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CAPE COD
COMMISSION

Date:	January 19, 2012
To:	Kate McEneaney Epsilon Associates, Inc. 3 Clock Tower Place, Suite 250 Maynard, MA 01754
From:	Cape Cod Commission
Re:	Development of Regional Impact Cape Cod Commission Act, Sections 12 & 13
Applicant/Owner:	NSTAR Electric & Gas Corp.
Project:	NSTAR Lower SEMA 345 kV Transmission Project
Project #:	TR11014
Project Location:	Bourne, Sandwich and Barnstable
Book/Page #:	9271/280

DECISION OF THE CAPE COD COMMISSION

SUMMARY

The Cape Cod Commission (Commission), hereby approves the application of NSTAR Electric & Gas Corp. (Applicant) for the proposed NSTAR Lower SEMA 345 kV Transmission Project consisting of the proposed construction of 1.5 miles of 345kV transmission line on existing rights of way in Bourne, separation of an existing double-circuit 345kV transmission line, increase in voltage from 115kV to 345kV on approximately 7.6 miles of transmission line located in the towns of Sandwich and Barnstable, and construction of a new 345kV substation on NSTAR owned property at 661 Oak Street in West Barnstable, 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.

PROJECT DESCRIPTION

NSTAR is proposing to construct improvements to its transmission system in Southeastern Massachusetts. Proposed improvements include 18 miles of new overhead transmission line at a nominal operating voltage of 345 kV, separation of an existing double-circuit 345 kV transmission line crossing of the Cape Cod Canal onto separate sets of structures, an increase of voltage on approximately 13 miles of an existing transmission line, construction of a new 345-kV-to-115-kV substation in West Barnstable, and other ancillary station improvements. The new transmission line will run from an existing substation in Carver on existing ROWs in the towns of Carver, Plymouth and Bourne. The overall project is called the Lower SEMA Transmission Line Project.

The following components of the Lower SEMA Transmission Line Project are located within Barnstable County and fall within the purview of the Cape Cod Commission:

- 1.5 miles of the new 345 kV transmission line proposed on existing ROWs in the town of Bourne;
- Separation of the existing double-circuit 345 kV transmission line crossing the Cape Cod Canal, including the demolition of the existing double circuit structure and the construction of three new single-circuit structures;
- Increase voltage from 115 kV to 345 kV on approximately 7.6 miles of an existing transmission line located in the towns of Sandwich and Barnstable;
- A new 345 kV substation proposed in West Barnstable

In addition to these components, the Lower SEMA Transmission Project involves an additional 0.3 miles of transmission line, 4.8 miles of voltage uprate, and an expansion of the Bourne Switching Station within the confines of the Massachusetts Military Reservation (MMR). While these facilities are within Barnstable County, they are outside of the jurisdiction of the Cape Cod Commission.

PROCEDURAL HISTORY

The application for a Development of Regional Impact (DRI) was received by the Commission on August 8, 2011. Pursuant to Section 7(d) of the *Enabling Regulations*, the *Adjudicatory Hearing Procedure for Energy Related DRIs* "shall apply to all DRI applications which concern proposed energy related facilities over which the Energy Facilities Siting Board (EFSB) asserts jurisdiction.....All DRI applications pending on the date of this ordinance which propose to construct, install, operate, alter or convert an energy related facility which is subject to review by the EFSB, and all DRI applications filed hereafter for such facilities shall be subject to the expanded hearing procedure defined herein."

Pursuant to Section 7(c)(vi)(1) of the *Enabling Regulations,* "The Commission shall hold a public hearing to review the project within 45 days of the Secretary's certification of the adequacy of the final EIR." The hearing period was opened by hearing officer on September 6, 2011 in accordance with the *Enabling Regulations*. A pre-hearing conference was held on October 26, 2011 and administered by a duly appointed hearing officer as provided in section (iv)(4) of the *Adjudicatory Hearing Procedure* in order to "narrow and define the issues, to

determine what facts and issues can be agreed by the parties by stipulation or other agreement, to establish time and other limits on cross-examination and argument and to consider any other matters that may aid in the orderly and efficient conduct of the public hearing and the disposition of the DRI application." The first public hearing on this project was held on November 9, 2011 at the Cape Cod Commission, where all parties were provided the opportunity to be represented by an attorney admitted to the practice of law in the Commonwealth, as stipulated in the procedures. An additional public hearing was held on November 30, 2011.

The hearing period was closed by hearing officer on December 2, 2011. Public meetings were held on December 7, 2011 and January 9, 2012 to review the draft decision. On January 12, 2012, the Energy Facilities Siting Board voted unanimously to approve the project and to approve the Company's proposed substation located off of Oak Street in Barnstable, Massachusetts and grant the individual exemptions requested by the NSTAR regarding the zoning bylaws of the towns of Carver, Plymouth, Bourne and Barnstable. On January 19, 2012, the full Cape Cod Commission voted unanimously to approve the NSTAR Lower SEMA 345kV Transmission Project DRI, with conditions.

MATERIALS SUBMITTED FOR THE RECORD

In addition to the list of materials submitted for the record (see Table 1 below), the application and notices of public hearings relative thereto, and all other written submissions received in the course of the proceedings are hereby incorporated into the record by reference.

TABLE 1: Materials Submitted for the Record

Materials from Cape Cod Commission	***Date Sent***
Email from Heather McElroy to Kate McEneany regarding assessor's data for open space mitigation calculation	8/10/11
Email from Elizabeth Enos to KM regarding certified list of abutters	8/11/11
Letter and email from EE to KM regarding completeness of application	8/18/11
Letter and email from EE to KM requesting additional materials	9/12/11
Email correspondence between EE and KM regarding conference call	9/30/11
Letter and email from EE to Jo Anne Miller Buntich, Coreen Moore, Greg Smith, and Kate McEneany re: adjudicatory hearing process and notification of DRI	10/4/11
Letter and email from EE to KM regarding application completeness and public hearing	10/4/11
Email from EE to Jo Anne Miller Buntich with attached application materials for DRI	10/4/11
Email from EE to JMB, CM, GS and KM regarding public hearing date	10/5/11
Email from EE to GS with application materials for DRI	10/6/11
Email from EE to KM with list of DRI Liaisons	10/6/11
Email from EE to JMB, CM, GS and KM regarding pre-hearing conference	10/7/11
Email from EE to JMB regarding attendance at pre-hearing conference	10/7/11
Email from EE to Mike Koehler confirming receipt of appearance	10/12/11
Email from EE to KM with addresses of DRI Liaisons	10/12/11
Email from EE to KM re: service list	10/12/11

Email from EE to JMB confirming receipt of testimony	10/14/11
Email from EE to Dawn Book confirming receipt of appearance	10/17/11
Email from EE to Bob Troy with application materials	10/17/11
Email from EE to Town Counsels, DRI Liaisons and KM with Staff Report	10/24/11
Email from EE to Jo Ann Bodemer re: contact info	10/24/11
Email from EE to Mr. Billingham re: application materials	10/24/11
Email from KS to Towns Counsel and KM with attached stipulation	10/26/11
Email from Andrea Adams to EE and KM re: clarification of Staff Report	11/1/11
Email from KS to David Rosenzwieg re: motions to intervene	11/03/11
Email from EE to Bob Troy regarding Bourne's position	11/03/11
Email from KS to Towns Counsel, DRI Liaisons and KM with attached revised stipulation and Staff Report Adendum	11/5/11
Staff Report Addendum	11/5/11
Email from EE to Jo Anne Bodemer requesting pre-filed testimony	11/7/11
Email from EE to KM requesting copy of NSTAR's PowerPoint	11/9/11
Email from EE to Jo Ann Bodemer with attached PowerPoint from CCC	11/9/11
Email from Gail Hanley to Barry Johnson, Wendy Chapman, Taylor White and Linda Hutchenrider with attached hearing notice	11/9/11
Email from EE to Kathy Sherman with attached Application materials and Staff Report for the project	11/10/11
Email correspondence between Tabitha Harkin, Elizabeth Enos and KM re: site visit	11/15/11
Email from EE to KM with attached sample of CR	11/29/11
Memo from EE to KS re: staff response to supplemental information	11/30/11
Email from Gail Hanley to Linda Hutchenrider with attached hearing notice	12/1/11
Hearing Officer Minutes	12/2/11
Email from EE to Charles McLaughlin re: MOU	12/2/11
Email from EE to KM re: property identifications	12/5/11
Email from EE to all parties involved with attached draft decision	12/5/11
Email correspondence between Jo Anne Miller Buntich and EE re: suggested changes to draft decision	12/6/11
Email from KS to KM re: public meeting to discuss draft decision	12/6/11
Letter via email from KS to all parties re: rescheduling public hearing and corrections to letter from Town of Sandwich	12/7/11
Email correspondence from EE to Mike Koehler forwarding correspondence from Towns of Sandwich and Bourne re: compliance	12/12/11
Email from EE to Gabe207@gmail.com with attached DRI application	12/12/11
Email from KS to Dawn Book re: method of delivery	12/23/11
Email from KS to all parties with attached 1/5 draft decision	1/5/12
Email from KS to all parties with attached 1/9 draft decision	1/10/12
Email from EE to KM with attached 1/19 draft decision	1/19/12
Materials from Applicant	***Date Received***
Email from KM to EE re: certified list of abutters	8/11/11
Email from KM to EE and KS re: certified list of abutters	8/15/11

