7.0 CONSULTATION AND COORDINATION

7.1 PUBLIC SCOPING

The NEPA EIS process is designed to allow participation by all interested parties. One of the first steps in allowing interested parties to participate in the preparation of the EIS involves public scoping meetings. This section describes the scoping that MMS has undertaken at an early stage in order to collect input on what should be the content of the EIS.

7.1.1 Description of Scoping Process

In order to develop the scope of study for the MMS draft EIS, the MMS requested comments on the proposed action via a public notice in the FR on May 30, 2006 (71 FR 30693). The following is the NOI to Prepare an EIS, which was published in the FR.

The MMS extended the time limit for the comment period from July 14, 2006, to July 28, 2006 at the request of commenter's to allow extra time for development and submittal of scoping comments. In addition, the proposed action and some alternatives had previously undergone a partial NEPA review with the USACE as the lead agency. During the USACE review process, a draft EIS was issued, and the USACE received approximately 5,000 comment letters and email comments on the USACE draft EIS. Although NEPA review has since been transferred to the MMS (Section 388 of the EPAct gives MMS responsibility for reviewing alternative energy projects on the OCS), the MMS has decided to incorporate all of the previous comments originally made on the USACE draft EIS as scoping comments for the new MMS draft EIS. The MMS is also taking into account in the scoping process, over 500 comments that were made at USACE public hearings held in Yarmouth, Martha's Vineyard, Cambridge, and Nantucket, Massachusetts. As a result, this draft EIS incorporates an extensive number of comments, that have been used to develop the content or "scope" of the draft EIS.

The following is a general summary of all the comments combined from both the MMS and the USACE process. This draft EIS has addressed these comments to the extent they are applicable and necessary to reach conclusions as to the scope and extent of proposed action impacts. The comments are summarized below in the following categories:

- Regulatory Process
- Alternatives Analysis
- Construction, Operations, Decommissioning
- Geology and Sediments
- Oceanography
- Water Quality
- Air and Climate
- Noise
- Electric Magnetic Fields
- Avian and Bat Resources
- Freshwater and Coastal Wetlands

- Wildlife
- Fisheries – Socio-economic Impacts to Commercial and Recreational Fishing
- Fisheries – Environmental Impacts
- Benthos and Eelgrass
- T&E Species
- Socioeconomics
- Transportation
- Communications
- Cultural Resources
- Aesthetic/Landscape/Visual
- Transmission Interconnection

7.1.2 Overview of Comments Received

The following sections provide a compilation of the comment topics received during the scoping process, organized to follow the categories listed in Section 7.1.1.

7.1.2.1 Regulatory Process

Comments with respect to the regulatory process generally fell into the following subtopics: (1) public trust issues; (2) objectivity concerns/conflicts; (3) request for further review/information/data in the new draft EIS; (4) homeland security; (5) need for a national policy for use of ocean resources; (6) the Ocean Sanctuary Act; (7) state boundary issues; (8) MMPA; (9) compensatory mitigation; (10) the USACE jurisdiction; and (11) inclusion of agency comments.

Many commenters were concerned with the private use of public land. Some stated that the applicant, as a private developer, does not have the right to exploit public lands. Most of these comments also stated that there should be a fee and/or leasing agreement for developers to use public land. Others suggested that there should be competitive bidding for the public land so that the public can benefit from its use.

Several comments addressed the concern that the draft EIS was not written objectively enough. Some believed the language in the USACE draft EIS favors the proposed action which raises into question the objectivity of the conclusions. Independent studies and third party verification, in order to confirm objectivity, were requested by several commenters.

Many comments discussed the need for additional information and data to be included in the new draft EIS. Some of those data requests included: a more detailed economic benefits discussion, accurate predictions of wind energy power production, leasing conditions, effects of construction, operation and maintenance, mitigation measures, and more detail on negative impacts of the proposed action.

Some commenters were concerned with the security of the proposed action. Commenters questioned how the proposed action would be guarded and the potential threat of terrorism/crime.

Commenters addressed concerns of the proposed action being located within a marine sanctuary, since the Massachusetts OSA specifically prohibits construction or operation of offshore floating electrical generating stations.

Several comments questioned the proposed action in relation to its location within the state boundaries. Commenters noted that the Massachusetts boundary had been expanded and are concerned that the analysis does not consider the true state boundaries.

Commenters expressed concerns that the proposed action would be in violation of the MMPA and/or needs to obtain a permit under the Act.

Several commenters requested that a more detailed compensatory mitigation section be included in the draft EIS for both temporary and permanent impacts. More specifically, comments recommended that funds should be established for impacts on avian and marine life/resources, and that a more thoughtful depiction of the impacts and mitigation on cultural resources be included as well.

Some comments requested that the relevant agency comment letters be included and specifically addressed in the new draft EIS. Some commenters also stressed concerns that some agency recommendations, especially from peer review comments, have been ignored.

7.1.2.2 Alternatives Analysis

Comments with respect to the types of alternatives considered generally fell under the following six categories: (1) an on land location should be considered; (2) further offshore/deeper water and other offshore locations should be considered; (3) a smaller scale and/or phased project should be considered; (4) alternative technologies instead of power generation by wind; (5) alternate configurations of the facilities; and (6) energy conservation instead of new power generation. The comments received on the types of alternatives are discussed in more detail below.

Several comments were received requesting the WTGs be moved on land. On land locations included the MMR encompassing Otis Air Force Base and Camp Edwards, the former Fort Devens Reserve Forces Training Area near Ayer Massachusetts, military sites in general, the Route 6 median or ROW, the median along highways, Route 28, existing utility easements such as transmission line ROW, the Blue Hills Reservation, the Pilgrim Nuclear Power Plant in Plymouth, the Canal Electrical Plant in Sandwich, New Bedford, Fall River, Westover, the Elizabeth Islands, Muskeget, central Massachusetts, the outer islands of Boston Harbor, Nomans Land southwest of Martha's Vineyard, Monomoy Island, existing waste disposal sites/dumps/landfills including the Barnstable landfill, lighthouse properties, industrial areas, municipal sites, on the top of hills or mountains, on the top of high rise buildings, a remote open area, golf courses, private property and land out west at existing wind energy projects. Some commenters combined the categories and recommended locating individual wind turbines or a smaller number of wind turbines in different, dispersed or decentralized locations on land (multiple smaller scale land-based projects).

In addition to the above recommended locations, commenters included arguments for locating the wind turbines on land. These arguments included the fact that on land sites would be less costly to build and to maintain, provide better access, be easier to connect to the electrical grid, and be closer to public safety resources such as police and fire. Other concerns were that land is a less destructive environment than salt water, and has fewer potential impacts on navigation, sediment transport, fish and avian mortality, commercial and recreational fishing, recreation, tourism, noise, aesthetics, real estate, the economy, etc. Other concerns that prompted land based recommendations as opposed to locating the WTGs in the water, were scour control, stabilization, and fish mortality during construction.

Numerous comments were received with respect to locating the WTGs further offshore or in deeper water. Specific further offshore locations identified by commenters include: further off the coast of Chatham; east of Cape Cod; south and east of Nantucket Island; South of Tuckernuck Island; South of Martha's Vineyard; South of Nantucket and East of Monomoy; and the area near Rose and Crown Shoals. Other offshore and deeper water suggestions included locating the WTGs over 12 miles (22.2 plus km) offshore, 30 to 80 miles (55.6 to 148.2 km) offshore, further offshore until the wind turbines are no longer visible, the outer Atlantic shelf, and in water up to 100 ft (30.5 m) deep.

In addition to the suggested further offshore and deepwater locations, commenters requested additional information on further offshore and deeper water locations to support the alternatives analysis. Information requests included greater detail with respect to engineering, design and environmental resources, as well as descriptions of further offshore and deepwater alternatives considered. Reasons for these requests are to allow for a better comparison of shallow water and deeper water alternatives.

Other offshore locations were also provided by commenters, however, the following recommended offshore locations are not necessarily "further" offshore: Boston Harbor; off the coast of Maine; off industrial/commercial shorelines; Barnstable Harbor on Cape Cod Bay; Buzzards Bay; Nantucket Shoals; and the center of Nantucket Sound.

Arguments provided by commenters for locating the WTG offshore, further offshore and in deepwater locations centered around visual impacts, the ability to produce more energy further offshore (better wind class/velocity), avoidance of bird migratory pathways and feeding areas, avoidance of air and shipping lanes (hazards to navigation), avoidance of marine sanctuary waters, and the creation of artificial reefs.

