SECTION 1: INTRODUCTION

Cape Wind, LLC is proposing to construct and operate an offshore wind park in federal waters in Nantucket Sound, at a site known as Horseshoe Shoal. The electricity generated from the wind park will be transmitted via submarine transmission circuits to the New England electric power grid. This transmission line travels from the wind park, through Lewis Bay, and makes landfall in the Town of Yarmouth in the vicinity of New Hampshire Avenue. Once reaching the upland, the transmission lines continue underground within existing rights-of-way in Yarmouth and Barnstable until connecting to the Barnstable Switching Station located in the vicinity of Mary Dunn Road, Barnstable. At the switching station, the cables will be tied into the NSTAR transmission lines to deliver Cape Wind’s electricity to the power grid.
The project qualifies as a Development of Regional Impact (DRI) under Section 12(i) and 13(b) of the Cape Cod Commission Act as a project for which the Secretary of Environmental Affairs has required the preparation of an Environmental Impact Report (EIR). A subcommittee of the Cape Cod Commission will hold a public hearing on Thursday, September 6, 2007 at 5:00 p.m. at the Mattacheese Middle School in West Yarmouth, MA for consideration of this project. The subcommittee will hear testimony on the project and will consider these comments and those submitted in writing as part of their deliberations on the project. At a later date, the subcommittee will forward a recommendation on the project to the full Commission, and the full Commission will take a final vote on the project.

To be approved by the Cape Cod Commission, the project must be consistent with local zoning by-laws, local certified comprehensive plans (LCP) and the Minimum Performance Standards (MPS) in the Regional Policy Plan (RPP). In addition, the project must demonstrate that the probable benefits of the project outweigh the probable detriments of the project. All DRI applications are reviewed for consistency with these requirements. This staff report focuses on the project’s consistency with the MPSs.

On May 31, 2007, the Cape Cod Commission voted to define the scope of the Commission’s DRI review. This vote was to review and regulate those elements of the project on land and within the three-mile limit, and to review the impacts, both positive and negative, of all aspects of the entire project as it affects and relates to the resources protected under the Cape Cod Commission Act (described in Section 1 of the Act).

SECTION 2: PROJECT DESCRIPTION

This section of the staff report presents a brief outline of the entire project for informational purposes. A more complete project description is contained in Section 2 of the Final EIR (FEIR) submitted to the Executive Office of Environmental Affairs – MEPA Unit (MEPA) by Cape Wind dated February 15, 2007. The FEIR includes detailed information on the cables, turbines and service platform proposed, construction methods and decommissioning plans.

On May 31, 2007, the Cape Cod Commission voted to direct the staff to focus on the project’s consistency with the 2002 Regional Policy Plan (RPP) for those portions of the project located within Massachusetts (i.e. all upland locations and the portions of submarine cable out to the three-mile limit). In order to provide a full understanding of the project, all the project components are summarized below; however, the description has been divided to describe those parts of the project in federal water and those within state waters.

Project components in federal water
The wind park facility will consist of 130 Wind Turbine Generators (WTGs) covering an area of approximately 25 square miles that are anticipated to generate 454 MW of electricity at maximum output (1,594,207 MW hours/year). The WTG (see “Diagram A” below of Proposed Wind Turbine Generator – Profile Detail (Figure 2-5 FEIR)) consists of a tower supported on a monopile foundation that will be driven approximately 85 feet into the seabed; a nacelle which houses the drive train and supporting generating systems; and the 364-foot diameter rotors that spin when the
wind blows. The WTG will stand 440 feet above Mean Low Lower Water (MLLW) when the rotor blades are at their highest. The electricity from each turbine will be transmitted via submarine cable to an Electrical Service Platform (ESP) located within the WTG array. The ESP will then transform and transmit this power to the electric power grid on the mainland via two 115kV alternating current (AC) transmission circuits. Each circuit contains two cables, with each cable consisting of three conductors. Diagram B shows the proposed layout of the turbines, ESP and location of the submarine transmission circuits in federal waters. The transmission circuits are approximately 12.5 miles in length; 4.9 miles in federal water and 7.6 miles in state waters.

Diagram A: Proposed Wind Turbine Generator
Project components in state water

The state boundary of the Commonwealth of Massachusetts is delineated as starting three nautical miles from shore. The two 115kV AC submarine circuits carrying electricity from the ESP enter state waters and travel in a northeast direction a distance of approximately 7.6 miles through Nantucket Sound and Lewis Bay and make landfall in the Town of Yarmouth in the vicinity of New Hampshire Avenue. Once reaching the upland, the transmission line continues underground within existing rights-of-way along New Hampshire Avenue, Berry Avenue, Higgins Crowell Road and Willow Street until it reaches the NSTAR right-of-way near Willow Street in Yarmouth. This roadway portion of the transmission line is approximately 4 miles in length. From this location the transmission lines will continue underground along the NSTAR right-of-way for a distance of 1.9 miles to the Barnstable Switching Station located in the vicinity of Mary Dunn Road, Barnstable. Once at the switching station, the cable will be tied into the NSTAR transmission lines to deliver Cape Wind’s electricity. The upland route of the cable is shown in Diagram C below. The remainder of this section of the report provides a more detailed project description of the components within state water, however, many more details may be found in Section 2.0 of the FEIR.

Submarine cable.
The Cape Wind project proposes to utilize two circuits to “provide increased reliability and redundancy in the event of a circuit outage” and in the event that one of the cables has an internal fault, “more than 75% of the total power available could still be delivered.” The submarine cable

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proposed is specifically designed for installation in the marine environment and does not require pressurized dielectric fluid circulation for insulating or cooling purposes.

Each circuit is proposed to be embedded approximately 6 feet into the ocean floor sediment using a jet-plow and will be separated horizontally by approximately 20 feet. The jet-plow uses pressurized sea-water from a pump on board a cable vessel to fluidize an area of sediment between 4 and 6 feet wide and 8 feet deep on the seafloor. According to the Cape Wind FEIR, as the plow progresses along the seabed the cable is laid in the trench and covered by the settling sediment.

Cable-laying barges are proposed to be used for transport and installation of the cables and to monitor the cable positioning during installation. The installation is estimated to take between two to four weeks. Cables are proposed to be delivered to a staging area (likely Quonset, RI) for transportation to the site in Lewis Bay. The plans submitted for the project note that the cable work area is estimated to be approximately 100 feet wide, 50 feet wide on either side of the centerline of the cable to allow flexibility in establishing the final location of the cable to avoid unexpected obstructions. The surface work area (i.e. where support/construction vessels will be located) is estimated to be 500 feet wide, 250 feet wide on either side of the centerline of the cable work area. This area is to be used by the cable barge and support vessels to maneuver and for anchorage. The subsurface work area is estimated to be 200 feet wide, 100 feet on either side of the centerline of the cable work area, this expanded area is proposed for anchorage for the support vessels and diver activities. See sheet 3 of the plans submitted by Cape Wind revised April 13, 2007 for an illustration of these areas.