Email from KM to EE and KS with response to completeness letter	8/30/11
Email from KM to EE and KS with response to request for information	9/26/11
Email correspondence between EE and KM regarding conference call	9/30/11
Email from KM to EE with NSTAR's Counsel contact info	10/3/11
Email from KM to EE re: scheduling	10/4/11
Email from KM to EE with attached distribution list	10/6/11
Email from KM to EE requesting info re: DRI Liaisons	10/6/11
Notice of Appearance and Certificate of Service from David Rosenzwieg on behalf of NSTAR	10/11/11
Email from KM to EE re: service list	10/12/11
Email from KM to EE with attached FERC settlement materials	10/20/11
Email from KM to Andrea Adams regarding exterior lighting	10/20/11
Email from KM to EE re: WM1.5	10/27/11
Email from KM to Tabitha Harkin re: site visit	10/31/11
Email from KM to KS re: draft stipulation	10/31/11
Pre-filed testimony from Attorney Rosenzwieg via mail and email, including testimony from the EFSB proceedings filed jointly by the Town of Sandwich and NSTAR	11/2/11
Email from DR to KS re: motions to intervene	11/3/11
Email from KM to EE re: signage	11/3/11
Email and letter from KM to EE with supplemental materials re: open space and refueling	11/4/11
Email from KM to EE re: landscaping	11/4/11
Email from DR to KS and Towns Counsel and DRI liaisons re: signing the revised stipulation	11/7/11
Email from KM to EE re: availability for another hearing	11/8/11
Email from KM to EE re: site visit	11/15/11
Email and letter with supplemental information re: refueling and open space	11/21/11
Email from KM to EE re: list of plans	11/22/11
Email from David Rosenzweig to EE re: no intent to cross examine staff	11/29/11
Letter and email from KM to EE with supplemental information re: Pollution Prevention and Emergency Response Plan	12/1/11
Email from David Rosenzweig to EE with attached MOU between NSTAR and the Town of Barnstable	12/1/11
Email from KM to EE re: property identifications	12/5/11
Email from KM to EE re: public meeting	12/6/11
Email from KM to KS and EE with suggested edits to draft decision	12/6/11
Post-hearing brief submitted by Erika Hafner on behalf of David Rosenzweig	12/27/11
Email from KM to EE re: property info for Oak Street substation	1/5/12
Transcript from the January 12, 2012 EFSB meeting submitted via mail and email by Mike Koehler	1/13/12
Materials from Public Agencies	***Date Received***
Certificate of Expanded ENF and Final EIR from EOEEA	7/29/11
Email from Jo Anne Miller Buntich to EE re: application materials	10/4/11

Email from JMB to EE re: attendance at public hearing	10/5/11
Email from Greg Smith to EE re: public hearing	10/6/11
Email from JMB to EE re: attendance at pre-hearing conference	10/7/11
Letter and email from Jo Anne Miller Buntich/Town of Barnstable to Paul Niedzwiecki, Peter Graham and Kevin McCune re: pre-filed testimony	10/14/11
Notice of Appearance and Certificate of Service filed by Charles McLaughlin on behalf of the Town of Barnstable	10/13/11
Notice of Appearance and Certificate of Service filed by Jo Ann Bodemer on behalf of the Town of Sandwich	10/17/11
Notice of Appearance and Certificate of Service filed by Robert Troy on behalf of the Town of Bourne	10/19/11
Email from Jo Ann Bodemer to EE re: contact info	10/24/11
Email from Bob Troy with attached Notice of Appearance	10/25/11
Email from Paul Tilton of the DPW re: no issues with the project	10/28/11
Letter and email from Jo Ann Bodemer to EE with attached pre-filed testimony from the Town of Sandwich, including testimony from George Dunham	11/3/11
Email from Jo Ann Bodemer to EE re: Town's pre-filed testimony	11/7/11
Letter and email from George Dunham to EE re: consistency of project with local zoning, LCP and DCPCs	11/7/11
Email from Jo Anne Miller Buntich to KS re: issues with stipulation	11/7/11
Letter from Coreen Moore to EE re: consistency with Town's bylaws, LCP and DCPCs	11/9/11
Letter from Robert Troy to EE stating that the Town of Bourne has no issues with the project	11/9/11
Email from Charles McLaughlin re: MOU and public hearing	11/29/11
Email from Charles McLaughlin re: draft decision	12/2/11
Email correspondence between JMB and EE re: suggested changes to draft decision	12/6/11
Letter via mail and email from Dawn Book to Jo Ann Bodemer to EE requesting extension of time	12/6/11
Email from Bud Dunham to Kristy Senatori thanking her for extension	12/7/11
Email from Laire Griffen to EE with attached MOU between Town of Barnstable and NSTAR	12/14/11
Memorandum of Understanding between the Town of Barnstable and NSTAR from Charles McLaughlin	12/15/11
Email from Dawn Book to KS re: method of delivery for brief	12/23/11
Post-hearing brief submitted via email by Dawn Book on behalf of Jo Ann Bodemer on behalf of the Town of Sandwich	12/27/11
Email from Dawn Book to all parties re: attendance at public meeting and intent to comment on draft decision	1/9/12
Email from Charles McLaughlin to KS re: incorporation of the MOU and attendance at Commission meeting	1/19/12
Materials from General Public	***Date Received***
Email from Kathy Sherman to EE thanking her for materials	11/10/11

JURISDICTION

The project qualifies as a Development of Regional Impact (DRI) pursuant to Section 2(d)(i) of the Commission's *Enabling Regulations* (Revised March 2011) as a "proposed development for which an Environmental Impact Report (EIR) is required to be prepared under the provisions of MEPA."

FINDINGS

The Commission has considered the DRI application of NSTAR Electric & Gas for the proposed improvements to its transmission system in Southeastern Massachusetts, 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 project was November 9, 2011, this project was reviewed subject to the 2009 RPP, as amended in May 2011.

GF2. The following components of the Lower SEMA Transmission Line Project are located within Barnstable County and fall within the purview of the Cape Cod Commission:

- 1.5 miles of the new 345 kV transmission line proposed on existing ROWs in the town of Bourne;
- Separation of the existing double-circuit 345 kV transmission line crossing the Cape Cod Canal, including the demolition of the existing double circuit structure and the construction of three new single-circuit structures;
- Increase voltage from 115 kV to 345 kV on approximately 7.6 miles of an existing transmission line located in the towns of Sandwich and Barnstable;
- A new 345 kV substation proposed in West Barnstable

In addition to these components, the Lower SEMA Transmission Project involves an additional 0.3 miles of transmission line, 4.8 miles of voltage uprate, and an expansion of the Bourne Switching Station within the confines of the Massachusetts Military Reservation (MMR). While these facilities are within Barnstable County, they are outside of the jurisdiction of the Cape Cod Commission.

GF3. The Commission finds that according to materials submitted by the Applicant, NSTAR is required by the Northeast Power Coordinating Council, Inc. (NPCC) and New England Power Pool/Iso-New England (NEPOOL/ISO-NE) criteria to design the transmission system assuming the two most critical transmission elements, the two 345 kV transmission lines serving Cape Cod, are out of service. According to the application materials, these transmission lines could be out of service either simultaneously or one followed by the second within 30 minutes. According to the application materials, without the proposed project in place, overloads would occur on the two 115 kV lines serving Tremont East under contingency conditions, which could result in the loss of electricity to Cape Cod and the Islands.

