D.T.E. 04-4

Petition of New England Power Company for Zoning Exemption from the Town of West Boylston, Massachusetts, in the Proposed Expansion of its Wachusett No. 47 Substation.

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FOR: New England Power Company
Petitioner

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I. INTRODUCTION

Pursuant to G.L. c. 40A, § 3, New England Power Company ("NEP" or "Company") filed a petition with the Department of Telecommunications and Energy ("Department") on January 20, 2004, for an exemption from the Town of West Boylston Zoning Bylaws ("zoning bylaws") in order to construct additional facilities at its existing Wachusett Substation located at 53 Temple Street in West Boylston ("substation expansion" or "proposed project") (Exh. NEP-1, at 1).[1, 2] The Company stated that the purpose of the substation expansion is to furnish additional transmission capacity for its customers (id.).

The Company stated that the substation expansion would be constructed in two phases: Phase I, which would be built immediately, and Phase II, which would be built as required by load growth on the transmission system (Exh. NEP-AJM at 4, 5).[3] NEP stated that in Phase I, it would install two 345/115 kilovolt ("kV") transformers, three 115/69 kV transformers, nine 345 kV circuit breakers and nine 115 kV circuit breakers, and would construct two pre-engineered buildings to house gas insulated switchgear ("GIS") and a new control house (Exhs. NEP-1, at 1, 2; NEP-AJM-2R; DTE 2-2). The larger of the two GIS buildings would be approximately 180 feet long, 60 feet wide, and 36 feet high and would contain 345 kV

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1 The Company explained that the existing substation contains one 115/69 kilovolt ("kV") transformer, five 69 kV circuit breakers, and a control house on a 1.6-acre site (Exhs. NEP-1, Att. I; NEP-AJM at 3).

2 The Company indicated that the Department had granted zoning exemptions for the Wachusett Substation on August 17, 1977, and April 18, 1979 (Exhs. NEP-1, at 4 and Att. H; NEP-AJM at 9).

3 The Company refers to the completion of Phase I and Phase II as the "ultimate buildout" (Tr. 1, at 46).

circuit breakers (Exh. NEP-AJM at 4). The smaller GIS building would be approximately 180 feet long, 50 feet wide, and 36 feet high and would contain 115 kV circuit breakers (id.). The substation expansion also would involve constructing busbars, moving transmission lines and towers, regrading and repaving the access road, and installing water line, septic tank and leachfield facilities (Exh. DTE 1-1, Att. A; Tr. 1, at 13-14).[4] The Company stated that it would extend substation fencing to enclose the entire 4.12 acres of the substation site (Exh. DTE 2-6).

NEP stated that in Phase II, it would install two additional 345/115 kV transformers, three additional 345 kV circuit breakers, and three additional 115 kV circuit breakers (Exhs. NEP-1, at 1, 2; DTE 2-2). All of the construction associated with Phase I and Phase II of the proposed project would occur within NEP's existing 14.26-acre property located north of Temple Street in West Boylston (id. at 1). Existing and proposed equipment and buildings are listed in Table 1, below.

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[4] The facility also would include two 95-foot transmission line towers for 345 kV lines 341 and 343, two 95-foot lightning shield masts, and two 60-foot transmission line towers for 115 kV lines O-141 and P-142 (Exh. NEP-AJM at 3, 4; Tr. 1, at 104).

Table 1. Major Equipment Proposed for Wachusett Substation

Element	Existing at Wachusett	Phase I Additions	Phase II Additions	Ultimate Buildout
Transformers: 345/115 kV	0	2	2	4
Transformers: 115/69 kV	1	3	0	4
Total Transformers	1	5	2	8
Breakers: 345 kV	0	9	3	12
Breakers: 115 kV	0	9	3	12
Breakers: 69 kV	5	0	0	5
GIS Buildings	0	2	0	2
Control House	1*	1	0	1
Substation area (inside fenceline)	1.6 acres	2.52 acres	0	4.12 acres

* The existing control house would remain and be used for storage.
Sources: Exhs. NEP-1, at 1, 2; NEP-AJM at 3, 4; DTE 2-2; DTE 2-6; DTE 3-2; Tr. 1, at 8-9, 17.

II. PROCEDURAL HISTORY

On January 20, 2004, the Company filed a zoning exemption petition with the Department. The Department docketed the petition as D.T.E. 04-4. Pursuant to notice duly issued, the Department held a public hearing on the Company's petition on March 10, 2004, in West Boylston.

The Department conducted evidentiary hearings on August 11, 13, and 31, 2004. In support of its petition, the Company presented the testimony of four witnesses: Dean M. Latulipe, P.E., a Lead Senior Engineer in the Transmission Planning Department of National Grid USA Service Company, who testified concerning the Company's need analysis for the proposed project; Andres J. Molina, a Principal Engineer with National Grid USA Service Company, who testified concerning the construction and operation of the proposed project;

Daniel McIntyre, a Principal Engineer in the Substation Engineering Group of National Grid USA Service Company, who testified concerning the engineering design of the proposed project; and Frederick Paul Richards, a Principal Environmental Engineer in the Environmental Group of the National Grid USA Service Company, who testified concerning environmental and community impacts.

III. 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 by-law 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 or 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. Massachusetts Electric Company, D.T.E. 01-77, at 4 (2002) ("MECo (2002)"); Tennessee Gas Pipeline Company, D.T.E. 01-57, at 3-4 (2002) ("Tennessee Gas (2002)").

A. Public Service Corporation

In determining whether a petitioner qualifies as a "public service corporation" ("PSC") for the purposes of G.L. c. 40A, § 3, the Massachusetts Supreme Judicial Court ("SJC") 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 at 680. See also, Boston Gas at 3-4; Berkshire Power Development, Inc., D.P.U. 96-104, at 26-36 (1997) ("Berkshire Power").

