS staff:

The Maine State Planning Office offers the following comments on the draft Programmatic Environmental Impact Statement ("DPEIS") that the Minerals Management Service ("MMS") is preparing for its Outer Continental Shelf Alternative Energy and Alternate Use program.[1]

Overview; scope and focus of comments

The State Planning Office supports development of the State's and region's indigenous, renewable energy resources, including its wind and tidal power resources, in a manner that is compatible with and preserves the integrity and sustainability of other natural resources and related uses and values. As further elaborated below, these comments focus on issues relevant to the Gulf of Maine region.

The DPEIS explains that the scope of its analysis of potential energy development on the outer continental shelf ("OCS") is limited to those "alternate energy technologies and areas about which industry has expressed a potential interest and ability to develop or evaluate from 2007-2014."[2] The DPEIS further clarifies that "for the wind and wave technologies being assessed within the time horizon of this EIS, development is expected to occur nearer to shore with maximum water depths of 100 m (328 ft)."[3]

In the Gulf of Maine region proximate to Maine, it is our current understanding that only wind power technologies deployed on a limited portion of the OCS have any potential to satisfy these criteria.[4] As the DPEIS points out, potential tidal power development in our region would be in-shore, on lands

[1] Section 388 of the Energy Policy Act of 2005 directs MMS to develop this program.
[2] DPEIS, section 1.2.
[3] *Id.*, section 1.4.
[4] Notwithstanding the apparent improbability that offshore ocean current, wave, tidal energy or as yet unimagined ocean energy projects may be proposed for federal OCS areas in the Gulf of Maine region before 2014, we suggest that MMS' leasing program be flexible enough to ensure full evaluation and appropriate mitigation of the environmental, natural resources and other potential adverse effects of any pertinent development.

80069-001

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owned by the states and not subject to leasing by MMS.[5] In a recent study of wave energy development potential in the Gulf of Maine, the Electric Power Research Institute ("EPRI") concluded that "it is clear that off-shore wave energy in Maine is a long-term prospect at best, becoming economically viable only after 40,000 MW or more of wave generating capacity has been installed nationwide."[6] The DPEIS likewise indicates that OCS energy development from ocean currents along the East Coast is potentially viable only off Florida.

Similarly, other aspects of the program appear to have limited applicability to our region. Because there has been no OCS leasing in the North Atlantic Planning Area for nearly thirty years and there are no oil and gas development facilities on the region's OCS, aspects of the program related to reuse of existing OCS energy infrastructure appear to have no direct bearing on the Gulf of Maine region.[7]

For the foregoing reasons, these comments principally address those aspects of the DPEIS that concern potential offshore wind power development.

Offshore wind power-related comments

The DPEIS seems to suggest that notwithstanding possible technological advances (e.g., floating platforms) proposals to develop wind power resources in ocean waters up to 100m in depth may not be foreseeable by 2014.[8] The DPEIS notes that at present all wind turbine generators in the ocean are in waters less than about 30m (100 feet) in depth; and "in the next 5 to 7 years, it is expected that the maximum depth at which a wind facility would be constructed on the OCS would be about 45m."[9] Along the Gulf of Maine coast proximate to Maine, most areas landward of the 30m and 45m isobaths are state-owned submerged lands and state waters. Off the southern Maine coast, the 30m and 45m isobaths do in a number of places extend beyond the three-mile limit of state ownership, as they do at several other locations further east along the coast. Off Maine, the 100m isobath is located in OCS waters and runs close and generally parallel to the three mile limit of state ownership.

The DPEIS clarifies that its discussion of potential environmental and natural resources issues and effects is general and conceptual, and that detailed, site and technology-specific evaluation of project proposals would be an essential part of the new program.[10] Many ocean energy technologies are in fact in the early stages of development. Although quite well established in terrestrial environments, offshore wind power technologies are themselves under development, as noted in the DPEIS. "Offshore wind turbines have not yet been optimized for energy production at sea."[11] Wind turbines may be able to be spaced more compactly at sea since winds are more directionally predictable.[12] At-sea turbine designs will include