The proposed transition from the submarine cables to upland cables is to be accomplished through the use of a Horizontal Directional Drill (HDD). This would involve drilling from the upland landfall location under the inter-tidal area and out to an offshore exit point contained within a cofferdam. The cofferdam will be approximately 65 feet wide and 45 feet long. Conduits would then be installed the length of the HDD boreholes and the submarine cable will then be pulled through these conduits from the seaward side toward the land. The proposed upland cables will be joined to these submarine cables at the landfall location inside a below-ground, precast concrete transition vault approximately 7 feet wide, 35 feet long and 7.5 feet high.

Upland Cable
The upland transmission line system is proposed to utilize 12 single-conductor 115kV cables that will be carried in a below-ground, concrete encased ductbank (approximately 5’ 8” wide by 2 feet in height, with sixteen, 6-inch PVC ducts encased in a concrete envelope). The upland ductbank will mostly be installed in a single trench below the existing roadway corridors and in NSTAR’s right-of-way. In certain locations, trenchless technologies are proposed to avoid the state highway and railroad beds and this will utilize four carrier pipes as conduits for the cables instead of a ductbank. A warning tape will be placed above the cables approximately one foot below the surface for “dig-in” protection. The proposed transmission lines will include approximately 15 underground vaults along the roadway portion of the route and 9 underground vaults in the NSTAR right-of-way for the purposes of connecting/splicing portions of the cable together. These will generally be spaced between 500 feet and 1,700 feet apart.
Excavated soil from the trench and vaults will be temporarily stored adjacent to the worksite or transported offsite. Following completion of the installation, the excavation will be backfilled, repaved or re-vegetated as appropriate.
Diagram C: Cable Route (Figure 3-15.1 FEIR)
SECTION 3: PROCEDURAL HISTORY

The Cape Wind project is subject to review by many different agencies at all levels of local, state and federal government. This section of the report is intended to generally describe the permitting process and how the Cape Cod Commission’s regulatory process fits into the sequence of permits to be issued on the project. Broadly, this section is divided into four main parts: Energy Facilities Siting Board Review, MEPA Review, Federal Environmental Review and Cape Cod Commission review.

Energy Facilities Siting Board (EFSB) Review
The EFSB is a state board that has jurisdiction over all energy related infrastructure in Massachusetts. The Siting Board’s enabling statute directs the Siting Board to implement the energy policies contained in G.L. c. 164, §§ 69H to 69Q, to provide a reliable energy supply for the Commonwealth with a minimum impact on the environment at the lowest possible cost. The EFSB also considers the need for the proposed facility. Unlike other state agencies, the EFSB does not have to wait until the completion of the MEPA process to make a decision on a project before them. On May 11, 2005 the EFSB conditionally approved Cape Wind’s application. The decision crafted by the EFSB included several conditions, which are included here as they appear in the EFSB decision for informational purposes:

(A) No wind turbines will be built in state waters.

(B) There shall be no construction in Yarmouth between Memorial Day and Labor Day, unless permission is given in writing in advance by the Town of Yarmouth.

(C) Construction in Yarmouth shall not occur prior to 7 a.m. or after 5 p.m., unless permission is given in writing in advance by the Town of Yarmouth.

Prior to the commencement of construction:
(D) To establish that there is a need for additional transmission resources to interconnect the wind farm with the regional transmission grid, Cape Wind shall submit to the Siting Board copies of all permits required for Cape Wind to begin installation of wind farm equipment in Nantucket Sound.

(E) To minimize marine construction impacts on eelgrass beds, the Siting Board directs Cape Wind to aerially photograph the entrance to Lewis Bay in the month of July, immediately prior to jet-plowing, under conditions conducive to documenting the extent of eelgrass beds, to use the photographs in finalizing the exact location of jet-plowing, and to provide such photographs to the Siting Board. The Siting Board also directs Cape Wind to provide this documentation to the Yarmouth Shellfish Warden. Also, Cape Wind shall file a Notice of Intent with the Yarmouth Conservation Commission and fully consult with the Yarmouth Division of Natural Resources prior to commencing with construction.
(F) To minimize marine construction impacts on protected coastal shorebirds, the Siting Board directs Cape Wind to work with the ACOE, NHESP, and MDMF, and with Mass Audubon, if Mass Audubon wishes to participate: (1) to determine whether seasonal restrictions, or some other protective measures, are appropriate to minimize potential impacts on protected coastal shorebirds and their habit along the primary route and, if so, to develop appropriate seasonal restrictions and/or other protective measures; and (2) to determine whether protected coastal shorebirds should be included in the Company’s comprehensive environmental monitoring plan and, if so, to develop an appropriate monitoring protocol. Cape Wind shall file with the Siting Board, prior to the commencement of marine construction, documentation of the seasonal restrictions, any additional protective measures, and any monitoring protocol.

(G) To help ensure that potential navigational impacts on all individuals or groups, including commercial fishermen and recreational boaters, would be avoided or minimized, the Siting Board directs Cape Wind to consult with the Harbormasters of the Towns of Barnstable and Yarmouth, in order to coordinate the scheduling of marine construction activities, or to arrange other mitigation measures.

(H) To minimize construction traffic impacts, the Siting Board directs Cape Wind, and NSTAR as appropriate, to submit a draft Traffic Management Plan to Yarmouth officials and school administrators at least six months prior to the commencement of construction.

(I) To minimize impact to potential historic sites on Berry Avenue, the Siting Board directs Cape Wind to consult with the Yarmouth Historical Commission prior to commencing construction.

(J) Prior to applying for a street opening permit, Cape Wind shall provide detailed noise and traffic management information to the Town of Yarmouth.

MEPA Review
On November 16, 2001, Cape Wind submitted an Expanded Environmental Notification Form (ENF) to MEPA to commence the state environmental review process and a joint review process with the Cape Cod Commission. On April 22, 2002, the Secretary of Environmental Affairs issued a certificate on the ENF that required the preparation of a Draft Environmental Impact Report (DEIR) for the project.