The Department interprets this list not as a test, but rather as guidance to ensure that the intent of G.L. c. 40A, § 3 will be realized, i.e., that a present or proposed use of land or structure that is determined by the Department to be "reasonably necessary for the convenience or welfare of the public" not be foreclosed due to local opposition. See Berkshire Power at 30; Save the Bay at 685-686. The Department has interpreted the "pertinent considerations" as a "flexible set of criteria which allow the Department to respond to changes in the environment in which the industries it regulates operate and still provide for the public welfare." Berkshire Power at 30; see also Dispatch Communications of New England d/b/a Nextel Communications, Inc., D.P.U./D.T.E. 95-59-B/95-80/95-112/96-113, at 6 (1998) ("Nextel"). The Department has determined that it is not necessary for a petitioner to demonstrate the existence of "an appropriate franchise" in order to establish PSC status. See Berkshire Power at 31.

B. Exemption 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

MECo (2002) at 4-5; Tennessee Gas (2002) at 5; Western Massachusetts Electric Company, D.P.U./ D.T.E. 99-35, at 4, 6-8 (1999); Tennessee Gas Company, D.P.U. 92-261, at 20-21 (1993). It is the petitioner's burden 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 required exemptions.

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

C. Public Convenience or Welfare

In determining whether the 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 at 680; Town of Truro v. Department of Public Utilities, 365 Mass. 407, at 411 (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 applicant. Save the Bay at 685; New York Central Railroad at 592.

With respect to the particular site chosen by a petitioner, G.L. c. 40A, § 3 does not require the petitioner to demonstrate that its 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 or welfare of the public. Martarano v. Department of Public Utilities, 401 Mass. 257, 265 (1987); New York Central Railroad at 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 or welfare of the public. Boston Gas at 2-6; MECo (2002) at 5-6; Tennessee Gas (2002) at 5-6; Tennessee Gas Company, D.T.E. 98-33, at 4-5 (1998).[5]

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[5] 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" ("Section 61 findings"). G.L. c. 30, § 61. Pursuant to 301 C.M.R. § 11.12(5), Section 61 findings are required if the Secretary of Environmental Affairs has required an Environmental Impact Report ("EIR") for the project. No EIR was required for this project (Exh. NEP-FPR at 7-9).

(continued…)

IV. ANALYSIS AND FINDINGS

A. Public Service Corporation Status

New England Power Company is an "electric company" as defined by G.L. c. 164, § 1.[6] See New England Power Company, D.P.U. 92-255, at 2 (1994). Accordingly, the Department finds that NEP qualifies as a public service corporation for the purposes of G.L. c. 40A, § 3.

B. Need for the Requested Exemption

The Company stated that certain provisions of the zoning bylaws, if applied to the proposed project, would preclude construction of the project. The Company identified 15 specific exemptions of the zoning bylaws that may apply to the proposed project (Exhs. NEP-1, at 3, 4; NEP-14; DTE 2-2; Tr. 3, at 222).[7] The Company stated that the process of obtaining zoning relief locally could delay NEP's efforts to provide customers with more reliable transmission service (Exh. NEP-1, at 4).

1. Use Regulations

The Company stated that the proposed project would be located in a "General Residence District" ("GR District"), where public utility uses are prohibited except by special

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[5] (…continued)
Accordingly, Section 61 findings are not necessary in this case.

[6] NEP filed its petition with the Department prior to the effective date of Chapter 249 of the Acts of 2004, An Act Relative to Electric Transmissions. Therefore in determining whether NEP is a PSC, we are using the statutory definition of electric company that was applicable at the time of NEP's filing.

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

permit issued by the Board of Appeals (Exh. NEP-1, at 3; Tr. 3, at 219). The Company therefore seeks exemption from Sections 3.1, 3.2E(2), and 3.3C of the zoning bylaw, which specify where public utility facilities may be located (Tr. at 219).

The Company stated that the proposed project would also be located in the Aquifer Protection District ("AQ District"), where enlargement or alteration of the existing substation use may be allowed only by special permit (Tr. 3, at 220). The Company therefore seeks exemption from Section 2.6F(1)(e) (permitted uses in the AQ District), Section 2.6F(3)(a) (uses and activities requiring a special permit), and Section 2.6G (procedures for the issuance of a special permit) of the zoning bylaws (Exhs. NEP-1, at 3; NEP-14).

The record shows that the project site is located in a GR District and that a substation is not a permitted use in a GR District except by special permit issued by the Zoning Board of Appeals. Further, the Company would need to obtain a special permit from the Planning Board, in order to expand the substation in the AQ District. While the Company might be able to comply with the use sections of the zoning bylaws by obtaining special permits, the permitting process has an uncertain outcome and could considerably delay the project, especially here where permits would have to be issued by two different agencies. Accordingly, the Department finds that exemption of the proposed project from Sections 2.6F(1)(e), 2.6F(3)(a), 2.6G, 3.1, 3.2E(2), and 3.3C of the zoning bylaws is required within the meaning of G.L. c. 40A, § 3, to the extent that the proposed project is time sensitive.

2. Dimensional Regulations

NEP also seeks exemption from Sections 4.1A, 4.2, and 4.3F of the zoning bylaws. Section 4.2 requires a minimum street frontage of 120 feet in a GR District and 150 feet in an

AQ District, while Section 4.3F limits building heights in a GR District to 35 feet measured from the eaves of the building.[8] The Company stated that the Wachusett Substation property has a street frontage of 106.9 feet, and therefore does not satisfy the frontage requirements (Exh. DTE 2-11). The Company also stated that the 36 foot tall GIS buildings would exceed the height limitations found in Section 4.3F (Exh. NEP-AJM at 4; Tr, 1, at 107-108). However, an illustration provided by the Company shows that there is a slight declivity from the ridgelines to the eaves of the buildings (Exh. DTE 2-4C).

