

DRAFT

Date: November 10, 2011

To: Hemenway & Barnes LLP
ATTN: Diane Tillotson, Esq.
60 State Street
Boston, MA 02109

John A. Lipman
Lipman Development Strategies, LLC
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From: Cape Cod Commission

Re: Development of Regional Impact
Cape Cod Commission Act, Sections 12 & 13

Applicant: New Generation Wind, LLC

Property Owner: Tudor Ingersoll, Trustee; Cape Cod Aggregates Corp.
Laura Peterson, Vice President and Trustee

Project: New Generation Wind

Project #: TR11006

Project Location: Bourne, MA, between Routes 25 and 6, West of the Cape Cod Canal

Map and Parcel: (See Attached)

Registry of Deeds:

DECISION OF THE CAPE COD COMMISSION

SUMMARY

The Cape Cod Commission (Commission), hereby denies without prejudice the application of New Generation Wind, LLC ("the Applicant") to construct three 2.5 MW wind turbines and one 2.0 MW wind turbine between Route 25 and Route 6 in Bourne, MA, west of the Cape Cod

Canal, as a Development of Regional Impact (DRI) pursuant to Sections 12 and 13 of the Cape Cod Commission Act (Act), c. 716 of the Acts of 1989, as amended.

PROCEDURAL HISTORY

The Commission received a DRI referral for the New Generation Wind Project on July 2, 2010 from the Bourne Planning Board through Christopher Farrell, Chair of the Bourne Planning Board, which consisted of the construction of seven (7) wind turbines, expected to generate approximately seventeen (17) MegaWatts (MW) of power on 403.5 acres in the Town of Bourne, located west of the Cape Cod Canal. This application was withdrawn by the Applicant on March 1, 2011 due to time constraints. The withdrawal was accepted by the Commission on March 3, 2011.

On March 14, 2011, the Cape Cod Commission received a Development of Regional Impact (DRI) referral from the Bourne Planning Board through Christopher Farrell (Chair) and a DRI application from John Lipman (of Lipman Development Strategies) on behalf of New Generation Wind, LLC for the same project that was previously withdrawn in March 2011. The DRI application was deemed substantively complete on April 27, 2011. The DRI hearing period was opened by Hearing Officer on May 12, 2011 and the first substantive public hearing on the resubmittal of the DRI application was held on May 17, 2011. On June 2, 2011, the Applicant removed two of the turbines (#3 and #6) from the proposal. A public hearing was held on June 16, 2011. The Applicant removed Turbine #4 from the proposal on July 13, 2011. The Subcommittee held additional public hearings on July 20, 2011, and August 1, 2011. The hearing period was closed by hearing officer on August 9, 2011. The Subcommittee held public meetings to deliberate on the project on August 15, 2011, September 15, 2011, September 29, 2011, October 13, 2011, October 20, 2011, October 27, 2011 and November 2, 2011. At the meeting on October 27, 2011 the Subcommittee voted to recommend denial of the project to the Commission. The Commission held a final public hearing and made its decision on November 10, 2011.

PROJECT DESCRIPTION

ORIGINAL PROJECT PROPOSAL

The project as originally submitted and referred on March 14, 2011, consisted of six (6) 2.5 MW wind turbines and one (1) 2.0 MW wind turbine, each with a height of 492 feet (as measured to the tip of the blade at its highest point), for a total output of seventeen (17) MW, as identified on the plan attached to this decision as Original Site Plan. Three (3) of the seven (7) turbines were proposed to have been located within the portion of the site currently occupied by Cape Cod Aggregates sand and gravel mining operation.

REVISED PROJECT PROPOSAL

On June 2, 2011 (prior to the June 16, 2011 public hearing), the Applicant eliminated turbines #3 and #6 from the proposal. On July 6, 2011 the Applicant relocated turbines #2 and #4 to comply with NSTAR's setback requirement of 1.5 times the overall turbine height to the edge of their actual utility line or supporting structure. Turbine #2 was relocated approximately 300 feet south and turbine #4 was relocated approximately 500 feet west. On July 13, 2011 (prior to the July 20, 2011 public hearing), the Applicant eliminated turbine #4 from the proposal, stating the relocation of the turbine to comply with NSTAR's requirements did not provide an appropriate setback from nearby residential properties. The current project proposal consists of three (3) 2.5 MW wind turbines (turbines #1, 2, and 5) and one (1) 2.0 MW wind turbine

(turbine #7), each with a height of 492 feet (as measured to the tip of the blade at its highest point), for a total output of 9.5 MW. See Exhibit A, attached to this decision and incorporated by reference.

MATERIALS SUBMITTED FOR THE RECORD

The list of materials submitted for the record are identified on Table 1 (see Table 1 attached as Exhibit B), and include the application and notices of public hearings relative thereto, correspondence, the minutes of public meetings and hearings, and all other written submissions received in the course of the hearing process.

TESTIMONY

Appendix A attached to this decision are the minutes from the following public hearings and meetings:

- May 12, 2011 Hearing Officer
- May 17, 2011 Public Hearing
- June 16, 2011 Public Hearing
- July 20, 2011 Public Hearing
- August 1, 2011 Public Hearing
- August 9, 2011 Hearing Officer
- August 15, 2011 Subcommittee Meeting
- September 15, 2011 Subcommittee Meeting
- September 29, 2011 Subcommittee Meeting
- October 13, 2011 Subcommittee Meeting
- October 20, 2011 Subcommittee Meeting
- October 27, 2011 Subcommittee Meeting
- November 2, 2011 Subcommittee Meeting

JURISDICTION

The project qualifies as a Development of Regional Impact pursuant to the Commission's *Enabling Regulations Governing Review of Developments of Regional Impact* (revised March 2011) Section 3(e)(iii) "For Outdoor Uses, new construction or development that has a Total Project Area greater than 40,000 square feet."

FINDINGS

The Commission has considered the DRI application of New Generation Wind, LLC for the proposed four wind turbine project, and based on consideration of such application and upon the information presented at the public hearings and submitted for the record, makes the following findings, pursuant to Sections 12 and 13 of the Act:

GENERAL FINDINGS

GF1. As the date of the first substantive public hearing on the proposed DRI was May 17, 2011, this project was reviewed subject to the 2009 Regional Policy Plan (RPP), as amended in March 2011.

GF2. The proposed project that is the subject of this DRI decision is located between Route 25 and Route 6 in Bourne, MA, and west of the Cape Cod Canal. The site comprises approximately 240 acres of undeveloped oak and pine forest, and approximately 133 acres of land occupied by the ongoing Cape Cod Aggregates (CCA) sand and gravel extraction operation, existing roadways, and utility easements. Residential developments and open space abut the 373 acre project site to the north and south. An NSTAR electric easement extends through the northern portion of the sand and gravel pit. Two 115/345 kV high-tension power lines run through the site within the easement, and a 25 kV distribution line, running north-south, passes through the site west of Route 28.

Additional site infrastructure consists of CCA's weigh station, the primary truck access road off Route 6, and graveled surfaces and paved access roads serving the crushing and screening area and other work areas within the pit. Existing water mains, managed by the Buzzards Bay Water District, are located on Route 6, on Heather Hill Drive, and within an easement west of Route 25 crossing Bournedale Road. Municipal sewer is not available in this area of Bourne. An NSTAR gas line running along the east side of Route 25 within its right of way abuts the western side of the Pan Handle Trust parcel.