GF4. The Commission finds that the project will be constructed in accordance with the following plans:

Cape Cod Canal Aerial Transmission Crossing, Plans Developed by RGVanderweil, Engineers, LLP, Boston, MA under contract to NSTAR Electric,

- Plan and Profile, Line 322 (one of the 2 existing 345 kV lines)
- Plan and Profile, Line 342 (the second of the 2 existing 345 kV lines)
- Plan and Profile, New Line
- Cross Section, Structures 24 A, 24B & 24C (poles nearest the Bourne Station, east side of Canal)
- Cross Section, Structures 25 A, 25B & 25C (poles on east side of Canal)
- Cross Section, Structures 26 A, 26B & 26C (poles on west side of Canal)
- Cross Section, Structures 27 A, 27B & 27C (poles on elevated terrain within the Cape Cod Aggregate "pit")
- Cross Section, Structures 29 A, 29B & 29C (poles on west side of Cape Cod Aggregate pit)
- Structure Outline Drawing, suspension structures
- Structure Outline Drawing, deadend structures
- Structure Outline Drawing, H frame deadend structure
- Steel Pole Caisson Foundation details, Line 322
- Steel Pole Caisson Foundation details, Line 342
- Steel Pole Caisson Foundation details, New Line
- Hardware Assembly Drawing (4 sheets)
- Structure Work List, Line 322
- Structure Work List, Line 342
- Structure Work List, New Line

West Barnstable Terminal Substation, 345 kV to 115 kV, Oak Street Site, Plans Developed by NSTAR Electric, Station Engineering Group, John Zicko, PE,

- Locational map (locates the existing NSTAR Oak Street Station (115 kV to distribution) and the proposed Terminal Substation on an aerial photo base. (This map also appears as Figure 6 in the main body of the DRI submittal)
- NSTAR Drawing 921-4, Grading and Fencing Plan
- NSTAR Drawing 921-012, Equipment Plan
- NSTAR Drawing 921-013, Elevations
- NSTAR Drawing 921-5, 345 kV Autotransformer Foundation and Containment
- NSTAR Illustrative Plan Set for Control Building (Essex Structural Steel, 12 sheets in total including cover sheet and notes) This plan set is for a 15 ft wide by 64 ft long single story steel control building recently purchased for NSTAR's Needham, Ma substation. The control building for the West Barnstable Station will be of similar scale and design.

GF5. November 9, 2011 written testimony of Coreen Moore, Town Planner for the Town of Bourne states, "the project would be subject to site plan review according to the use regulation schedule for a public use. In addition, due to the height of the towers exceeding 40 feet a special permit would be required from the Planning Board." Further, Ms. Moore wrote that the proposed project is located within the Bournedale District of Critical Planning Concern (DCPC), but that the proposed project will not have an impact on the Water Resource District, the

Wildlife, Natural, Scientific, or Ecological Resource District, the Cultural, Historic, Architectural, or Archaeological Resource District, or the Transportation Management District and therefore the proposed project is consistent with this criterion. Ms. Moore also noted that the project is consistent with the Town of Bourne's Local Comprehensive Plan. The Commission adopts the written testimony of Coreen Moore and finds that the project is consistent with the Town of Bourne's Local Comprehensive Plan and Bournedale DCPC. The Commission finds that the Applicant has applied for a zoning exemption from the Town of Bourne's development bylaws. If the zoning exemption is approved, the project can be found consistent with the Town of Bourne's development bylaws. If the zoning exemption is not approved, the Commission adopts the testimony of Coreen Moore and further finds that upon issuance of a Planning Board Special Permit, the proposed development can be found consistent with Bourne's development bylaws.

GF6. Based on the November 7, 2011 written testimony of George Dunham, Town Manager for the Town of Sandwich, the town "does not have any concerns about the DRI project in relation to its consistency with the Town's Local Comprehensive Plan (LCP) or the Town's municipal development bylaws and/or regulations." Therefore, Commission adopts the written testimony of George Dunham and finds that the proposed project is consistent with these criteria for the Town of Sandwich. The Commission finds the proposed project is not situated in a DCPC.

GF7. Based on the October 13, 2011 written testimony of Jo Anne Miller Buntich, Director of Growth Management for the Town of Barnstable, "the project is consistent with the Barnstable Comprehensive Plan (BCP) which prefers land uses that redevelop existing sites." In this letter the Town of Barnstable requests that NSTAR participate in local Site Plan Review. The Commission adopts the testimony of Jo Anne Miller Buntich and finds that the proposed project is consistent with the Town of Barnstable's Local Comprehensive Plan. The Commission adopts the testimony of Jo Anne Miller Buntich and further finds that the Applicant has applied for a zoning exemption from the Town of Barnstable's zoning ordinances. If the zoning exemption is approved, the project would be exempt from the Town of Barnstable's zoning ordinance. If the zoning exemption is not approved and should it be determined that relief from local bulk regulations is necessary, a Special Permit particular to exempt uses is available. Pending issuance of this Special Permit, or pursuant to a determination by the Building Commissioner that bulk regulation requirements are met, the proposed development can also be found consistent with Barnstable's development bylaws. The Commission finds that Barnstable's town-wide DCPC which regulates the rate of development for residential land use is not applicable to the proposed project.

GF8. The Commission finds that the Town of Barnstable and NSTAR entered into a Memorandum of Understanding (MOU) on December 1, 2011 which outlines the general framework of the agreement reached between the Town of Barnstable and NSTAR with regard to the Town's review of the proposed NSTAR substation to be located at 661 Oak Street in the Town of Barnstable, including but not limited to, site/civil engineering, landscaping, emergency access and preparedness and open space.

GF9. The Commission finds the project's probable benefits include: increased reliability to the Cape, eliminating uplift costs, use of monopoles (aesthetics, safety), cooperation with towns regarding maintenance programs, decreased reliance on Canal station, ability to bring in more power, reducing overloads, improved economic development structure, that the associated costs are spread throughout the New England States, EFSB approval, avoidance of blackouts, tax

benefits to Bourne and Barnstable, minimal and temporary environmental impacts, stabilize full electricity needs of the Cape, and that the Applicant will try to hire local labor.

GF10. The Commission finds that there are no probable detriments of the proposed development.

GF11. Based on materials and written testimony submitted for the record, the Commission finds that the probable benefit from the proposed development is greater than the probable detriment.

LAND USE

LUF1. Minimum Performance Standard (MPS) LU2.1 requires that development be consistent with the category of land use where the project is located. According to the application materials, the project is intended to upgrade lines and improve reliability of the electrical transmission facilities to Cape Cod. The project is not intended to facilitate growth, but rather to improve reliability to the region's customers. In areas where the project crosses land designated as Industrial Service and Trade (ISTA) and Other, the Commission finds that the project is consistent with the ISTA and Other land use designations. The Resource Protection Areas are defined as areas not appropriate for additional growth. The project involves no additional work in many of the areas designated as Resource Protection Areas (i.e. existing lines are to remain and poles will not be constructed). However, the expanded substation in Barnstable and the new cable crossing, new poles and wires to the north of the Cape Cod Aggregates site in Bourne will involve new construction in areas designated Resource Protection Area. The Commission finds that the project does not result in additional growth in these locations but is instead intended to improve reliability, and therefore finds that the project is consistent with the Resource Protection Area designation. As such, the Commission finds that the project is consistent with MPS LU1.1.

LUF2. MPS LU2.1 requires that development support compact development and the land use designations in mapped areas. As an infrastructure project, the project is intended to improve reliability of electricity delivery and is not limited to supporting certain kinds of development patterns. As such, the Commission finds that LU2.1 does not apply to this project.

LUF3. The Commission finds that the project is consistent with Best Development Practice (BDP) LU2.3 that recommends that infrastructure utilize existing rights-of-way.

LUF4. The Commission finds that due to the nature of the project, MPS LU1.2, LU2.2, LU3.1 and LU3.2 do not apply.

AFFORDABLE HOUSING

AHF1. The project involves the addition of new overhead transmission lines, the upgrade of existing overhead transmission lines, and the construction of a new 345 kV substation. Therefore, the project falls under the 'Other" category for the purpose of the affordable housing mitigation required under AH3.1. Technical Bulletin #10-001 provides guidelines for the calculation of affordable housing mitigation for DRI's in the "Other" category, and it states that "... buildings and/or facilities in which a calculation of building square footage is not feasible or appropriate....will not be required to provide mitigation in the 'Other' category under AH3.1." The Commission finds that the Applicant is exempt from the mitigation requirements of AH3.1 and that the Affordable Housing Minimum Performance Standards do not apply to this project.