The record shows that the proposed project would not meet the minimum frontage requirements for the GR and AQ Districts, and therefore could not be built without relief from Sections 4.1A and 4.2 of the zoning bylaws. In addition, the record shows that the GIS buildings may exceed the height limitations found in Section 4.3F. The Department concludes that the proposed project cannot be built as designed without relief from Sections 4.1A, 4.2, and possibly 4.3F of the zoning bylaws. Accordingly, the Department finds that exemption of the proposed project from Sections 4.1A, 4.2, and 4.3F of the zoning bylaws is required within the meaning of G.L. c. 40A, § 3.

3. Site Plan Review Provisions

Section 3.6 sets forth five categories of development activities for which the preparation of a site plan is required (Exh. NEP-1, Att. D at 24). The Company stated that its substation expansion may require site plan review given the new construction of non-residential buildings at the site (Exh. DTE 2-8). After reviewing Section 3.6, the Department concludes that site

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[8] Section 4.1A specifies how the frontage of a lot shall be measured.

plan review is required for the proposed project. While the proposed project likely could be built without relief from Section 3.6, 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 Section 3.6 of the zoning bylaws is required within the meaning of G.L. c. 40A, § 3 to the extent that the proposed project is time sensitive.

4. Other Requested Exemptions

NEP also seeks exemption from Section 2.6F(3)(b) (allowing the use of pesticides, insecticides, fungicides and rodenticides only by special permit); Section 5.3D (requiring an opaque screen at least five feet tall for outside storage areas for materials and equipment); Section 5.6E (3) (allowing only one sign for each dwelling unit in a GR District); Section 2.6F(2)(b) of the zoning bylaws (prohibiting the storage of liquid petroleum except under limited circumstances); and Section 5.4 (allowing the removal of earth only in accordance with Article XXII of the General By-Laws of the Town of West Boylston).[9]

The Company stated that it would use mineral oil dielectric fluid ("MODF"), a petroleum derivative, in its transformers, and that it was unsure whether the confined use of a petroleum derivative constituted storage of petroleum for purposes of Section 2.6F(2)(b) (Tr. 1, at 178-181; Tr. 2, at 180; Tr. 3, at 224. The Department agrees that the applicability of Section 2.6F(2)(b) to this situation is unclear, and concludes that relief from Section 2.6F(2)(b) may be necessary to construct and operate the proposed project as designed.

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[9] Article XXII of the General Bylaws of the Town of West Boylston states, inter alia, that removal or relocation of earth shall be allowed only under a permit issued by the Earth Removal Board.

The Company stated that it would need relief from Section 5.3D because its materials and equipment would not be visually screened as specified in that provision (Tr. 3, at 221). The record shows that the equipment and structures associated with the substation expansion would be located outdoors and would not be surrounded by the opaque screening required by Section 5.3D. The Department concludes that the proposed project could not be constructed as designed without relief from Section 5.3D of the zoning bylaws.

The Company stated that it would need relief from Section 5.6E(3) because the National Safety Code requires the Company to post multiple warning signs around the substation fence (Tr. 3, at 222, 235). The record shows that the Company could not construct and operate the substation expansion in accordance with the National Safety Code without relief from the requirements of Sections 5.6E(3).

Based on the above, the Department finds that exemption of the substation expansion from Sections 2.6F(2)(b), 5.3D, and 5.6E(3) of the zoning bylaws is required within the meaning of G.L. c. 40A, § 3.

The Company stated that it requires an exemption from Section 2.6F(3)(b) to allow for the application of herbicides such as those NEP commonly uses at substations (Exh. NEP-14). The Department concludes that while a special permit may be sought to allow the proposed use of herbicides, the permitting process has an uncertain outcome and could delay the project. Accordingly, the Department finds that exemption of the proposed project from Section 2.6F(3)(b) of the zoning bylaws is required within the meaning of G.L. c. 40A, § 3 to the extent that the proposed project is time sensitive.

Finally, the Company stated that, to prepare the substation yard for the expansion, it

would need to remove earth from the site (Tr. 3, at 222). While the Company could comply with Section 5.4 by seeking a permit from the town's Earth Removal Board, the permitting process has an uncertain outcome and could considerably delay construction. Accordingly, the Department finds that exemption of the proposed project from Section 5.4 of the zoning bylaws is required within the meaning of G.L. c. 40A, § 3 to the extent that the proposed project is time sensitive.

C. Public Convenience or Welfare

1. Need or Public Benefit of Use

NEP stated that the substation expansion is needed in order to meet the requirements of Sections 3.1 and 3.2(b) of NEPOOL's Reliability Standards, and Section C.2.3 of NEP's Transmission Planning Guide, which require that equipment loadings be within applicable emergency limits following specified contingencies (Exhs. NEP-DML at 4-6; NEP-DML-2; NEP-DML-3(S); RR-DTE-11; RR-DTE-12). NEP also stated that the substation expansion is needed in order to meet Section 3.2(a) of NEPOOL's Reliability Standards and Section C.3.0 of NEP's Transmission Planning Guide, which require that system voltages be maintained within normal limits before any disturbance and within emergency limits following specified contingencies (Exhs. NEP-DML-2; NEP-DML-3(S); RR-DTE-11; RR-DTE-12).

In support, NEP provided a study showing that, under summer 2003 peak load conditions, loss of either of the two 345/115 kV transformers (448 MVA) located at the Sandy Pond Substation in Ayer would cause the other transformer to be loaded at more than 100% of its long-term emergency rating (Exhs. NEP-DML at 4-6; NEP-DML-1; RR-DTE-4; Tr. 1,

at 38).[10] The Company explained that if this violation of reliability standards is not addressed, it would be necessary under the stated contingency to reduce the flow of power from the Hydro-Québec high-voltage direct current ("HVDC") line at Sandy Pond by as much as 1500 MW and to bring on replacement power sources, within 15 minutes (Exh. DTE 2-16; RR-DTE-2; Tr. 1, at 27-28). The company projected that, if dispatchers were unable to relieve the overload, post-contingency outages could occur in areas extending from Worcester to Saugus (RR-DTE-2). The Company estimated that in 2006, there would be 30 hours in which load would exceed the level at which the post-contingency maneuvering would be required; this would increase to an estimated 101 hours in 2011 that would be subject to overload (RR-DTE-3).