According to RPP Water Resources Classification Map I, the entire project site is situated in a Potential Public Water Supply Area (PPWSA) and the area proposed for Turbine 7 is an existing Zone II/Wellhead Protection area. Upon request by the Applicant, at the September 8, 2010 Buzzards Bay Water District meeting the Board discussed the possibility of releasing the area from PPWSA designation. In a September 13, 2010 email, Barry Woods, Superintendent of the Buzzards Bay Water District, wrote "After consideration and due diligence, the Board made the following determination. A motion was made, seconded and unanimously voted to indefinitely postpone any action on the proposed request for undesignation of the Cape Cod Commission Potential Public Water Supply Area."

GF3. In accordance with the Cape Cod Commission Act, after several public hearings on the proposed development, the Commission considered whether:

[1] The proposed development is consistent with the RPP and the Local Comprehensive Plan of the Municipality in which the proposed development is located;

[2] The proposed development is consistent with municipal development bylaws, or if 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;

[3] 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.

[4] The probable benefit from the proposed development is greater than the probable detriment;

LOCAL COMPREHENSIVE PLAN

GF4. The Town of Bourne has adopted a Local Comprehensive Plan which has been certified by the Commission as consistent with the Regional Policy Plan.

GF5. Written testimony dated July 28, 2011 provided by Coreen Moore, Town Planner for the Town of Bourne states, "*The current NGW project will be reviewed under the pre-May 9, 2011 Special Town meeting wind turbine bylaw and therefore would be considered consistent with the LCP which calls for the Town to adopt bylaws and guidelines that promote alternative energy, specifically wind turbines.*" The Commission adopts the testimony of Coreen Moore and finds the proposed development is consistent with Bourne's Local Comprehensive Plan.

CONSISTENCY WITH MUNICIPAL DEVELOPMENT BYLAWS

GF6. The Commission finds that prior to the vote at Town Meeting on May 9, 2011, the owners of the land on which the proposed project is located, filed a preliminary subdivision plan, ("Edgehill Park Subdivision Project") with the Planning Board in the Town of Bourne, giving notice of such submission to the Town Clerk pursuant to G.L. c. 40A, Section 6 which states, "If a ... preliminary plan followed within seven months by a definitive plan, is submitted to a Planning Board for approval under the subdivision control law, and written notice of such submission has been given to the City or Town Clerk before the effective date of ordinance or bylaw, the land shown on such plan shall be governed by the applicable provisions of the zoning ordinance or bylaw, if any, in effect at the time of the first such submission while such plan or plans are being processed under the subdivision control law." As such, the bylaws in effect prior to the May 9, 2011 Town Meeting are the bylaws that will govern review of the proposed project by the Town of Bourne Planning Board.

GF7. The Commission adopts the written testimony of Coreen Moore, Town Planner for the Town of Bourne, dated July 28, 2011 and finds that, "The proposed project site is zoned for (R-80) residential use. In addition, the strip of land within 2,000 feet of the canal is zoned as Scenic Development District (SDD), allowing commercial developments (hotels, motels, restaurants and gift shops) as well as residential uses. Several overlay districts also encompass portions of the project site. These overlay districts are the Traffic Management District, the Water Resource District, and the Bournedale Overlay District, which is designated a District of Critical Planning Concern (DCPC) nominated by the Town of Bourne and approved by ordinance by the Cape Cod Commission."

GF8. Written testimony dated July 28, 2011 provided by Coreen Moore, Town Planner for the Town of Bourne states, "*it is determined that Turbines 1, 2 and 5 are CWES [Commercial Wind Energy Systems]*". Ms. Moore further states that "*CWES are noted as not allowed in the R40, R80, VB and B1 however contains a footnote (#10) under districts R40 and R80. Footnote 10 states that CWES are allowed by the "PB" special permit (see Section 2210) only in the Bournedale Overlay District and to be permitted under the provisions of Section 2700, the Flexible Resource District.*" The Commission adopts the testimony of Coreen Moore and finds that the proposed development as it relates to Turbines 1, 2 and 5 is consistent with municipal development bylaws provided that the project be required to fulfill a condition requiring the Applicant to seek and obtain a special permit from the Town of Bourne for Turbines 1, 2 and 5 in order to comply with local development bylaws.

GF9. The Commission finds that as it relates to the proposed development and Turbine #7, it does not meet municipal development bylaws. The Commission finds that Turbine 7 is not a Neighborhood Wind Energy System (NWES). The Commission finds the Bourne Zoning Bylaw defines a NWES as "A Class I, II, or III net metering wind turbine located in a residential district serving multiple residential customers served by a single utility and as further defined by the Massachusetts Department of Public Utilities (DPU)." The DPU Regulation further defines a Neighborhood Net Metering Facility as, "a Class I, II, or III Net Metering Facility that:

- (a) Is owned by, or serves the energy needs of, a group of ten or more residential Customers that reside in a single Neighborhood and are served by a single Distribution Company;
- (b) May also be owned by, or serve the energy needs of, other Customers who reside in the same Neighborhood and are served by the same Distribution Company as the residential Customers that own or are served by the facility; and
- (c) Is located within the same Neighborhood as the Customers that own or are served by the facility.

The Commission finds that Turbine 7 is not proposed to be owned by 10 or more residential customers in a single neighborhood. It further finds that the application materials state that "The green energy rebate plan... will allow Turbine 7 to serve the energy needs of not just some but all residential customers within 2000 feet of Turbine 7." The application materials further state that "The green energy rebate will be valued as follows: (i) for residences within 1,000 feet of a turbine, the green energy rebate is \$500 per year; (ii) for residences greater than 1,000 feet but less than 1,500 feet from any turbine, the green energy rebate is \$400 per year; and (iii) for residences greater than 1,500 feet and up to 2,000 feet from any turbine, the green energy rebate is \$300 per year." The Commission finds that there are no residential customers within 1,500 feet of Turbine 7, and approximately eight residential customers within 1,500 and 2,000 feet of Turbine 7 as identified by Commission's GIS Department, one of which is Grazing Fields Farm who has revoked use of this property as an offset for Hazardous Materials. No other available customers within the area have been identified by the Applicant. The Commission further finds that payment of a stipend of \$300 per year is essentially \$25 per month, which is insufficient to find that this rebate serves the energy needs of 10 or more residential customers that reside in a single neighborhood. The Commission finds that Turbine 7 is inconsistent with municipal development bylaws.

GF10. The Commission finds that the inconsistency of Turbine 7 with municipal development bylaws is not necessary to enable a substantial segment of the population to secure adequate opportunities for housing, conservation, environmental protection, education, recreation or balanced economic growth.

GF11. The Commission finds that in order to comply with local zoning, the Applicant must file a definitive subdivision plan for the Edgehill Park Subdivision Project, and have such plan approved in accordance with G.L. c. 40A. If the definitive subdivision plan is not approved at the local level, the Applicant shall seek a modification of the Commission's decision, as the New Generation Wind DRI would not be consistent with municipal development bylaws.

CONSISTENCY WITH DISTRICTS OF CRITICAL PLANNING CONCERN

GF12. The proposed project is situated within the Bournedale District of Critical Planning Concern (DCPC). In written testimony dated July 28, 2011, Coreen Moore, Town Planner for

the Town of Bourne, states that “the New Generation Wind project is ...consistent with the...DCPC.” Ms. Moore states, “The [DCPC] nomination was made to include protection of the following resources: a) Water Resource District;...b) Wildlife, Natural, Scientific, or Ecological Resource District;...c) Cultural, Historic, Architectural, or Archaeological Resource District;...d) Economic or Development Resource District;...e) Transportation Management District.” The Commission adopts the testimony of Coreen Moore and finds that the proposed development is consistent with the regulations approved or adopted by the Commission pursuant to Section 11 of the Cape Cod Commission Act for the Bournedale District of Critical Planning Concern.