A third category of comments received with respect to alternatives was the implementation of a smaller scale project. Comments received with regard to the analysis of a smaller scale project included: evaluating the minimum size project practicable at Horseshoe Shoal in Nantucket Sound; a 200 MW project; decreasing the proposed project by a factor of 10 to 20; installing 10 wind turbines; the general comment to reduce the number of WTGs; and a smaller ESP. The primary reason provided for implementing a smaller scale project was the ability to gradually understand the potential impacts of the proposed action.

Similarly, other commenters suggested a phased approach. Phased approach comments included a project with the first phase large enough to be economically feasible and small enough to have a limited impact, a pilot project or the installation of a test unit, installation of 4 or 5 wind turbines, installing the proposed project in three to four phases with enough time between each phase to study and evaluate impacts, and using the same phasing as the Arklow Bank Project off the coast of Ireland.

The fourth category of comments addressed alternative technologies. Alternative technologies to be considered included: hydro; solar; ocean current; existing electrical plant upgrades and improvements to existing technologies/plants; tidal; wave; new nuclear facilities; an equivalently sized fossil fuel plant; coal facilities; other types of wind turbines; biomass; Wind Amplifier Rotor Platform (WARP) windpower technology; Ocean Wave Energy Converter (OWEC); and the Underwater Electric Kite® (uekus.com/index.html). Besides the recommendations for individual alternative technologies, a few commenters recommended the installation of a portfolio of technologies.

In addition to the different types of alternative technologies suggested, several comments were received on the USACE draft EIS alternative technology section. Several requested that more accurate and extensive analyses be carried out on each of the different types of alternative technologies analyzed.

Other comments received requested that dangers of other technologies be considered and analyzed such as the danger of a gas explosion compared to oil spill impacts from the wind turbines and ESP.

The fifth category of comments received included alternative WTG configurations (array and different sizes of turbines). Specific comments received with respect to configuration are the proposal for shorter towers, shorter towers on the outside with taller towers on the inside of the wind turbine array, a mix of turbine sizes, a more compact array of towers, a denser configuration based on the density of the Horns Rev facility off the coast of Denmark, a split facility alternative with two or more arrays that total 454 MW within Nantucket Sound, a straight grid, and a double elliptical grid. Commenters proposed the different WTG configurations to specifically address visual impacts and to minimize potential environmental damages.

The sixth category of comments received is associated with energy conservation. Commenters recommended the implementation of energy conservation measures, such as a reduction in fossil fuel consumption, using smaller vehicles, improving car fuel efficiencies, using hybrid vehicles, and fuel cells. Other commenters stated that money should be spent teaching and encouraging people to use less energy including implementing a comprehensive plan of policies to conserve energy. Multiple requests were also received to evaluate energy efficiency programs and energy conservation measures as an alternative to the proposed action. Others suggested supplementing energy development with conservation.

Lastly, other comments focused on the adequacy or sufficiency of the USACE draft EIS alternatives analysis and the appropriateness of commercial/utility scale, as defined in the purpose and need section of the USACE draft EIS. Numerous other comments were received that stated that the ACOE draft EIS was inadequate because there was a lack of alternatives addressed (including the no action alternative), and that the findings in the alternatives section lacked detail and sufficient technical support.

7.1.2.3 Construction, Operations, Decommissioning

Comments pertaining to construction, operation, and maintenance generally fell into the following subtopics: (1) decommissioning; (2) OSRP; (3) design, performance, stability and maintenance; (4) public safety; (5) pollution prevention; (6) grid integration problems; (7) inaccurate wind production numbers/production capacity of the proposed action; (8) construction issues; (9) taxes and insurance certificates; (10) monitoring before, during, and after construction; and (11) onshore construction concerns/SWPPP.

Numerous commenters were concerned with the decommissioning process. Many questioned who would be financially responsible and if the applicant could guarantee that adequate funding would be available for decommissioning. Other comments addressed the methods of removal. There were requests for a more specific explanation of the decommissioning procedure. Some commenters also noted that the new draft EIS should include a discussion of the impacts, both environmental and financial, of removing the WTGs, ESP, and scour protection.

Commenters noted that the USACE draft EIS did not include a description of the fluids that would be contained in the wind turbines and ESP. Those commenters requested that the characteristics and quantities of these fluids be included in the new draft EIS. Commenters also requested an explanation of the likelihood of an oil spill, required oil spill handling and containment equipment, and the biological impacts of an oil spill. Some requested an oil spill trajectory map as well.

Commenters were concerned with design features, especially the foundation system of WTGs. Numerous comments questioned the weathering and corrosion of the WTGs and requested specific detail on what would be done to minimize the effects of weather and waves and to predict the

reliability/stability of the turbines when facing harsh conditions. Several comments also addressed issues with the deployment of scour mats.

Public safety comments addressed concerns with ice buildup on WTG blades, emergency response restrictions (both helicopter and vessel access) within the turbine array area, fire protection, worker safety, and security risks.

Commenters noted that the containment and impacts of trash and debris likely to be produced was not addressed in the USACE draft EIS. Others suggested that the likelihood of impacts of diesel spills from vessels during construction, operation and maintenance should be discussed. Some commenters requested that a more detailed description of pollution prevention for all components of the proposed action be provided.

Grid integration concerns were addressed in several comments. Most of these comments questioned how the grid could be affected by inconsistent wind speeds and/or WTG malfunction, and if the introduction of an unpredictable energy source would cause more problems than benefits.

Some commenters questioned the accuracy of the predicted electricity production. Other comments address concerns that the wind predictions have been overestimated and are not sufficient enough to provide effective use of the WTGs.

The commenters were concerned with the cost, access restrictions during construction, construction equipment, noise, and the length of time and schedule of the construction process.

Commenters questioned who would be insuring the project and liable for any losses. Others questioned whether the facility would be taxed and, if so, who would benefit.

Numerous comments addressed the need for additional monitoring before, during and after construction. Many requested that more rigorous avian and mammal monitoring and an acoustic monitoring of impacts be implemented, especially during construction to minimize risk of injury to marine species. Comments also suggested that a more thorough and lengthy post-construction (during operation) monitoring and adaptive management plan be provided.

Several commenters requested that a SWPPP be provided. Others addressed concerns with the transmission line and suggested it should only go through previously developed land and/or along existing transmission lines. A few commenters requested a discussion of the potential hazardous material in the land-based equipment as well as the management of those materials.

7.1.2.4 Geology and Sediments

The comments submitted for the geology section can be generally characterized in the following seven categories: (1) impact to sand waves around tower foundations; (2) sedimentation impacts; (3) scour; (4) sediment characterization with limited coring locations; (5) sediment transport modeling; (6) impact of fixed structures on a shoal; and (7) impacts from a seismic event, including tsunamis.

Comments on sand waves centered on the impact fixed structures would have on sand wave movement and the impact to sedimentation. Some commented on the impact on existing sedimentation and questioned if sedimentation dynamics would change and if shipping channels would be impacted. An in-depth, quantitative assessment on sedimentation transport pathways was requested.

Several comments centered around scour and scour mats. Many were concerned with the viability of the scour mat design. Several commenters were in favor of a riprap or similar design and many were concerned about the lack of proven scour mat design. One commenter questioned if stabilization agents would be used, such as bentonite or caustic soda and the potential negative environmental impacts from their use. Many commenters questioned the limited number of sediment coring samples relative to the large area to be affected.

One agency requested more analysis on the effect on sediment transport to better evaluate potential impacts and requested an oceanographic modeling study be undertaken to better understand sediment transport pathways for all of the options in the alternative analysis, as well as Nantucket Sound. An evaluation of Nantucket Sound and South of Tuckernuck sites was requested with respect to different magnitude storms, fair weather, and tidal and wind-driven conditions.

One commenter questioned the logic of placing fixed structures on a dynamic shoal.

Other comments were regarding the seismic setting and the impact a seismic event and/or tsunami would have on the structures. One commenter described a catastrophic failure during such an event, leading to related tower debris washing up on beaches.

Most of the comments with respect to sediments involved general sediment movements and how they would differ after the proposed action was constructed. Other commenters wanted to know where the sediment would settle and how long it would take for the benthic community to recover. Other commenters were concerned about the sediments clogging the estuaries and the effects this would have on areas that are already subject to frequent maintenance dredging. A concern voiced often was the sediment's affect on the shipping channels and the possibility through accretion/erosion of creating uncharted shoals. A request for more precise mapping and description of surficial sediment conditions was made.