With respect to maintaining normal voltages, the Company presented a study showing that loss of a double-circuit tower shared by the K-137 and L-138 lines on a 2.6-mile stretch of right-of-way would cause voltages on the 230 kV system at the Pratts Junction Substation in Sterling to drop below 0.98 times nominal voltage, the criterion for a 230 kV line, and also would cause voltages on the 69 kV system at Chaffins Substation in Holden and at Cooks Pond Substation in Worcester to drop below 0.95 times nominal voltage, the criterion for a 69 kV line (Exhs. NEP-DML-1, at 12; DTE 3-6; Tr. 1, at 42-43, 54; RR-DTE-2). Low voltages could be experienced by customers in Dunstable, Pepperell, Groton, Ayer, Leominster, Holden, and Worcester (RR-DTE-2).

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[10] Specifically, loss of Sandy Pond transformer T2, including failure of Sandy Pond breakers 343 or 337 resulting in loss of Sandy Pond T2, can cause an overload of Sandy Pond transformer T1; failure of Sandy Pond breaker 314, resulting in loss of Sandy Pond T1, can cause overload of Sandy Pond T2 (RR-DTE-4).

The Company indicated that construction of the Phase I expansion of the Wachusett Substation would eliminate thermal overload and low voltage issues through 2014 (Tr. 1, at 35-47). The Company indicated that, if it added a single 345/115 kV transformer (rather than two, as proposed) at the Wachusett Substation, contingency overloads would be possible as early as 2006; installation of fewer than four 115/69 kV transformers would have similar reliability concerns (Exhs. NEP-DML-1, at 34-35; DTE 3-9). The Company stated that implementation of Phase II would be contingent on future need (Exh. NEP-AJM at 4).

2. Alternatives Explored

NEP stated that it evaluated two alternatives to the substation expansion (Exhs. NEP-DML at 5; NEP-DML-1, at 24). One alternative would be to install two 345/115 kV transformers (448 MVA) at the Pratts Junction Substation in Sterling and to convert a 69 kV line between Pratts Junction and Northboro Road Substations to 115 kV (Exhs. NEP-DML at 5; NEP-DML-1, at 24). A second alternative would be to construct a new substation with two 345/115 kV transformers (448 MVA) at Quinsigamond Junction in West Boylston on a site the Company would need to acquire (Exhs. NEP-DML at 5; NEP-DML-1, at 24).

The Company indicated that expansion at Wachusett Substation would cost $42,301,570, compared to $44,532,426 or $52,879,727 for the Pratts Junction alternative and $48,461,315 for the Quinsigamond Junction alternative (Exh. NEP-DML-1, at 50). The Company therefore concluded that expansion of the Wachusett Substation is the most economical of the three possible alternatives (id.; Exh. NEP-DML at 5).

NEP stated that the Pratts Junction alternative would require conversion of two 69 kV lines between Pratts Junction and the Northborough/Marlborough area to 115 kV, in addition to adding transformers, and that the Company foresaw some difficulties procuring rights to complete the conversion along its rights-of-way (Tr. 1, at 70-71). Also, a large amount of fill would be required to form a large flat area for construction of expansion facilities at the Pratts Junction Substation (id. at 81). The Company stated that the Pratts Junction location is more than 2000 feet from any residences, but it would be in a prominent location visible from other points in the area (id. at 80).

NEP provided a map of the Quinsigamond Junction location and a photograph of the area taken from Shrewsbury Street, located one-half mile to the west (Exhs. NEP-2; NEP-3; RR-DTE-6). The Company asserted, and the photograph and map suggest, that the Quinsigamond Junction location would be in a wooded area relatively far from roads and that this alternative would therefore require building a road and clearing more trees than the Wachusett Substation location; the Quinsigamond Junction location would be quite visible from a distance, due to the relatively high elevation and ridgeline location of the site (Exhs. NEP-2; NEP-3; RR-DTE-6; Tr. 1, at 73-76, 82). Also, construction at Quinsigamond Junction might have more wetland impact than the proposed Wachusett Substation site (Tr. 1, at 71-73).

The Company indicated that it explored a fourth possible option, that of installing back-up transformers solely at Sandy Pond Substation, but concluded that this alternative would not provide the full reliability benefits that would be gained by expanding the Wachusett Substation (Exhs. DTE 3-6; DTE 3-7; Tr. 1, at 59, 63-67).

3. Impacts of the Proposed Use

a. Water Resources

NEP stated that the Wachusett Substation site is within the watershed of the Wachusett Reservoir, which serves the Boston area with water (Tr. 1, at 136). The Company indicated that the local water district's closest well is over half a mile away, near the edge of Wachusett Reservoir (Tr. 3, at 299-300). The Company stated that the area is protected under the Watershed Protection Act, administered by the Massachusetts Department of Conservation and Recreation ("DCR"), and by the Town of West Boylston Water Resources Overlay Zoning District (Exh. NEP-DM at 5). The Company stated that the proposed project would avoid new disturbance within the primary protection zone established under the Watershed Protection Act, extending 200 feet from surface water supplies, and asserted that impervious surfaces would be minimized in the secondary protection zone extending 400 feet from surface water supplies (Exh. NEP-DM at 5, 6).[11]

The Company indicated that the new substation control building would be constructed with sink and toilet facilities, linked to a septic tank and leachfield, and supplied from a water main on Temple Street (Exhs. NEP-DM at 2; DTE 2-22A, Att.). The Company stated that site soils are suitable for a septic system (Exh. DTE 3-10). The Company stated that, once operational, the substation would not have permanent staff and the sanitary facilities would be used only infrequently (Exh. NEP-DM at 2). The Company stated that it would obtain any

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[11] While the building's roof would increase impervious surface area, the Company testified that placing the switches in a building allows use of a ceiling crane to move the switches into position; using a crane outdoors to move switches would require scheduled outages of the 345 kV lines due to safety considerations (Tr. 1, at 100-101).

required permits from DCR, the Massachusetts Department of Environmental Protection, the Town of West Boylston, and the West Boylston Water District, prior to construction (id.).