WETLANDS/WILDLIFE & PLANT HABITAT/OPEN SPACE PROTECTION & RECREATION

NRF1. The Commission finds that the installation of new transmission towers and new cable occurs within previously disturbed portions of the NSTAR right-of-way in Bournedale. These areas are all mapped Significant Natural Resource Area (SNRA) due to the presence of rare species, public wellhead protection areas, or potential public water supply areas. The proposed expansion of the Oak Street substation in Barnstable involves 2.3 acres of new clearing and grading, and is not mapped SNRA.

NRF2. The Commission finds that the natural resources inventory (NRI) of the Oak Street site that was provided by the Applicant is consistent with the requirements of MPS WPH1.1.

According to the NRI, there is a small wetland located on the Oak Street site. The wetland is non-jurisdictional under the Wetlands Protection Act, though it is jurisdictional under the RPP. According to the NRI, it appears to have been the result of stormwater run-off. Given the extent of maintenance activities around the existing substation, the wetland itself is degraded, with very little natural buffer vegetation remaining. Development activities are not proposed within the wetland, but will result in alteration of a small forested area within its 100 ft buffer area. The Commission finds that disturbance of this buffer area has been minimized to the greatest extent feasible, consistent with MPS WET1.3, which allows for buffer alteration for utilities.

NRF3. The Commission finds that sections of the ROW located in Bournedale are mapped for rare species habitat. The Natural Heritage and Endangered Species Program's (NHESP) preliminary comments on the project indicate that the project may be conditioned to protect rare species and avoid a "take" of rare species. The conditions recommended in the NHESP preliminary comments (and summarized in Section 2.5.2.3 of the Project Application), include measures to protect Eastern Box Turtle, fencing at discrete locations to protect rare plant and invertebrate populations, management of construction vehicle activity areas to minimize additional adverse impacts to rare species, and preparation of restoration plans for disturbed areas. The Commission finds that compliance with these preliminary conditions, as may be modified by NHESP in the future, shall be required as a condition of DRI approval, consistent with the interests of MPS WPH1.4 to protect rare species and their habitat.

NRF4. The NRI conducted on the Oak Street site indicates that the site of clearing is composed mostly of mixed oak woodland with a shrub understory. The site is not mapped for rare species habitat, and the NRI noted species on the site that are common to the Cape environment. The Commission finds that the site plans appear to minimize clearing and grading, and fragmentation of wildlife habitat, consistent with MPS WPH1.2 and 1.3.

NRF5. The NRI did not find any vernal pools or invasive species on the site. As such, the Commission finds that MPS WPH1.5 and WPH1.6 do not apply to the proposed development.

NRF6. The Commission finds that the area of new disturbance for the substation at the Oak Street site is 2.3 acres. Since the site is not located within a SNRA, the open space requirement is equivalent to the area of new disturbance for the substation, or 2.3 acres. NSTAR has proposed to meet the requirements of MPS OS1.3 through the permanent protection for open space purposes, of 2.3 acres of a parcel immediately adjacent to the Oak Street site to the east, or in the alternative through a cash contribution of $91,849/acre for the 2.3 acres to the Town of Barnstable for the purposes of acquiring open space. The proposed conservation restriction would expand a block of protected open space to the east of the site, including land held by the

Barnstable Conservation Commission and the Department of Conservation and Recreation. The location of the proposed open space parcel is consistent with MPS OS1.2 and OS1.6. The Commission finds that either approach would satisfy the open space requirements of MPS OS1.3 and shall be included as a condition of this decision.

NRF7. The Commission finds that MPS OS1.1, 1.4, 1.5, 1.7, and 1.8 do not apply to this project.

COMMUNITY CHARACTER

Project Siting Standards

HPCCF1. The Commission finds that due to the nature of the project MPS HPCC2.1 (strip development) and HPCC2.2 (protection of existing roadway character) do not apply to this project.

HPCCF2. MPS HPCC2.3 requires that *"New development shall be sited and designed to avoid adverse visual impacts to scenic areas. Visual impact assessments may be required as part of the project review. Development proposed adjacent to scenic roads or vistas shall preserve distinctive features of the scenic resource including tree canopy, wooded road edges, stone walls, winding road character, and scenic views. Development adjacent to or within scenic vistas shall be clustered and designed to limit the visibility of the new development."*

HPCCF3. The Commission finds that within Barnstable County, the portions of the proposed project that could potentially result in adverse visual impacts include the construction of the new transmission towers carrying the cables across the Cape Cod Canal and the new substation in Barnstable. Additional transmission towers will be constructed within a 1.5-mile stretch of the NSTAR right-of-way in Bourne, but these new facilities are not expected to have significant visual impacts from scenic resources or regional roadways because of the adjacent tree canopy, although they do pass within 200 feet of five residences on Yearling Run Road. Part of the proposed project (canal crossing and approach) is located within the Bournedale DCPC north of the Cape Cod Canal. The purpose of this DCPC is to protect the rural and scenic character of the area. The canal area in particular is heavily used for recreation and by the traveling public and includes several scenic turnouts, two bridge crossings that are gateways to Cape Cod and a major recreational area for many visitors and residents. The Oak Street substation is located in the Old King's Highway Historic District, adjacent to an existing substation in the NSTAR right-of-way.

The application includes numerous photosimulations and line-of-sight diagrams to illustrate the visual impacts of the proposed modifications at sensitive locations along the route. Visualizations of the Canal crossing have been provided from both the Sagamore and Bourne bridges, scenic turnouts on both sides of the Canal, from locations adjacent to Route 6 in Barnstable and other key locations proximate to the proposed infrastructure. In addition, a visibility analysis has been conducted and include in the application to analyze the visual effects of the project on historic resources.

The new towers at the canal crossing portion of the project are expected to be visible from public recreation areas and portions of scenic roads in the vicinity, such as the Scenic Highway and Bournedale Road. Existing vegetation will screen views of these new towers from adjacent roadways, but only in the immediate vicinity. Where direct views of the towers occur along the roadways, as shown in Figures 16 and 18, the towers will be visible. The towers and associated infrastructure are also likely to be visible at a distance from many locations along the canal, such as scenic pullouts, bridges, and the Herring Run Recreation Area. However, the existing setting

includes a number of wires and transmission towers associated with electrical infrastructure and the site of the new transmission towers is currently occupied by a lattice tower of similar height and proportions. The narrower profile of a single monopole tower would likely have less visual impact than the existing lattice towers; however, as three monopoles are proposed in the place of one lattice tower, the visual impact is likely to be similar to that currently experienced. Therefore, the Commission finds that the proposed new infrastructure is unlikely to unreasonably alter the character or setting in the Cape Cod Canal area and is therefore consistent with HPCC2.3.

The project also involves the construction of an additional substation located at the terminus of the 345kV line in Barnstable. The site selected (see Figure 3) is on Oak Street north of Route 6 and is currently occupied by an existing substation and electrical infrastructure is visible from the existing Oak Street driveway. The construction of the substation will result in some additional clearing of vegetation on the far side of the property away from Oak Street and does not result in any reduction of the buffer to neighboring residential uses. The facility will likely be briefly visible to motorists for short stretches both east and west bound on Route 6, but these views will be fleeting and not directly framed in the roadway. The new facility will be visible from Oak Street, but will be seen at a distance and will be viewed past the existing infrastructure on the site. Additional buffering landscaping is proposed at the driveway to limit these views. A line-of-site diagram (Figure 24) indicates that visibility to the new substation from the Park and Ride lot in the vicinity of exit 6 will be limited by topography and vegetation. The existing site is characterized by the electrical infrastructure present and therefore, although the facility is visible, the Commission finds that the new substation is unlikely to result in any unreasonable alteration in the character or setting of the area and is therefore consistent with HPCC2.3.

HPCCF4. The Commission finds that HPCC2.4, HPCC2.5, HPCC2.6 and HPCC2.7 do not apply to this project.

Signage and Roadway Appurtenances

HPCCF5. MPS HPCC2.12 (signage) prohibits the installation of billboards, off-site advertising and internally illuminated or flashing signs. In an email dated November 3, 2011, the Applicant indicated that signs will consist of standard hazard warning signs placed on the substation and small pole signs attached to transmission poles. None of the signs proposed are internally illuminated or flashing. Therefore, the Commission finds that the project is consistent with MSP HPCC2.12.

HPCCF6. MPS HPCC2.13 (underground utilities) requires that development place all utilities underground except where the presence of natural features prevents such placement. The standard is intended to apply to development projects where gas, electrical, phone and cable service can be easily placed underground for relatively short distances while the site is disturbed. The Applicant for this project is the utility provider, with a pre-existing network of predominantly overhead infrastructure. Therefore, the Commission finds that this standard does not apply to this type of infrastructure project.