7.1.2.5 Oceanography

The comments submitted for the oceanography section can be characterized in the following eleven categories: (1) water flow around WTGs; (2) current velocity and patterns; (3) sea ice movement; (4) scouring; (5) data for scour mats; (6) turbidity; (7) jet plowing data; (8) possibility of cable being uncovered; (9) wave measurements; (10) sedimentation; and (11) alternative sites.

The comments involving water flow around the WTGs were concerned with the distance between the towers not being sufficient and that changes in water flow would occur as a result. These changes could trigger other changes such as sediment transport and sea ice flow. The main concern with water flow was how, if changed, it would affect the shoals in the area. In addition, there were questions on how the changes in flow and therefore the shoals would affect boating, both commercial and recreational. A general request for more recent circulation models was also made.

Current velocity and patterns were concerns mainly because of the lack of data. Commenters stated that the USACE draft EIS only used models to discuss these issues. Commenters wanted to know what affects the turbine platforms would have on the currents and if the changes would flatten the seabed. Actual data was requested instead of models in order for other areas of concern to be remedied (i.e., turbidity, spills).

Commenters were concerned about sea ice movement and build up during the winter months. There was a request for a discussion on the impacts and possible accretion from ice drifting out of the harbor

area to the north of the proposed action area. Also, there were concerns about ice build up on the turbine blades and whether this would affect the WTG's stability.

There were some concerns about scouring and its affects. A discussion on the size, shape, depth, and persistence of the "small depression" was requested. Other comments were related to how different sediment types would correct the scouring in the trench and around the foundation of the WTGs. An "extreme" scour projection was requested for the inner-array of the cables as well.

Many comments dealt with the scour mats. Most felt that there was insufficient data in general to back the claims about how effective the mats would be. In general, more data was requested on the scour mats. Regarding resedimentation on the mats, commenters were concerned that a finer grain of sediment would settle there and that these sediment changes would alter the benthic community and associated demersal fish. Also, there were concerns on how the mats would impact the oceanographic process and what the pattern of deployment and contingency plan would be, if they failed. There were also questions on how the mats would be anchored given the natural 15 ft (4.6 m) variation in bottom depth. Other concerns about the scour mats involved their durability.

Comments involving turbidity began by claiming that the SSFATE model to predict the turbidity plume in Lewis Bay based on three core samples was speculative. Other comments pertained to general questions such as how much turbidity would occur, what would be the size of the turbidity plume, how long would it last, and would it be localized.

There was skepticism expressed about the use of the jet plow method. A general request for more data was made along with comments that mathematical models for sediment transport and relocation are insufficient. Proof was requested that the jet plow method is the best method of trenching. A commenter claimed that the conclusion reached in the USACE draft EIS that jet plowing is the better method is contradictory to the conclusion reached on the HubLine project. Justification and basis that there would be no impacts on an eelgrass bed within 69 ft (21 m) of the jet plow was asked for as well. Another comment requested that the new draft EIS articulate why jet plow re-deposits are not regulated discharges under Sections 401, 403, and 404 of the CWA.

Comments regarding the transmission cables varied. The main concern was if they would stay covered given the sand waves, undulations, and extreme sediment transport in the region. There was a request for a contingency plan in the event that the cables became uncovered, and also in the event that fishing gear interacted with the cables. A general impact report was requested for the anchor line sweep and MMS requested that the applicant reduce the disturbance estimate to one significant figure. Other comments involved the size of each anchor sweep area, the size of the anchor chain, and whether repeated plowing would be needed. A description of the differences in installation methodology in different strata was requested as well.

There was a general request for an adequate assessment on the effects of waves on the WTGs. Also, wave measurements were requested for each of the alternative sites.

The last issue in the comments dealt with alternate sites. The comments were regarding more updated circulation models and request for wave measurements. In general, a better evaluation of sites from an oceanography standpoint was requested.

7.1.2.6 Water Quality

The comments made on water quality can be characterized into the following three categories: (1) suspended sediments; (2) spills; and (3) waste handling. They are further discussed below.

The comments on suspended sediments mainly requested more data on how much sediment would be suspended, how long it would be suspended for, and to what extent the sediment would spread. Other comments concerned the effects the suspended sediments would have on the species in the area, specifically eelgrass. Comments included concerns about resuspension and redistribution of sediments, especially due to the affects from propeller-driven construction traffic. There was also a data request for a hydrodynamic model to determine the extent and direction of movement of the suspended sand and silt.

There was concern for the potential of spills from construction and operation of the WTGs. Requests were made for the characterization of all the lubricating fluids, oil, and diesel fuel on each of the vessels and WTGs, as well as the amounts stored and routine discharge amounts. A request was made to characterize the oil spill containment kits. Other requests were for an OSRP and a SWPPP. People commented on the need for a lifetime monitoring plan and some sort of bonding in case a spill does occur. Also, in the case of a spill, requests were made for an oil trajectory analysis as well as the risks of a spill and predictive modeling.

The last grouping of water quality comments pertained to waste handling. A discussion on the regulations regarding solid and hazardous was requested. Also, the quantities of waste handling systems and their capabilities were requested.

7.1.2.7 Air and Climate

Comments with respect to air and climate generally fell under the following five subtopics: (1) global warming; (2) public health effects and emission reductions; (3) local air quality impacts; (4) visibility improvement; and (5) local meteorological data summary.

The majority of the concerns expressed in the comments were with respect to the potential impact on global warming and climate change. Some of the comments requested a more quantitative assessment of the actual reductions in CO_2 emissions and a comparison to the CO_2 emissions on a regional, state, and global basis. Others asked that the potential impacts of global warming and climate change and the current federal and state global warming policies be discussed in further detail in the draft EIS. There were also some comments that questioned if there would be any reduction in CO_2 emissions; and therefore, provide any benefits towards the global warming and climate change issue.

Comments on public health dealt primarily with the estimated emission reductions of NO_x, SO_2, HG, and PM from fossil fuel plants due to the proposed action. Some commented that the potential health effects of each pollutant should be addressed. A few comments requested quantitative estimates of these emission reductions and a comparison of these emission reductions to the estimated total emissions from the region, state, and upwind states. Others suggested that the estimated emission reductions should be revisited to consider whether the pollutants are included in a cap and trade program or not, while some of the comments stated that the emission reductions were overestimated.

Local air quality benefits were a concern for some of the commenters, especially with regard to the potential emission reductions from the existing fossil-fuel-fired plants. Comments requested that potential local air quality benefits to the Cape area and the surrounding islands be discussed further in the draft EIS.

Some of the comments were regarding the potential improvements to visibility, both locally and in the Arcadia National Park. Visibility impairment is a function of air pollution, thus this issue is directly linked to the estimated emission reductions, which were commented upon by others.

Information regarding the local meteorological conditions, which were recorded in Nantucket Sound, was also requested by the commenters.

7.1.2.8 Noise

Comments with respect to noise generally fell into the following subtopics: (1) effects on marine life; (2) monitoring systems; (3) utilizing references from other underwater construction projects; (4) mitigation plan for high noise levels; (5) analysis of ultrasonic and infrasonic sounds; (6) focusing on impacts to marine life by species' sensitivities; and (7) utilizing better modeling techniques for underwater sound.

Several commenters noted that while the analysis revealed that effects at onshore locations to humans would not be significant, they expressed concern that the noise analysis focused too much on effects on humans and required a much more detailed analysis on marine life, in particular marine mammals and sea turtles. They requested that the analysis should not be dominated by approaches to human hearing and that it should avoid human perceptual terms. In particular, it was noted by some commenters that the analysis should evaluate the hearing characteristics of different species of marine life, and the potential that sounds of varying frequencies and intensities could impact different types of marine life. Comments were made that these species should be grouped by their sensitivity to sound frequency.

Commenters noted that while it appeared unlikely that physiological damage would occur to marine life, the potential for "acoustical harassment" was more likely. It was noted that marine life such as great whales are more sensitive to very low frequencies (infrasound), while dolphins are more sensitive to ultrasonic sound. Effects on game and protected species should also be evaluated. Comments were made that an underwater monitoring system should be employed throughout the lifetime of the proposed action, including construction, operation and decommissioning. The monitoring system should be capable of measuring sounds from infrasound to ultrasonic sounds. Comments were made that the monitoring system should incorporate a mitigation plan that would be used to stop construction or other activity if levels exceeded thresholds.