In November 2004, a DEIR was filed with MEPA (this document was a joint DEIR and Draft Environmental Impact Statement (DEIS) issued by the Army Corps of Engineers in accordance with the federal environmental review procedures discussed briefly below). On March 3, 2005, the Secretary of Environmental Affairs issued a certificate that determined the DEIR had adequately and properly complied with MEPA and directed Cape Wind to prepare a Final Environmental Impact Report (FEIR).
On February 15, 2007, a FEIR was filed with MEPA. On March 29, 2007 the Secretary of Environmental Affairs issued a certificate that determined the FEIR adequately and properly complied with MEPA. The Secretary’s certificate also included mitigation that the Secretary concluded was adequate to “mitigate the impacts of the project occurring in Massachusetts”. The specific mitigation cited is summarized below (see Secretary Bowles’ March 29, 2007 certificate for details):

- **Compensatory Mitigation**
  - $780,000 toward restoration of Bird Island, off the Town of Marion in Buzzards Bay (funds to be managed by Mass. Department of Fish and Game and Natural Heritage and Endangered Species Program).
  - $4.22 million in annual payments pro rated over the life of the project (estimated to be 20 years). These funds would be used for natural resource preservation, marine habitat restoration and coastal recreation enhancement projects in the area of Cape Cod, Nantucket and Martha’s Vineyard. These funds are to be managed by the Mass. Coastal Zone Management Office in consultation with state agencies and the Cape Cod Commission. At this time, no projects have been identified and the certificate deferred specific guidance on these until such time as the federal review process had concluded and specific impacts identified.

- **Federal Lease Payment**
  - The certificate states that 27 percent of the revenues received by the federal government for use of the sea-floor by Cape Wind would go to Massachusetts, although these revenues are unknown at the present time. The Secretary’s certificate estimates these funds to be in the region of $200,000 to $300,000 per year over the life of the project (estimated to be 20 years). Mass. Coastal Zone Management would also be responsible for allocating these funds.

**Concurrent Federal Environmental Review - NEPA**

In November 2001, Cape Wind filed an application under Section 10 of the Rivers and Harbors Act to the US Army Corps of Engineers (Corps) that commenced an environmental review process under the National Environmental Policy Act (NEPA). As lead agency under NEPA, the Corps developed a scope for a Draft Environmental Impact Statement (DEIS) and in November 2004 issued a joint DEIS/DEIR to satisfy the environmental requirements of NEPA and MEPA.

In August 2005, the Energy Policy Act was signed into federal law. This law gave the Minerals Management Service (MMS), a division of the US Department of Interior (DOI), authority to act as lead agency for the Cape Wind project instead of the Army Corps of Engineers. The MMS is currently in the process of compiling its own DEIS for the Cape Wind project, which is yet to be issued. Once a DEIS has been issued and public comment received, MMS will prepare a Final EIS and following a public comment period will issue a record of decision on the project.
Cape Cod Commission Review

On November 16, 2001, Cape Wind began filing its application for a Development of Regional Impact (DRI) with the Cape Cod Commission. Pursuant to Section 12(i) and 13(b) of the Cape Cod Commission Act, projects requiring the preparation of an EIR are automatically determined to be Developments of Regional Impact. On April 22, 2002, Cape Wind was required to prepare an EIR by the Secretary of Environmental Affairs, which mandated that the project be subject to DRI review. Also on November 16, 2001, Cape Wind requested that the joint review process established for coordination of the MEPA and DRI process be implemented. During the MEPA process and in accordance with the joint review process between MEPA and the Commission, the Cape Cod Commission subcommittee held several public hearings to receive input from the public about the project. These hearings took place in December 2001, February 2005 and March 2007 and provided comments that were used by the Commission subcommittee in preparation of their comment letters to MEPA on the adequacy of the DEIR and FEIR.

Timeframes

The Commission’s statutory timeframes began for the Cape Wind project on March 29, 2007, when the Secretary of Environmental Affairs determined that the FEIR adequately and properly complied with MEPA. However, pursuant to the Commission’s Enabling Regulations, the Commission was unable to schedule a substantive public hearing on the project until the DRI application was deemed complete. Specifically, the Commission requested more detailed information from Cape Wind concerning ownership or permission to use the areas where the transmission cables would be installed. Cape Wind submitted sufficiently detailed information on these issues to the Commission on August 3, 2007: this completed their application and permitted the scheduling of the September 6th public hearing.

Under the Commission’s statutory timeframes, the Commission must make a decision on the project by October 7, 2007, unless this timeframe is extended by mutual agreement of the Commission and Cape Wind. Although the Commission has discussed a mutual extension to this time frame with Cape Wind, the applicant has declined to agree to such an extension as of the date of this report.

Jurisdiction

On May 31, 2007, the Cape Cod Commission met to direct Commission staff and to clarify the jurisdictional issues concerning the Commission’s review of the Cape Wind project. At that meeting, the Commission voted to review and regulate those elements of the project on land and within the three-mile limit, and consider the impacts, both positive and negative, of all aspects of the entire project as it affects and relates to Section 1 of the Cape Commission Act in its review.

Criteria for Commission decisions

The Commission reviews proposed DRIs for their consistency with the Commission Act, the Regional Policy Plan, Districts of Critical Planning Concern (DCPC), municipal development bylaws and Local Comprehensive Plans. Pursuant to Section 6(c)(viii) of the Commission’s Enabling Regulations and Section 13(d) of the Cape Cod Commission Act, the Commission may approve, or approve with conditions, a DRI if it finds the following:
[1] the probable benefit from the proposed development is greater than the probable detriment;

[2] the proposed development is consistent with the RPP and the Local Comprehensive Plan of the Municipality(ies) in which the proposed development is located.

[3] the proposed development is consistent with municipal development bylaws, or, if it is inconsistent, the inconsistency is necessary to enable a substantial segment of the population to secure adequate opportunities for housing, conservation, environmental protection, education, recreation or balanced economic growth;

[4] if the proposed development is located in whole or in part within a designated DCPC, it is consistent with the regulations approved or adopted by the Commission pursuant to Section 11 of the Act.

The Commission may deny a proposed development that does not meet all of the criteria set forth above.

The first of the above criteria is an analysis of a project’s probable benefits and detriments. The weighing of these impacts by the Commission members is based on the information submitted for the record and testimony received through the public hearing process.

The second of the above criteria requires that the project be consistent with both the RPP and the Local Comprehensive Plan (LCP) of the town where the project is located. This staff report provides an analysis of the project’s consistency with the 2002 RPP prepared by the Commission staff for the consideration of the subcommittee. The Commission Act defines an LCP as one that has been certified by the Cape Cod Commission as consistent with the RPP. In this case, the Town of Barnstable has a certified LCP, but although the Town of Yarmouth has a comprehensive plan, it is not certified. In order to determine a project’s consistency with a certified LCP, the affected towns are typically requested to provide a letter to the Commission. As of the date of this report, no information has been provided by the Town of Barnstable on the project’s consistency with the certified LCP, but this will be necessary before the Commission can make a final determination on the project. For informational purposes, the Town of Yarmouth confirmed in a letter dated August 30, 2007 that the project was neither consistent nor inconsistent with the Yarmouth LCP, even though it has not been certified by the Commission.