CONSISTENCY WITH THE REGIONAL POLICY PLAN

The Commission evaluated the proposed development to determine its consistency with the Minimum Performance Standards (MPS) of the Regional Policy Plan (RPP) and makes the following findings for each issue area of the RPP:

LAND USE

LUF1. The Commission finds that Turbines 1, 2 and 5 are located in an area designated as an Industrial and Service Trade Area (ISTA) and Turbine 7 is located in an area designated as Other, as mapped by the Town of Bourne on the Land Use Vision Map (LUVV) incorporated in the 2009 RPP, as amended March 2011.

LUF2. Given the industrial nature of the proposed turbines, the Commission finds that the proposed development is consistent with the *Industrial Service and Trade Area* and *Other* land use designations, as represented by the Town of Bourne’s endorsed Land Use Vision Map, and is consistent with MPS LU1.1 (Development Location).

LUF3. The Commission finds that the proposed turbines have been clustered on the site to the maximum extent possible without jeopardizing operational efficiency. As such the Commission finds that the project is consistent MPS LU1.2 (Compact Development).

LUF4. The Commission finds that the proposed wind turbines are in close proximity to existing utility infrastructure, including an existing NSTAR electrical tower, electrical easement and utility poles and therefore complies with MPS LU2.1 (Connections to Existing Infrastructure).

LUF5. MPS LU3.1 requires that “New Development adjacent to rural landscapes and those lands in active agricultural production shall maintain or provide a thickly vegetated buffer of sufficient width to prevent conflicts between the development and existing uses.” The Commission finds that the proposed project is consistent with MPS LU3.1 (Buffers to Agricultural Uses) and provided the project is required through a condition to keep the buffer, as shown on the Applicant’s site plan (“Conceptual Wind Turbine Siting Plan,” designed by Atlantic Design Engineers, LLC, dated July 14, 2011) intact.

LUF6. The Commission finds the proposed project is consistent with MPS LU3.2 (Impacts to Agricultural Lands).

ECONOMIC DEVELOPMENT

EDF1. Minimum Performance Standard ED4.1 (*Demonstrated Need & Public Benefit*) requires the applicant to provide information on the need for and impact of the proposed project on the

local energy markets. The MPS states that the “Development of infrastructure and/or capital facilities shall be in response to existing regional demand and shall improve the availability, reliability, quality, and cost of services.”

The Applicant has provided the following documents to address this standard:

- SourceOne Memo: *Clarification of Economic Development and Energy*, dated May 16, 2011
- Summary: *New England Wind Integration Study*, dated November 2010 and prepared by ISO-NE Staff
- Clear Planet Energy Presentation: *Wind power development, economics, & benefits* by Carlos V. Pineda, November 15, 2010
- SourceOne Presentation: *Wind Power & Energy Markets*, Nick Speyer, e-mailed November 15, 2010
- SourceOne Letter dated November 23, 2010
- SourceOne PowerPoint Presentation provided at August 1, 2011 public hearing

The Commission subcommittee requested that the Applicant provide information of specific incidences when the demand for energy exceeded the supply of energy in the region resulting in, for example, brown-outs or the use of Reliability Must-Run generation facilities to meet demand.

EDF2. The Commission finds that the energy region applicable to this project is Lower South Eastern Massachusetts, or Lower SEMA.

EDF3. The Commission finds that insufficient information was presented by the Applicant to find that the project’s energy generation capacity is in response to existing demand for energy in our region (i.e. Lower SEMA) because the information given was not probative on the issue of response to existing regional demand.

EDF4. The Commission finds that insufficient information was presented by the Applicant and this did not meet their burden of proof to demonstrate that this project would improve the availability of energy on Cape Cod.

EDF5. The Commission finds that the Applicant did not document on-going problems with energy reliability in the Lower SEMA region or how, if such problems exist, this project would improve them.

EDF6. The Commission finds that the Applicant did not submit persuasive evidence to demonstrate how the proposed project would improve quality of services in the Lower SEMA region.

EDF7. Although the Applicant provided information about pricing impacts on the spot market, the Commission finds the Applicant did not demonstrate how the project would improve the cost of services in the region.

EDF8. The Commission finds that MPS ED1.1, 1.2, 1.3, 1.4 and 2.1 do not apply to the proposed project.

WATER RESOURCES/HAZARDOUS MATERIALS AND WASTES

WRF1. Application materials state that no new pavement is proposed for the project and that “[c]onstruction activities for delivery and erection of the turbines involve a combination of new gravel access roads and gravel widening of existing access roads, temporary gravel laydown areas, and gravel crane pads.” The application further states that “upon completion of the turbine construction ..., a small (50’x50’) fenced-in compound area will surround the turbine base with a parking area for two maintenance vehicles and a gravel access road.” The Commission finds that any potential approval of the proposed project shall require the Applicant to submit bid-level engineered grading & drainage plans, runoff calculations, detailed erosion control plans, and an updated Stormwater Pollution Prevention Plan for staff review and approval in order to ensure compliance with applicable MPS in RPP Section 7 (Stormwater Quality).

WRF2. According to RPP Water Resources Classification Map I, the entire project site is situated in a Potential Public Water Supply Area (PPWSA) and the area proposed for Turbine 7 is an existing Zone II / Wellhead Protection Area (WPA).

WRF3. Upon request by the Applicant, at the September 8, 2010 Buzzards Bay Water District meeting the Board discussed the possibility of releasing the area from its Potential Public Water Supply Area designation. In a September 13, 2010 email, Barry Woods, Superintendent of the Buzzards Bay Water District, wrote “After consideration and due diligence, the Board made the following determination. A motion was made, seconded and unanimously voted to indefinitely postpone any action on the proposed request for undesignation of the Cape Cod Commission Potential Public Water Supply Area. The Board in its wisdom and by authority of its responsibilities chose to stand as the environmental stewards of the District and in support of the Commissions Potential Public Water Supply Area for existing and future potential sites/sources. As Commissioners of the public water system, this is the action that they have chosen to take in reference to the undesignation request.” The Town of Bourne’s decision to maintain this Potential Public Water Supply Area designation and refusal to lift such designation indicates its desire to maintain the area located as an area from which the residents of Town of Bourne will potentially draw their drinking water.

WRF4. The Commission finds that Regional Policy Plan Water Resources Goal 2 is “To maintain the overall quality and quantity of Cape Cod’s groundwater to ensure a sustainable supply of untreated high-quality drinking water.”

WRF5. The Commission finds that Regional Policy Plan Waste Management Goal 1 is “To protect Cape Cod’s drinking water by prohibiting land use activities involving the handling, storage, and disposal of hazardous materials and wastes that pose a significant threat to groundwater supplies.”

WRF6. Minimum Performance Standard WR2.2 (Prohibition on Hazardous Materials/Wastes) of the Regional Policy Plan states that “Development and redevelopment that involves the use, treatment, generation, handling, storage, or disposal of Hazardous Materials or Hazardous Wastes, with the exception of household quantities, shall not be permitted in Wellhead Protection Areas, except as provided in WM1.2 and WM1.3.”

WRF7. The Commission finds that the proposed development is that of four wind turbines. Application materials state that “each turbine utilizes approximately 490 gallons of high-grade,

petroleum-based lubricant, including oils, cooling liquids, and a small amount of grease in its mechanical operation.” Therefore, the Commission finds that this proposed development involves the treatment, generation, handling, storage, or disposal of Hazardous Materials and/or Hazardous Wastes.

WRF8. Minimum Performance Standard WM1.1 (Hazardous Materials/Waste Restrictions) of the Regional Policy Plan states that “Development and redevelopment that involves the use, treatment, generation, handling, storage, or disposal of Hazardous Materials and/or Hazardous Wastes, with the exception of Household Quantities or less, shall not be allowed within Wellhead Protection Areas and Potential Public Water Supply Areas, except as provided in WM1.2 and WM1.3.”