Several commenters requested that the currently proposed surveillance system for marine life within the safety radius be enhanced to include additional spotters for marine mammals and sea turtles during construction, and that construction should be avoided during periods of peak abundance of any endangered species.

Some comments requested that the new draft EIS utilize studies done at other underwater construction projects. According to commenters, some of these other studies indicated higher underwater sound levels from pile driving than those presented in the USACE draft EIS. Commenters also noted that pile driving noise levels underwater should be provided for distances closer than 1,640 ft (500 m).

Several commenters noted that the USACE draft EIS analyses conducted for the alternative sites were very general and did not include noise measurements or modeling.

Comments were made that there are much better modeling techniques available for studying the propagation of sound underwater, and that these techniques should be utilized in the new draft EIS. The effects of refraction through the water should also be evaluated. One commenter noted that additional

discussion of the reported 180 dB underwater safety threshold for marine life should be provided, including its source, and how it is applied to the range of marine life.

Several comments were made requesting that more detail regarding the potential effects of noise on bats should be provided. In particular, the comments noted that bats are sensitive to ultrasonic sound, and that the new draft EIS should evaluate whether the WTGs generate any ultrasonic sound that could interfere with bats' sonar systems.

In addition to total noise levels, commenters requested that a discussion of the response of game species to both acute and chronic noise impacts be provided. It was suggested that nighttime baseline for ambient noise levels should be collected and used as bench mark for measuring incremental increases and total ambient noise levels during construction and operation.

7.1.2.9 Electric and Magnetic Fields (EMF)

Comments with respect to EMF generally fell under the following three subtopics: (1) adequacy of EMF impact studies on finfish, squid, sea turtles and aquatic mammals; (2) adequacy of DC fields impact assessment; and (3) West Yarmouth neighborhood EMF impacts. These are discussed in more detail below.

The majority of the concerns expressed in comment letters focused on the possibility of electromagnetic impacts on different aquatic life forms. Life forms specifically identified included sea turtles, finfish, squid, elasmobranch fish, and mammals. A majority of the comments claimed that the research provided on EMF impacts is insufficient to make proper determination of influence on these creatures. One commenter stated that the electromagnetic disruption that would likely occur has the potential to alter migratory patterns of fish and a second commenter recommended that the draft EIS include the magnitude and frequency spectrum of the electric fields near the buried cables.

One commenter requested that the draft EIS add information on the level of DC electric fields created by the towers and cables to permit a better assessment of the impacts on aquatic life. A second commenter cited concerns about the level of magnetic radiation hazards which may occur in the West Yarmouth neighborhoods where the cable makes landfall.

7.1.2.10 Avian and Bat Resources

Comments with respect to avian and bat issues generally addressed five categories of issues: (1) concerns about data collected during bird surveys; (2) the need for expanded discussion of mitigation measures and monitoring approach; (3) potential positive indirect impacts for birds; (4) the need for additional analysis of alternatives; and (5) the need for expanded discussion of the risk to bats.

Most of the comments were directed towards the accuracy and/or validity of conclusions made from the surveys conducted. Many stated that 3 years of surveys should be conducted to ensure adequate data are collected about piping plovers, terns, migrating songbirds, waterfowl (especially seaducks), and bats. Some comments stated that more extensive radar surveys were necessary, particularly during winter and inclement weather and at night, and that radar surveys should be accompanied by ground-truthing activities. Some commented on the limitations of aerial and boat surveys to accurately assess flight heights or population densities. Some comments raised questions about the methods used to calculate the population viability of, and risk to, piping plovers and roseate terns. Other comments suggested that seasonal variation was not adequately addressed; multi-year comparisons were necessary; and comparisons with inland survey sites and terrestrial wind projects may be inappropriate. Other comments suggested that some data should be recalculated to address inconsistent methods in calculating species density and risk of mortality.

Some comments suggested that the new draft EIS should elaborate on planned mitigation measures and the post-construction monitoring approach. In particular, an explanation was requested about why the lighting system differs from the USFWS guidelines and how the bird deterrent system would operate. Other comments suggested that an independent scientific advisory team should be responsible for monitoring, and an adaptive management plan should be adopted.

Some reviewers commented on the potential positive impact on birds, suggesting that the proposed action would reduce avian mortalities associated with oil spills or sea level rise.

A few comments stated that the alternative scenarios were not adequately evaluated with respect to the avian resources present at each alternative site. These reviewers suggested that an expanded discussion of the potential avian issues at these sites would be appropriate.

There were several requests that the new draft EIS include additional information about potential risk for bats, especially during migration.

7.1.2.11 Freshwater and Coastal Wetlands

The comments submitted for this section were few and fall under the following four categories: (1) construction BMPs; (2) reptile and amphibian usage of the wetlands; (3) short and long term effects on filling of the wetlands; and (4) pointing out that the installation of the cable leading to the substation would fall under local jurisdiction.

One of the main concerns from the commenters was protection of the wetlands during the construction phase. The dewatering and use of coffer dams were the main concerns in regards to draining the wetlands; and concern over unclean water (from the landfill) discharging into ground water and wetlands.

There was a comment made about the possible effects on the reptile and amphibian population using the wetlands and ponds in the area. This was mainly concerning the migration of these animals across the roads and the work site. The commenters stated that there was no discussion on the subject in the USACE draft EIS.

There was a comment made about the possible long term and short term effects on the wetlands being filled. The commenter stated that the USACE draft EIS failed to making factual determinations regarding potential short and long term effects of the proposed discharge and failed to consider other alternatives.

7.1.2.12 Wildlife

The comments submitted for this section fall under the following five categories: (1) need for individual assessment of seals; (2) need for more accurate base data on seals and harbor porpoises; (3) more details on life history; (4) monitoring plan for wildlife; and (5) concerns of harming wildlife not species specific.

One of the main concerns from the commenters expressed the need for individual assessments of harbor seals and grey seals. The breeding habits of the two species were a topic of concern. Information was requested on the southern extent of the grey seal. There were also concerns that the draft EIS did not address the seasonal movements of harbor seals.

Commenters stated that there was insufficient data and/or outdated data in the draft EIS regarding the harbor porpoise and seals. There were numerous comments about the age of the cited reports.

There were numerous comments requesting more monitoring plans for the wildlife in the area. Commenters said that NOAA should monitor construction by: (1) placing observers on supply vessels that transit the Sound; (2) conducting systematic aerial surveys around adjacent seal haul out sites; and (3) using satellite tags.

There were a number of comments stating that the proposed action would be harmful to wildlife (non-species specific) and calling for additional studies on wildlife impacts.

7.1.2.13 Fisheries – Socioeconomic Impacts to Commercial and Recreational Fishing

Regarding commercial and recreational fisheries, commenters expressed concern about the quality of the data presented and absence of data on private recreational fishing activity and its contribution to the economy. Commenters noted that total catch figures can understate actual catches and expressed concern that the DEIS/DEIR equated reported landings with relative abundance. Commenters noted that due to many gear types in use in Nantucket Sound, landings data should be analyzed in total for a given species for an accurate harvest estimate. Commenters pointed out that landings data have limitations in that fisherman working in Nantucket Sound might land their catch in ports outside the Sound.

Commenters recommended a more complete characterization of the current level of fishing (including finfish, squid and shellfish) in the proposed action area using methods proven as accurate assessments of existing uses, description of potential impacts, and proposed actions to minimize/mitigate unavoidable impacts. Some commenters suggested assessing fishing methods used (mobile gear, stationary gear and hook and line) to allow a better understanding of impacts caused by turbine structures and any associated use exclusion zones.

Commenters noted that information on activity from federally permitted vessels needs to take into consideration that not all fishing trips are reported by latitude and longitude. Therefore, numbers obtained are really a large sub-sample of all trips (numbers reflect the relative – not absolute – amount of fishing activity by gear in areas).

The comment was made that the comparison of fishing activity and landings at alternative sites has deficiencies such as incomplete and conflicting data, absence of data on private recreational fishing activity and contribution to economy. In addition, characterization of recreational fisheries in Nantucket Sound underestimate the amount of effort expended and fails to characterize the financial contribution made to the economics of Cape Cod, Nantucket and Martha's Vineyard by these fishermen. Also, comments noted that reporting of raw data from NOAA' MRFSS database and that obtained from directed telephone surveys may be inappropriate. Further, these data may represent a fraction of the total effort. Commenters pointed out that the data do not provide any estimates of number of passengers carried by commercial party and charter boats or geographic distribution of vessels surveyed.