[5] There are currently about 10 preliminary permit applications for tidal power projects in Maine pending at FERC.
[6] *System Level Design, Performance, and Costs - Maine State Offshore Wave Power Plant* (EPRI, December 2004) at 68.
[7] In its Advanced Notice of Proposed Rulemaking, MMS clarified that the present rulemaking is limited to its authority regarding alternative energy projects and reuse of existing OCS oil and gas structures and does not address other aspects of authority provided the agency under Section 388 of the Energy Policy Act of 2005. As a result, it is our understanding that the scope of the final PEIS and related MMS rules will be similarly limited.
[8] See DPEIS at section 3.1.
[9] *Id.*, at 5.2.1.3; 3.1
[10] *Id.*, at section 7.1.
[11] *Id.*, section 3.2.
[12] *Id.*, at section 3.3

modifications to incorporate appropriate aerial and navigation warning lights.[13] To support more significant development costs and to capture available generation potential, offshore turbines and offshore wind farms may be significantly larger than current terrestrial and near shore models or projects.[14] Careful environmental analysis of offshore wind proposals pursuant to MMS program rules should take into account their unique features and scale in identifying information and designing studies to support leasing, easement or right of way decisions. 80069-002

Figure 3.2-4, a simplified drawing of an offshore wind energy facility, identifies undersea collection cables, at-sea transformer stations and undersea cables to bring electricity to land as project elements. Additional discussion at this point indicating the project footprint for a reasonable range of wind farm projects (e.g., demonstration to full commercial scale at 100m) would be useful to give a sense of the ocean area such projects may occupy.

At a couple of points, the DPEIS suggests that commercial and demonstration projects covered by MMS' new program may affect or directly involve state-owned submerged lands and state waters as well as coastal land areas.[15] While the DPEIS does not appear to suggest that MMS would have authority to create private rights in state-owned submerged lands (areas landward of the three-mile limit), use of state submerged lands and mainland areas may well be proposed for project infrastructure and facilities to support projects on the OCS. Further and more detailed characterization of MMS' understanding of the nature, scale and potential environmental effects of on-shore and near shore energy infrastructure and facilities that would be needed to support reasonably foreseeable wind power and other alternative energy development projects on the OCS would be useful. 80069-003

The fact that OCS alternative energy projects may have foreseeable effects on adjoining coastal states strongly urges assurance that MMS' program will ensure close and effective state-federal cooperation. Like some other coastal states, Maine has a state agency, its Bureau of Parks and Lands, which is responsible for leasing state-owned submerged lands for purposes compatible with fishing, navigation and other public trust uses. The PEIS should further discuss the role which coastal states' submerged land management agencies will play in evaluating proposals to use state-owned public land to support offshore alternative energy projects and how MMS intends to coordinate and cooperate with such agencies to facilitate their review. 80069-004

In addition to their proprietary interest in potentially affected submerged lands, coastal states have a regulatory interest related to OCS alternative energy development. Federal actions that may affect state coastal resources or uses are subject to federal consistency review under section 307 of the Coastal Zone Management Act, as the DPEIS acknowledges.[16] The PEIS should clarify that MMS leasing, easement and right of way actions will be subject to federal consistency review as federal agency activities. Early consultation and coordination may be particularly useful in regions, such as Gulf of Maine, where there may be potential for wind energy development on adjoining state and federal lands. 80069-005

[13] *Id.*
[14] *Id.*, at section 3.4 and 3.9
[15] Id., at section 4.3
[16] See Figure 1.6 and section 1.2.

Consultation with coastal states to identify opportunities for information sharing and coordination, for example, may help make both federal and state review processes more efficient and effective. The coordinated OCS mapping initiative called for by Section 388(a) of the EPAct of 2005 may provide a useful opportunity for making more and better information on coastal resources and marine habitats available for decision making. We suggest that MMS integrate this mapping effort with its alternative energy program efforts and, in doing so, work closely with the Gulf of Maine Ocean Observing System and comparable entities as well as federal agencies and coastal states on pertinent data collection, sharing and management issues. Given the regional nature of energy markets and systems as well as certain commercial fishing stocks and other marine resources, we suggest that MMS' program rules ensure consideration of siting and environmental and energy supply and demand issues relevant to proposed leasing areas of the OCS for alternative energy projects from a regional perspective, as appropriate, perhaps through formalization of regionally-focused state-federal planning and review procedures. Governor Baldacci has issued an Executive Order, effective May 8, 2007, establishing a state task force to examine and make recommendations regarding potential regulatory and financial barriers to and means to facilitate siting and development of wind power where environmentally suitable. One potential outcome of the task force's work is "guidelines and related information that would assist wind power developers in identifying areas in the State of Maine that are more appropriate for wind power development, and avoiding areas that are not appropriate for wind power development, due to legal, natural resource or public value constraints." Accordingly, we suggest that MMS work closely with Maine and other coastal states, as well the New England Fisheries Management Council and other regional fisheries management and federal resource agencies, in developing rules for its alternative energy program to ensure, to the extent practicable, that federal and state review procedures, information requirements and standards, are well-integrated and work together efficiently. 80069-005 (cont.)