WRF9. The 2009 Regional Policy Plan definition of Hazardous Material is: “Any chemical or substance that when released into the environment will pose a significant contaminant threat to groundwater and drinking water supplies, including petroleum products, petroleum distillates, organic and inorganic solvents, oil-based paints, oil-based stains, insecticides, herbicides, rodenticides, and pesticides. Hazardous Materials do not include Hazardous Wastes, Articles, Consumer Products, and Cosmetics.”

WRF10. The 2009 Regional Policy Plan definition of Hazardous Waste is: “Any Hazardous Waste, Universal Waste or Waste as defined in the Massachusetts Hazardous Waste Regulations, 310 CMR 30.000. Hazardous Wastes do not include Hazardous Materials and bio-medical wastes regulated by 105 CMR 480.000.

WRF11. The 2009 Regional Policy Plan definition of Household Quantity of Hazardous Material or Hazardous Waste is: “Any combination, or all of the following: (a) 275 gallons or less of oil on site at any time to be used for heating of a structure, or to supply an emergency generator; and (b) 25 gallons or equivalent dry weight, total, of Hazardous Material(s) on site at any time, excluding oil for heating of a structure or to supply an emergency generator; and (c) A quantity of Hazardous Waste generated at the Very Small Quantity Generator level as defined in the Massachusetts Hazardous Waste Regulations, 310 CMR 30.000 and which is accumulated or stored in 55 gallons or less at any time on the site.”

WRF12. Minimum Performance Standard MPS WM1.2 (Credit for Redevelopment) of the Regional Policy Plan states that “Redevelopment within Wellhead Protection Areas that involves use, treatment, generation, handling, storage, or disposal of Hazardous Materials and/or Hazardous Wastes may be allowed to exceed the limits in WM1.1 provided that the quantity of hazardous materials is less than the quantity from the prior use and provided adequate documentation of the previous volume is approved by the Commission.”

WRF13. The Commission finds that MPS WM1.2 does not apply to this proposed development because the locations of Turbines 1, 2, 5 and 7 are within undeveloped woodland and therefore do not constitute redevelopment.

WRF14. Minimum Performance Standard MPS WM1.3 (Credit for Removal of Development) of the Regional Policy Plan states that “Development and redevelopment within Wellhead Protection Areas that involves the use, treatment, handling, storage, or disposal of Hazardous Materials and/or Hazardous Wastes may be allowed to exceed the quantity limits of hazardous materials in WM1.1 up to, but not exceeding the amount that the development or redevelopment permanently eliminates at another facility, project, or site within the same Wellhead Protection

Area and provided adequate documentation of the volume eliminated is approved by the Commission.”

WRF15. The Commission finds that the project is proposed in undeveloped areas consisting of undeveloped woodland and is considered new development. As such, the Commission finds that MPS WM1.2 does not apply to the proposed development.

WRF16. The Commission finds that the project is proposed in undeveloped areas consisting of undeveloped woodland and is considered new development. As such, the Commission finds that MPS WM1.3 applies to the proposed development.

WRF17. The project proposes a total of 2,132 gallons of vegetable oil-based transformer coolant, or 533 gallons per turbine. Application materials indicate the vegetable oil-based transformer fluid is identified by the Material Safety Data Sheet (MSDS) as Envirotemp® FR3™ fluid. Application materials state the fluid “is composed of >98.5% vegetable oil and <1.5% additives (e.g., antioxidants and color).” The Environmental Technology Verification Report submitted as part of the application materials further states that, “Although the components of Envirotemp® FR3™ fluid are food-grade, this product was not intended for human consumption and should not be used as a food product.” Further, the Environmental Technology Verification Report submitted as part of the application materials states that, “Based on the MSDS information on Envirotemp® FR3™’s antioxidants, Envirotemp® FR3™ fluid may produce carbon monoxide, carbon dioxide, nitrogen oxides, and other toxic compounds when the antioxidants thermally decompose.”

WRF18. The Commission finds that the vegetable oil-based transformer fluid is a Hazardous Material pursuant to the Regional Policy Plan definition, in that if released, it will pose a significant contaminant threat to groundwater and drinking water supplies.

WRF19. The Commission finds that the 2,132 gallons of vegetable oil-based transformer coolant, or 533 gallons per turbine, exceeds a Household Quantity as defined by the Regional Policy Plan, which is limited to 25 gallons or its dry weight equivalent of Hazardous Materials.

WRF20. The Commission finds that the 2,132 gallons of vegetable oil-based transformer fluid proposed for the four turbines qualifies as a Hazardous Material and exceeds a Household Quantity.

WRF21. Application materials list “Hazardous Materials Amounts” for the turbines as “high-grade, petroleum-based lubricant, including oils, cooling liquids, and a small amount of grease in its mechanical operation.” The project proposes a total of 1,945 gallons of petroleum-based lubricants, greases and coolants within the wind turbines (490 gallons per turbine for Turbines 1, 2 and 5, and 475 gallons per turbine for Turbine 7).

WRF22. The Commission finds that the petroleum-based lubricants, greases and coolants meet the Regional Policy Plan definition of Hazardous Material.

WRF23. The Commission finds that the 1,945 gallons of petroleum-based lubricants, greases and coolants, or (490 gallons per turbine for Turbines 1, 2 and 5, and 475 gallons per turbine for Turbine 7), exceeds a Household Quantity as defined by the Regional Policy Plan.

WRF24. The Commission finds that the 1,945 gallons of petroleum-based lubricants, greases and coolants proposed for the four turbines is as a Hazardous Material and exceeds a Household Quantity.

WRF25. The project's construction phase proposes the transfer of an estimated 6,000 to 9,000 gallons of diesel fuel from mobile fuel trucks to construction equipment over the course of approximately four to five weeks. According to the Fueling Plan submitted with the application, *"Vehicles to be refueled on site may include bulldozers, front end loaders, graders, compactors, excavators, backhoes, air compressors, and high lift cranes. To minimize the extent of vehicle fueling conducted on site during construction of the project, personal vehicles, dump trucks, concrete trucks, material delivery trucks, watering trucks and pickup trucks shall not be fueled on site."*

WRF26. The Commission finds that the diesel fuel proposed for refueling activities meets the Regional Policy Plan definition of a Hazardous Material.

WRF27. The Commission finds that the diesel fuel proposed for refueling activities is not required to be offset pursuant to MPS WM1.3 because that fuel currently exists at the Cape Cod Aggregates portion of the site.

WRF28. The Commission finds the total amount of Hazardous Materials for Turbines 1, 2, and 5 is 3,069 gallons (1,470 gallons of petroleum-based lubricants, greases and coolants + 1,599 gallons of vegetable-oil based transformer fluid).

WRF29. The Commission finds the total amount of Hazardous Materials requiring offsets for Turbine 7 is 1,008 gallons (475 gallons of petroleum-based lubricants, greases and coolants + 533 gallons of vegetable-oil based transformer fluid).

WRF30. The Applicant proposes to generate a total of 520 gallons of waste gear oil and 16 gallons of waste coolant, or 130 gallons of waste gear oil and 4 gallons of waste coolant per turbine. The supplemental application materials dated July 29, 2011 list the "Hazardous Waste due to periodic maintenance" as "520 gallons of gear oil every 2-4 years" and "16 gallons of coolant every 2-4 years". In the "Hazardous Waste Generation" section of the application materials, the Applicant states, "depending on the amount of maintenance performed in a given month, the quantity may exceed the limits for a Very Small Quantity Generator."

WRF31. The Commission finds the waste gear oil and waste coolant meet the Regional Policy Plan definition of Hazardous Waste.