The third criterion is that the project be consistent with all applicable local development bylaws. Again, the Commission typically relies on the affected towns to confirm that a project is consistent with their bylaws and as of the date of this report. In an email dated August 31, 2007, the Yarmouth Town Planner noted that it was Yarmouth’s understanding that the project is exempt from local zoning under M.G.L., Ch. 40A, §3, which gives a specific exemption to zoning for public service corporations. Cape Wind Associates filed a joint application with Commonwealth Electric (doing business as NSTAR) to the Massachusetts Dept. of Telecommunications and Energy (DTE) and the Energy Facilities Siting Board. That application was approved in May 2005. As NSTAR is an
exempt public service corporation and Cape Wind has a DTE approval jointly with NSTAR, the Town of Yarmouth believes that the project is exempt from local zoning provisions. No information has been provided by the Town of Barnstable on this point, but if this exemption were allowable under state zoning regulations in Yarmouth, it would also be applicable in Barnstable.

The fourth criterion does not apply to this project as it will not be located in any District of Critical Planning Concern.

SECTION 4: RPP CONSISTENCY

Pursuant to the Cape Cod Commission’s May 31, 2007 vote, the Commission staff have reviewed the project for its consistency with the minimum performance standards (MPSs) of the 2002 Regional Policy Plan. As stated in the previous section of this report, this analysis is provided to the Commission to assist in making one of the findings for DRI approval. This section is structured to provide a summary of the MPSs that the Commission staff believe are applicable to the project, together with an assessment of whether the Commission staff believe that the project is consistent with the standard or not, and whether additional information is needed to make this determination. The text of the MPS is not repeated here, but may be referenced in the 2002 RPP, available at the Commission’s website (www.capecodcommission.org) or at the Commission offices. The RPP also contains Other Development Review Policies (ODRPs) that if met, may be considered as project benefits by the Commission. Where applicable, these ODRPs are also included in this section.

It should also be noted that because Cape Wind filed their FEIR with the MEPA office prior to the completion of the Draft EIS by the MMS, many of the reports and studies that were anticipated to be completed to meet the federal agency requirements have yet to be made public. As such, under the current timeframes, the Cape Cod Commission will be required to render a decision on the project without a complete understanding of the projects impacts or the mitigation to be required by the MMS. Some of these studies and reports may be needed in order to verify compliance with the Commission’s RPP, and where this is the case, the following section highlights the type of report and the information it would provide.

WATER RESOURCES

MPS2.1.1.2(A2) Hazardous Materials and Wastes

Consistent? Unable to determine at this time. This MPS prohibits the use of hazardous materials and wastes in Wellhead Protection Areas in excess of household quantities. The project includes the installation of an upland electrical cable that will involve: trenching, directional drilling, installation, backfilling, grading and seeding. These processes will involve the use of bentonite, oil, construction equipment, construction materials, soils, piles, and dewatering. Approximately 50% of the upland transmission cable route will pass through Zone I and IIIs to public supply wells. Construction activities within the Zone I and Zone IIIs of the Wellhead Protection Areas may result in the use of more than household quantities of hazardous materials, defined by the RPP as 25
gallons or its dry weight equivalent. Staff also has concerns about equipment fueling and post-construction activities.

**Discussion**

Typical DRI analysis focuses on the permanent land use activity that may involve hazardous materials or hazardous wastes. The Commission should consider requiring best management practices and contingencies for the use of hazardous materials and generation of hazardous wastes during and after construction.

**Related Issues and Permitting**

Plans to address these issues in the FEIR are in draft form. The Commission decision could be conditioned to require submittal and approval of these plans.

See also comments below in Section 4.3

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**MPS 2.1.1.2(A4)**

**State and federal stormwater/groundwater regulations.**

**Consistent?**

Unable to determine at this time. The MPS requires compliance with state and federal regulations, including state stormwater requirements and policies to protect groundwater supplies. The installation of the upland electrical cable will involve: trenching, directional drilling, installation, backfilling, grading and seeding.

**Discussion**

The Stormwater Pollution and Prevention Plan (SWPPP, Appendix 2.0-A) includes many aspects of the required stormwater pollution prevention components, but it does not recognize that the cable route will pass into existing Wellhead Protection Areas of Yarmouth’s public water supply wells including their Zone I and Zone IIs. The SWPPP should be revised to reflect the wellhead protection areas, as well as revised state stormwater guidance and draft regulations that are to be enacted this January.

The Commission decision could be conditioned to require submittal and approval of the SWPPP plan.

**Related Issues and Permitting**

Review of the Project by the Environmental Protection Agency may be required under the Sole Source Aquifer Designation.

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**MPS 2.1.1.2(B2)**

**Fresh water delineation, assessment and/or management.**

**Consistent?**

Unable to determine at this time. This MPS requires a monetary contribution for assessment and management strategies for fresh water ponds potentially affected by development. The upland cable will pass within 100 feet of 2 coastal ponds and six fresh wetland systems, including Long Lake and Jabinettes Pond. This standard is applicable where the pipeline crosses into the recharge area or within close proximity of these fresh surface water bodies.

**Discussion**

The standard would require a monetary contribution from Cape Wind for
assessment and/or management strategies for these fresh waterbodies. The Commission typically seeks input from the communities affected as to whether data is needed. If Yarmouth feels that a monetary contribution is appropriate, the scope of work should be established.

The Commission decision could be conditioned to require this monetary contribution.

**ODRP 2.1.1.6 Water withdrawals and wastewater discharges**

Meeting this ODRP may be considered a benefit by the Commission. This ODRP encourages the management of water withdrawals and wastewater discharge in a manner that avoids impacts to water resources. The project includes the installation of cement vaults for the upland cable. It is likely that several will be installed below the water table and will require a certain amount of pumping to dewater the area.

**Discussion**

The material supplied does not indicate how much groundwater may be pumped nor the final disposition of the water. If the proponent wishes to address this ODRP, Cape Wind should indicate the amount of water that may be pumped and dewatered, and what impacts these activities may have on the aquifer and surrounding wetlands.

**Related Issues and Permitting**

Permits for work within surface water buffer zones in these low lying areas will be addressed by the local Conservation Commission.

**ODRP 2.1.1.8 Alternatives to synthetic chemical fertilizers and pesticides**

Meeting this ODRP may be considered a benefit by the Commission. This ODRP encourages the use of organic and biological fertilizers and pesticides. Revegetation of areas of upland cable route post-construction should avoid the use of synthetic fertilizers in favor of organic materials.

**Discussion**

The material to be used for re-vegetation is not specified in the SWPPP. If Cape Wind wishes to address this ODRP, Cape Wind should indicate how the disturbed areas will be re-vegetated.

**MPS 2.1.3.1; 2.1.3.2; 2.1.3.3; 2.1.3.5; 2.1.3.6 Discharge of untreated stormwater, parking-lot runoff, and/or wastewater.**

**Stormwater management.**

**Stormwater best management practices.**

**Separation between leaching basins and groundwater.**

**Stormwater maintenance and operation plan.**

**Consistent?**

Unable to determine at this time. This MPS requires a variety of stormwater
treatment techniques and designs to protect the groundwater. The installation of the upland electrical cable will involve: grading, trenching, directional drilling, installation, backfilling, rough grading and seeding. These activities will result in potential stormwater runoff to surface waters and leaching into the aquifer. The Regional Policy Plan specifies that stormwater plans have a maintenance and operation plan.