Commenters suggested that directed and broader studies of commercial and recreational fishing activity in the proposed and alternative action areas are required to evaluate potential impacts from construction and operation of the facility. Further comments indicated that studies of fishing activity should be developed with MassDMF, NOAA, and Massachusetts Marine Fisheries Advisory Commission to quantify effort and landings by area and season in areas of interest. Also landings data reported by MassDMF and NOAA should be integrated into a unified format allowing comprehensive analysis of data by species and gear type. Others indicated that any studies should involve various state and local contacts (MassDMF, harbormasters, shellfish officers, tackle shops and others).

Commenters were concerned about the potential for post-construction exclusion of fishermen from the site of the proposed action; restricted maneuverability and potential hangs; handling of boats in strong eddies; difficulties with rescue activities. Commenters suggested identifying provisions in the event that target cable burial depths are not met or maintained. A commenter suggested some form of contingency planning should be addressed. It was noted that cables could become exposed due to natural events such as hurricanes and there is potential for fishing gear interactions with cables possibly excluding fishing activities from the 25 square miles (64.7 km^2) turbine array area. Commenters suggested there should be an analysis of extreme scour projections for the inner-array of cables.

Commenters suggested an assessment of fishing gear utilized in the area, lengths of nets and lines, and anticipated tow speeds to determine any adverse impacts to commercial fishing navigation.

Commenters expressed concern that reliance on MassDMF research trawl data is an inappropriate method to assess shellfish abundance. Others commented that the assessment of commercial and recreational shellfisheries does not provide sufficient detail to access impacts associated with construction. Further comments requested that a shellfish survey that accurately characterizes the resource should be developed in coordination with MassDMF and then conducted. A comment stated that the bay scallop fishery is a highly valuable resource but varies from year to year. The resource is important to the economies of Nantucket and Martha's Vineyard. There was a request for an example of the type of mitigation for impacts to recreational shellfish beds.

7.1.2.14 Fisheries – Environmental Impacts

Comments with respect to fisheries generally fell under the following subtopics: (1) data limitations of evaluation of finfish resources; (2) data limitations of evaluations of commercial and recreational fisheries; (3) shellfish resources; (4) alternatives evaluation; (5) vertical hard substrate – fish attracting devices; (6) EFH assessment; (7) interconnection of resources; (8) predator-prey evaluation; (9) construction and operation impacts; (10) construction timing; (11) sandy shoal environment change; (12) cable exposure; (13) gear usage; (14) noise; (15) EMF; (16) scour mats; (17) monitoring, restoration, and mitigation; (18) permitting recommendations; and (19) decommissioning. These are discussed in more detail below.

With respect to data limitations, one commenter noted near total dependence on existing data sets from MassDMF and NOAA resource surveys and reported landings. The commenter expressed concern that no effort was made to obtain comprehensive, representative, site-specific resource or habitat data. The commenter suggested directed resource surveys be conducted to characterize marine resources inhabiting the proposed and alternative sites as well as habitat functions and values. The commenter went on to indicate that these studies should be comprehensive in order to characterize use of areas by all life stages of relevant commercial and recreationally important species and those that serve as forage. The commenter noted that data from the directed studies should be integrated with existing data sets, landings data and physical/oceanographic characteristics to present characterization of diversity and abundance of finfish resources in Nantucket Sound.

Commenters requested development of an environmental baseline for purposes of measuring impacts and developing a mitigation and a monitoring plan. It was suggested that monitoring should include water quality testing to detect the leakage of toxic fluids into the water that could be entering the food chain.

With respect to shellfish, some comments noted that potential impacts to shellfish have not been adequately described and that a more thorough characterization of the shellfish resource in the area and

the level of shellfishing effort are necessary to evaluate the proposed action's impacts on the resource and use.

A commenter noted that there is no description of NOAA survey data used to describe the finfish resources for the alternative site south of Tuckernuck Island. A commenter further noted that information on comparison of fisheries resources between potential sites do not present the same level of data for each site and are not presented in a uniform manner.

A commenter requested that additional analysis be conducted to ascertain effects of introduced communities. It was suggested that effects of such alterations on migratory fish stocks such as striped bass and bluefish should be explored. It was further suggested that these obstructions (proposed action facilities) could change water circulation and thus impact migration, spawning, egg and larval transport and feeding habitats of fisheries resources. A commenter requested an evaluation of the possibility that availability of prey species and material on and around the WTGs could initiate cascade effects on higher trophic levels including game fish and other predators and whether there would be resulting changes in activities of commercial and recreational fishermen.

A comment was made that there was not concurrence with the USACE draft EIS conclusion that increasing the distance between monopiles would minimize effects of attracting colonizing and transient organisms, such as fish or invasive species. It was noted that this spacing is more likely to increase the area of change and spread this effect over a greater area of Nantucket Sound. Commenters expressed concern about the assessment of the potential of the monopile structures to act as fish aggregating devices and suggested that reference be made to MMS publications and other information developed as "Rigs to Reefs" to substantiate that monopiles are likely to become fish aggregating devices. Commenters suggested that the degradation to these resources that would result when monopiles are removed on decommissioning should be discussed.

Commenters requested that the potential for turbines and/or associated lighting to increase fish at the site of the proposed action needs to be assessed along with potential impacts on fishery resources from vibration, noise, electromagnetic fields, and heat output from transmission cables. Some commenters pointed out that new habitat would primarily be transient use habitat whereas benthic habitat it would replace has year round function. A commenter noted that these changes would benefit certain fisheries and have adverse impact on others.

Comments were made that the Essential Fish Habitat Assessment (EFHA) does not tie in EFH designation from the literature to actual occurrence and relative abundance of species documented by survey data and landings. A commenter requested this information be provided. A commenter recommended that more information should be presented on striped bass, bluefish and fluke and their contribution to high species diversity and ecology of Nantucket Sound. Comments noted that the EFHA does not discuss impacts to fisheries from temporary impacts during construction. Commenters also suggested that the habitat impact assessment focus on the ability of the area to continue providing essential ecological services necessary for spawning, breeding, feeding, or growth to maturity.

Some comments stated that the interconnection between benthic, fisheries and avian resources should be addressed. Commenters expressed concern that predator-prey investigations were not conducted to establish a baseline that could be used to predict and monitor impacts on marine life associated with disturbance, displacement, and habitat loss effects.

Commenters suggested that analysis of potential impacts on fisheries resources, habitat, and harvesting activities must include consideration of on-going and proposed construction activities (e.g., cable installation, dredging and sand mining). Some comments indicated that jet plowing should be timed

and located to avoid winter flounder spawning and that other appropriate time-of-year restrictions be considered. Other comments encouraged the applicant to arrange the construction schedule to avoid in-water work within Lewis Bay between January 15 and May 31 of any year in order to protect sensitive life stages of winter flounder.

Comments expressed concern that possible electromagnetic disruption may occur at the site of the proposed action and have the potential to alter migratory patterns of fish sensitive to such changes and that affect various life history stages of marine species. It was suggested that additional data be provided to demonstrate that EMF emissions have no effect on behavior or navigation of shark species and others sensitive to EMFs. Commenters noted studies in Europe seem to indicate such species would be able to detect EMF fields similar to those associated with the facilities but resulting effects on behavior are uncertain.

Some commenters wanted an independent fund established and independent consultants hired to conduct construction and post-construction monitoring. Some wanted post-construction monitoring to be paid for by proceeds of energy sales and an independent scientific expert review panel to be established.

7.1.2.15 Benthos and Eelgrass

Comments with respect to benthos generally fell under the following subtopics: (1) baseline data limitations; (2) benthic habitat mapping; (3) construction and post-construction monitoring; (4) anticipated impact and recovery rate; (5) compensatory mitigation; (6) vertical hard surface habitat – "reef effect"; (7) commercial and recreational shellfisheries; (8) dynamic components related to productivity and ecosystem functioning; (9) interconnection between benthic, fisheries and avian resources; (10) characterization of rocky substrate; (11) bay scallop fishery; (12) shellfish bed and aquaculture contamination; (13) alteration of accretion/erosion rates; (14) effects of pile driving; and (15) effects of scour mats and impacts to eelgrass. These are discussed in more detail below.