WRF32. The Commission finds 130 gallons of waste gear oil and 4 gallons of waste coolant per turbine exceed a Household Quantity as defined by the Regional Policy Plan. A Household Quantity of Hazardous Waste as defined by the RPP is "(c) A quantity of Hazardous Waste generated at the Very Small Quantity Generator level as defined in the Massachusetts Hazardous Waste Regulations, 310 CMR 30.000 and which is accumulated or stored in 55 gallons or less at any time on the site. The application materials state the quantity of hazardous waste generation "may exceed the limits for a Very Small Quantity Generator."

WRF33. The Commission finds that the total amount of Hazardous Waste for Turbines 1, 2 and 5 is 134 gallons per turbine. The Commission finds that any potential approval of the proposed development would require that the waste gear oil and waste coolant be replaced one turbine at

a time. As a result of this condition, the Commission further finds that the total amount of Hazardous Waste required to be offset for Turbines 1, 2 and 5 is 134 gallons.

WRF34. The Commission finds the total amount of Hazardous Waste for Turbine 7 is 134 gallons.

WRF35. The Commission finds the total amount of Hazardous Materials and Hazardous Wastes for the four turbines is 4,345 gallons.

WRF36. The Commission finds that in accordance with Minimum Performance Standards WR2.2, WM1.1 and WM1.3, the only way the 4,345 gallons of Hazardous Materials and Hazardous Wastes may be allowed to exceed a Household Quantity is to offset the amount the development permanently eliminates at another facility, project or site within the same Wellhead Protection Area provided adequate documentation is approved by the Commission.

WRF37. In order to offset the Hazardous Materials and Hazardous Wastes, to meet WM1.1 and WM1.3, as part of the project's offset proposal, the Applicant proposed to remove one (1) uninstalled 4,000-gallon above ground storage tank (AST) from the Cape Cod Aggregates portion of the site. The Commission finds that the Applicant filed its original DRI application for this development on July 2, 2010. Cape Cod Aggregates requested an installation permit for this empty above ground storage tank from the State Fire Marshall on September 7, 2010. The Commission further finds that no permits for this tank existed at the time of the original DRI, nor was this tank in use at the Cape Cod Aggregates site. At the time of the subsequent DRI application, a final permit had not been issued for the tank pending proper installation and inspection by the Bourne Fire Department.

WRF38. In order to offset the Hazardous Materials and Hazardous Wastes, to meet WM1.1 and WM1.3, as part of the project's offset proposal, the Applicant proposed to not install an additional 4,000-gallon AST from the Cape Cod Aggregates portion of the site. The Commission finds that the Applicant filed its original DRI application for this development on July 2, 2010. Cape Cod Aggregates requested an installation permit from the State Fire Marshall on October 6, 2010. The Commission further finds that no permits for this tank existed at the time of the original DRI, nor was this tank in use at the Cape Cod Aggregates site. At the time of DRI application, a final permit had not been issued for the tank pending proper installation and inspection by the Bourne Fire Department.

WRF39. The Commission finds that the two (2) 4,000-gallon ASTs being proposed as an offset are not being eliminated, as they do not meet the standard. The Commission finds that an applicant cannot introduce hazardous materials onto a site for purposes of receiving a credit for its offset. The Commission further finds that prior to the original DRI application, the permits and permissions for these oil tanks did not exist. The Commission finds that the Collins English dictionary defines eliminate as "to remove or take out." The Commission concludes that the Applicant cannot remove something that did not exist on the site.

WRF40. The Commission finds that the two (2) 4,000-gallon ASTs being proposed as an offset are not being permanently eliminated in that there is no written deed restriction in the record or other mechanism which would guarantee in perpetuity that the same hazardous material would not be reintroduced into the site at a later date. The Commission finds that the Applicant offered no written deed restriction or draft deed restriction and did not convincingly demonstrate a

willingness to execute such a restriction or abide by a condition to guaranty in perpetuity that the same hazardous material would not be reintroduced into the site at a later date.

WRF41. The Commission finds that the two (2) 4,000-gallon ASTs were proposed on the Cape Cod Aggregates portion of the site in the Potential Public Water Supply Area and as such would have been removed from the same Potential Public Water Supply Area as Turbines 1, 2 and 5.

WRF42. The Commission finds that the two (2) tanks were proposed at the Cape Cod Aggregates portion of the site. The Commission finds that the Cape Cod Aggregates site is part of the Applicant's development site. On their application materials, the Applicant states, "A portion of the site contains the ongoing Cape Cod Aggregates gravel operation, which encompasses approximately 140 acres." Because the proposed tanks are located on-site, the proposed offset is not at "another facility, project, or site."

WRF43. The Commission finds that there is not adequate documentation of the proposed volume to be eliminated as part of the proposed offset.

WRF44. The Commission further finds that the project does not comply with MPS WR2.2, WM1.1, and WM1.3 for Turbines 1, 2 and 5 as the project is introducing 3,069 gallons of Hazardous Materials and 134 gallons of Hazardous Waste to the site and is offsetting zero (0) gallons of Hazardous Materials.

WRF45. The Commission finds that the Applicant has not proposed any offsets for Turbine 7. The Commission finds that the Applicant has not met its burden to show offsets for Turbine 7. In a letter dated August 9, 2011 from Attorney Diane Tillotson on behalf of the Applicant, the Applicant states "Mr. Ingersoll, on behalf of the Project, has contacted a number of potential users of oil in the Zone II Wellhead Protection District in which the proposed Turbine 7 is to be located. As a result of these conversations, at least one person has expressed a willingness to allow the New Generation Wind project to replace a qualifying oil tank in order to meet the Minimum Performance Standards. This individual, however, does not wish his name to be released and made part of the public record unless and until New Generation Wind has received approvals from the Commission and the Town." The Applicant acknowledged at the October 27, 2011 subcommittee meeting that the Commission did not have enough information to make a determination on their proposed offset's compliance with the Minimum Performance Standards. The Applicant also expressed no intent to come forward with any additional information at the Commission's November 10, 2011 public hearing to show fulfillment of the Commission's offset requirements. Therefore, the Commission finds that there is not enough information to determine whether the Applicant's proposed offset is to be permanently eliminated at another facility, project, or site, whether it was proposed to be removed from the same Wellhead Protection Area, nor whether there is adequate documentation of the volume eliminated.

WRF46. The Commission finds that the project does not comply with MPS WR2.2, WM1.1 and WM1.3 for Turbine 7 as the project is introducing 1,008 gallons of Hazardous Materials and 134 gallons of Hazardous Waste to the site and is offsetting zero (0) gallons of Hazardous Materials.

WRF47. The Applicant has requested that the flexibility clause be applied to MPS WR2.2 and WM1.1 in that their alternate approach of containment be allowed for spills of hazardous materials. The Commission finds that the interests protected by MPS WR2.2 and WM1.1 of protecting the groundwater and drinking water from contamination by complete avoidance may not be achieved by the alternate approach of containment because the risk of contaminants

going into the water supply are not achieved in that containment is not 100% effective the way avoidance is. Limits on Hazardous Materials amounts are viewed as a zero-risk standard for protecting drinking-water supplies, in contrast to containment which involves some increased level of risk when human error or acts of nature are factored. The Commission finds that no procedures or technologies are as protective as a prohibition on the use, treatment, generation, handling, storage, or disposal of Hazardous Materials or Hazardous Waste in drinking water supply areas as provided for by MPS WR2.2 and WM1.1.