Discussion
The SWPPP (Appendix 2.0-A) includes many aspects of the required stormwater pollution prevention components, but it does not recognize that the cable route will pass into existing Wellhead Protection Areas of Yarmouth’s public water supply wells including their Zone I and Zone IIs. The upland cable plans (Preliminary Engineering Plans, Submarine and Upland Cable Route as revised April 13, 2007) show the stormwater pollution prevention plans, controls and devices but does not indicate the presence of the boundaries of the public water supply Zone I and IIs or make any specific accommodations to protect them. Cape Wind should address the omissions discussed above, as well as include a maintenance and operation plan and specify whether all leaching and catch basins are located greater than two feet above the groundwater level.

The Commission decision could be conditioned to require submittal and approval of the final SWPPP plan.

Related Issues and Permitting
Similar State policies and regulations also apply.

COASTAL RESOURCES

MPS 2.2.2.1 Development in V-zones
Consistent? No. This MPS prohibits development in a FEMA V-zone. The proposed Cape Wind development consists of a landfall transition vault that is located approximately 50 feet from the top of coastal bank at New Hampshire Avenue. According to the FEIR, the landfall location for the cable is located in Zone V15 (elevation 13 ft NGVD). Based on the FEMA Q3 Flood Zones from MassGIS, the transition vault appears to be in a V-Zone.

Discussion During a hurricane, pavement on secondary roads like New Hampshire Avenue is often destroyed, undermining utilities and other infrastructure underneath the roadway. As the transition vault is a permanent structure, it will require long-term protection regardless of the future needs for maintaining this portion of New Hampshire Avenue. To be consistent with this MPS, Cape Wind should move the transition vault outside of the V-Zone.

MPS 2.2.2.3 Development on barrier beaches and coastal dunes
Consistent? Unable to determine at this time. This MPS prohibits development on barrier
beaches. There does not appear to be a barrier beach at the landfall location; however, as a sediment analysis to support the resource area delineation at the landfall location has not been provided, the delineation of coastal dune and coastal bank in this region remains unclear.

Discussion

Prior to concluding that no dunes will be impacted, it will be necessary to perform a detailed delineation of coastal resource areas. This delineation should be performed using appropriate horizontal survey control for engineering plans. In addition, sediment analysis at the landfall location should be performed to justify the FEIR assertion that the southern terminus of New Hampshire Avenue is a coastal bank.

Related Issues and Permitting

It is recommended that the applicant establish the wetland resource areas and delineations through the wetland delineation process prior to the conclusion of the DRI process in order for the Commission to determine project consistency with the MPSs. The issuance of a wetland resource delineation by a local conservation commission is not considered a development permit under the Commission Act, and therefore can be acquired prior to a Commission decision.

MPS 2.2.2.4 Non-water-dependent development within 100 feet of the top of a coastal bank, dune crest, or beach.

Consistent? No. This MPS prohibits any new non-water-dependent development within 100ft of the coastal bank, dune or beach. MassDEP has made an initial determination that the Cape Wind transmission cable is a non-water-dependent use. Cape Wind asserts in the FEIR that the project is a water-dependent use, or if not, can meet the criteria for a variance for a non-water-dependent use.

Discussion

Assuming DEP’s interpretation that the transmission line is a non-water-dependent use, the proposed project does not meet this minimum performance standard since the proposed transition vault is located less than 100 feet from the top of the coastal bank. To be consistent with this MPS, the transition vault needs to be placed a minimum of 100 feet landward of a coastal bank, dune crest, or beach (and outside the V-zone as described in 2.2.2.1. above).

MPS 2.2.3.6 New dredging.

Consistent? No. This MPS prohibits new dredging unless it is needed to accomplish a substantial public benefit and no feasible alternative exists. Cape Wind proposes to install the submarine cable via hydraulic jet plow, which involves disruption of in situ bottom sediments via a series of water jets to allow placement of the cable below the ocean floor. The use of water jets causes suspension of sediment within the water column, potentially adversely impacting organisms that live in the water column, as well as nearby areas of seafloor where these suspended sediments settle. It is our understanding that the proposed installation via hydraulic jet plow is considered dredging by the Massachusetts DEP regulations.
Discussion

New dredging is prohibited unless a substantial public benefit can be shown. For consistency with this MPS, the applicant should demonstrate that the proposed dredging provides a substantial public benefit and that no feasible alternative exists.

From a coastal resources perspective, there may be other potential submarine cable routes that may have lower potential impacts to both coastal and submarine resources. Based on the FEIR, the submerged cable routes with landfall in Yarmouth have the longest submerged portions, the most dredging, and therefore likely will have the greatest impact to submerged resources. In addition, the selected cable route travels through Lewis Bay, a sensitive nutrient impaired estuary that contains eelgrass.

Cape Wind provided information on alternate cable routes during both the EFSB and MEPA processes, and both agencies found that, on balance, the proposed route has the least environmental impacts. However, landfall made outside of the Lewis Bay estuary could potentially avoid impacts to several sensitive resources, including eelgrass beds, shellfish resources, etc., as discussed below.

In order to show consistency with this standard, Cape Wind should demonstrate the public benefits of this proposed cable route, and that no feasible alternative exists. Cape Wind should also propose mitigation for any impacts identified.

MPS 2.2.3.7 Impacts to eelgrass beds

Consistent?

No. To meet this MPS, developments must be designed and constructed such that there is no significant adverse direct or indirect effect on eelgrass beds, unless there is no feasible alternative and the project is necessary to accomplish a public benefit. The FEIR evaluates eelgrass resources to some extent in Lewis Bay, but no detailed analysis of potential eelgrass resources seaward of Lewis Bay and landward of Horseshoe Shoal has been performed (i.e. along the outer 3-4 mile section of submarine cable proposed in State waters). The FEIR includes a series of exhibits (Figure 3.9-1) that are produced from the Massachusetts DEP “eelgrass mapping inventory” to show the location of eelgrass beds along the cable route. However, this mapping inventory is developed from orthophotos that only provide imagery of the near shore/estuarine environments and therefore would not capture eelgrass beds further out into Nantucket Sound, which is shallow enough for eelgrass beds to be present. The FEIR also estimates based on the modeling conducted that between 1mm and 3mm of sediment will cover the eelgrass beds located closest to the cable route.

Discussion

A complete understanding of eelgrass resources within the region of the proposed submarine cable routes is necessary to evaluate the level of potential impact. To accomplish this, the applicant should:

Provide field verified Submerged Aquatic Vegetation (SAV) maps for all potential submerged cable routes to develop a route that avoids impacts to eelgrass. Since according to the FEIR the submerged cable comes within 70 feet
of an eelgrass bed located near Egg Island, and some of the few borings within Lewis Bay show fine-grained sediments, it is likely that the jet plowing process will entrain significant volumes of material in the water column. The plume created by the dredging may adversely impact eelgrass resources by smothering and/or reducing light penetration in the water column in excess of amounts estimated in the FEIR.

A geotechnical sampling plan should be developed in coordination with the various regulatory agencies to ensure this analysis incorporates the various environmental concerns. The limited vibracore information does not provide the necessary level of detail to evaluate sediment types along the various cable routes. For some areas along the cable route, vibracore samples are approximately 10,000 feet apart. Modeling and/or analyses of suspended sediment impacts should utilize “worst-case” sediment samples (e.g. fine-grained material found in several samples) and jet plow entrainment volumes to evaluate the full range of potential impacts. Since many of the assumptions used to evaluate/model impacts associated with jet plowing have not been presented, a sensitivity analysis of the various parameters utilized in the suspended sediment modeling effort should be provided to determine the range of uncertainty associated with the FEIR analysis.

In order to show consistency with this standard, Cape Wind should also demonstrate the public benefits of this proposed cable route, and that no feasible alternative exists. Cape Wind should also propose mitigation for any impacts identified.

Related Issues and Permitting

While the Energy Facilities Siting Board permit requires photo analysis of the cable route for eelgrass beds in Lewis Bay prior to construction, analysis of the entire route is warranted, corroborated by diver and/or ROV surveys. This survey information should extend a minimum of 200 feet from the proposed cable route.

MPS 2.2.3.8 Impacts to fish, shellfish, and crustaceans.

Consistent? No. To meet this MPS, developments must be designed and constructed to minimize direct and secondary impacts to fish, shellfish, and crustaceans. It remains unclear whether the proposed development minimizes direct and secondary impacts to fish, shellfish, and crustaceans. The FEIR acknowledges (Section 3) that the proposed submerged cable route through Lewis Bay will cross shellfish areas (impacting on the order of 200 acres) that are open to both recreational and commercial shellfishermen. From a coastal resources perspective, other cable routes may exist (e.g. one that makes landfall outside the resource sensitive Lewis Bay estuary) that have less impact on fisheries resources.

Discussion The Draft EIS/EIR utilizes an EPA reference (Berry, et al., 2003 on p.5-46) to indicate that jet plowing impacts will be minimal within Lewis Bay: the reference
cited actually indicates “elevated levels of [suspended sediment] have been shown to have wide ranging effects on both pelagic and benthic invertebrates.” Therefore, it appears that suspended sediment generated by the jet plowing method may have an adverse impact on shellfish resources within the vicinity of the proposed submerged cable route.

Further analysis of potential impacts associated with suspended sediment concentrations is warranted. These impacts may far exceed the “footprint” of the jet plow route for the submarine cable. Since the FEIR indicates that jet plowing is the least environmentally damaging method for installation of the submarine cable, the applicant should provide data regarding suspended sediment concentrations generated by this method for various sediment types. The Draft EIS/EIR suspended sediment modeling is of limited value since (a) the model was not calibrated/validated by any *in situ* measurements, (b) the modeling assumed sand size material based on a single vibracore sample (VCO1-L2, which is not on the submarine cable route), and (c) the modeling was based on assumptions regarding amount of sediment suspended by the jet plowing method, rather than measurements from other sites where this technology has been employed. Future analysis should be based upon a more complete analysis of surficial sediments along the submarine cable route. The limited data collection of sediment samples along the submarine cable route does not adequately characterize the sediment variability within this region.

For consistency with the standard, Cape Wind should demonstrate that the project minimizes impacts to fish, shellfish, and crustaceans, through additional sediment analyses. Cape Wind should also propose mitigation for any impacts identified, which may include removal and relocation of some shellfish resources prior to jetplowing.

**ODRP 2.2.3.13 Subsurface noise impacts to fish and to protected species habitat.**

Meeting an ODRP can be considered a project benefit by the Commission. This ODRP encourages development to minimize subsurface noise impacts to fish and to protected species habitat. It remains unclear whether the proposed development minimizes subsurface noise impacts to fish and to protected species habitat.

**Discussion**

In Appendix 3.13B, the FEIR describes the level of underwater noise generated by construction activities, concluding that the impact will be temporary and minimal. However, the document does not indicate what measures can be taken to minimize these noise levels. In addition, these large-scale underwater noise impacts to fish likely will have a greater impact during certain seasons.

If Cape Wind wishes to address this ODRP, the project proponent should how the project may be developed to minimize potential noise impacts associated with construction activities.
**Wetland Resources**

**MPS 2.3.1.3** Utility installation in wetlands and buffer areas.
Consistent? Yes. The project design is consistent with the MPS allowing utility line installation through wetlands and their buffers, so long as the impacts are minimized. Installation of the cable occurs primarily through previously disturbed road rights-of-way and utility easements; some of these areas are also located within the 100 ft buffer to six freshwater wetland systems. In section 3.15.2 of the FEIR, Cape Wind indicates that disturbed areas will be restored to pre-existing conditions, or in the case of work in the utility easement grades will be restored and revegetated following construction.

Related Issues and Permitting
The Yarmouth and Barnstable Conservation Commissions will have to issue Orders of Conditions for work within the 100 ft buffer zone, including oversight of best management practices during construction.

**Wildlife and Plant Habitat**

**MPS 2.4.1.2** Clearing of vegetation and alteration of natural topography.
Consistent? Yes. This MPS requires clearing of vegetation and alteration of natural topography to be minimized. Installation of the cable occurs primarily through previously disturbed road rights-of-way and utility easements, minimizing the clearing of vegetation and alteration of topography, consistent with this standard. Parts of the wooded area within the highway layout will be cleared for a staging area for cable installation under the highway using trenchless technology, but these areas also appear to be minimized.

**MPS 2.4.1.4** Rare species habitat.
Consistent? Yes. This MPS prohibits development that adversely affects habitat of local populations of rare wildlife and plants. Cape Wind has addressed rare species concerns for the transmission cable. Portions of the project located within the utility easement will pass through estimated rare species habitat, as mapped by the Natural Heritage and Endangered Species Program. Natural Heritage has submitted comments indicating that the installation of the submarine and overland electric transmission cable will not result in a prohibited “take” of state-listed rare species.

**MPS 2.4.1.6** Invasive species.
Consistent? Unable to determine at this time. It is unknown whether invasive species are present along the proposed cable route. However, an invasive species
management plan for construction and revegetation should be required. The Commission decision could be conditioned to require submittal and approval of an invasive species management plan.