The Company stated that underground infiltration chambers would be constructed for the dispersal of stormwater from substation building roofs (id. at 3). The Company indicated that the area of pavement, including pavement inside and outside the substation fence, would increase from 0.45 to 1.11 acres (Exh. DTE 3-4). The Company stated that rainfall onto the driveway, concrete, and other impermeable surfaces would sheet off to areas of crushed stone and infiltrate into the soil (Exh. NEP-DM at 3). The Company stated that rainfall onto crushed stone areas of the substation would infiltrate directly into the soil (Exh. NEP-DM at 3).

b. Wetlands

NEP stated that a 0.040-acre isolated wetland would be filled as part of the proposed project (Exh. NEP-FPR at 3). The Company stated that this isolated wetland is a small depression within the area cleared for power lines, and opined that its wildlife or habitat value is insignificant (Tr. 1, at 142-143). In addition, trees would be cut within a 0.032-acre area of Bordering Vegetated Wetland (id.). The Company stated that substation expansion facilities, including fencing, would be installed within a 0.11-acre area designated as Riverfront Area for Gates Brook, but noted that this area is elevated relative to Gates Brook and separated from Gates Brook by the railroad berm (Exh. NEP-FPR at 4; Tr. 1, at 143-145). The Company also stated that work would occur in approximately one acre of wetland buffer zone (Exh. NEP-FPR at 3, 4). On February 4, 2004, the West Boylston Conservation Commission issued an Order of Conditions pursuant to the Massachusetts Wetlands Protection Act for the proposed project (Exh. NEP-10).

c. Noise

NEP asserted that the residences closest to the substation would be buffered from construction noises by the railroad berm extending along the western boundary of the property, and that other receptors would be protected by distance (Exh. NEP-1, at 2). However, the Company indicated that the operation of the new substation equipment would increase noise levels over those currently existing at the site (Exh. NEP-9, at 19).

The Company arranged for an a survey of current ambient noise conditions near the Wachusett Substation (Exh. NEP-9). The noise survey, conducted by Black & Veatch Corporation, included 22-hour continuous monitoring of ambient sound levels at two locations,[12] for which equivalent and exceedance sound levels were measured (Exh. NEP-9, at 8-10).[13] The noise survey also included short-term measurements of the sound energy

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[12] One monitoring location, designated NML-1, is halfway along the substation access road from Route 140, and approximately 550 feet from the existing substation transformer (Exh. NEP-9, at 6-7; Tr. 3, at 265). The Company indicated that the distance from the substation to NML-1 is similar to the distance from the substation to the nearest residential neighbors, and characterized NML-1 as representative of the nearest residential neighbors (Exh. NEP-9, at 9; Tr. 3, at 274). A second monitoring station, NML-2, is just inside the access road gate and across Route 140 from the nearby Temple Street Substation; ambient sound levels were generally higher at NML-2 than at NML-1 (Exh. NEP-9, at 6-10). Short-term measurements of ambient sound levels on the railroad berm also were higher than at NML-1 (id. at 11-13).

[13] The equivalent sound level (L_{eq}) is the level of a hypothetical steady sound that has the equivalent sound energy as the actual fluctuating sound over a given time duration (Exh. NEP-9, at 2). An hourly L_{eq} provides an indication of the average sound energy over a one-hour period (Exh. NEP-9, at 3). The ninety percent exceedance level (L_{90}) is the sound level that is exceeded 90% of the time during a measurement period (Exh. NEP-9, at 3). The L_{90} reflects the background sound level without the influence of loud, transient noise sources (id.).

frequency spectrum at three locations (Exh. NEP-1, at 11-12).[14]

At NML-1, the Black & Veatch survey determined that the hourly L_{90} ranged from 38 to 51 decibels on the A-weighted scale ("dBA") over the course of 22 hours on August 4-5, 2004 (Exh. NEP-9, at 6-10). At NML-1, the lowest 1-hour nighttime L_{90} was approximately 40 dBA on that night (Exh. NEP-9, at 10; Tr. 3, at 265-267). A previous program of ambient sound measurements conducted by the Company found higher ambient sound levels on the edge of the substation towards the houses, and lower ambient sound levels towards Wachusett Reservoir (Exh. NEP-AJM-4). The three short-term measurements at NML-1 showed L_{90}s of 36 dBA, 41 dBA, and 41 dBA during the day, night, and day, respectively (id. at 11).

The Company presented information on the distribution of existing ambient sound across the frequency spectrum, based on short-term measurements. During the two ambient daytime measurement periods, the highest sound energy levels at NML-1 were at frequencies below the 100 hertz ("Hz") band; sounds were attributed to local traffic on Route 140, insects, birds, small aircraft, and the existing transformer (id. at 11-12). From the one nighttime measurement (at 1:06 AM), Black & Veatch attributed discernable peaks in the 125 Hz and 250 Hz bands to the existing transformer, and attributed a peak in the 2000 Hz band to insect noise (id.).