WRF48. The Applicant proffered the use of the flexibility clause and offered other DRIs as precedent to doing so; Barnstable Municipal Airport (DRI/EIRO6011), Cape Cod Mall (TR96025), and BJs (TR20031). The Commission finds that these Developments of Regional Impact are not probative on this case because the applicable Regional Policy Plan to those DRIs were the 1996 and 2002 Regional Policy Plans, which did not contain the protections of Water Resources standard WR2.2 and Waste Management standards WM1.1 because those standards were not contained therein. These newly drafted provisions are first contained in the 2009 RPP as additional protection of the groundwater and drinking water supplies. As such, WM1.1 and WR2.2 provide a specific method for allowing additional Hazardous Materials through offsets. For this reason, the flexibility clause is not appropriate in this instance.

WRF49. MPS WM1.4 states that “[d]evelopment and redevelopment in Wellhead Protection Areas and Potential Public Water Supply Areas shall prepare a Pollution Prevention and Emergency Response plan for both the construction phase and normal operations that identifies potential contamination sources, threats of Hazardous Material and Hazardous Waste releases to the environment, describes material storage and handling details, containment and contingency plans for spill response, and documents regular inspection and employee education opportunities.”

WRF50. The Commission finds that in order to be consistent with MPW WM1.4, any potential approval of the proposed project requires staff review and approval of the Spill Prevention, Control & Countermeasures Plan (SPCCP) and the Fueling Plan in order to ensure compliance with MPS WM1.4.

HAZARDOUS MATERIALS / WASTES (Cont.)

WMF1. MPS WM1.5 requires that “[a]ny development or redevelopment that uses, handles, generates, treats, or stores Hazardous Waste...” be in compliance with the state’s Hazardous Waste regulations and specifies the following three items be provided by Applicants to demonstrate compliance with this requirement for purposes of Commission review:

- 1) notification or registration with the Massachusetts Department of Environmental Protection as a generator of Hazardous Waste,
- 2) a written plan to manage the Hazardous Waste prior to disposal,
- 3) a signed contract with a registered, licensed company to dispose of Hazardous Waste.

WMF2. The Commission finds that any potential approval of the proposed project shall be conditioned to require the Applicant to submit necessary information for staff review and approval in order to ensure compliance with MPS WM1.5.

SOLID WASTE

SWF1. MPS WM2.1 requires that “[d]evelopment and redevelopment projects shall address the disposal of construction waste...” and that “a plan shall be provided to demonstrate how the applicant proposes to handle solid wastes, construction and demolition waste and recyclable materials currently categorized by the [DEP] as a waste ban material.” MPS WM2.2 describes the requirements of a construction and demolition (C&D) waste management plan. MPS WM2.3 requires a post-construction waste and recyclables management plan, and MPS WM2.4 deals with the management of “significant amounts” of food wastes.

SWF2. Based on materials submitted for the record, the proposed project would generate solid waste from land clearing activities including but not limited to brush, stumps, logs, and chipped wood waste. Based on materials submitted for the record, the proposed project would also generate other solid waste in the form of used pallets, paper, cardboard, packing materials.

SWF3. The Commission finds that any potential approval of the proposed project be conditioned to require the Applicant to submit a waste management plan for staff review and approval in order to ensure compliance with MPS WM2.1, MPS WM2.2, and MPS WM2.3.

COASTAL RESOURCES

CRF1. The Commission finds that this issue area of the RPP does not apply to the proposed project.

NATURAL RESOURCES

NRF1. The Commission finds that the proposed project complies with MPS WET1.1, 1.2, 1.3 and 1.4, and WPH1.1, 1.4, 1.5, and 1.6.

NRF2. The Commission finds that the proposed project complies with MPS WPH1.2 as the clearing of vegetation and alteration of natural topography associated with the project is minimized.

NRF3. The Commission finds that the proposed project complies with MPS WPH1.3 as fragmentation of wildlife and plant habitat is minimized to the extent feasible.

NRF4. The Commission finds that the proposed project complies with MPS OS1.1 as the development is clustered away from sensitive resources to the extent feasible.

NRF5. The Commission finds that the proposed project complies with MPS OS1.2 as the development layout preserves existing open space connections in this part of Bournedale.

NRF6. MPS OS1.3 requires that a project provide permanently protected open space in an amount equivalent to twice the total cleared area for projects located in Significant Natural Resource Areas (SNRA), or 23 acres for this project. The applicant requested application of BDP OS1.10, where the Commission may reduce the open space requirement by 20% if high quality, naturally vegetated open space is provided in SNRA contiguous to existing permanently protected open space and is made permanently accessible to the public.

The Commission finds that the open space requirement may be reduced to 18.4 acres pursuant to BDP OS1.10.

NRF7. The Commission finds that proposed development has been designed to minimize impacts to critical wildlife and plant habitat and significant scenic roads and vistas and as such is consistent with MPS OS1.4 (Sensitive Natural Resources).

NRF8. The applicant has offered to permanently protect two parcels; one 9 acres (Parcel 78) and the other 12.83 acres (Parcel 20). Both parcels are located within SNRA, including rare species habitat and public wellhead protection areas. Parcel 20 is also located within the state-designated BioMap Core habitat, making it critical for the protection of state-listed endangered species, and a conservation priority. Both parcels are located adjacent to existing protected open space, and will expand a growing network of protected land in this part of Bournedale. Subtracting the area of utility easements from the two parcels brings the area of open space proposed to 20.46 acres.

The Commission finds that the proposed 20.46 acres of open space complies with OS1.3 with the reduction allowed under BDP OS1.10.

NRF9. The Commission finds that approval of the proposed project would require a condition to require permanent protection of Parcels 78 and 20. The applicant has provided a letter indicating that the Wildlands Trust is interested in holding a conservation restriction on these parcels.

NRF10. The Commission finds that approval of the project would require a condition that the installation of the retaining wall near turbine #7 occurs from above to ensure compliance with OS1.6, which requires development that is adjacent to land held for conservation purposes to be configured so as to prevent adverse impacts to these lands.

NRF11. The Commission finds that the proposed Edgehill Park subdivision Project proposes to construct roads on the parcel (Parcel 78) that is proposed as Open Space for this project. The Commission finds that the proposed subdivision, if approved by the Town of Bourne, shall not conflict with the open space requirements of any potential approval of this DRI.

NRF12. The Commission finds that MPS OS1.5, 1.7, 1.8 and 2.2 do not apply to the proposed project.

TRANSPORTATION

TF1. MPS TR1.4 (*Standards for Driveway Construction*) requires that all access and egress locations for DRIs meet local, county, and/or state and federal access management bylaws, technical bulletins, standards, and/or policies for driveway spacing and separation from the nearest intersections. The Commission finds the project complies with MPS TR1.4.

TF2. MPS TR1.5 (*Route 6 Access/Egress*) states that DRIs that utilize existing access or egress onto limited-access portions of Route 6 provided there is no increase in daily or peak hour traffic volumes utilizing those driveways. As the project will generate two vehicle trips per turbine per month and therefore no significant increase in either daily or peak hour traffic, the Commission finds the project complies with MPS TR1.5.

TF3. MPS TR1.6 requires new utility service to be placed underground where deemed feasible. According to application materials, electrical connections will be via underground electrical lines running from the turbines to existing NSTAR electric lines. As such, the Commission finds that the project complies with MPS TR1.6.

TF4. MPS TR 1.8 states “Acceptable sight distance shall be met and maintained at all access and/or egress locations for DRIs regardless of project traffic generation.” Application materials and a letter dated May 2, 1011 (from Joel Kubick of Holmes & McGrath, Inc. to Glenn Cannon, Director of Technical Services, Cape Cod Commission staff) indicates that the project complies with RPP sight distance requirements. As such, the Commission finds that the project complies with MPS TR1.8 (*Sight-distance Requirements*).