The PEIS should also include further discuss the relationship between MMS' alternative energy program and the review authorities of other federal agencies, including the Federal Energy Regulatory Commission and the Army Corps of Engineers, as applicable.

* * *

We hope these comments prove useful in assisting MMS in the completion of its NEPA review. Thank you for your consideration.

Sincerely,

Kathleen Leyden
Director, Maine Coastal Program

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Subject: OCS Alternative Energy and Alternate Use Programmatic EIS Comment 80070
Date: Monday, May 21, 2007 9:33:46 AM
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Thank you for your comment, Noel Holcomb.

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Comment Date: May 21, 2007 09:35:00AM CDT

OCS Alternative Energy and Alternate Use Programmatic EIS
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Comment Submitted:
As Federal Consistency Coordinator for the State of Georgia, I am submitting these comments on behalf of Noel Holcomb, Commissioner of the Georgia Department of Natural Resources. Please send me an acknowledgement e-mail upon reciept of our comments at the above listed address. Thank you - Kelie Moore

Questions about submitting comments over the Web? Contact us at: ocsenergywebmaster@anl.gov or call the OCS Alternative Energy and Alternate Use Programmatic EIS Webmaster at (630)252-6182.

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May 21, 2007

MMS Renewable Energy and Alternate Use
Programmatic EIS Scoping
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RE: Comments on DPEIS for OCS AERU Program

Dear Director Burton:

Thank you for the opportunity to provide comments on the Draft Programmatic Environmental Impact Statement (DPEIS) for the Outer Continental Shelf (OCS) Alternate Energy-Related Use (AERU) Program published March 24, 2007. Governor Perdue has asked that I respond to Director Burton's letter soliciting comments from our State.

Given the current high cost of oil and natural gas and the need for greater energy security in the United States, Georgia supports an effective State and Federal partnership that explores options for new energy resources. The State of Georgia supports environmentally sound efforts to explore alternative energy and alternate uses of existing facilities on the OCS.

The types of alternative energy projects that are analyzed in detail in the DPEIS are offshore wind, wave and ocean current energy capture technologies upon which the Mineral Management Service anticipates receiving applications for development over the next five to seven years. The preferred alternative of the DPEIS (2.1 Proposed Action) would include development of the Alternative Energy and Alternate Use Program that includes a comprehensive set of regulations and standardized processes for permits, leases, rights-of-way, and related actions. Georgia supports this alternative so long as there is an opportunity for site- specific environmental evaluations prior to issuance of individual permits, leases, rights-of-way or related actions. However, there are several issues that should be taken into consideration when preparing over-arching regulations and processes for the Program.

80070-001

While wind energy capture is the most likely alternative energy technology to be developed on Georgia's OCS ----- there is currently a pilot wind project planned for the OCS off Georgia, our comments are applicable to wind, wave, and ocean current energy capture and delivery technologies. Georgia's concerns fall into three broad categories: the physical environment, the biological environment, and socio-economic considerations, as follows:

Physical Environment

Concerns regarding the physical environment include impacts on offshore hard grounds, estuarine areas, coastal barrier islands and beaches, onshore upland areas, essential fish habitat, and other habitats of concern including those protected or recognized under federal and/or State law, including the Wassaw, Blackbeard, Harris Neck, and Wolf Island National Wildlife Refuges; the State's Heritage Preserves including Little Tybee Island, Ossabaw Island, St. Catherines Island Bar, Little Egg Island Bar, Pelican Spit, and Satilla Marsh Island (Georgia Natural Areas Act [O.C.G.A. §12-3-90 *et seq.*]) and Heritage Preserve Act of 1975 (O.C.G.A. 12-3-74 (a)(1); the Gray's Reef National Marine Sanctuary; the Sapelo Island National Estuarine Research Reserve; the Altamaha Biosphere Reserve, the Cumberland Island National Seashore, and the designated critical habitats for piping plovers and the North Atlantic right whale calving grounds.

Offshore hard grounds are areas where consolidated carbonate rocks are exposed on a broad, gradually sloping continental shelf otherwise dominated by unconsolidated sands. These rocks provide the firm foundation needed for the development of unique ecosystems dominated by sponges, corals, ascidians, and other reef invertebrates. Commonly referred to as "live bottoms," these scattered hard grounds are "hotspots" of biological diversity on the continental shelf that support many commercially and recreationally important species of fish, as well as provide habitat for sea turtles, and marine mammals. Since hard grounds comprise less than 10% of the continental shelf off Georgia, the biological and socio-economic importance of these areas is exceptional.