NEP indicated that the transformers would be the principal source of operating noise from the expanded substation (Exh. DTE 1-1(I); Tr. 3, at 241). The noise level of each of the

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[14] The noise spectrum was analyzed for up to 20 minutes twice during the day and once at night at NML-1; once at night and once during the day at NML-2; and once at night and once during the day at a location on the railroad berm 550 feet from the existing transformer (NEP-1, at 7, 11).

two 345/115 kV transformers was specified as up to 72 dBA one foot from the transformer, without cooling pumps or fans operating, as determined in accordance with ANSI/IEEE C57.12.90-1999 (Exhs. DTE 1-1, Att. E; DTE 1-1(j); DTE 3-17(e); DTE 3-17, Att. A, at 61-70; DTE 3-19, Att., at 10; RR-DTE-10, Att.).[15] The noise from the one existing and three additional 115/69 kV transformers varies depending on the transformer model, but is in each case quieter than that from the larger 345/115 kV transformers proposed as part of the proposed project (Exhs. DTE 1-1(j); DTE 1-1, Att. F, Revised).[16]

Transformer noise typically has energy peaks in the frequency spectrum at even multiples of the frequency of the alternating current, specifically at 120 Hz and 240 Hz (Exhs. DTE 1-1(a); DTE 3-7, Att. A, at 61). Black & Veatch detected such energy peaks at the substation in its monitoring, stated that these can be classified as discrete tones since they exceed the adjacent one-third octave bands by 7 decibels, and characterized these tones as audible hums (Exh. NEP-9, at 12, 21).

The Company modeled propagation of sound from Phase I of the substation expansion, including the five new transformers and heating-ventilating-and-air-conditioning ("HVAC") units for the new buildings, accounting for wave divergence, absorption, and attenuation of

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[15] The Company stated that transformer noise would be up to 75 dBA with pumps and fans operating (Exhs. DTE 1-1, Att. E; DTE 1-1(j); DTE 3-17(e); DTE 3-19, Att., at 10). However, the Company indicated that cooling pumps and fans are expected to operate only during peak hours on several days in the last summer of operation before the Company would need to relieve load by constructing additional facilities (Tr. 3, at 244-248).

[16] Transformers 1, 2, 3, and 4 would have noise levels of 69 dBA, without the operation of cooling pumps or fans (Exh. DTE 1-1(j)).

generated noise (id. at 14). At partial load on the transformers, the Company's model projects that the expanded substation would generate 39 to 42 dBA of noise at the closest residences (id. at 15).[17] Using measurements at NML-1 as a proxy for ambient sound levels at the three closest residences, the Company calculated that the lowest hourly background (L_{90}) sound level at these residences would be expected to increase by 4 to 5 dBA (RR-DTE-13). The Company indicated that a 4 or 5 dBA increase would be a perceptible change in overall loudness (Exh. NEP-9, at 2). In addition, the Company indicated that the sound level in the 125 Hz band may increase by 8 to 9 decibels and the sound level in the 250 Hz band may increase by 4 to 5 decibels, at NML-1 (RR-DTE-16).

In response to staff questions, the Company provided information on the cost and efficacy of three options for achieving additional sound reduction. The Company indicated that, as one option, it would be feasible to construct a series of sound walls, each 17 feet tall and 35 feet long and located 10 feet to the west of a 115/69 kV transformer; these walls would cost a total of approximately $80,000 and would cause predicted facility sound levels to be lowered at the closest three residences from 42, 39, and 40 dBA to 41, 37, and 39 dBA, respectively (RR-DTE-13; RR-DTE-18; Tr. 3, at 278-283).[18] The Company noted that adding a wall would necessitate returning to the West Boylston Conservation Commission and DCR

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[17] Including Phase II transformers, sound levels from the substation at the closest residences would be 39 to 43 dBA (Exh. NEP-9, at 18).

[18] The Company indicated that it would not be feasible to construct a similar wall to the west of the 345/115 kV transformers due to access requirements within the substation; however, westbound sound from these transformers would already be partially blocked by the 115 kV GIS building (Exh. NEP-AJM-2R; Tr. 3, at 284-287).

for additional or amended approvals (Tr. 3, at 296-299). The Company stated that, as a second option, procuring 115/69 kV transformers with yet lower noise levels would lower facility sound levels at the closest three residences but would cost an additional $1,500,000 (RR-DTE-19). Finally, the Company stated that a third option, an active noise cancellation system, would be infeasible for reducing sound at multiple receptor locations (id.). NEP proposed to conduct a post-construction sound survey to determine whether additional noise mitigation would be necessary, rather than implementing additional noise mitigation during construction (id.).

d. Land Use

The Company provided maps and an aerial photograph showing that there is a low-density residential area to the west of the site; a transmission corridor extends to the north and south; to the east are woods and the Wachusett Reservoir (Exhs. NEP-1, Att. A, B; DTE 1-1, Att. A). The Company stated that the substation expansion would require clearing approximately 2 acres of woodland (Exh. NEP-FPR at 3).

NEP asserted that most of the substation site has previously been disturbed and that there are no known historic sites in the vicinity (id. at 8). The Company also provided a letter from the Massachusetts Historical Commission indicating that the substation expansion would be unlikely to affect significant or archeological resources (Exh. NEP-FPR-2).

NEP stated that the 11th edition of the Massachusetts Natural Heritage Atlas, prepared in 2003, does not show any rare species habitat that would be affected by the proposed project (Exh. NEP-FPR at 7; Tr. 3, at 239).

e. Visual

NEP is proposing to build two 95-foot tall transmission line towers, two 95-foot tall lightning shield masts, two 60-foot tall transmission line towers, and two buildings, each 36 feet high (Exh. NEP-AJM at 3, 4; Tr. 1, at 190-191). The Company provided a photograph looking north toward the existing facility from Route 140, showing that transmission line structures currently are visible from the road, but that other substation facilities are not visible under leaf-on conditions (Exh. DTE 2-4A, Att.). The Company provided an illustration suggesting that the new transmission line towers also would be visible from the road, but that under leaf-on conditions views of the buildings and transformers would be blocked by bushes and small trees within the right-of-way (Exh. DTE 2-4B, Att.).