TF5. MPS TR2.9 (*Parking Spaces*) state the maximum parking allowed for DRIs shall be no more than the minimum number of spaces required by the town (unless justified by a parking analysis accepted by the Commission). The Applicant is proposing to build two parking spaces at the base of each turbine. In written testimony dated July 28, 2011, Coreen Moore, Town Planner for the Town of Bourne stated that the “table of requirements for parking does not specifically reference parking for wind turbines, but does refer to other uses which shall be determined by the Planning Board during site plan review.” The Commission finds that any approval of the proposed project be conditioned to require the project to have no more than the minimum number of parking spaces required by the Town in order to comply with MPS TR2.9.

TF6. MPS TR3.1 states “Regardless of traffic volumes, Level of Service analysis shall be required at all access and/or egress points onto the road system for DRIs”. A June 3, 2011 letter from the Applicant requests the use of the flexibility clause. The letter states “*The applicant will not use the driveway after construction except as access for maintenance of the turbines, an average of one maintenance vehicle per turbine per month. If the access/egress is used for any other purpose at some future time, the applicant agrees to realign the driveway in order to comply with construction standards for higher-use access.*” The Commission finds that the Applicant has demonstrated that the project will not generate any significant traffic at the site driveways, therefore the Level of Service at the site driveways will not change due to the project. The Commission finds that the Applicant has met its burden of proof in demonstrating that the alternative approach is not more detrimental to the protected resource than what would be allowed under MPS TR3.1 and that the use of the flexibility clause in this instance is appropriate in meeting this standard.

TF7. MPS TR3.3 (*Traffic Studies*) states “*DRIs shall provide an appropriate traffic study in accordance with the Cape Cod Commission Guidelines for Transportation Impact Assessment...*” As the project will be generating an insignificant amount of traffic (two trips per month per turbine) the Cape Cod Commission finds that the preparation of a traffic study is not warranted and that the project complies with MPS TR3.3.

TF8. The Commission finds that the proposed project complies with MPS TR1.4, 1.5, 1.6, 1.8, 2.9, 3.1 and 3.3.

TF9. The Commission finds that MPS TR0.1, 0.2, 0.3, 0.4, 0.5, 1.1, 1.2, 1.3, 1.7, 1.9, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.10, 2.11, 2.12, 2.13, 2.14, 3.2, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 3.12, 3.13, 3.14, 3.15, and 3.16 do not apply to the proposed project.

ENERGY

EF1. The first substantive hearing on this project was held prior to the adoption of the May 2011 amendments to the 2009 RPP. As such, the Commission finds that the Energy MPS (E1.7, 1.8, 1.9, 1.10 and 1.11) related to Wind Energy Conversion Facilities do not apply to this proposed development. The Commission further finds that E1.1-E1.6 also do not apply to the proposed development.

AFFORDABLE HOUSING

AHF1. The Commission finds that the proposed development is a commercial DRI as it proposes the sale of energy. As such, the project falls under the 'Other' category for the purpose of the affordable housing mitigation required under MPS AH3.1. The Applicant has provided sufficient documentation that the ongoing maintenance and operation of the wind turbines will require fewer than the equivalent of three full-time on-site or contracted employees; therefore, in accordance with Technical Bulletin #10-001 (Guidelines for Calculation of Mitigation for DRIs in "Other" Category for Minimum Performance Standard AH3.1), the Commission finds that the Applicant is not required to provide Affordable Housing mitigation under AH3.1.

AHF2. The Commission finds that MPS AH1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, 1.12, 1.13, 1.14, 2.1, 2.2, 2.3, 2.4, 3.2, 3.3, 3.4 and 3.5 do not apply to the proposed project.

HERITAGE PRESERVATION AND COMMUNITY CHARACTER

HPCCF1. There are no historic structures located on the project site, nor is the Applicant proposing to add, alter or demolish an existing structure. As such, the Commission finds that MPS HPCC1.1 (Protection of Historic Structures) is not applicable to the proposed development.

HPCCF2. Bournedale Village is in the vicinity of the project and includes a small collection of historic structures and landscapes related to early development around the herring run. The Public Archaeology Laboratory (PAL) preservation consultants identified the village as eligible for listing on the National Register of Historic Places during prior inventory work in the area. As such, the Commission finds that Bournedale Village is a cultural landscape (historic vernacular landscape), pursuant to MPS HPCC1.2.

HPCCF3. The Cape Cod Canal is in the vicinity of the project. It is a historically significant canal that Massachusetts Historical Commission (MHC) has previously determined eligible for listing on the National Register of Historic Places for its role in the maritime history of the region, for its three historic bridges, and for its engineering significance. As such, the Commission finds the Cape Cod Canal, including the scenic pullouts, the Herring Run Recreation Area, the Midway Recreation area and the two bridges, is a cultural landscape (historic site) pursuant to MPS HPCC1.2.

HPCCF4. Based on visual simulations prepared by the Applicant titled "Photosimulations" provided by Atlantic Engineering, including "Location "O" – Bourne Bridge Southbound, Location "S" – Canal Rest Area – Cape Side, Location "S2" – Canal Rest Area – Cape Side (Looking North East), Location "T" – Sagamore Bridge, Location "CCC1" – Army Corps of Engineers, Location "CCC3" – Canal Rest Area (Panorama), Location "CCC4" – Canal Rest Area (Panorama #2), and Location "S" – Route 6 Rest Area Canal Overlook" proposed turbines #1, 2 and 7 will be visible from limited areas in Bournedale Village and they will not be visually

prominent in views from this landscape. Turbines #1, 2 and 7 will be visible from parts of the Cape Cod Canal, particularly areas at high elevation. These turbines will not be visually prominent from the canal recreation areas because only the upper portions of the turbines will be visible above the trees, and their prominence when viewed from the bridges will be limited by their distance and by the bridge railing structure. As such, the Commission finds that turbines #1, 2 and 7 are located to retain the distinctive qualities of these cultural landscapes and maintain their general scale and character-defining features in compliance with MPS HPCC1.2 (Cultural Landscapes).

HPCCF5. Proposed turbine #5 is located closer to the Cape Cod Canal than the other turbines. Based on the visual simulations prepared by the Applicant titled "Photosimulations" provided by Atlantic Engineering, including "Location "O" – Bourne Bridge Southbound, Location "S" – Canal Rest Area – Cape Side, Location "S2" – Canal Rest Area – Cape Side (Looking North East), Location "T" – Sagamore Bridge, Location "CCC1" – Army Corps of Engineers, Location "CCC3" – Canal Rest Area (Panorama), Location "CCC4" – Canal Rest Area (Panorama #2), and Location "S" – Route 6 Rest Area Canal Overlook", proposed turbine #5 is not expected to have an adverse visual impact from Bournedale Village. Turbine #5 will be visible from the portions of the Cape Cod Canal, including the public recreation areas and the bridges, however, the Commission finds its location will retain the distinctive qualities of these cultural landscapes and maintain their general scale and character-defining features in compliance with MPS HPCC1.2 (Cultural Landscapes).

HPCCF6. In a letter dated May 28, 2010, Massachusetts Historical Commission (MHC) identified the project impact areas for wind turbines #1, 5, 6 and 7 as archaeologically sensitive, noting that the proposed project is located between several core areas of ancient and historic period Native American settlements within the Bournedale area. MHC called for an archaeological survey to locate and identify any significant archaeological resources that could be affected by the project. An Archaeological Survey and Report of the site was conducted by Plymouth Archaeological Rediscovery Project, stating that no significant historic or archaeological resources were identified within the project area. MHC issued a letter on November 15, 2010, stating that no further archaeological investigations were necessary unless project plans changed. MHC subsequently reviewed the revised location of turbine #2 and in a letter dated August 8, 2011, confirmed that no further archaeological survey work was needed. The proposed project was reviewed by Massachusetts Historical Commission and determined not to impact archaeological resource areas. For these reasons, the Commission finds that the proposed project complies with MPS HPCC1.3 (*Archaeological Sites*). The Commission further finds that no archaeological sites were located on the project site that were eligible for listing on the National Register of Historic Places.