HPCCF7. MPS HPCC2.14 (roadway appurtenances) requires ornamental signals and mast arms for new roadway signals where appropriate. The project does not involve new roadway signals, and therefore, the Commission finds that this standard does not apply to this project.

Heritage Preservation

HPCCF8. RPP standards HPCC1.1 and HPCC1.2 address protection of historic resources and cultural landscapes. MPS HPCC1.1 (Historic structures) states that *"an historic structure's form, massing, and key character-defining features, including the relationship to its site and setting, shall be preserved."* MPS HPCC1.2 (Cultural landscapes) states *"new development adjacent to or within historic or cultural landscapes shall be located to retain the distinctive qualities of such landscapes and shall be designed to maintain the general scale and character-defining features of such landscapes."*

The proposed project passes through portions of Bourne, Sandwich and Barnstable that have inventoried historic properties and historic districts. In Bourne and Barnstable, there are proposed changes to the transmission line structures that could affect the setting of historic and cultural resources. In Sandwich, NSTAR is proposing to increase the voltage in the existing lines and there is no new construction proposed. In an effort to evaluate the impact of the proposed project on historic and cultural resources, a Historic Resources Visual Analysis Study was conducted by Epsilon Associates for the Applicant in March 2011. The study identifies previously inventoried historic resources and historic districts, as well as several historic properties that had not been inventoried. In the town of Bourne, the study lists the Cape Cod Canal and numerous properties within the Bournedale area that are eligible for listing on the National Register as part of an historic district. In the Town of Barnstable, the study identifies resources within the Old Kings Highway Historic District and the West Barnstable National Register Historic District which are adjacent to the proposed substation site. As such, work within this area requires approval from the Barnstable Old Kings Highway Historic District Commission.

The Cape Cod Canal and the Bournedale Village area are cultural resources that will likely have the most direct view of the proposed work because of their proximity to the transmission lines and because of the Canal area's wide open views. In both cases, the setting of these cultural resources currently includes existing transmission lines and their tall support structures. While the proposed change from a single lattice-style tower to three monopole-style towers will alter the physical silhouette of the transmission line structures, the change does not increase the structures' impact on the setting of these historic resources or change the character of the setting. The Commission finds that this portion of the proposed project is consistent with MPS HPCC1.1 and 1.2.

In Barnstable, an existing substation is located within the West Barnstable area of the Old Kings Highway historic district. The proposed new substation is located further from the edge of Oak Street and is visible primarily from the entrance drive. The development will be partially screened by existing vegetation, and the project includes additional landscape screening as noted in HPCCF12 to limit views into the facility from the surrounding historic district. Expansion of the substation does not change any character-defining features of the area. Therefore, the Commission finds that this portion of the proposed project is consistent with MPS HPCC1.1 and 1.2.

HPCCF9. MPS HPCC1.3 addresses protection of archaeological resources and Massachusetts Historical Commission ("MHC") required archaeological survey work in the project area, conducted in late 2010 and spring 2011. No significant cultural resources were identified in the project area in Barnstable County. MHC commented on the report in a letter dated June 14, 2011 and requested an archaeological site avoidance and protection plan to address the possibility of unanticipated discoveries during construction. This plan will be reviewed by MHC

and is proposed to be part of the Construction Management Plan for the project. The Commission finds that the proposed project is consistent with HPCC1.3.

Landscaping

HPCCF10. The Commission finds that MPS HPCC2.8 (Parking) and HPCC2.9 (Landscaping Improvements for Redevelopment) do not apply to this project.

HPCCF11. MPS HPCC2.10, which defines requirements for a Landscape Plan, specifies that "*All development shall provide landscaping that integrates buildings with their environment, enhances architectural features, fosters sustainable practices, clearly divides parking lots into smaller areas, includes tree planting, and provides amenities for pedestrians. All development shall implement a landscape plan that addresses the functional aspects of landscaping, such as drainage and innovative stormwater technologies, erosion prevention, screening and buffering, provision for shade, and energy conservation. When vegetative buffers are necessary to prevent adverse visual impacts from new development, existing vegetation shall be retained and unaltered in the buffer area. A maintenance agreement shall be provided by all development for a minimum of three growing seasons to insure vegetation is properly established.*"

HPCCF12. The project has submitted both written descriptions and plans of the proposed landscaping. Given the type of development proposed, the landscaping will specifically address the Oak Street substation. Because this substation is unlikely to be visible from adjacent properties due to the depth of existing vegetation and topography, the landscaping will primarily function as a buffer and restore habitat along the Oak Street road frontage. The Commission finds that the proposed plan addresses the requirements of MPS HPCC2.10 by proposing native vegetation that will properly establish over time to screen the substation property. Due to the presence of overhead power lines and the need for an access route to the property, the choice of landscape species and options for buffering are more limited. In order to address concerns raised by the Town of Barnstable related to the proposed buffering, the Commission finds that the Applicant shall provide additional screening to limit views into the new facility to the greatest extent practicable, and that the project shall be conditioned to require that a Landscape Maintenance Agreement be provided for staff review and approval prior to issuance of a Final Certificate of Compliance that would specify how maintenance for this area of planting would fall under the current, ongoing vegetation management plan for the NSTAR right-of-way, in order to comply with MPS HPCC2.10.

Exterior Lighting Design

HPCCF13. MPS HPCC2.11 requires that site lighting and exterior building lights in all developments shall employ "shoe-box" type or decorative fixtures which are fully shielded, create a total cutoff of all light at less than ninety (90) degrees from vertical, provide a total cutoff of all light at the property lines of the parcel to be developed, and that all lights used shall 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.

According to the materials submitted by the Applicant, work on the transmission line and substation will be done during daylight hours for safety reasons. The examples of proposed lighting that were provided for the transmission line and substation are not consistent with MPS HPCC2.11 or Exterior Lighting Technical Bulletin 95-001 (as amended), as one light is unshielded and the other is an up-directed flood light. However, the materials state that up-lighting is needed during project construction and may also be used during some maintenance

and repair activities for worker safety. As such, the Commission finds that the proposed lighting shall be allowed during temporary construction and maintenance activities to ensure worker safety and that a Lighting Plan for the Oak Street Substation shall be provided to Commission Staff for review and approval prior to issuance of a Final Certificate of Compliance.

TRANSPORTATION

TF1. The Commission finds that this project will not have any daily or routine traffic impacts beyond the construction period, and as such, the proposed project complies with MPS TR0.1 (Trip Generation Data).

TF2. The Commission finds that the proposed project does not qualify for traffic credits for past uses and as such, the project complies with MPS TR0.2.

TF3. MPS TR0.3 (Permits for Roadwork Prior to Construction) requires that all necessary approvals and permits from federal, state and/or local government agencies for transportation mitigation or DRI site access and egress shall be obtained and copies submitted to the Cape Cod Commission. The Applicant has stated that permits are required for aerial crossings of roadways within Barnstable County, but not for transportation mitigation or DRI site access and egress. As such, the Commission finds that MPS TR0.3 does not apply to the project.

TF4. The Commission finds that as the project is not located within an Economic Center, MPS TR0.4 (Alternative Method for Compliance within Economic Centers) and TR0.5 (Incentive for Mixed Use Development in Economic Centers) do not apply to the proposed project.

TF5. According to MPS TR1.1, regardless of project traffic generation, DRIs shall not degrade safety for pedestrians, bicyclists, or motor vehicle operators or passengers. The Commission finds that the Applicant has demonstrated that this project will not cause degradation in public safety and therefore complies with MPS TR1.1.

TF6. MPS TR1.2 states that review of crash frequency over the most recent three years shall be required on all intersections of regional roads as well as at local road intersections with regional roads that are used by a project for access to the regional road network, where the DRI is expected to increase traffic by 25 vehicle trips or more during the project's peak hour. The Commission finds that the Applicant has demonstrated that this project will not generate twenty-five (25) or more new peak hour trips and that the project complies with MPS TR1.2, as well as MPS TR1.3 (Identification of Safety Impacts).

TF7. MPS TR1.4 requires all access and egress locations for DRIs to 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 that the Applicant has demonstrated that the existing substation driveway on Oak Street in West Barnstable conforms to local, county, state and/or federal access management bylaws and as such, the proposed project complies with MPS TR1.4.

TF8. The Commission finds that the Applicant has demonstrated that the proposed project will not have access/egress onto Route 6. As such, the Commission finds that MPS TR1.5 does not apply to the proposed project.