The Company also provided photographs taken in leaf-on conditions from the existing substation toward the south and west, where residences are located; the residences are not visible in the photographs (Exh. DTE 2-32; RR-DTE-7).

The Company indicated that the floodlights that would be installed at the substation would have manual switches and would be used only when needed (Exhs. NEP-AJM at 6; DTE 3-22).

f. Traffic

The Company stated that approximately 440 truckloads of fill would be brought to the site as part of site preparation, at an average rate of about ten trucks per day over a period of about eight weeks (Exh. DTE 3-11; Tr. 1, at 146-147). In addition, NEP stated that major electrical equipment would be sequentially delivered on approximately 50 trailer trucks; transformer oil would be delivered in several oil tanker truckloads; and up to eight

construction workers would arrive daily over the 18-month construction period (Tr. 1, at 146-151, 155-157). NEP asserted that Route 140 typically gets a fair amount of traffic, and that sight lines in both directions are good at the substation driveway for entering and exiting the site (Exhs. NEP-FPR at 5; DTE 3-11). The Company indicated that it would provide police details or signage at the driveway entrance during the site preparation phase, if required by the West Boylston police department (Exh. DTE 3-11).

g. Wastes and Chemicals

NEP stated that there would be construction wastes from the proposed project including materials such as waste concrete, sheet metal, and oily rags; the Company's district environmental engineer would be in charge of any special handling of waste materials (Tr. 2, at 189-190).

NEP stated that sulfur hexafluoride would be used at the site as an insulating gas in the gas insulated switches (Exh. NEP-FPR at 6). The Company stated that sulfur hexafluoride is a gas that is heavier than air and so would accumulate along the floor; the Company calculated that the depth of sulfur hexafluoride that would accumulate if the gas fully leaked from the two largest sections of the GIS would be ¾ inch on the entire floor of the building (RR-DTE-8; Tr. 1, at 157). The Company indicated that sulfur hexafluoride is not soluble in water, and stated that there would be no risk of public exposure to the sulfur hexafluoride (Exh. NEP-FPR at 6; RR-DTE-8B).[19]

[19] The Company described the generic hazard of sulfur hexafluoride as being asphyxiation by displacement of oxygen (Exh. NEP-FPR at 6).

The Company stated that MODF would be present inside the transformers and that the Company would construct secondary containment for the MODF (Exhs. NEP-DM at 5; DTE 2-37; Tr. 1, at 124-126). According to the Company, MODF is a non-PCB transformer oil and therefore is not a hazardous material as defined by the U.S. Department of Transportation (RR-DTE-9, Att.).

The Company stated that it would need to store propane, a potentially explosive gas, on-site for emergency use in generators (Exh. DTE 2-38; Tr. 1, at 17-18).

NEP stated that batteries inside the control building would contain lead and sulfuric acid and could generate hydrogen gas (Exh. NEP-FPR at 6). The Company stated that secondary containment for the acid would consist of a bermed storage area with an acid-resistant coating (Tr. 1, at 186-187). NEP stated that if sensors detect more than 1% hydrogen in the control building, ventilation would be automatically started (id. at 187-189).

The Company stated that it would update its current Spill Prevention Control and Countermeasures ("SPCC") plan for the Wachusett Substation (Exh. NEP-DM at 5). The Company stated that there would be no hazardous wastes associated with the substation expansion (Exh. NEP-FPR at 8).

h. Safety

NEP stated that it would maintain fencing around the substation during construction, in order to maintain site security and safety during the construction period (Exh. DTE 3-23). The Company stated that it would post several safety signs around the substation fenceline, in accordance with the National Safety Code (Exh. NEP-1, at 4; Tr. 3, at 222, 235).

i. EMF

NEP projected changes in magnetic field strengths in milligauss ("mG") along the rights-of-way north and south of Wachusett Substation, as shown in Table 2, below.

Table 2. Magnetic Field Strengths at Edges of ROW

Location	Pre-Expansion, 2003	Post-Expansion, 2006
ROW South of Wachusett Substation		
Eastern Edge of ROW	20 mG	8 mG
Western Edge of ROW	15 mG	25 mG
ROW North of Wachusett Substation		
Eastern Edge of ROW	16 mG	20 mG
Western Edge of ROW	3 mG	4 mG

Sources: Exhs. NEP-AJM-R; DTE 3-21, at 2.

The Company stated that, during original construction of the 115 kV and 345 kV lines, it had attempted to optimize electric fields by selecting the phase arrangements of the lines (Exh. DTE 3-21, at 1). The Company indicated that it could now lower the magnetic field profile across the right-of-way by changing the phase arrangements of 115 kV line O-141 and 345 kV line 314; however, edge of right-of-way EMF would increase at some locations and the cost of this work was estimated as $525,000 (Exh. DTE 3-21, at 2).

4. Analysis

The record indicates that without construction and operation of the substation expansion, the Company is in violation of NEPOOL and NEP guidelines for component operating limits following contingencies, and for voltage stability under normal conditions. NEP has provided information showing that certain single contingency outages would require

reducing the import level from Hydro-Québec, which in turn would create a sensitive system control situation where operators of the electric grid in central Massachusetts may suddenly need to carefully balance several factors to avoid overloads. The record also identifies several potential low-voltage scenarios in the region and shows that adding transformer capacity at Wachusett Substation would support system voltages. Therefore, the Department finds that construction of Phase I of the substation expansion is in the public interest.

The record shows that NEP considered alternatives to the Wachusett Substation expansion, including installation of 345/115 kV transformers at Pratts Junction Substation and at Quinsigamond Junction Substation. The record shows that the expansion at the Wachusett Substation location is more cost-effective and has some environmental or reliability advantages over these alternatives.