Sustained by an estuarine system that accounts for approximately one-third of the salt marsh remaining on the Atlantic seaboard of the United States, Georgia's coastal and nearshore waters are highly productive. These waters and the State's unique series of undeveloped barrier islands and beaches also provide critical feeding and nesting habitats for several protected, threatened, and rare or endangered species. These areas are largely managed through the Coastal Marshlands Protection Act of 1970, (O.C.G.A. §12-5-280 *et seq.*); the Shore Protection Act (O.C.G.A. §12-5-230 *et seq.*); the Coastal Management Act (O.C.G.A. §12-5-320 *et seq.*); the Georgia Natural Areas Act (O.C.G.A. §12-3-90 *et seq.*) and the Protection of Tidewaters Act (O.C.G.A. §52-1-1 *et seq.*) Endangered species are protected under the Georgia Endangered Wildlife Act of 1973 (O.C.G.A. §27-3-130 *et seq.*).

Although there are no specific OCS projects or facilities currently under consideration for alternate energy use off the Georgia coast, any construction and operation of onshore upland substations connecting offshore power production facilities to the mainland transmission grid for alternative energy projects described in this DPEIS, i.e. generic wind, wave and ocean current energy projects for the outer continental shelf, have the potential to produce more than minimal environmental impacts to Georgia's coastal zone. 80070-002

In addition to fugitive dust emissions during construction, exhaust emissions from site preparation and construction equipment could add to local air quality impacts. If any facility other than a power substation is constructed and operation of that facility has the potential to result in emissions of regulated air pollutants, air quality permits for 80070-003

construction and operation may be required under the Georgia Air Quality Control Act (O.C.G.A. §12-9-1, et seq.) and associated regulations. 80070-003 (cont.)

Onshore facilities can have significant impacts on sensitive coastal land features, such as estuaries, sand dunes, beaches, and offshore bars and shoals, through land-disturbing activities associated with site preparation and construction. Also, land-disturbing activities can lead to significant impacts on local water bodies and estuaries. Exposed soils are subject to erosion during precipitation events and can lead to sedimentation of nearby creeks, rivers and marshes. Impervious surfaces from buildings and pavement increase the volume and velocity of stormwater runoff, which can result in erosion of stream banks and the scouring of stream channels. In addition, stormwater can transport pollutants from the land surface and degrade water quality in receiving streams. 80070-004

The protection of coastal lands and water quality from land disturbing activities associated with construction and operation of onshore facilities is implemented under authorities of the U.S. Clean Water Act, the Georgia Water Quality Control Act (O.C.G.A. §12-5-20, et seq.), the Georgia Erosion and Sedimentation Act (O.C.G.A. §12-7-1, et seq.), the Georgia Shore Protection Act (O.C.G.A. §12-5-230, et seq.) and the Georgia Coastal Marshlands Protection Act (O.C.G.A. §12-5-280, et seq.), and associated regulations. Additional permits, e.g., treated wastewater discharge, or registrations may be required, e.g., underground storage tanks, for construction and operation of any facility other than a power substation. 80070-005

Windfarms or hydroturbine energy producing facilities with the potential to affect essential fish habitat (EFH) should be designed so that submarine cables are placed in a manner that avoids impacts to EFH. Technologies should be used to install such cables to avoid and minimize temporary and long-term impacts to EFH. If placed on the seabed, cables should be anchored and/or stabilized, and stability analyses should be conducted to ensure that the cable could withstand a 100-year storm event in appropriate water depths. 80070-006

Many of the areas designated as EFH are important to protected resources (e.g., endangered and threatened species and marina mammals) in the region. Direct and indirect impacts may result from noise, electromagnetic fields, vessel traffic, pollutants/water quality issues, alteration of the benthos and habitat degradation or habitat exclusion. The degree of impact can depend on the species, the type of turbine, the method of installation, site characteristics and the layout and size of the facility. Therefore, any EIS prepared for the construction, operation or decommissioning of a wind energy facility should include maps of species' ranges, migratory pathways, and use of habitat as part of an evaluation of direct and cumulative impacts to protected species. 80070-007

Biological Environment

Approximately 32 species of marine mammals (whales, dolphins, porpoises, and manatees) occur on the Georgia continental shelf. All are protected by the Marine Mammal Protection Act of 1972, and three are considered endangered species under the Endangered Species Act of 1973 as amended: the North Atlantic right whale, the humpback whale, and the West Indian manatee. 80070-008