TF9. The Applicant has stated that no obstacles will be placed within the safe view-sheds of motorists, bicyclists and/or pedestrians. Therefore, the Commission finds that the project complies with MPS TR1.6 (Sight-distance Obstructions).

TF10. MPS TR1.7 requires site planning and access/egress for DRIs to minimize adverse impacts on the adjacent road system and shall adequately and safely accommodate all users including pedestrians, bicyclists, and motorists. The Commission finds that the Applicant has demonstrated that the proposed project has minimized adverse impacts on the adjacent road, and as such, complies with MPS TR1.7

TF11. MPS TR1.8 requires acceptable sight distances to be met and maintained at all access and/or egress locations for DRIs regardless of project traffic generation. At a minimum, sight distances shall meet the stricter of the Massachusetts Highway Department and American Association of State Highway Transportation Officials guidelines for safe-stopping sight distances. The only driveway proposed for this project is at the Oak Street substation in West Barnstable. The Commission finds that safe stopping sight distance exists along Oak Street in West Barnstable and therefore, the proposed project complies with MPS TR1.8.

TF12. DRIs are encouraged to minimize, eliminate, and/or consolidate curb cuts. The Applicant is utilizing an existing driveway (curb cut) on Oak Street in West Barnstable for the new 345kV substation. As such, the Commission finds that the project complies with Best Development Practice TR 1.11 (Curb Cuts) and that reducing curb cuts is a probable benefit of the proposed project.

TF13. MPS TR2.1 requires DRIs located outside Growth Incentive Zones or Economic Centers, or DRIs in towns without designated Economic Centers shall implement adequate and acceptable measures to reduce and/or offset 25 percent of the expected increase in site traffic resulting from the DRI on a daily basis. The Commission finds that the project will not generate any new daily traffic and therefore complies with the MPS TR2.1. As the project will not generate any new daily traffic, the Commission also finds that MPS TR2.5 (Estimating Trip Reduction), 2.10 (Acceptable Trip-reduction Strategies), 2.11 (Other Trip-reduction Strategies), 2.12 (Trip-generation Credit), 3.3 (Traffic Studies), 3.7 (Restrictions on Road Widening or New Signals), 3.8 (Year-round Structural Mitigation), 3.9 (Bicycle and Pedestrian Accommodation), 3.10 (Preserve Existing Rights-of-Way), and 3.11 (No Capacity Increases on Controlled-access Highways) do not apply. As the proposed project will not generate any new traffic, the Applicant is not required to provide any transportation mitigation. Therefore, the Commission finds that MPS TR 1.9 (Mitigation Timing), TR2.13 (Inflation Factor), TR2.14 (Uses of Trip-reduction Funds), TR3.2 (Credit for Trip-reduction Mitigation), 3.4 (Mitigation of Congestion Impacts Required), 3.5 (Mitigation Fee), 3.6 ("Fair-share" Payments), 3.12 (Consistency with Other Plans), 3.13 (Operation and Maintenance Costs), 3.14 (Traffic-monitoring Devices), 3.15 (Inflation Factor) and TR3.16 (Use of Congestion Mitigation Funds) also do not apply to the proposed project.

TF14. According to MPS TR2.2, DRIs located within Growth Incentive Zones or Economic Centers shall implement adequate and acceptable measures to reduce and/or offset 12.5 percent of the expected increase in site traffic resulting from the development on a daily basis. The project is not located within a Growth Incentive Zone or Economic Center, and as such, the Commission finds that MPS TR2.2 does not apply.

TF15. The project is not proposing any interconnections between parcels. Based on the industrial use of the proposed substation, the Commission finds that an interconnection is not required at this location. The Commission further finds that TR2.3 (Interconnections) and TR2.4 (Incentives for Connections between Adjacent Properties) do not apply.

TF16. According to MPS TR2.6, where appropriate, the Commission may require construction of a bus stop and/or bus turn-out and/or bus shelter as part of DRI approval either internal to the property or along the property's roadway frontage. The Commission finds that bus stops, turn-outs and/or shelter are not appropriate for this project, and therefore, MPS TR2.6 does not apply.

TF17. MPS TR2.7 requires DRIs to accommodate the needs of bicyclists, pedestrians, and other non-automobile users in site planning and roadway and/or intersection changes. Site design shall minimize motor vehicle interaction with bicycles and pedestrians while accommodating pedestrian and bicycle access and circulation. The Commission finds that bicycle and pedestrian accommodations are not appropriate for this project, and therefore, MPS TR2.7 and 2.8 (Preservation of Frontage) do not apply.

TF18. The Commission finds that maximum/minimum parking space requirements are not appropriate for this project, and therefore MPS TR2.9 (Parking Spaces) does not apply.

TF19. MPS TR3.1 requires that, regardless of traffic volumes, Level of Service analysis shall be required at all access and/or egress points onto the road system for DRIs. The intent of this standard is to ensure that large scale projects receiving significant traffic credit operate at an acceptable Level of Service (LOS) at all site driveways. The Regional Policy Plan flexibility clause states, *"The Commission or the local permitting authority must make a finding that the proposed use will not be more detrimental to the protected resource than would be allowable under the applicable Minimum Performance Standard."* The Commission finds that the daily traffic from this project (zero daily trips) would not impact the protected resource (roadway infrastructure), and that the Applicant has demonstrated that the proposed use will not be more detrimental to the protected resource than would be allowable under the applicable Minimum Performance Standard. As such, the Commission finds that application of MPS TR3.1 may be modified.

TF20. According to MPS TR3.3, DRIs shall provide an appropriate traffic study in accordance with the Cape Cod Commission Guidelines for Transportation Impact Assessment. As the proposed project will not generate any new daily traffic, the Commission finds that MPS TR3.3 does not apply.

TF21. The Commission finds that as a condition of this decision, the Applicant shall install an access road, of approximately 12 feet in width (plus a reasonable clear zone), for the existing and new Oak Street stations to allow passage of fire equipment, ambulances and other emergency vehicles, pursuant to MPS TR1.4.

WATER RESOURCES

WRF1. The project will involve refueling of construction equipment at identified locations within the drinking water supply areas in Bourne. The Applicant has estimated that approximately 1,200 gallons of fuel will be used for refueling during construction. MPS WM1.4 requires that "*Development 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." The Commission finds that the Applicant submitted a Pollution Prevention and Emergency Response Plan (Plan) on December 1, 2011 that satisfies the requirements of MPS WM1.4.

WRF2. MPS WR1.2 requires the identification of private wells within 400 feet of the project, and that "*... sources of contamination shall be sited to avoid adversely affecting downgradient existing or proposed wells.*" A parcel identified approximately 200 feet from an identified potential refueling location has been determined not to be connected to the public water supply and is assumed to be served by a private well. The Commission finds that adverse effects to downgradient wells are mitigated through use of best practices provided in the Plan, including containment during refueling operations as required by MPS WM1.4, and as such, the proposed project meets MPS WR1.2.

WRF3. Portions of the project are located in drinking water supply resource areas which are subject to MPS WR2.2 and WM1.1, which require 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."* The RPP 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 Waste, Articles, Consumer Products, and Cosmetics."

WRF4. A Household Quantity of Hazardous Material or Hazardous Waste consists of 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;
(b) 25 gallons or equivalent dry weigh, 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."

WRF5. As the project will involve the use of approximately 1,200 gallons of fuel for refueling of equipment during construction, the Commission finds that the project will exceed a Household Quantity of Hazardous Materials.

WRF6. MPS WM1.2 provides 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."*

WRF7. In a letter dated November 21, 2011, the Applicant provided a list of estimated refueling totals for construction of the existing power lines that would be replaced as a result of this project based on information from NSTAR's construction contractors. The letter states that approximately 6,720 gallons of fuel was used during the construction of the existing lines. The Commission finds that the Applicant has provided adequate documentation of the previous volume for purposes of MPS WM1.2, and that the 6,720 gallons of fuel used during construction of the existing lines constitutes a prior use pursuant to MPS WM1.2. As the 1,200 gallons of fuel proposed to be used during construction of this project is less than the 6,720 gallons from prior use, the Commission finds that the project is allowed to exceed the limits in WM1.1 as the project meets MPS WM1.2 for Hazardous Materials.

WASTE MANAGMENT

Hazardous Wastes

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. This MPS also specifies that three items shall be provided to show compliance with this requirement for purposes of Commission review:

(a) registration with or notification to the Massachusetts Department of Environmental Protection as a generator of Hazardous Waste;
(b) a written plan or protocol to manage the Hazardous Waste prior to disposal; and
(c) a signed contract with a registered, licensed company to dispose of the Hazardous Waste.