Several comments expressed concern that characterization of benthic resources and habitat lacked comprehensive data and consistent analysis. Some commented that results of limited benthic surveys indicate a need for more intensive sampling to better define habitats, associated flora and fauna and descriptions of their functions and values, as well as to evaluate environmental impacts, characterize alternatives or facilitate siting decisions. Further comments were that supplemental study design and analyses should be coordinated with appropriate state and Federal agencies.

Comments were made that the scale and frequency of benthic sampling should be such that microhabitats could be more accurately identified and mapped within the study area (including alternative sites). Some commented that the benthic habitat mapping could be used in conjunction with a sediment transport model to assess indirect impacts on benthic habitat.

Some comments advised that detailed construction and post-construction monitoring be performed to assess impact on benthic communities. Some wanted an independent fund established and independent consultants hired to conduct construction and post-construction monitoring. Some wanted post-construction monitoring to be paid for from proceeds of energy sales and an independent scientific expert review panel to be established.

Some comments were directed at the discussion of temporary and localized impacts to the benthic habitat during construction. Some noted that there was little discussion of the magnitude of anticipated impact and anticipated recovery rate and that this should be addressed. Further, commenters stated that proposed temporary impacts from jet-plowing/cable laying and anchor chain sweeps can adversely affect

the sand wave habitat. Comments were made that it is important to understand the lost function and value of this habitat from initial impact to time of full recovery to pre-construction contours.

Comments were made that there should be compensatory mitigation for permanent impacts to the benthic substrate from the wind towers and associated scour mats.

Comments noted that potentially significant changes in distribution and abundance of marine species as a result of introduction of a vertical hard surface substrate are not described. Commenters expressed concern over the potential colonization of these areas by colonizing and transient organisms and also potentially by invasive species. Commenters requested a discussion of possible changes from this habitat change based on current literature to assess impacts and possible avoidance or mitigation of these impacts. Concern was expressed that more information is necessary as to whether this "effect" is diminished because of spacing of the WTG or whether this serves to increase the area of biological change and spread the effect over a greater area.

Comments were directed at benthic resource impact analyses and indicated that these analyses did not consider dynamic components related to productivity and ecosystem functioning. Some comments stated that rocky substrate was not adequately characterized. Comments requested a more accurate and comprehensive estimate of the amount of existing rocky habitat. Benthic resource comments noted that the presence of *Crepidula* spp. suggests a more widespread amount of stable habitat, such as cobbles and rocks.

Commenters expressed concern that toxic dielectric transformer cooling oil could contaminate shellfish beds in Harwich and kill large numbers of fauna and flora. Some comments expressed concern about possible introduction of uncontrolled contaminants that could affect aquaculture efforts.

Some commenters noted a need for assessment of whether there would be alteration of accretion/erosion rates on adjacent islands and sand shoals and thus may affect benthic communities.

Some commenters were concerned about impacts to eelgrass beds. Commenters requested a survey of eelgrass beds in the area, information on if and where eelgrass would be affected, and mitigation if eelgrass were to be impacted.

7.1.2.16 Threatened and Endangered Species

The comments submitted for this section fall under the following seven categories: (1) vessel strikes; (2) noise; (3) forage/food sources; (4) data adequacy; (5) additional species; (6) monitoring plan; and (7) mitigation plan.

One of the main concerns from the commenters addressed vessel strikes. The increased traffic due to maintenance trips was a concern as whales and sea turtles are more at risk of being injured or killed by vessels. Another concern was the speed the vessels would be traveling. A request for more recent and informative data was made for vessel strike mortality.

There was a lot of skepticism about the noise that would be created from the construction and operation of the WTGs. Requests for more data were made, including graphics on levels in relation to the construction zone. The comments regarded the effects of the noise on the marine mammals and sea turtles. One comment mentioned that the noise section was insufficient and inaccurate. There were also concerns regarding the "soft start" approach and whether or not this technique would work. There was a concern that the mating call of gray seals would be masked by the frequency from operation of the

turbines and that this would hinder reproduction. The last concern was whether or not the acoustic harassment would cause habitat exclusion.

There were some comments that suggested suspended sediments would not allow sea turtles and any other species relying on sight to find food. Also, the loss of shoals could affect the species that forage in the sandy bottom habitats. Another concern was that small fish species could use the monopiles as aggregating areas creating a "fouling community" and that this may entice marine mammals and sea turtles that prey on these small fish to follow them into the proposed action area.

There were numerous comments about insufficient data and outdated data. There were requests for more species data for each of the threatened and endangered species. There was a request for a baseline survey to be conducted in order to assess the risk. Without this data the commenter indicated that accurate risk assessments cannot be made. Corrections to the gray seal data, including breeding habits were pointed out as necessary.

There were requests that more species be added to the discussions on impacts. Namely, it was suggested that green turtles, minke whales, spotted dolphins, Risso's dolphins, and Kogia dolphins be added to the list. Also, it was noted that all whale species and sea turtle species do occur in Nantucket Sound.

Comments about the lack of a monitoring plan were made. Commenters wanted a monitoring protocol to be established. Any sea turtles occurring in the proposed action area should be tagged and monitored during and after construction processes. Also, a monitoring plan to assess the effect of electrical and magnetic fields on marine mammals and sea turtles was requested.

Mitigation comments requested avoidance devices on ships to minimize vessel strikes. Also, requests were made to move the safety zone from 1,640 to 3,281 ft (500 to 1000 m). In general, comments suggested that the mitigation plan needed to be more robust. There was one request that a fund be set up for a sea turtle stranding recovery program.

7.1.2.17 Socioeconomics

Comments with respect to socioeconomics generally fell under the following fifteen subtopics: (1) tourism; (2) dependency on foreign oil; (3) reduction in energy costs; (4) economic opportunities; (5) impacts to property values and other negative economic impacts; (6) economical feasibility without subsidies; (7) costs versus benefits; (8) no need for additional electricity; (9) natural gas issues; (10) who benefits from the proposed action; (11) environmental justice; (12) health benefits; (13) general operational issues with New England Power grid; (14) RPS; and (15) commercial fishing impacts. These are discussed in more detail below.

Several commenters requested that the draft EIS add discussions on tourism benefits based on other established wind energy projects. However, there were also people who believe the proposed action could potentially diminish tourism on the Cape and Islands. Some claim that the conclusion of "no adverse impacts" is not supported by enough data and that the actual impacts should be reviewed and updated with relevant studies and comparable existing data.

Several comments with respect to foreign fossil fuel reliance requested more quantitative data and to address and evaluate the fact that wind is not constant and requires a "back-up" energy source. There were concerns about the cost of backup power and how much the proposed action could actually reduce fossil fuel production within the region.

Some comments supported the proposed action, foreseeing the ultimate reduction in electricity costs, while other comments requested more evidence of how and how much energy costs would, in fact, be affected. Others commented that the proposed action would cost more to operate and maintain than it would save for consumers.

Some comments were directed at more accurately depicting and quantifying economic benefits and specifying what types of jobs would be created. Some concerns were raised in regard to the loss of jobs, as well. Some stated that if the proposed action would produce a certain percentage of the region's energy, then jobs would be lost at alternative power plants.

Comments expressed the concern that the draft EIS conclusion of "no adverse effect on property value" is not accurate. Some state that this conclusion was based on flawed studies. Commenters requested that the assessment of impacts to property and real estate be redone and supported by more adequate studies.

Commenters expressed concerns that the proposed action could only be economically viable with reliance on government subsidies. Others stated the required subsidies are excessive and go beyond what serves the public good.

Several requested that more accurate and extensive economic analyses be carried out given the change in energy costs from the time the studies were first conducted. Some stated that the limited amount of energy that the turbines would produce does not outweigh the magnitude of impacts and disturbance of the proposed action. Other commenters voiced the opinion that the USACE draft EIS failed to objectively address costs and benefits and have requested a more realistic assessment of economic and cultural impacts.

Comments with respect to energy needs stated that there is no shortage of power in New England as the region has a 30 percent excess generating capacity. Many commenters felt as though New England is not an efficient location for the farm since the region already has excess electricity. Other commenters said the Project and others like it are needed.

Some commenters stated that money could be better spent expanding the natural gas service and supply. Others said the Project has the potential to reduce natural gas prices and wanted updated estimates on consumer benefits to be included in the new draft EIS.