MPS 2.5.1.1. Cluster development outside sensitive resource areas
Consistent? Yes. This MPS requires development within Significant Natural Resource Areas to be clustered away from sensitive resources. While portions of the project pass through significant natural resource areas as defined by the RPP, installation of the cable occurs primarily through previously disturbed road rights-of-way and utility easements, minimizing the clearing of vegetation and alteration of topography consistent with this standard.

OPEN SPACE

MPS 2.5.1.3 Open space requirement
Consistent? No. This MPS requires developments to provide permanently restricted upland for open space. Installation of the cable within the utility easement and wooded parts of the highway layout constitute development as defined by the 2002 RPP. Consequently, open space is required for this commercial project. Cape Wind has not made an open space proposal.

Discussion The FEIR states 5.8 acres within the utility easement will be disturbed. An additional cleared area is proposed within the highway layout. These areas should be offset through an open space set-aside, or a cash contribution for open space acquisition. As the work areas are located in significant natural resources areas, the open space requirement is equivalent to twice the total development area (twice the sum of 5.8 acres and the cleared acreage in highway layout).

MPS 2.5.1.5 Significant natural and fragile areas
Consistent? Yes. This MPS requires preservation of natural and fragile areas. This project occurs within existing disturbed areas (road rights-of-way, utility easements, and the Route 6 highway layout), avoiding sensitive areas, and thus is consistent with this requirement.

AIR QUALITY

MPS 2.6.1.1. Massachusetts State Implementation Plan (SIP) and DEP's Air Pollution Control Regulations
Consistent? Unable to determine at this time. This MPS requires DRIs to be in compliance with the Massachusetts State Implementation Plan (SIP) and DEP's Air Pollution
Control Regulations, 310 CMR 7.00. This RPP standard applies only to noise impacts emanating from DRIs. The project involves the construction of a submarine and upland cable, along with other infrastructure to connect the cable to the existing power grid.

Discussion

The applicant needs to provide a narrative plan to address noise impacts from construction activities for the cable installation. The applicant should also confirm that there will be no noise impacts from the project after construction, or describe how any such impacts will be addressed.

Related Issues and Permitting

It is possible that this MPS may be addressed for the construction phase by the final version of one or more narrative plans currently in draft form. These plans are required by Federal agencies.

The Commission decision could be conditioned to require submittal and approval of these plans.

**ECONOMIC DEVELOPMENT**

**MPS 3.1.1 Commercial/Industrial DRI applicants provide economic data**

Consistent? Unable to determine at this time. This MPS requires applicants to provide economic data that the Commission may consider in weighing any negative or positive impacts that a project may have on the Cape Cod economy. Cape Wind has stated that there will be no permanent employment associated with this project in Barnstable County, but has provided the following employment information:

a. **Jobs**: The construction phase of the project is expected to require 75 full-time temporary jobs on shore and 25 jobs offshore. Based on the FEIR, the construction phase will take 10 – 12 months.

b. **Wages**: According to the applicant, workers will be compensated at the prevailing rates associated with the craft involved.

c. **Benefits**: No information was provided – construction labor will likely be contracted.

Cape Wind has provided the following fiscal information:

a. **Investment**: The construction work within the towns of Yarmouth and Barnstable is estimated at $26.25 Million.

b. **Payments in Lieu of Taxes**: Cape Wind has signed an agreement with the Town of Yarmouth to pay $250,000 annually in lieu of taxes and $100,000 annually plus inflation to the Yarmouth Town Charitable Fund for twenty years.

c. **Property Taxes**: The applicant estimates their annual property tax payment to the Town of Barnstable at $62,000.
d. **Demand for Public Services:** The applicant does not anticipate any on-going demand on public services. Cape Wind will pay a one-time fee ($25,000) to the Town of Yarmouth for services provided during the construction phase. The applicant states that they will similarly compensate the Town of Barnstable.

**Discussion**

To determine consistency with this standard, Cape Wind should provide the following additional information:

1. What company(s) will perform the work proposed in the DRI? Are any of them locally owned? Do they have a complete workforce already or will they be hiring local craftsmen? [If yes, documentation should be provided]

2. The Cape Wind application uses the term “prevailing rates” in reference to wages. Is this because the project will be constructed in accordance with the Davis-Bacon Act?

3. Where will workers be housed during construction? Will the applicant or their contractors provide temporary housing if off-Cape labor is used?

**ODRP 3.1.3; 3.3.1 – 3.3.4**

**Net economic impacts of proposed development to regional economy.**

Meeting an ODRP can be considered a project benefit by the Commission. By meeting this ODRP, an applicant may allow the Commission to take into account net job creation and services and businesses that are locally owned and that employ Cape Cod residents, provide benefits and employment training opportunities, etc. This project will not result in a net increase in jobs; the creation of year-round jobs with benefits; or career opportunities for Cape residents. The applicant has not reported providing any financial support for job training or affordable housing in Barnstable County. The applicant did not provide information on the use of local labor, services, or suppliers of any kind.

**Discussion**

If Cape Wind wishes to address this ODRP, the following information should be submitted:

1. How will this project encourage locally owned business?
2. How will this project employ Cape Cod residents?
3. How will this project employ Cape Cod contractors or use local suppliers?
4. How will this project provide opportunities for Cape residents that are considered minorities, disabled, elderly, or unemployed/underemployed?
5. How will this project improve the availability of affordable housing to Cape residents?
6. How will this project improve the availability of job training to Cape residents?
**TRANSPORTATION**

**ODRP 4.1.2.11 Information-based technologies that assist travelers**

Meeting an ODRP can be considered a project benefit by the Commission. This ODRP encourages developers to contribute to information-based technologies in the region that assist travelers in making efficient travel decisions. Cape Wind’s DRI application includes a draft Traffic Management Plan dated April 26, 2007 and Traffic Management Plan Details (Sheets 29 and 30 of the plans dated September 15, 2003 and revised December 23, 2003 and April 13, 2007) for the upland transmission cable installation. In advance of closure (including partial/lane closures) of any major roadway, Cape Wind has made a verbal commitment that the contractor will provide advance notification to the Commission (via email to trans@capecodcommission.org) for announcement on the Transportation Information Center (www.gocapecod.org). The Commission could include a condition to formalize this verbal commitment.

**HAZARDOUS MATERIALS AND WASTE MANAGEMENT**

**MPS 4.3.1.1, Hazardous material use and/or waste generation.**

**4.3.1.2 Consistent?**

Unable to determine at this time. These MPSs require applicants to minimize their hazardous material use and/or waste generation and be in compliance with Massachusetts Hazardous Waste Regulations. The installation of the cable will involve construction equipment, which may involve hazardous materials and wastes. Hazardous materials and wastes may also result from the cable’s long-term maintenance. Construction equipment is often fueled and serviced at the job site. This MPS applies to both the construction phase and after construction is completed. Based on the information submitted to date, the applicant needs to address minimization of the project’s use of hazardous materials, and to reduce its generation of hazardous wastes. The applicant also needs to provide information on the types and quantities of hazardous waste, and address compliance with 310 CMR 30.000.