The DRI application states (pg. 2-22) that *"no hazardous waste will be stored on right-of-ways [ROW] or substations during or after construction."* The Applicant's August 29, 2011 letter states that other than greasing of fittings, and topping off of fluids, *"no repair or maintenance activities will be conducted along the Project Right of Way."* The Applicant's September 26, 2011 letter provides NSTARs Generator ID number, which addresses item (a) and item (c) of MPS WM1.5, if NSTAR is permitted to handle Hazardous Waste itself rather than contracting with a third party disposal company. This letter also provides a basic Contingency Plan, which the Commission finds addresses subpart (b) of the standard and as such, the Commission finds the proposed project complies with MPS WM1.5.

Solid Waste/C&D/Recyclables

WMF2. 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 addresses the management of *"significant amounts"* of food wastes.

DRI Application Supplement, dated September 26, 2011, as well as the DRI Application, section 2.5.3.1, pg. 2-34 and pg. 3-33, address solid waste and recyclables generated by project construction. Construction is expected to generate used shipping containers/crates, spacers, pallets, waste steel from tower replacement, spools, plastic wrapping and other used shipping materials, as well as excavated soils. The Applicant's August 29, 2011 letter states that *"land*

clearing along the ROW in Bourne and on the Oak Street [substation] *site (approximately 3.8 acres in total)"* will generate approximately 160 tons of wood waste.

The DRI Application and the Applicant's additional materials state that land clearing waste will be handled by a variety of means, including as merchantable timber or firewood at an amount of up to 25% or 3-4 truckloads. It also states the remaining wood waste will be chipped and removed, amounting to approximately 5-6 truckloads, and that a limited amount of chipped wood waste will be used for erosion control.

Page 14 of the Applicant's August 29, 2011 letter states that boxes and crates from transmission line construction are typically unpacked in the NSTAR storage yard, and could be handled by the waste management methods already in place at the storage yard. The letter also states that packing materials from smaller items unpacked in the field will be transported off site. Wooden packing crates and pallets will be reused or sent for biomass fuel.

Given the relatively limited types of solid waste generated by the transmission line and substation construction, the Commission finds that the project shall be conditioned to meet the RPP requirements of MPS WM2.1 and WM2.2 for solid waste and construction/demolition debris management. The Commission further finds that MPS WM2.3 and MPS WM2.4 do not apply to either the construction or post-construction phases.

COASTAL RESOURCES

CRF1. The Commission finds that the NSTAR project affects only the *Maritime Aesthetics* coastal resources standard of the RPP, i.e., the view from the shore of the Cape Cod Canal, and therefore can be addressed through Community Character Standards of the RPP.

ENERGY

EF1. The RPP Energy standards apply to DRI applications involving commercial, multi-family residential, and WECF developments. The Commission finds that the NSTAR Lower SEMA reliability project is a utility infrastructure project that does not address these types of development, and therefore the RPP's Energy standards do not apply to this project.

ECONOMIC DEVELOPMENT

EDF1. MPS ED4.1 *(Demonstrated Need & Public Benefit)* requires that "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."

EDF2. The Commission finds that the proposed project seeks to rectify an existing reliability problem on Cape Cod. The current system lacks the redundancy necessary to assure service when one or more sections of the system go down and to provide sufficient energy to cover peak demand. The application materials cite one situation in December of 2003 when both existing 345 kV lines went down resulting in a blackout on Cape Cod. In addition, the application materials state that in 2010 existing demand exceeded supply during peak periods and in 2013 this is expected to occur on approximately 50 days throughout the year. Pursuant to a settlement agreement previously entered into by NSTAR, to ensure reliability, NSTAR is required to design transmission systems where the two most critical transmission elements can be out of service without disabling the entire system. According to the application, without the proposed project, NSTAR does not meet this contingency requirement. The Commission finds that the information provided shows that the project is in response to existing demand for energy and will improve availability, reliability, and quality of electrical services.

EDF3. The Commission finds that two aspects of the project will have an impact on the cost of electricity to the Cape consumer. The first is the cost of the project itself and the second is the cost of "uplift charges" resulting from the need for the Canal plant to make-up for power shortages. The cost of the project is $110 million. ISO-NE has deemed this a regional reliability project and as such the costs are spread across the six New England states. NSTAR ratepayers are expected to pay approximately 20% of the total project cost or approximately $1.25 per year for a 750 kWh per month customer. According to the application materials, 1.7% of the cost will be borne by customers within Barnstable County. According to the applicant, the reduced need for "uplift charges" due to the need for peaking plant electricity will more than off-set this minimal increase in cost. It is likely that this project will eliminate the need for "uplift charges" all together and improve the cost of electrical services on Cape Cod. Therefore, the Commission finds that the project meets MPS ED4.1.

EDF4. The Commission finds that the remaining Economic Development Minimum Performance Standards do not apply to the proposed development.

CONCLUSION

Based on the above Findings, the Commission hereby concludes:

1. That upon satisfaction of the conditions identified in this decision, the proposed project is consistent with the 2009 (as amended) Regional Policy Plan.

2. The project is consistent with the Commission-Certified Local Comprehensive Plans for the Towns of Barnstable, Bourne and Sandwich.

3. Upon receiving a Special Permit from the Towns of Barnstable and Bourne, or in the alternative, upon approval of the zoning exemptions that have been applied for by NSTAR, the proposed project is consistent with Barnstable, Bourne, and Sandwich's local development by-laws/ordinances.

4. The proposed development is located within Barnstable's town-wide DCPC which is not applicable to the proposed project. As such, the proposed development is consistent with applicable Districts of Critical Planning Concern.

5. That the probable benefit from the proposed development is greater than the probable detriment.

CONDITIONS

The Commission hereby approves, with conditions, the DRI application of NSTAR Electric & Gas, for the proposed improvements to its transmission system in Southeastern Massachusetts, provided the following conditions are met:

GENERAL CONDITIONS

GC1. This decision is valid for a period of 7 years and local development permits may be issued pursuant hereto for a period of 7 years from the date of this written decision.

GC2. The Applicant shall obtain all necessary federal, state, and local permits for the proposed project.

GC3. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, and remain in compliance herewith, shall be deemed cause to revoke or modify this decision.

GC4. No development work, as the term *"development"* is defined in the Cape Cod Commission Act, shall be undertaken until all appeal periods have elapsed or, if such an appeal has been filed, until all judicial proceedings have been completed.

GC5. Prior to issuance of a Preliminary Certificate for any proposed *"development"* as defined by the Cape Cod Commission Act and as approved herein, the Applicant shall submit final plans as approved by state, federal, and local boards for review by Commission staff to determine their consistency with this decision. If Commission staff determines that the final plans are not consistent with those plans approved as part of this decision, the Commission shall require that the Applicant seek a modification to this decision in accordance with the Modification section of the Commission's *Enabling Regulations* in effect at the time the modification is sought.

GC6. All development and redevelopment shall be constructed in a manner consistent with the following plans and other information referenced herein. These plans and documents are also on file with the Cape Cod Commission.

Cape Cod Canal Aerial Transmission Crossing, Plans Developed by RGVanderweil, Engineers, LLP, Boston, MA under contract to NSTAR Electric:

- Plan and Profile, Line 322 (one of the 2 existing 345 kV lines)
- Plan and Profile, Line 342 (the second of the 2 existing 345 kV lines)
- Plan and Profile, New Line
- Cross Section, Structures 24 A, 24B & 24C (poles nearest the Bourne Station, east side of Canal)
- Cross Section, Structures 25 A, 25B & 25C (poles on east side of Canal)
- Cross Section, Structures 26 A, 26B & 26C (poles on west side of Canal)
- Cross Section, Structures 27 A, 27B & 27C (poles on elevated terrain within the Cape Cod Aggregate "pit")
- Cross Section, Structures 29 A, 29B & 29C (poles on west side of Cape Cod Aggregate pit)
- Structure Outline Drawing, suspension structures
- Structure Outline Drawing, deadend structures
- Structure Outline Drawing, H frame deadend structure
- Steel Pole Caisson Foundation details, Line 322
- Steel Pole Caisson Foundation details, Line 342
- Steel Pole Caisson Foundation details, New Line
- Hardware Assembly Drawing (4 sheets)
- Structure Work List, Line 322
- Structure Work List, Line 342
- Structure Work List, New Line

West Barnstable Terminal Substation, 345 kV to 115 kV, Oak Street Site, Plans Developed by NSTAR Electric, Station Engineering Group, John Zicko, PE:

- Locational map (locates the existing NSTAR Oak Street Station (115 kV to distribution) and the proposed Terminal Substation on an aerial photo base. (This map also appears as Figure 6 in the main body of the DRI submittal)
- NSTAR Drawing 921-4, Grading and Fencing Plan
- NSTAR Drawing 921-012, Equipment Plan
- NSTAR Drawing 921-013, Elevations
- NSTAR Drawing 921-5, 345 kV Autotransformer Foundation and Containment
- NSTAR Illustrative Plan Set for Control Building (Essex Structural Steel, 12 sheets in total including cover sheet and notes) This plan set is for a 15 ft wide by 64 ft long single story steel control building recently purchased for NSTAR's Needham, Ma substation. The control building for the West Barnstable Station will be of similar scale and design.

GC7. Any deviation during construction to the approved plans and other documents shall require approval by the Commission through the Modification process pursuant to the Commission's *Enabling Regulations*. The Applicant shall submit to the Commission any additional information deemed necessary to evaluate any modifications to the approved plans or project as described in this decision. De minimus changes to the project may require only staff level approval as a Minor Modification #1.

GC8. Prior to commencement of any *"development"* as defined by the Commission Act, the Applicant shall obtain a Preliminary Certificate of Compliance from the Commission which states that all conditions in this decision pertaining to a Preliminary Certificate of Compliance have been met.

GC9. The Applicant shall notify Commission staff in writing at least thirty (30) calendar days prior to its intent to seek a Preliminary Certificate of Compliance. Such notification shall include a list of key contact(s), along with their telephone numbers, for questions that may arise during the Commission's compliance review. Commission staff may complete an inspection under this condition, if warranted, within fourteen (14) business days of such notification and inform the Applicant in writing of any deficiencies and corrections needed. The Applicant understands that the Commission has no obligation to issue a Certificate of Compliance unless all conditions are complied with or secured consistent with this decision. The Applicant agrees to allow Commission staff to enter onto the property which is the subject of this decision for the purpose of determining whether the conditions contained in this decision have been met.

GC10. The Applicant intends to seek a Final Certificate of Compliance within seven days after the energization of the transmission line portion of the project. If all required building and site work is not complete at the time a Final Certificate of Compliance is sought by the Applicant from the Commission, any work that is incomplete shall be subject to an escrow agreement of form and content satisfactory to Commission counsel. The amount of the escrow agreement shall equal 150% of the cost of that portion of the incomplete work, including labor and materials. The escrow agreement may allow for partial release of escrow funds upon partial completion of work. Funds to secure the escrow agreement shall be payable to the *Barnstable County Treasurer* with the work approved by Commission staff per the escrow agreement prior to release of the escrow funds. Unexpended escrow funds shall be returned to the Applicant, with interest, upon completion of the required work. All site work secured by this Condition and

the escrow agreement, if necessary, shall be completed within six (6) months of issuance of a Final Certificate of Compliance from the Commission.

GC11. The Applicant shall record this decision in the appropriate Land Court and/or the Registry of Deeds. Proof of recording shall be provided to Commission staff prior to issuance of a Preliminary Certificate of Compliance.

WETLANDS/WILDLIFE & PLANT HABITAT/OPEN SPACE PROTECTION & RECREATION

NRC1. NSTAR shall abide by conditions that the NHESP may place on the project in order to ensure that impacts to rare species or their habitats are avoided. These conditions include:

1. Implementation of an Eastern Box Turtle Protection plan during construction;
2. Fencing or otherwise protecting discrete locations where plant and invertebrate species or habitats are known to exist;
3. Confining construction vehicles to existing, maintained ROW access roads to the extent practicable to avoid the need for improvements to off-ROW access points (i.e., unimproved dirt roads) that might result in previously unidentified impacts to rare species habitat; and
4. Development of restoration plans for temporary staging and equipment lay down areas and limited habitat restoration or improvements with the ROW designed to improve habitat qualities in the future.

NRC2. In accordance with Finding NRF6, prior to the issuance of a Preliminary Certificate of Compliance, NSTAR shall provide to the Cape Cod Commission a conservation restriction consistent with Massachusetts General Laws Chapter 184, Section 31 – 33 and accompanying plan which provides that 2.3 acres identified as open space shall be preserved as permanent open space. The restriction, grantee, and site plan shall be provided for review and approval by Commission counsel, and shall be executed and recorded at the Registry of Deeds or Registry District of the Land Court. Proof of recording shall be provided to the Commission prior to issuance of a Final Certificate of Compliance.

NRC3. As an alternative to NRC2, and in accordance with Finding NRF6, prior to the issuance of Preliminary Certificate of Compliance, NSTAR shall convey the 2.3 acres identified as open space to the Town of Barnstable's Conservation Commission for conservation purposes in perpetuity. Proof of conveyance and recording at the Barnstable County Registry of Deeds or Registry District of the Land Court shall be provided to the Commission prior to issuance of a Preliminary Certificate of Compliance.

NRC4. As an alternative to NRC2 or NRC3, and in accordance with Finding NRF6, if NSTAR elects to provide a cash contribution in the amount of $91,849/acre in order to satisfy the open space requirement pursuant to MPS OS1.3, the Applicant shall provide to the Commission a cash contribution in the amount of $211,252.70 ($91,849 x 2.3 acres) to be held for the Town of Barnstable for the purposes of open space acquisition, prior to the issuance of a Preliminary Certificate of Compliance.

COMMUNITY CHARACTER

Landscaping

HPCCC1. Prior to issuance of a Preliminary Certificate of Compliance, the Applicant shall provide a Landscape Maintenance Agreement for staff review and approval, consistent with Finding HPCCF12 and the MOU between the Town of Barnstable and NSTAR, that would

specify how maintenance for this area of planting would fall under the current, ongoing vegetation management plan for the NSTAR right-of-way, and provides for additional screening to limit views into the new facility to the greatest extent possible in order to comply with MPS HPCC2.10

Exterior Lighting

HPCCC2. Prior to issuance of a Preliminary Certificate of Compliance, a Lighting Plan for the Oak Street Substation shall be provided to Commission Staff for review and approval to ensure compliance with MPS HPCC2.11.

HPCCC3. Commission staff shall conduct a site visit as the Oak Street Substation to ensure that lighting installed at the Oak Street substation is consistent with the Plan submitted by the Applicant to satisfy condition HPCC1 of this decision.

TRANSPORTATION

TC1. The Applicant shall install an access road, of approximately 12 feet in width (plus a reasonable clear zone), for the existing and new Oak Street stations to allow passage of fire equipment, ambulances and other emergency vehicles, pursuant to MPS TR1.4.

WATER RESOURCES

WRC1. Pursuant to Findings WRF1 and WRF2, prior to issuance of a Preliminary Certificate of Compliance, the Applicant shall submit to Commission staff for review and approval, a fueling service contract which incorporates the Commission approved Pollution Prevention and Emergency Response Plan.

WRC2. Prior to issuance of a Preliminary Certificate of Compliance, the Applicant shall submit to Commission staff for review and approval, project plans demonstrating compliance with the MPSs under Water Resources Section 7.

WASTE MANAGEMENT

Solid Waste

WMC2. Prior to issuance of a Preliminary Certificate of Compliance, the Applicant shall submit for Commission staff review and approval a written plan to address compliance with MPS WM2.1 and MPS WM2.2, which includes information on management of solid waste, recyclables, and construction/demolition debris for the project's construction phase.

SUMMARY

The Cape Cod Commission hereby approves, with conditions, the application of NSTAR Electric & Gas Co. for the proposed NSTAR Lower SEMA 345 kV Transmission Project consisting of the construction of 1.5 miles of 345kV transmission line on existing rights of way in Bourne, separation of an existing double-circuit 345kV transmission line, increase in voltage from 115kV to 345kV on approximately 7.6 miles of transmission line located in the towns of Sandwich and Barnstable, and construction of a new 345kV substation on NSTAR owned property at 661 Oak Street in West Barnstable, 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.

Peter Graham, Cape Cod Commission Chair

1-19-12
Date

COMMONWEALTH OF MASSACHUSETTS

Barnstable, ss

Jan 19, 2012

Before me, the undersigned notary public personally appeared

Peter Graham 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.

Gail P. Hanley
Notary Public

GAIL P. HANLEY
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
September 28, 2018

My Commission Expires: 9-28-18