Several commenters addressed the issue of who the power from the Project actually benefits. Many wanted to know how much it would directly benefit the Cape and Islands and some stated that the Cape should absolutely reap the benefits rather than the entire "grid." There were also requests to include a factual discussion on where the energy produced by the Project would actually be consumed.

There were some requests that the new draft EIS address environmental justice.

Some comments advised that the calculated public health benefits should be considered indicative rather than precisely predictive. Others said that these calculations were not supported by enough explanation and the discussion should be expanded. A specific request with respect to the public health benefits of the proposed action was to address the annual reduction of mercury emissions and the significance of this reduction.

Some comments stated that the emission reduction was overestimated because the back-up operation of alternative plants was not factored in. Others wanted an explanation of the impact of turbine failure on stability of the grid and what would happened if promised power was not delivered.

Several commenters addressed the need for the Project in order to meet the requirements of New England's RPS. Others voiced that the proposed action would lift pressure off of REC prices and reduce ratepayer exposure to Alternative Compliance payments.

Socioeconomic comments with respect to fishing raised concerns that dragging may not be feasible or allowed in the proposed action area. Other concerns were whether commercial fisherman would be compensated for any damage the farm has on fisheries. Some requested that the new draft EIS address future shellfishing impacts and all commercial fishing impacts more thoroughly.

7.1.2.18 Transportation

Comments with respect to transportation generally fell under the following seven subtopics: (1) navigation hazards, including ice; (2) aviation hazards; (3) minimal or no navigational hazards expected; (4) marine and air radar effects; (5) restrictions on navigation and public access; (6) wind turbine towers may serve as a navigation aid; and (7) requests for additional navigational studies.

The majority of the concerns expressed in the comment letters were with respect to navigational hazards, including ice, waterway congestion, collisions with turbines, danger to recreational and commercial boating, and interference with search and rescue missions. Some commented that the aerial and surface navigation lighting on the towers would interfere with existing guides, while others thought the turbine structures could help serve as an aid to navigation and did not foresee navigation problems. Others expressed concern that the "proximity" of the Project to heavily traveled waterways is enough to put boaters at risk of collision with one another as well as with the towers. Some commenters requested further navigational impacts and studies, including, but not limited to, ice flow within the Sound, potential for fuel barges and other marine vessels to collide with wind towers, and the delays the wind turbine towers could cause to search and rescue missions. Some said that the proposed action would restrict or prohibit navigation and use of the waterway as a result of security concerns.

The main comments with respect to aviation had to do with the required safety lighting of the turbines, safety concerns regarding local airlines and private aircraft, and impacts the Project would have on search and rescue operations. Radar interference was also a concern. Questions arose about whether the EMF produced by turbines would influence aircraft radar, and several comment letters requested that the draft EIS refer to existing wind projects for radar interference data.

7.1.2.19 Communications

Some commenters were concerned about FAA/DOD radar impact leading to aircraft safety issues and the impact to other aircraft navigational services such as ILS, GPS and VOR.

According to the commenters, there are 400,000 flights per day in the Cape area that could be adversely affected by the proposed wind turbines. Comments were received urging that the FAA approval granted 4 years ago be rescinded. The commenters stated that revisiting the previous FAA approval is justified by the following new information: (1) the publishing of the UK CAA Policy Guidelines on Wind Turbines; and (2) the "Great Risk to Aircraft" associated with possible interference to radar, ILS, and other navigation aids. This possible interference is divided into the following modes:

a. Receiver swamping;
b. Defeat of target processing;
c. Obstruction; and
d. SSR reflections (false target).

In addition to re-visiting the FAA approval, commenters urged that the proposed action be placed upon "indefinite hold" to: (1) provide an opportunity for national standards to be developed, and for the "cumulative effects of multiple turbines" to be studied more exhaustively; (2) address presently unknown effects that may arise in the future; and (3) avoid restricting the future expansion options of the local airports, and possibly the local economy as well.

Other commenters stated that detailed information on electric fields, magnetic fields, and possible communications interference seemed to be lacking.

7.1.2.20 Cultural Resources

Comments with respect to cultural resources generally fell under the three main subtopics: (1) general need for Section 106 of the NHPA compliance; (2) inadequacy of previous USACE draft EIS for identifying historic properties potentially affected by the Project; and (3) concerns about adverse affects on historic properties.

The majority of concerns dealt with the need for MMS to ensure a thorough and open Section 106 process, referring to Section 106 of the NHPA, as implemented through 36 CRF 800. Some comments emphasized the need for MMS to identify and invite consulting parties to participate in the Section 106 process, and to carefully assess how adverse affects to historic properties can be avoided, minimized, or mitigated. The need to analyze a reasonable range of alternatives to the proposed action also was noted.

Related to the Section 106 process, some comments noted that the USACE determined (through prior studies) that some historic properties would be adversely affected by the proposed action, including two NHL, but stated the belief that the USACE effort to identify historic properties was inadequate. Concern was expressed that the USACE draft EIS conducted by the USACE only considered historic properties that were already determined eligible for listing or already listed on the NRHP, to the exclusion of properties that are eligible but have not been formally determined eligible. The MMS was encouraged to ensure that all eligible properties be considered under the Section 106 process.

Finally, some commenters indicated specific concerns about adverse effects to historic properties (i.e., properties eligible for or listed on the NRHP). Most of these concerns were related to how the visual and audible settings of historic properties would be impacted, although potential effects on submerged historic cultural resources were also mentioned.

7.1.2.21 Aesthetic/Landscape/Visual

The comments with respect to aesthetic impacts generally fall into the following subtopics: (1) the proposed action has positive or no impacts to aesthetics; (2) the proposed action has negative impacts to aesthetics; (3) visibility of lighting; (4) recreational impacts; (5) showing ESPs in visuals; and (6) providing visuals from other locations/distances to other locations/other comparisons/re-evaluation of view sheds.

Some commenters expressed the belief the proposed action would have a positive affect on aesthetics. They state that wind turbines are not a visual nuisance and that the turbine array could actually enhance the horizon. On the other hand, some comments addressed concerns with the negative visual impacts. Some believe that the turbines would disrupt the beauty of Nantucket Sound, permanently change the horizon and adversely affect the aesthetic value of the Sound. Others are concerned that the proposed action would detrimentally affect the view from historical sites, tourist sites and public and private beaches.

Several commenters noted that visual simulations were only done for the daytime and request that simulations be produced for night time, as well in order to show the lighting on the WTGs. Others are concerned with the light pollution and suggest/question if anything can be done to minimize it. Some commenters are also concerned that the lighting would confuse recreational boaters.

Comments were submitted noting that the simulations did not include the ESP and requested that they do so.

Several commenters request a more thorough evaluation of visual impacts and that the draft EIS explain in more detail the methodology of assessing those impacts. Some specifically suggest including all elements that influence aesthetic evaluation, including but not limited to, height, distance to shore, atmospheric conditions, elevation of the viewer, and perception. A few commenters request that a more quantitative explanation of visual impacts be provided, such as mileage/percentage of ocean-facing shoreline located within view of the wind turbine array. Lastly, some commenters suggest that the draft EIS should include visual simulations from additional locations, such as Craigsville, Hyannisport, Cotuit, and Osterville.

7.1.3 Comments Considered Out of Scope

Opinion Letters

A large portion of the comment letters were simple opinions such as "I don't want the Project", or I like the Project and want it approved." Opinion letters such as these were not evaluated in determining the scope of the MMS draft EIS since they do not really provide input on what should be the content of the EIS or how the proposed action should be evaluated. Rather MMS considered comments that were substantive and either provided information on what should be included in the draft EIS or required an action, such as evaluation of a specific type of potential environmental impact.

In addition, some of the comments summarized under the regulatory heading are no longer applicable to review under the MMS's jurisdiction. For instance, many comments were made that the USACE was not the appropriate review agency, and as the MMS is now reviewing the proposed action, this is no longer applicable. Similarly, concerns regarding objectivity of the preparer are also no longer applicable, as MMS, a public regulatory agency is preparing the new draft EIS using the services of an independent third-party contractor.