Considering the significance of the Georgia and North Florida OCS to the North Atlantic right whale (*Eubalaena glacialis*) as the only calving ground for the species, any energy development or exploration needs to carefully address the biology and habitat requirements of this species. The Northern right whale is the rarest of all large whale species with an estimated population size of 350-400 individuals, with approximately 80 reproductive females. The National Marine Fisheries Service has designated critical habitat for the Northern right whale to include "coastal waters between 31° 15 min N and 30°15 min N from the coast out 15 nautical miles; and the coastal waters between 30° 15 min N and 28° 00 min N from the coast out 5 nautical miles" (50CFR §226.203). This includes parts of the continental shelf from the Altamaha River to south of the Florida state line. The significance of coastal waters from Charleston South Carolina to the northern line of the critical habitat for right whales is under review by NOAA fisheries. Most right whale mortalities are due to collisions with ships and entanglement in fishing gear. Other major threats to this species include habitat degradation, noise, contaminants, climate and ecosystem change, and predators.

80070-008 (contd.)

Five species of endangered or threatened sea turtles occur on the Georgia continental shelf, including the green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles. The loggerhead turtle (Caretta caretta) is the most abundant sea turtle in offshore Georgia, occurring from coastal estuaries out to 500 miles from shore. Loggerheads nest on Georgia's barrier islands, averaging 1,000 to 1,300 nests per year. Primary causes of mortality include incidental take by shrimp trawlers, coastal development, coastal erosion, beach armoring, beach renourishment, and pollution. There is also growing concern over vessel strikes. Other endangered species or species of concern (Georgia Endangered Wildlife Act of 1973 [O.C.G.A. §27-3-130 *et seq.*]), occurring on the Georgia shelf include fish (Atlantic sturgeon, shortnose sturgeon, and smalltooth sawfish) and marine birds (least and gull-billed terns, black skimmer, Wilson's plover, piping plover, red knot, and American oystercatcher).

80070-009

Our understanding of the temporal and spatial use of the OCS to migrating and wintering birds, particularly those considered pelagic, is very cursory. Large numbers of Northern Gannets, common and red-throated loons, black scoters, and lesser scaup winter in Georgia's offshore waters. The southeast OCS is the winter habitat of large numbers of red phalarope. A survey and monitoring project using advanced sonar systems is recommended to determine use patterns and help predict potential negative impact to bird populations of Georgia's OCS, particularly from wind turbines, before any development projects are initiated.

80070-010

Socio-Economic Considerations

Concerns regarding the socio-economic conditions include potential impacts on the State's historical and cultural resources, as well as on present-day industries and initiatives. Georgia's coastal region is rich in cultural resources that represent a long history of habitation by man. Reflecting a rich maritime tradition, several known historical shipwrecks occur on the adjacent continental shelf, although it is likely that

80070-011

many more wrecks remain undocumented. These resources are largely protected through Georgia's Submerged Cultural Resources Act (O.C.G.A. §12-3-90 *et seq.*).

80070-011 (cont.)

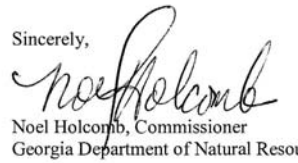
Georgia's coastal zone also supports industries vital to the State's economy, including commercial and recreational fisheries, port traffic, and tourism. In 2006, the Georgia shrimp fishery landed 2.4 million pounds of shrimp (food and bait), worth $7.5 million. Georgia licensed 280 commercial shrimp trawlers in 2006. In 2006, the commercial finfish catch in Georgia was 223,771 pounds, worth $511,528. Recreational saltwater fishing was worth $510 million to the Georgia coastal economy in 1997. Recreational fishing landed more than 1.7 million pounds of marine fish in 2006. Coastal tourism generated $1.7 billion and 14,953 jobs in 2001. The deepwater ports in Savannah and Brunswick, Georgia handled 3,267 ships in 2006, and more than 20 million tons of cargo. The Georgia Ports Authority (including two inland barge ports) brought in $56 billion in sales (8% of Georgia's total sales) and provided 286,476 full and part time jobs (7% of Georgia's total employment).

80070-012

In summary, Georgia supports the implementation of an alternative energy and alternate use program on the Outer Continental Shelf provided that the environmental issues identified herein, and all other relevant environmental concerns, are fully addressed. We understand that this DPEIS is being developed concurrently with rules to guide the development of an Alternative Energy and Alternate Use Program. Please advise us when the draft rules become available as we look forward to an opportunity to comment on them as well.

Should you have questions concerning these comments, please contact Susan Shipman (912-264-7218), Director of the Coastal Resources Division of the Georgia Department of Natural Resources.

Sincerely,



Noel Holcomb, Commissioner
Georgia Department of Natural Resources

cc: Office of The Governor
Dr. Carol Couch
Dan Forster
Susan Shipman