**Discussion**

In order to show consistency with these MPSs, Cape Wind should provide the following information:

1. What types and quantities of hazardous material and hazardous waste will the project use/generate, both during and after construction?

2. What methods will the project use to minimize the use of hazardous materials and generation of hazardous wastes, both during construction and after construction has been completed?

3. How will hazardous waste be managed and disposed of consistent with the
Massachusetts Hazardous Waste Regulations?

It is possible that these MPSs may be addressed for the construction phase by the final version of one or more narrative plans currently in draft form. These plans are required by Federal agencies.

It is possible that these MPSs may be addressed after construction is completed by preparation of a plan by the entity that has control of the cable.

The Commission decision could be conditioned to require submittal and approval of these plans.

MPS 4.3.1.3, 2.1.1.2(A2), and 2.1.1.2(F3) Wellhead Protection Areas.

Hazardous wastes or hazardous materials

Consistent?

Unable to determine at this time. This MPS prohibits the use of hazardous materials and wastes in Wellhead Protection Areas in excess of household quantities. The installation of the cable will involve construction equipment, which may involve hazardous materials and wastes. Hazardous materials and wastes may also result from the cable’s long-term maintenance. Construction equipment is often fueled and serviced at the job site. These MPSs apply to both the construction phase, and after construction is completed.

The project should not violate the household quantity limit during either phase.

Based on past Commission decisions, containment is not an acceptable method of achieving consistency with these MPSs.

All of the proposed routes for the cable lie within one or more existing Wellhead Protection Areas or within areas mapped as Potential Public Water Supply Areas.

No information has been provided to date on the types and quantities of hazardous materials and hazardous wastes attributable to the project.

The applicant has stated that “refueling of machines and equipment will not occur within…Yarmouth’s wellheads.” This may be a strategy that can address partial consistency with this standard. However, given the large areas of the proposed routes that are covered by Wellhead Protection Areas and/or Potential Public Water Supply Areas, it is not certain whether such a restriction is feasible for the applicant.

Discussion In order to show consistency with this standard, Cape Wind should provide the following information:

1. What types and quantities of hazardous materials and hazardous wastes are attributable to the project, during both construction and after construction is completed?

2. Given the large areas of the proposed routes that are covered by Wellhead
Protection Areas and/or Potential Public Water Supply Areas, can the applicant implement the restriction on fueling during construction as noted above?

**Related Issues and Permitting**

It is possible that some of the information needed to help determine if the project is consistent with this MPS may be addressed by the final version of one or more narrative plans currently in draft form. These plans are required by Federal agencies.

The Commission decision could be conditioned to require submittal and approval of these plans.

**MPS 4.3.1.4 Preparation of an emergency response plan**

**Consistent?** Unable to determine at this time. This MPS requires applicants to prepare an emergency response plan. This MPS applies to both the construction phase, and after construction is completed. Based on the information submitted to date, the applicant still needs to provide an emergency response plan.

**Discussion** To be consistent with this standard, Cape Wind should provide the following information:

1. What methods will the project use to identify potential threats to employee safety and health and threats of environmental releases, both during construction and after construction is completed?
2. How will these methods be communicated to employees?

**Related Issues and Permitting**

It is possible that this MPS may be addressed for the construction phase by the final version of one or more narrative plans currently in draft form. These plans are required by Federal agencies.

It is possible that this MPS may be addressed after construction is completed by plans developed by the entity that has control of the cable.

The Commission decision could be conditioned to require submittal and approval of these plans.

**Heritage Preservation/Community Character**

**MPS 6.1.1 Historic structures**

**Consistent?** Yes. This MPS requires maintenance of an historic structure's key character-defining features. The applicant has not proposed any physical alterations to historic structures as part of this project. While there are inventoried historic structures adjacent to the proposed path of the upland cable, the cable will be buried under existing road rights-of-way, and the historic structures are set back from the road surface.
### MPS 6.1.2 Historic and cultural landscapes

**Consistent?** Yes. This MPS requires the distinguishing original features of an historic or cultural landscape to be preserved and new development adjacent to or within historic or cultural landscapes to be located to retain the distinctive qualities of such landscapes and maintain the general scale and character-defining features of such landscapes. The installation of the submarine and upland cables is consistent with this MPS.

However, a study by the applicant’s consultant, PAL, (Appendix 3.11-C of the FEIR) has determined that the proposed wind turbines will have an “adverse effect” (as defined under the National Historic Preservation Act) on four National Register Historic Districts, ten individual National Register properties, and one National Historic Landmark on the Cape. The adverse effect is from the introduction of visual elements that will diminish the integrity of the historic properties’ settings. These adverse impacts result from the wind turbines, but effect historic and cultural landscapes in Barnstable County.

**Related Issues and Permitting**

The EIR acknowledges that there are visual impacts to Cape historic districts and landscapes associated with the proposed wind turbines. During federal agency review of the upcoming EIS for this project, the Advisory Council for Historic Preservation will consider the applicant’s consultant’s finding of “adverse effect” on the identified historic properties and will determine whether mitigation is necessary. If mitigation is deemed necessary, the Commission may request involvement in the federal consultation process and may choose to make this involvement a condition of their DRI decision.

### MPS 6.1.3 Archaeological sites

**Consistent?** Yes. This MPS requires developments on or adjacent to known archaeological sites to be configured to maintain and/or enhance such resources. Regarding land-based archaeological resources: The proposed upland cable will be buried under existing roadways and public utility rights-of-way in Yarmouth and Barnstable. MHC has determined that the proposed upland cable will not impact any known archaeologically sensitive areas.

Regarding underwater archaeological resources: The applicant has relocated several turbines and underwater cables to avoid sensitive underwater archaeological sites identified by the Massachusetts Board of Underwater Archaeological Resources. In a letter dated March 20, 2007, the Massachusetts Board of Underwater Archaeology stated that the proposed layout of the project has been revised to avoid all areas identified as potentially archaeologically sensitive.

### MPS 6.2.10 Exterior lighting.

**Consistent?** Unable to determine at this time. This MPS requires exterior lighting to meet
standards including design, light source, total light cutoff, and foot-candle levels. The installation of the cable may involve or necessitate the use of nighttime work lights, particularly if construction is done during the fall and winter months. The applicant still needs to provide a narrative plan to address exterior lighting impacts from nighttime construction activities for the submarine cable’s landfall and its landward installation.

Discussion

To show consistency with this standard, Cape Wind should provide the following:

1. Does the applicant anticipate that nighttime construction lighting will be needed?
2. If so, how will the applicant address impacts from nighttime lighting?

Related Issues and Permitting

It is possible that this MPS may be addressed by a separate plan that the applicant will create in addition to those required by Federal agencies. The Commission decision could be conditioned to require submittal and approval of these plans.