HPCCF7. The proposed project is located within the Bournedale DCPC, which was established in part to protect the rural and scenic character of the area. The project is also located adjacent to the Scenic Highway and the Cape Cod Canal Recreation Area.

HPCCF8. Bournedale Village includes scenic roadways, a collection of historic structures, a herring run, and the Army Corps of Engineers Herring Run Recreation area. As such, the Commission finds Bournedale Village is a scenic area pursuant to MPS HPCC2.3 (Scenic Roadways & Vistas).

HPCCF9. The Cape Cod Canal includes multiple public recreation areas, scenic pullouts, and broad views of the waterway and its bridges. Information from the website of the Army

Corps of Engineers states the Cape Cod Canal is one of New England's most popular recreational areas with over four million people annually visiting the canal for outdoor activities. Multiple public recreational areas developed by the Corps provide scenic access to the canal, including the Herring Run in Bourne on Route 6 and the Midway Station in Bourne along Sandwich Road. Other key viewing areas for the canal include the scenic parking areas along the scenic highway in Bournedale, the bridges themselves, and the Sandwich Marina area. As such, the Commission finds the Cape Cod Canal is a scenic area pursuant to MPS HPCC2.3 (Scenic Roadways & Vistas).

HPCCF10. Based on the visual simulations prepared by the Applicant proposed turbines #1, 2 and 7 will be visible from limited areas in Bournedale Village and they will not be visually prominent. Proposed turbines #1, 2 and 7 will be visible from Canal scenic pull-outs and from the Canal bridges, but because of their distance from these locations they will not be visually prominent and will not present an adverse visual impact. Therefore, the Commission finds turbines #1, 2 and 7 will not present adverse visual impacts to scenic areas in compliance with MPS HPCC2.3 (Scenic Roadways and Vistas).

HPCCF11. Proposed turbine #5 is located closer to the Cape Cod Canal than the other turbines. Based on the visual simulations prepared by the Applicant, proposed turbine #5 is not expected to be visible from scenic areas in Bournedale Village. Proposed turbine #5 will be visible from the Cape Cod Canal, including portions of the scenic highway, the scenic pull-outs, and the Canal bridges. Turbine #5 will be more visible from the scenic highway and scenic pull-outs than the other proposed turbines, but its visibility will not present an adverse visual impact to scenic areas and as such the Commission finds it complies with MPS HPCC2.3 (Scenic Roadways and Vistas).

HPCCF12. MPS HPCC2.11 requires that *“site lighting and exterior building lights in all development shall meet the following standards:*

- *Employ “shoe-box” type or decorative fixtures, consistent with the architectural theme of the development and which are fully shielded.*
- *Use a mounting configuration that creates a total cutoff of all light at less than ninety (90) degrees from vertical (flood, area, and up-lighting are prohibited).*
- *Provide total cutoff of all light at the property lines of the parcel to be developed.*
- *Meet a maximum initial horizontal foot-candle level of not more than 8.0 foot-candles, as measured directly below the luminaire(s) at grade.”*

HPCCF13. According to information submitted by the Applicant, one or more turbines are likely to be equipped with top-mounted aviation warning beacons as may be required by the Federal Aviation Administration. MPS HPCC2.11 also states in part that *“[t]his Minimum Performance Standard shall not apply to aviation warning or marking lights as may be required by the Federal Aviation Administration.”*

HPCCF14. According to information submitted by the Applicant, exterior lighting would consist of single head pole-mounted lights on 16-foot poles by Visionaire Lighting, *American* series. The DRI Application narrative and a schematic drawing indicate these lights will be flush mounted to the ground, resulting in an 17 foot, 6 inch maximum mount height. This fixture height and configuration is consistent with requirement that fixture height not exceed 20.0 feet (base + pole + head) per Technical Bulletin 95-001 (as amended 6/11/09).

HPCCF15. The Commission finds that the proposed project complies with MPS HPCC2.11 and that any approval of the proposed project be conditioned to require staff review and approval of proposed lighting including a site visit, to ensure compliance with MPS HPCC2.11 and Technical Bulletin 95-001.

HPCCF16. HPCC2.13 (Underground utilities) requires that all utilities for development shall be placed underground except where the presence of natural features prevents such placement. The Applicant's site plans indicate that all utility lines from the turbines to the proposed interconnection locations will be buried underground. The Commission finds that any approval of the proposed project should be conditioned to require the installation of underground utilities as shown on the plans submitted to ensure compliance with MPS HPCC2.13.

HPCCF17. The Commission finds that MPS HPCC1.4, 1.5, 2.1, 2.2, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10, 2.12 and 2.14 do not apply to the proposed project.

PROBABLE BENEFIT VERSUS PROBABLE DETRIMENT OF PROPOSED DEVELOPMENT

BDF1. The Commission finds the project's probable benefits include that the project helps meet the State mandate for renewable energy, tax benefits to the municipality, that the project could be an economic stimulator, the green energy rebate program being offered by the project's proponents, the long term evaluation and validation of fitness of purpose that the project would provide, the contribution to lessening dependence on fossil fuels, the contribution to renewable energy, permanent protection of approximately 20 acres of open space in a Significant Natural Resources Area as further defined in Best Development Practice (BDP) OS1.10, and the contribution this project would provide to the grid.

BDF2. The Commission finds the project's probable detriments include probable negative effects on Bourne's water supply, probable diminishment of property values, probable negative impacts on the local Native American tribe, the proximity of the proposed project to the nearby elementary school, the possibility that this project could detract from tourism, that the proposed project would dilute efforts to pursue alternate sources of renewable energy, probable health effects of the project, the effect of the project on community morale, and the negative effect on wildlife, including birds and bats.

BDF3. Based on weighing the materials and testimony submitted for the record, the Commission finds that the probable benefit from the proposed development is not greater than the probable detriment. The Commission finds that the probable negative impacts on the residents of Bourne and Cape Cod outweigh the probable economic and energy related benefits the proposed project may potentially provide.

CONCLUSION

Based on the above Findings, the Commission hereby concludes that:

1. The proposed development is inconsistent with the 2009 Regional Policy Plan, as amended March 2011.
2. The proposed development is consistent with Bourne's Local Comprehensive Plan.

3. The proposed development is inconsistent with Bourne's development bylaws and the inconsistency is not 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. The proposed development is consistent with the regulations approved or adopted by the Commission pursuant to section 11 of the Cape Cod Commission Act for the Bournedale District of Critical Planning Concern.
5. The probable benefit from the proposed development is not greater than the probable detriment of the proposed development.

The Commission hereby denies without prejudice the proposal of New Generation Wind, LLC to construct three 2.5 MW wind turbines and one 2.0 MW wind turbine between Route 25 and Route 6 in Bourne, MA, west of the Cape Cod Canal as a Development of Regional Impact pursuant to Sections 12 and 13 of the Cape Cod Commission Act, c. 716 of the Acts of 1989, as amended.

Peter Graham, Cape Cod Commission Chair

Date

COMMONWEALTH OF MASSACHUSETTS

Barnstable, ss

_____, 2011

Before me, the undersigned notary public personally appeared

_____ in his capacity as Chairman of the Cape Cod Commission, whose name is signed on the preceding document, and such person acknowledged to me that he signed such document voluntarily for its stated purpose. The identity of such person was proved to me through satisfactory evidence of identification, which was photographic identification with signature issued by a federal or state governmental agency, oath or affirmation of a credible witness, or personal knowledge of the undersigned.

Notary Public

My Commission Expires: