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Commonwealth Electric Company

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Via Hand Delivery

April 18, 2003

Mary L. Cottrell, Secretary
Department of Telecommunications and Energy
One South Station
Boston, MA 02110

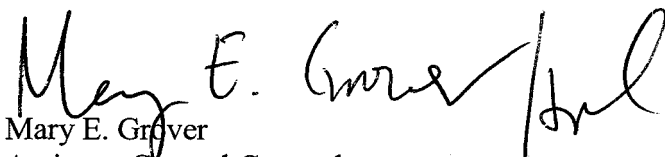
Re: D.T.E. 03-7, Commonwealth Electric Company

Dear Secretary Cottrell:

Enclosed for filing in the above-referenced matter is an original copy of the brief of Commonwealth Electric Company (the "Company"). The Company notes that in accordance with its discussions with the Hearing Officer in this matter, the Company's brief is in the form of a draft order. The Company appreciates the Department's efforts to provide a timely decision in this proceeding.

Thank you for your attention to this matter.

Sincerely,


Mary E. Grover
Assistant General Counsel

Enclosures

cc: M. Kathryn Sedor, Esq., Hearing Officer (5 copies)
Jolette Westbrook, Esq.

D.T.E. 03-7

Petition of Commonwealth Electric Company for an exemption by the Department of Telecommunications and Energy from the operation of the Zoning Ordinances of the Town of Barnstable, Massachusetts, with respect to the construction and use of substation facilities, pursuant to G.L. c. 40A, § 3.

APPEARANCES:

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FOR: Commonwealth Electric Company
Petitioner

I. INTRODUCTION

A. Description of the Proposed Project

On January 31, 2003, Commonwealth Electric Company (“CEC” or “Company”) filed a petition with the Department of Telecommunications and Energy (“Department”) pursuant to G.L. c. 40A, § 3, seeking an exemption from the operation of the Zoning Ordinances of the Town of Barnstable (“Zoning Ordinances”) with respect to the construction and operation of an electric substation and related facilities on its property at 661 Oak Street in Barnstable (the “Petition”). The Company stated that the purpose of the proposed substation is to provide a secure and adequate supply of electricity to its customers in the towns of Barnstable, Yarmouth, Sandwich and Mashpee, Massachusetts (Exh. CEC-1, at 2).

In its Petition, the Company stated that the proposed substation (“Station #920”) would be constructed on a parcel comprising approximately 9.7 acres, in close proximity to three (3) existing 115 kV and two (2) existing 23 kV distribution supply system (“DSS”) feeders, and that Station #920 will be interconnected with such existing lines (Exh. CEC-1, at 2, 12). The Company stated that the proposed substation would consist of the following elements:

- (a) a 30/40/50 MVA transformer bank on a concrete foundation within an oil-containment pit;
- (b) a 115 kV circuit switcher and bus work on concrete foundations;
- (c) 23 kV bus work with four (4) 23kV feeder positions;
- (d) a 3,000 kVAR, 23 kV open rack capacitor;

- (e) a single-story “control house” enclosure;
- (f) miscellaneous associated protective relaying, metering, control wiring, foundations and related equipment (Exh. CEC-1, at 2; Exh. DTE 1-1).

The record shows that the proposed site is located wholly within the “RF Residential District”, as defined in the Zoning Ordinances (Exh. CEC-1, at 4; Exh. CEC-5, at Section 3-1.4; Exh. CEC-1, Appendix H; Tr. 1, at 103), and that the proposed electric substation use is not a listed permitted principal, conditional or special permit use within the RF Residential District (Exh. CEC-1, at 4; Exh. CEC-5, at Section 2-3.1). The Company asserted that certain other provisions of the Zoning Ordinances may also prohibit the construction and operation of the proposed substation, or accessory uses, as proposed, or may require site plan review, or impose burdensome requirements on the Company (Exh. CEC-1, at 4 – 9; Tr. 1, at 119). The Company requests exemption from the operation of the Zoning Ordinances generally in connection with its use of the proposed site, and the construction, operation and maintenance thereon of the proposed substation, to the extent such Zoning Ordinances may be applicable thereto (Exh. CEC-1, at 3,4).

B. Procedural History

On January 31, 2003, the Company filed its Petition with the Department. The Department docketed the proceeding as D.T.E. 03-7. Pursuant to notice duly issued, the Department held a public hearing on the Company’s Petition on March 13, 2003 in Barnstable. In accordance with the direction of the Hearing Officer, the Company provided notice of the public hearing and adjudication. There were no requests for intervention or interested person status filed.

The Department conducted an evidentiary hearing on April 14, 2003. The Company presented the testimony of three witnesses: John M. Zicko, Lead Engineer in the Substation Engineering Group of NSTAR Electric & Gas Corporation (“NSTAR”), an affiliate of the Company, who testified regarding zoning issues, construction, and environmental impacts; Keith L. Jones, Senior Planning Engineer in the Transmission and Distribution Planning Group of NSTAR, who testified regarding the need for the proposed facility and project alternatives; and Peter A. Valberg, Ph.D., Principal at Gradient Corporation, who testified regarding electric and magnetic fields associated with the proposed facility.

The Hearing Officer entered 45 exhibits into the record, consisting primarily of the Company’s responses to information requests and record requests. On April 18, 2003, the Company filed its brief.

II. STANDARD OF REVIEW

G. L. c. 40A, § 3 provides, in relevant part, that

Land or structures used, or to be used by a public service corporation may be exempted in particular respects from the operation of a zoning ordinance or bylaw if, upon petition of the corporation, the [Department] shall, after notice given pursuant to section eleven and public hearing in the town or city, determine the exemptions required and find that the present or proposed use of the land or structure is reasonably necessary for the convenience and welfare of the public....

Thus, a petitioner seeking exemption from a local zoning bylaw under G.L. c. 40A, § 3 must meet three criteria. First, the petitioner must qualify as a public service corporation. Save the Bay, Inc. v. Department of Public Utilities, 366 Mass. 667 (1975) (“Save the Bay”). Second, the petitioner must establish that it requires a zoning exemption(s). Boston Gas Company, D.T.E. 00-24, at 3 (2001) (“Boston Gas”). Finally, the petitioner must demonstrate that its present or proposed use of the land or structure is

reasonably necessary for the public convenience or welfare. Tennessee Gas Pipeline Company, D.T.E. 99-50, at 3-4 (2000) (“Tennessee Gas (2000)”).

A. Public Service Corporation

In determining whether a petitioner qualifies as a “public service corporation” for the purposes of G.L. c. 40A, § 3, the Supreme Judicial Court has stated:

Among the pertinent considerations are whether the corporation is organized pursuant to an appropriate franchise from the State to provide for a necessity or convenience to the general public which could not be furnished through the ordinary channels of private business; whether the corporation is subject to the requisite degree of governmental control and regulation; and the nature of the public benefit to be derived from the service provided.

Save the Bay, 366 Mass. 667, at 680. See also, Boston Gas, D.T.E. 00-24, at 3-4;

Berkshire Power Development, Inc., D.P.U. 96-104, at 26-36 (1977) (“Berkshire Power”).

B. Exemptions Required

In determining whether exemption from a particular provision of a zoning bylaw is “required” for purposes of G.L. c. 40A, § 3, the Department looks to whether the exemption is necessary to allow construction or operation of the petitioner’s project as proposed. See, Tennessee Gas (2000), D.T.E. 99-50, at 6-8; Western Massachusetts Electric Company, D.P.U./D.T.E. 99-35, at 4, 6-8 (1999) (“WMECo”); Tennessee Gas Company, D.P.U. 92-261, at 20-21 (1993). It is the petitioner’s burden, not the Department’s, to identify the individual zoning provisions applicable to the project and then to establish on the record that exemption from each of those provisions is required:

The Company is both in a better position to identify its needs, and has the responsibility to fully plead its own case...the Department fully expects that, henceforth, all public service corporations seeking exemptions under c. 40A, § 3 will identify fully and in a timely manner all exemptions that are necessary for the

corporation to proceed with its proposed activities, so that the Department is provided ample opportunity to investigate the need for the requested exemptions.

New York Cellular Geographic Service Area, Inc., D.P.U. 94-44, at 18 (1995).

C. Public Convenience or Welfare

In determining whether a present or proposed use is reasonably necessary for the public convenience or welfare, the Department must balance the interests of the general public against the local interest. Save the Bay, 366 Mass. 667, 680; Town of Truro v. Department of Public Utilities, 365 Mass. 407 (1974). Specifically, the Department is empowered and required to undertake “a broad and balanced consideration of all aspects of the general public interest and welfare, and not merely [make an] examination of the local and individual interests which might be affected.” New York Central Railroad v. Department of Public Utilities, 347 Mass. 586, 592 (1964) (“New York Central Railroad”). When reviewing a petition for a zoning exemption under G.L. c. 40A, § 3, the Department is empowered and required to consider the public effects of the requested exemption in the state as a whole and upon the territory served by the petitioner. Save the Bay, 366 Mass. 667, 685; New York Central Railroad, 347 Mass. 586, 592.

With respect to the project site chosen by a petitioner, G.L. c. 40A, § 3 does not require a demonstration that the petitioner’s preferred site is the best possible alternative, nor does the statute require the Department to consider and reject every possible alternative site presented. Rather, the availability of alternative sites, the efforts necessary to secure them, and the relative advantages and disadvantages of those sites are matters of fact bearing solely upon the main issue of whether the preferred site is reasonably necessary for the convenience and welfare of the public. Martarano v.

Department of Public Utilities, 401 Mass. 257, 265 (1987); New York Central Railroad, 347 Mass. 586, 591.

Therefore, when making a determination as to whether a petitioner's present or proposed use is reasonably necessary for the public convenience or welfare, the Department examines: (1) the present or proposed use and any alternatives or alternative sites identified; (2) the need for, or public benefits of, the present or proposed use; and (3) the environmental impacts or any other impacts of the present or proposed use. The Department then balances the interests of the general public against the local interest, and determines whether the present or proposed use of the land or structures is reasonably necessary for the convenience and welfare of the public. Boston Gas, D.T.E. 00-24, at 4-6; WMECo, D.P.U./D.T.E. 99-35, at 5-6; Tennessee Gas (2000), D.T.E. 99-50, at 5-6; Tennessee Gas Company, D.T.E. 98-33, at 4-5 (1998); Massachusetts Electric Company, D.T.E. 01-77, at 6 (2002).¹

III. ANALYSIS AND FINDINGS

A. Public Service Corporation Status

Commonwealth Electric Company is an "electric company" as defined by G.L. c. 164 (Exh. CEC-1, at 1). See also, Cape and Vineyard Electric Company, D.P.U. 15690, at 2 (1968). Accordingly, the Company qualifies as a public service corporation for purposes of G.L. c. 40A, § 3.

¹ In addition, the Massachusetts Environmental Policy Act provides that "[a]ny determination made by an agency of the commonwealth shall include a finding describing the environmental impact, if any, of the project and a finding that all feasible measures have been taken to avoid or minimize said impact." See, G.L. c. 30, § 61. Pursuant to 301 C.M.R. § 11.01(3), these findings are necessary when an Environmental Impact Report is submitted by a company to the Executive Office of Environmental Affairs, and should be based on such Environmental Impact Report. The Company stated that it was not required to file an Environmental Impact Report for the proposed project (Exh. CEC-1, at 16).

B. Need for the Requested Exemptions

In its Petition, the Company requested “exemption from the operation of the Zoning Ordinances generally in connection with its use of the site and the construction, operation and maintenance thereon of the proposed substation” (Exh. CEC-1, at 3 –4). In addition, the Company identified seven (7) specific provisions of the Zoning Ordinances that may affect the proposed project (“individual exemptions”) (Exh. CEC-1, at 4).²

1. District Regulations and RF Residential District

The Company stated that the proposed project would be located in the RF Residential District in Barnstable (Exh. CEC-1, at 4; Tr. 1, at 103), and provided information demonstrating that construction and operation of an electrical distribution substation is not a listed permitted, conditional or special permit use within the RF Residential District (Exh. CEC-1, at 4; Exh. CEC-5, at Section 3-1.4). Section 2-3.1 of the Zoning Ordinances provides that

“No building shall be erected or altered and no building or premises shall be used for any purpose except in conformity with all of the regulations herein specified for the district in which it is located.”

As a result, the proposed substation cannot be built or operated without a use variance from the Zoning Board of Appeals or an exemption from Sections 2-3.1 and 3-1.4 of the Zoning Ordinances.

The record shows that the proposed project would be located in the RF Residential District (Exh. CEC-1, at 4; Tr. 1, at 103). The record also shows that the Zoning Ordinances prohibit the construction, operation and maintenance of the proposed substation within the RF Residential District (Exh. CEC-1, at 4; Exh. CEC-5, at Section

² The Department addresses the appropriateness of granting a broader exemption for the project in Section IV, below.

3-1.4). The Department concludes that the proposed project cannot be built or operated without relief from Sections 2-3.1 and 3-1.4 of the Zoning Ordinances. Accordingly, the Department finds that exemption of the proposed project from Sections 2-3.1 and 3-1.4 of the Zoning Ordinances is required within the meaning of G.L. c.40A, § 3.

2. Bulk Regulations

The record shows that the dimensional requirements for the RF Residential District are identified in a table captioned “Bulk Regulations” in Subsection 5 of Section 3-1.4 of the Zoning Ordinances (Exh. CEC-5). According to that table, the minimum lot frontage requirement for the RF Residential District is 150 feet (id.). The Company stated that the proposed site has only 67.33 feet of frontage on Oak Street (Exh. CEC-1, Appendices A and C), and that, accordingly, absent an exemption, the site does not satisfy the “Bulk Regulations” of the Zoning Ordinances (Exh. CEC-1, at 5).

The Department concludes that the Company would be precluded from constructing and operating the proposed substation without relief from the “Bulk Regulations” requirements of the Zoning Ordinances. Accordingly, the Department finds that exemption of the proposed project from Subsection 5 of Section 3-1.4 is required within the meaning of G.L. c. 40A, § 3.

3. Groundwater Protection Overlay District

The Company stated that the proposed site is located within the “AP Aquifer Protection Overlay District”, which is defined broadly to include “all areas of the Town, except those areas within the GP Groundwater and WP Well Protection Overlay Districts” (Exh. CEC-1, at 5; Exh. CEC-5, at Section 3-5.2). As a result, all land located within the RF Residential District is also located within the AP Aquifer Protection

Overlay District, or one of the other Overlay Districts. The Company stated that the Zoning Ordinances provide that those uses permitted in the AP Aquifer Protection Overlay District are those uses permitted within the underlying zoning district (in this case, the RF Residential District), and that the prohibited uses within such aquifer protection district are those uses prohibited in the underlying zoning district (again, in this case the RF Residential District) (Exh. CEC-1, at 5; Exh. CEC-5, at Section 3-5.2). The Company stated that, as a result, absent an exemption, the proposed substation use is also prohibited by the AP Aquifer Protection Overlay District (Exh. CEC-5, at 6).

The Department finds that the proposed substation project would be prohibited without relief from Section 3-5.2 of the Zoning Ordinances. Accordingly, the Department concludes that exemption of the proposed project from Section 3-5.2 of the Zoning Ordinances is required within the meaning of G.L. c. 40A, § 3.

4. Accessory Uses

The Company stated that the proposed substation will consist of several structures with concrete foundations, as well as a “control house” building (Exh. CEC-1, at 6). The Company further stated that the proposed “control house” is a typical feature of electrical substations, and could therefore be appropriately characterized as an “accessory use” (id.). Accessory uses are permitted under the Zoning Ordinances (Exh. CEC-5, at Section 4-1.1), but such uses are dependent on the principal use. Since the principal use proposed here, namely an electrical substation, is not a permitted use within the RF Residential District, the Company states that the proposed accessory use is either likewise not permitted, or that the application of the accessory uses provision of the Zoning Ordinances to the situation is at best unclear (Exh. CEC-1, at 6). The Company stated

that the accessory use provision of the Zoning Ordinances could also be interpreted to prohibit periodic temporary laydown of materials and equipment used in the construction or operation of the proposed substation (Exh. CEC-1, at 6). In order to resolve any ambiguity in the application of Section 4-1.1 of the Zoning Ordinances to the proposed project, the Company requests an exemption from such provision.

The Department concludes that the application of the accessory use provision of the Zoning Ordinances to the proposed project is not without ambiguity, and that such provision could be reasonably interpreted to prohibit the accessory uses proposed by the Company for the project. Accordingly, the Department finds that exemption of the proposed project from Section 4-1.1 of the Zoning Ordinances is required within the meaning of G.L. c. 40A, § 3.

5. Off-Street Parking Regulations

The Company states that the proposed substation will be an un-manned station, requiring only periodic visits and inspections by Company personnel during normal operating conditions (Exh. CEC-1, at 7). In addition, apart from concrete foundations required for certain equipment, the Company is not proposing to pave any portion of the site, or to provide any designated off-street parking (id.).

The Company states that, under the provisions of the Zoning Ordinances, the proposed project falls into a “catch-all” category with respect to off-street parking, wherein the requirement is left to the determination of the Building Commissioner (id.; Exh. CEC-5, at Section 4-2 and 4-2.9). In order to remove any uncertainty as to the application of the Off-Street Parking Regulations to the proposed project, the Company requests an exemption from such provisions of the Zoning Ordinances.

The Department finds that the application of the provisions of Section 4-2 of the Zoning Ordinances to the proposed project is unclear, but that such provisions could be reasonably interpreted so as to prohibit the construction or operation of the proposed project. Accordingly, the Department concludes that exemption of the proposed project from Section 4-2 of the Zoning Ordinances is required within the meaning of G.L. c. 40A, § 3.

6. Site Plan Review Provisions

The Company states that the Zoning Ordinances contain a requirement for a comprehensive site plan review process in Section 4-7.4, and that such review process is triggered by a very broad scope of proposed activities, including “the establishment of any new use or new construction of any building or structure” (Exh. CEC-1, at 7-8; Exh. CEC-5, at Sections 4-7.3 and 4-7.4; Tr. 1, at 135). The Company further states that the site plan review process sets forth detailed requirements appropriate for developments very different in size, scope and impact from the proposed substation (Exh. CEC-1, at 8; Tr. 1, at 136), and that the application of such requirements to the proposed substation is not clear, leaving open the potential for ambiguity and uncertainty on the part of both Company and town officials as to whether and how the requirements are met (Exh. CEC-1, at 8). In addition, the site plan review process is potentially iterative and time consuming, which the Company states would negatively impact its ability to meet the “in-service” date for the proposed substation prior to the summer peak demand period (id.; Tr. 1, at 137).

After reviewing the Zoning Ordinances, the Department finds that a site plan review would be required for the proposed project pursuant to Section 4-7.4. The

Department finds that the site plan review process has an uncertain outcome and could considerably delay construction. Accordingly, the Department finds that exemption of the proposed project from the site plan review process in Section 4-7.4 and subsequent sections of the Zoning Ordinances is required within the meaning of G.L. c. 40A, § 3, to the extent the proposed project is time-sensitive.

7. Bonds and Occupancy Permit

The Company points to two provisions of the Zoning Ordinances that may, through the uncertainty of interpretation and application, have a potentially adverse effect on the proposed project. The first is Section 5-2.1, which provides the Building Inspector with significant discretion in requiring a “bond or cash security” for assurance of completion of any construction undertaken (Exh. CEC-1, at 8; Exh. CEC-5, at Section 5-2.1). The Company stated that such a requirement is typically applied to real estate developers who may undertake construction, but have insufficient funds to complete, leaving the town with a potential nuisance abatement expense (Exh. DTE 1-6). The Company stated that its credit is of sufficient merit to obviate the need for cash or other security for completion of its construction of the proposed substation (Exh. CEC-1, at 9; Exh. DTE 1-6).

The second provision is Section 5-2.2 of the Zoning Ordinances, which, according to the Company, could be interpreted to require literal compliance with the Zoning Ordinances as a condition to the issuance of an occupancy permit, even though an exemption from such compliance were obtained by the Company from the Department (Exh. CEC-1, at 9; Exh. CEC-5, at Section 5-2.2). The Company stated that the application of such requirement in the context of an exempt project is unclear (id.).

The Department finds that, while the proposed project could likely be built without specific relief from Sections 5-2.1 and 5-2.2 of the Zoning Ordinances, there is potential for uncertainty and ambiguity in the interpretation and application of the cited sections to the proposed project. As a result, the Department finds that exemption of the proposed project from the requirements of Section 5-2.1 and 5-2.2 of the Zoning Ordinances is required within the meaning of G.L. c. 40A, § 3.

C. Public Convenience and Welfare

1. Need or Public Benefit of Use

The Company stated that the proposed substation has been an identified need since at least 1988 (Exh. CEC-1, at 10). The Company asserted that the cumulative annual growth rates in peak load in the mid-Cape region is 2.1% to 5%, depending on the area served by any particular substation (Exh. CEC-1, at Appendix I, p. 5; Tr. 1, at 10-11). The Company defined the mid-Cape area as Barnstable, Yarmouth, Dennis, Brewster, and Harwich (Exh. DTE 1-18; Tr. 1, at 9-10).

The Company indicated that its substation planning reliability criteria require that, under normal conditions with all elements in service, no element should exceed its normal rating (Exh. DTE 1-20; Tr. 1, at 11-12). The Company also indicated that its planning criteria require that, under a single-contingency outage condition, all remaining elements shall not exceed their emergency capacity rating, or long-term emergency (“LTE”) rating (*id.*). The Company further indicated that its planning criteria state that if a substation exceeds its load carrying capacity at peak under contingency conditions, the transfer capability provided by distribution circuits shall not result in circuit loading

beyond their emergency capacity ratings, or LTE, and voltages shall be within $\pm 10\%$ of nominal (id.).

The Company stated that construction of Station #920 is required in order to improve electric distribution capacity for the Cape Cod towns of Barnstable, Yarmouth, Sandwich and Mashpee (Exh. CEC-1, at 2, 9), and to address normal and single-contingency distribution supply deficiencies in this area of the Cape. (Exh. CEC-1, at 9). The Company stated that its Mashpee Substation exceeds both the normal and long-term emergency (“LTE”) ratings of the substation’s transformer under normal summer 2003 peak load conditions (id.). The Company further stated that a single-contingency outage of a 115 kV to 23 kV bulk transformer at Hyannis Substation would leave a second transformer at that substation and a 23 kV distribution supply line out of Sandwich Substation exposed to loads beyond their respective LTE ratings (Exh. CEC-1, at 10). Finally, the Company stated that under a single-contingency outage of the Hyannis to Mashpee 23 kV distribution supply line, load can no longer be supported from either end of the line due to the thermal capability of the conductor being exceeded and voltages below acceptable minimum (id.).

The Company stated that it has not experienced any equipment failures, outages, or maintenance costs related to past overloads (Tr. 1, at 11), and that it has been able to defer investment in this area of Cape Cod until current load levels through prudent planning and demand-side management (Exh. CEC-1, at 10). The Company further indicated that at current and forecasted load levels, the Company’s load may be at risk for outages and that construction of the proposed substation for a timely completion in 2003 will address all identified deficiencies (id.).

2. Alternatives Considered

The Company stated that a package of upgrades at several locations in the mid-Cape area would be required as an alternative to constructing the proposed substation to satisfy the identified need (Exh. CEC-1, at 10-11). This alternative package of upgrades would include the replacement of two (2) step-down transformers at two different substations, Mashpee and Hyannis, plus the upgrade of over thirteen (13) miles of distribution supply line from Mashpee to Hyannis (Exh. CEC-1, at 11).

The Company indicated that this alternative would have required extended outages of transformers at both Mashpee and Hyannis Substations to permit their replacement, which could result in facility outages up to six (6) months (id.). The Company also asserted that the upgrade of over thirteen (13) miles of conductor from Mashpee to Hyannis would require live line work because of the large number of customers currently taking service from that line, increasing the cost and time frame necessary to perform the upgrade (id.). In terms of cost, the Company stated that the alternative package of upgrades is estimated to cost Seven Million Five Thousand Dollars (\$7,005,000), while the proposed substation is estimated to cost Four Million Five Hundred Thousand Dollars (\$4,500,000) (Exh. DTE 1-7(s)).

3. Impacts of the Proposed Use

a. Land Use

The Company stated that it proposes to build Station #920 on a small portion of a parcel comprising 9.7 acres, owned by the Company on Oak Street in Barnstable (Exh. CEC-1, at 12). The substation will be constructed in close proximity to existing 115 kV and 23 kV lines that intersect at the site, and will be interconnected with such lines (id.;

Tr. 1, at 69). The Company stated that the selection of the specific location of the substation on the site provides a balance between the need for access to the existing lines and minimization of the amount of grading that will be required (Exh. CEC-1, at 12 – 13; Tr. 1, at 108). According to the Company, the proposed project has been designed to minimize clearing (Exh. CEC-1, at 12-13; Tr. 1, at 116) and provide easy access off Oak Street (Exh. CEC-1, at 12 - 13). Apart from concrete foundations for the transformer, the control house and bus structures, no impervious surfaces or paving are planned (id.). The substation will be un-manned during normal operating conditions, eliminating any need for parking areas, and avoiding any appreciable increase in local traffic, except during the construction period expected to last two to three months (id.).

b. Visual Impacts

The Company presented photographs of existing conditions (Exh. CEC-1, Appendix J), as well as digital images of the proposed substation equipment introduced in the context of existing facilities at the site (Exh. CEC-1, Appendix K). The photographs of existing conditions indicate that the site is already visually burdened by a significant number of high-voltage towers and associated lines. The Company stated that the incremental visual impact of the proposed substation will be minimal (Exh. CEC-1, at 13; Tr. 1, at 109). The digital overlay indicates the Company's proposed level of plantings to further mitigate visual impacts (Exh. CEC-1, at 14; Tr. 1, at 45). The Company indicated that it is prepared to work with abutters and the West Barnstable Civic Association to develop an appropriate vegetation screening plan prior to commencement of construction (id.; Tr. 1, at 128 – 129).

c. Wetlands and Wildlife

The Company stated that its environmental consultant, BSC Group, surveyed the site and determined that the proposed project does not impact any wetland resources (Exh. CEC-1, at 14; Tr. 1, at 121; Exh. RR-DTE-8), and that there are no Natural Heritage-mapped endangered species on the site (Exh. CEC-1, at 14; Exh. RR-DTE-8).

d. Water Resources

The Company stated that the site is located within the Aquifer Protection Overlay District, which is the least restrictive of the three groundwater protection districts in Barnstable, and that such district does not impose any additional or special restrictions or requirements to those applicable to uses permitted or prohibited within such district (Exh. CEC-1, at 14). The Company noted that, since all land in Barnstable is located within one of the groundwater protection districts, there is no alternative site in Barnstable that would avoid placement of the proposed substation within an aquifer protection district (id.). The Company also stated that its plans for the substation call for construction of a spill containment system for the transformer bank (id.).

e. Noise

The Company stated that the main source of sound at the substation will consist of the single 30/40/50 MVA transformer bank, with a standard sound pressure rating of 74 dB(A) (Exh. CEC-1, at 15). The Company stated that its specifications called for a reduced sound level of 65 dB(A), with no cooling fans in service (id.). The Company submitted the factory certified sound level test for this transformer, which indicate that, with the transformer energized and carrying a current equivalent to that of a 30 MVA load, the resulting sound levels were well below the 65 dB(A) level (Exh. CEC-1, at 15,

Appendix L; Tr. 1, at 30). The Company calculated a predicted sound level at the nearest residence to be 26.3 dB(A) (Exh. DTE 1-9; Tr. 1, at 29 – 30). The Company concludes that the proposed project is not expected to result in any discernible increase in noise levels at the abutting residences (Exh. CEC-1, at 15).

With respect to noise during the construction period, the Company stated that the noisiest activities would be site preparation (Exh. CEC-1, at 15; Tr. 1, at 59), installation of concrete foundations and the installation of the transformer bank in place, but that these activities would be conducted between the hours of 7 AM and 5 PM (Exh. CEC-1, at 15; Tr. 1, at 59). The Company also indicated that certain electrical equipment installation and connection must be scheduled during hours when critical equipment can be taken out of service, such as nights or weekends, but that such activities would not exceed a total duration of 12 days (Exh. CEC-1, at 15; Tr. 1, at 58 – 59).

f. EMF

The Company asserted that the new substation would have a minor impact on electric and magnetic field levels along the fence line of the substation and the adjacent right-of-way (Exh. DTE 1-10(s); Tr. 1, at 70, 72). In support, the Company provided results of simulations prepared by its consultant, Dr. Peter A. Valberg, which projected maximum magnetic and electric field levels below the 115 kV transmission line, Line #122, which will bring power into the proposed substation from the west, and at the northern edge of the ROW of Line #122 (Exh. DTE 1-10(s); Tr. 1, at 71 – 72). The results indicated that after the proposed substation is built, the maximum modeled magnetic fields directly beneath Line #122 would increase from 42 mG, under 2002 peak load levels, to 53 mG under projected 2004 peak load levels (Exh. RR-DTE-6).

The Company also stated that magnetic fields are expected to drop to approximately one-half of their peak value at a distance of approximately forty-five (45) feet from the center line, which represents the distance to the northern edge of the right-of-way of Line #122 (Tr. 1, at 71; Exh. DTE 1-10(s)). The Company projected negligible change in electric field levels at any of the locations in the simulation (Exh. DTE 1-10(s); Tr. 1, at 70).

4. Analysis

The Company has presented documentation showing that the construction of the proposed substation is necessary to improve electric distribution capacity in the towns of Barnstable, Yarmouth, Sandwich and Mashpee, and to address normal and single-contingency distribution supply deficiencies in this area of the Cape. The Company's proposed substation has been an identified need since at least 1988,³ but the Company has been able to defer such construction until the current load levels. At current and forecasted load levels, the Company's load may be at risk for the outages described in the Company's Petition (Exh. CEC-1, at 10). Consequently, the Department finds that construction of the proposed project for timely completion prior to the summer peak in 2003 would be in the public interest, because it would improve distribution system capacity and reliability, and avoid potential outages.

The record shows that the Company considered alternative methods of addressing the identified contingencies, including system upgrade projects (Exh. CEC-1, at 10 – 12). The record reflects, however, that such alternatives would have potentially greater cost,

³ The need for the proposed substation was described in the Company's recent filing on January 8, 2003, in docket D.T.E. 01-65.

as well as potentially more significant impacts in terms of extended facility outages, with consequent disruption to the system and service to the customers (id.; Exh. DTE 1-7(s)).

The record shows that the proposed substation would be located on property owned by the Company that is zoned for residential use (Exh. CEC-1, at 4; Tr. 1, at 103). The record shows that the primary impacts from the construction, operation and maintenance of the proposed substation would be visual/aesthetic, and that the impacts on wetlands, wildlife, water resources and electric and magnetic fields would be minimal or non-existent.

With respect to visual and aesthetic impacts, the proposed project would be sited adjacent to existing high-voltage transmission structures and equipment that already burden the site visually. The project site is visible from Oak Street and is also visible through vegetation from two residences abutting the project site. The Company proposes substantial mitigation for visual impacts, through the construction of a berm between the project and the nearest residences, as well as additional plantings of Leland Cypress along the Oak Street frontage.

In addition, the Company has indicated a readiness to address visual and aesthetic impact concerns with abutters, civic groups, specifically the West Barnstable Civic Association, and the Old Kings Highway Historic Commission (Tr. 1, at 51, 128-129). Accordingly, the Department directs the Company to work collaboratively with such groups to develop a plan addressing landscaping for the proposed substation and siding for the associated control house.

The record also shows that the proposed site is located within an Aquifer Protection Overlay District. As mitigation for potential impacts to water resources, the Company is proposing to construct an oil containment system for the transformer bank.

IV. CONCLUSION

In Section III.A, above, the Department found that the Company is a public service corporation. In Section III.C, above, the Department found that the proposed project is reasonably necessary for the convenience and welfare of the public.

In Section III.B, above, the Department found that the Company requires exemptions from a number of specific provisions of the Zoning Ordinances, as described in such Section III.B. The Company has also requested a comprehensive exemption “from the operation of the Zoning Ordinances generally in connection with its use of the Site, and the construction, operation and maintenance thereon of the proposed substation” (Exh. CEC-1, at 4). As the Department noted recently, petitions for comprehensive relief are infrequently granted, but may be appropriate in certain circumstances. For example, the Department will consider the issuance of comprehensive zoning relief where numerous individual exemptions are required, or where the issuance of a comprehensive exemption could avoid a substantial public harm by serving to prevent delay in the construction and operation of the proposed use. Tennessee Gas Pipeline Company, D.T.E. 01-57, at 11 (2002); Massachusetts Electric Company, D.T.E. 01-77, at 31 (2002).

In this proceeding, the Company has demonstrated a time-sensitive need for the proposed project in order to prevent possible electrical outages, particularly during the period of peak demand for electricity in the summer of 2003 (Exh. CEC-1, at 10, and footnote 2). The record shows that the proposed substation has been identified as a

needed upgrade since at least the year 1988 (Exh. CEC-1, at 10), and that at current and forecasted load levels, any of several system contingencies could result in the Company's load being at risk of outages (Exh. CEC-1, at 9 – 10). The record shows that the construction and testing of the proposed substation would take two to three months (Tr. 1, at 57). If the commencement of construction is delayed by even a few months beyond the effective date of this order, the substation may not be available to meet local electric demand during the summer of 2003. It is therefore critical to the public interest that construction of the proposed substation begin without needless delay.

The Department notes that this decision addresses substantive issues associated with land use and environmental impacts, such as visual impacts, wetlands and wildlife, water resources, noise and EMF. In addition, the Company has received approval from the Old King's Highway Historical Commission, and has committed to working with the West Barnstable Civic Association and interested abutters in developing a screening and planting plan to mitigate visual and aesthetic concerns. The Department finds that the public interest in the immediate construction of the proposed substation outweighs any benefit that could be obtained from further local review. Consequently, in light of the substantial public interest in the immediate construction of the substation, the Department finds that it is appropriate in this case to grant the Company's request for a comprehensive "exemption from the operation of the Zoning Ordinances generally in connection with its use of the Site, and the construction, operation and maintenance thereon of the proposed substation."

V. ORDER

Accordingly, after due notice, hearing and consideration, it is hereby

ORDERED: That Commonwealth Electric Company's petition for an exemption from Sections 2-3.1, 3-1.4, 3-5, 4-1, 4-2, 4-7 and 5-2 of the Barnstable Zoning Ordinances is allowed; and it is

FURTHER ORDERED: That Commonwealth Electric Company's petition for a comprehensive zoning exemption from the Barnstable Zoning Ordinances is allowed; and it is

FURTHER ORDERED: That the Company work collaboratively with direct abutters, the West Barnstable Civic Association and the Old Kings Highway Historic Commission to develop a plan addressing landscaping for the proposed substation and siding for the associated control house; and it is

FURTHER ORDERED: That the Company notify the Department of any significant changes in the planned timing, design or environmental impacts of the proposed project; and it is

FURTHER ORDERED: That the Secretary of the Department shall transmit a certified copy of this Order to the Clerk of the Town of Barnstable.

By order of the Department,

Paul B. Vasington, Chairman

James Connelly, Commissioner

Deirdre K. Manning, Commissioner

W. Robert Keating, Commissioner

Eugene Sullivan, Commissioner

Appeal as to matters of the law from any final decision, order or ruling of the Commission may be taken to the Supreme Judicial Court by an aggrieved party in interest by the filing of a written petition praying that the Order of the Commission be modified or set aside in whole or in part.

Such petition for appeal shall be filed with the Secretary of the Commission within twenty days after the date of service of the decision, order or ruling of the Commission, or within such further time as the Commission may allow upon request filed prior to the expiration of twenty days after the date of service of said decision, order or ruling. Within ten days after such petition has been filed, the appealing party shall enter the appeal in the Supreme Judicial Court sitting in Suffolk County by filing a copy thereof with the Clerk of said Court. (Sec. 5, Chapter 25, G.L. Ter. Ed., as most recently amended by Chapter 485 of the Acts of 1971).