7.2 Required Agency Consultations

Cooperating Agency meetings were held in Boston, Massachusetts on November 2, 2005; June 27, 2006; and February 28, 2007. Consultation correspondence is provided in Appendix E and a list of agencies consulted is provided in Table 7.2-1. The following is summary information about each agency consulted and its jurisdiction:

Consultation with Advisory Council on Historic Preservation (ACHP) (Section 106 of the NHPA, as Amended Through 2000)

Section 106 of the NHPA of 1966, as amended through 2000, requires that Federal agencies consider the effects of their undertakings (as defined in 36 CFR § 800.16(y)) on properties included in or eligible for inclusion in the NRHP (known as historic properties per 36 CFR Part 800. The MMS would fulfill the requirements set forth in the NHPA, including consultation with the SHPO in accordance with the implementing regulations.

An undertaking has an effect on a historic property when that undertaking has the potential to alter the characteristics of the property that qualified the property for inclusion in the NRHP. Effects can include

physical disturbance, noise, or visual effects. If an adverse effect on historic properties is found, the MMS would notify the ACHP, consult with the SHPO, and encourage the applicant to avoid, minimize or mitigate the adverse effect(s). Ground-disturbing activities associated with construction, as well as visual effects of the aboveground WTGs, are subject to Section 106 review.

The regulations at 36 CFR Part 800 require the identification of historic properties in the project's Area of Potential Effect. This process has been completed along the proposed onshore transmission route; submarine cable system located within state waters, and is currently under review for those portions of the proposed action located in Federal waters. Studies included development of a predictive model for the presence of potentially significant submerged archaeological resources, which may exist in the offshore portions of the proposed action area and a marine reconnaissance archaeological survey, as requested by the cooperating state agency MHC (which includes the SHPO and State Archaeologist) and also the MBUAR. Historic properties within the viewshed of the wind turbine array have been identified on Cape Cod, Nantucket and Martha's Vineyard. Visual simulations of the built turbine array from representative locations have been completed (see Section 5.3.3.4.2 for more details).

Consultation and Coordination with Indian Tribal Governments (i.e., Wampanoag Indians of Mashpee and Wampanoag Indians of Gay Head) Executive Order 13175 (Applicable Regulatory Agency: Lead NEPA Agency i.e., MMS)

The MMS works on a government-to-government basis with Native American Tribes. As a part of the government's Treaty and Trust responsibilities, the government-to-government relationship was formally recognized by the Federal government on November 6, 2000.

The MMS has formally met at the headquarters of the Wampanoag Indians of Gay Head and the Wampanoag Indians of Mashpee in both June and July of 2007. Consultation included explanation of the proposed action and its potential impacts on tribal government. Comments made by the tribal groups are addressed in this draft EIS. Impacts on tribal governments are discussed under the Environmental Justice section of this draft EIS (Section 5.3.3.3).

Consultation with NOAA (NOAA Fisheries) (Fish and Wildlife Coordination Act; 16 U.S.C. 1801-1882 - Magnuson-Stevens Fishery Conservation and Management Act of 1976; 16 U.S.C. 1531-1543; Pub. L. 93-205, as amended - Endangered Species Act of 1973; and 16 U.S.C. 1361-1421; Pub. L. 92-522, as amended; reauthorized in 1994 (Pub. L. 103-238) - Marine Mammal Protection Act of 1972

NOAA Fisheries (formerly NMFS) is a division of the Department of Commerce and is responsible for the management, conservation and protection of living marine resources within the United States' Exclusive Economic Zone (water 3 to 200 miles [5.6 to 370.4 km] offshore). It also has regulatory review and responsibilities for the management and protection of EFH as well as responsibilities under the Endangered Species Act and the Marine Mammal Protection Act.

NOAA Fisheries is responsible for providing an assessment of the likelihood to cause adverse impacts on species or habitats under their jurisdiction. They can also provide recommendations to the Federal agency for mitigation actions to reduce or compensate for proposed action impacts, or can recommend that the Federal agency deny the permit. For the Project, NOAA Fisheries review falls into four categories: fish and wildlife species and habitats regulated under the Fish and Wildlife Coordination Act, EFH regulated under the Magnuson-Stevens Act, marine species and habitats regulated under the Endangered Species Act, and species regulated under the Marine Mammal Protection Act.

MMS has been informally consulting with NOAA Fisheries regarding the applicant's proposal since January 2006. This has included individual phone calls and emails between MMS and NOAA Fisheries.

MMS recommends that the applicant contact NMFS to determine if an Incidental Harassment Authorization (IHA) under the MMPA is warranted. If an IHA application is submitted, the final IHA would need to be issued prior to the commencement of any activities that may "take" marine mammals. MMS has prepared a draft Biological Assessment and formal consultation under the ESA will commence following the issuance date of this DEIS.

Consultation with the USFWS: (Endangered Species Act and Migratory Bird Treaty Act, Fish & Wildlife Coordination Act)

The USFWS works with landowners, private organizations, government agencies and other partners to conserve fish and wildlife resources. Through Federal action and by encouraging the establishment of state programs, the 1973 Endangered Species Act provided for the conservation of ecosystems upon which T&E species of fish, wildlife, and plants depend. The ESA authorizes the determination and listing of species as endangered and threatened; prohibits unauthorized taking, possession, sale, and transport of endangered species; provides authority to acquire land for the conservation of listed species, using land and water conservation funds; authorizes establishment of cooperative agreements and grants-in-aid to States that establish and maintain active and adequate programs for endangered and threatened wildlife and plants; authorizes the assessment of civil and criminal penalties for violating the ESA or regulations; and authorizes the payment of rewards to anyone furnishing information leading to arrest and conviction for any violation of the ESA or any regulation issued there under.

The MBTA prohibits taking any migratory bird except as permitted by regulations issued by the DOI. Another, more recent mandate regarding the conservation of migratory birds, is Executive Order (E.O.) 13186, signed January 2001, by President Clinton. This E.O. requires every Federal agency that takes action(s) likely to have a measurable negative impact on migratory birds to enter into a MOU with the USFWS, which has Federal jurisdiction over managing and conserving seabirds. The MOU outlines how an agency would promote the conservation of migratory birds. Additional obligations under E.O. 13186 include supporting other conservation efforts already underway and incorporating bird conservation into agency planning.

MMS has been informally consulting with both the FWS and NOAA regarding the applicant's proposal since January 2006. This has included individual phone calls and emails between MMS and USFWS/NOAA as well as the following efforts which are also considered as part of the informal consultation and ultimately the development of the formal consultation package:

- During 2006 and 2007, MMS has regularly convened conference calls with USFWS-ESA-listed bird experts, state bird experts and private scientists (selected by the USFWS). These efforts were meant to get everyone on the same page and share expertise on: (1) information available on the proposed action as it relates to potential impacts on ESA-listed birds and (2) development of the risk assessment model and population viability analyses.
- A face-to-face meeting of these and other experts was also held on January 30, 2007 to discuss potential impacts to ESA-listed birds associated with current and conceptual offshore wind projects and identify data gaps and information needs.
- An additional face-to-face meeting was held September 13, 2007 with the same and additional individuals to discuss potential mitigation and monitoring activities that may possibly be built into the proposed action for the ESA consultation on the applicant's proposal.

MMS has prepared a draft Biological Assessment and formal consultation under the ESA will commence following the issuance date of this DEIS.

Consultation with United States Coast Guard (USCG) (U.S. Coast Guard Regulations at 33 CFR part 66.0, Subpart 66.01)

Pursuant to 33 CFR part 66.0, Subpart 66.01, the USCG has jurisdiction over projects located in navigable waters of the United States. The proposed action constitutes fixed structures in navigable waters of the United States which therefore require private aids to navigation marking. A permit application to establish and operate Private Aid-to-Navigation to a Fixed Structure has not yet been filed.

All 130 WTGs and the ESP are subject to USCG review for authorization to mark and light the WTGs and ESP. The USCG has safety and regulatory jurisdiction over projects located in navigable waters of the United States. The USCG Marine Safety Office for the Port of Providence, Rhode Island, which has jurisdiction over general navigation in the proposed action area, has coordinated a Navigational Risk Assessment. This Risk Assessment was prepared at the direction of, and in consultation with, the U.S. Coast Guard Marine Safety Office at the Port of Providence in order to provide a qualitative assessment of navigational risks related to the proposed action. The analyses required by the USCG were outlined in a letter to the USACE dated February 10, 2003 (Appendix E). Subsequent to the release of the USACE draft EIS/ DEIR in November of 2004, the applicant was required to revise the 2003 Navigational Risk Assessment to incorporate design changes and new information and to address topics requested by the USCG in its letter of February 14, 2005. The revised Navigational Risk Assessment has been incorporated into this DEIS.