The record shows that the substation expansion facilities would be located on property that is zoned residential and is in an aquifer protection district. There is a low-density residential area to the west of the site; a transmission corridor extends to the north and south; Wachusett Reservoir lies beyond woodland to the east. As discussed below, the record indicates that the proposed substation expansion would result in wetlands, noise, visual, and construction traffic impacts but would have minimal impacts on water resources, land use, waste, safety, and EMF.

With respect to water resources, the record shows that Wachusett Substation is within the watershed of Wachusett Reservoir, a source of drinking water for many people. The record shows that the area is protected as watershed by the Watershed Protection Act and by the Town of West Boylston zoning. Secondary containment would be provided for MODF and

for battery contents. The Department concludes that the risk of contamination of water resources is minimal.

Further with respect to water resources, the record indicates that the substation expansion would increase the area of impervious surfaces within the watershed of a drinking water supply. However, the area of pavement would not be increased, and roof runoff would be directed to underground infiltration chambers; therefore, the effects of the increase in impermeable surfaces would be minimal. The record indicates that although a small wetland depression would be filled, wetland impacts would be controlled. Finally, the Company's plans for handling sanitary waste would minimize any watershed impacts.

The record shows that the substation expansion would cause an increase in noise levels of approximately 5 dBA at the closest residences during quiet periods. The record also shows that the existing transformer is audible as a hum at a distance comparable to that of the closest residences. The addition of several transformers operating at the same electrical frequency of 60 cycles would increase substation noise at the even multiples of 120 Hz and 240 Hz by up to 9 decibels at the nearest residence. Therefore, substation noise after expansion would likely be more frequently and discernibly audible as a hum at the nearest residences, especially at night, when other lower frequency sound sources are diminished.

The record indicates that, at a cost of approximately $80,000, the Company could construct sound walls to reduce noise from the expanded substation by 1 to 2 decibels.[20] Typically, a 1 to 2 decibel reduction in noise from a single source would result in a minimal

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[20] Other means to reduce noise levels from the substation appear to be considerably more expensive ($1,500,000) or infeasible.

reduction in overall noise levels, since the noise from that source could be masked by ambient noise. In this case, however, the record indicates that most of the substation noise would typically be transformer hum in the 125 Hz and 250 Hz bands, and that background noise in these frequencies comes from the existing transformer. It therefore seems likely that the sound walls would reduce discrete tones from transformers by 1 or 2 decibels at the three nearest residences. This would be of particular benefit in the 125 Hz band, where the projected increase in sound is 8 to 9 decibels.

The Company has argued that it would need additional or amended approvals from the West Boylston Conservation Commission and DCR to add noise walls to its substation design, and recommends that it monitor noise levels following start-up, and install additional noise mitigation only if necessary. In proposing this plan, the Company did not specify when or where noise would be measured, including whether noise would be measured when there is high electrical loading and low ambient noise; how facility noise would be distinguished from other sounds; or the extent to which provision of mitigation would be complaints-based, or on what other basis the decision whether to go forward would be made by the Company. Given the complexity of developing a workable post-construction noise monitoring plan, and the relatively low cost of the sound walls, the Department concludes that it would be simpler and more cost-effective to install the walls at the time of construction. The Department sees real, if modest, benefits to limiting the increase in transformer hum at the nearest residences; the walls are not likely to have adverse visual impacts, since they would be located between the transformers and the railroad berm. The Company may need to seek amended permits from DCR and the conservation commission; however, the addition of the walls would be a minor

change to the overall substation design, and should not trigger extensive review by either agency. The Department therefore directs the Company to install a noise barrier wall on the west side of the 115/69 kV transformers to mitigate the noise impacts of the substation expansion.

With respect to land use impacts, the record indicates that there are no special historical features or natural history to be preserved at the substation site, and that the substation expansion is generally consistent with current land use at the site.

With respect to visual impacts, the record indicates that certain elements of the expanded substation, especially the transmission line terminal structures, would be visible from public vantage points. However, such views would be limited and would be consistent with the current limited views of the substation.

With respect to traffic impacts, the record indicates that during construction there would be a substantial amount of truck traffic delivering fill and large pieces of machinery. However, the record indicates that this traffic could be accommodated by the existing road network, and that the Company would arrange special traffic management when necessary.

The record shows that various substances would be present at the site, including MODF, propane, sulfur hexafluoride, and battery contents. The record indicates that none of these materials would pose any severe hazard in the event of a spill, due to varying combinations of low toxicity and secondary containment. The record indicates that the site will remain secured during construction. The record also indicates that the Company will update its SPCC plan for the Wachusett Substation. The Department concludes that waste, chemical, and safety issues are being addressed by the Company.

The record shows that, following the substation expansion, magnetic field strengths would increase by a maximum of 10 mG to a level of no more than 25 mG at the edge of rights-of-way north and south of Wachusett Substation. This 25 mG level is well below 85 mG, a level previously accepted by the Massachusetts Energy Facilities Siting Board, and further reduction below this level would cost $525,000.

The Department finds that, with the mitigation proposed by NEP and with the installation of a sound barrier to reduce noise impacts, the adverse environmental impacts - primarily noise - of the proposed project on the local community would be minimal. Based on the foregoing, the Department finds that the public interest in the construction of the proposed project at Wachusett Substation would outweigh any adverse local impacts of the project. Consequently, the Department finds that the substation expansion is reasonably necessary for the convenience and welfare of the public.

V. SCOPE OF ZONING EXEMPTION

In Section IV.B, above, the Department found that NEP requires an exemption from the following sections of the West Boylston Zoning Bylaws: Sections 2.6F(2)(b), 4.1A, 4.2, 4.3F, 5.3D, and 5.6E(3); and, to the extent that the project is time sensitive, Sections 2.6F(1)(e), 2.6F(3)(a), 2.6F(3)(b), 2.6G, 3.1, 3.2E(2), 3.3C, 3.6, and 5.4 as well. NEP has also requested a comprehensive exemption from the operation of the West Boylston Zoning Bylaws. As the Department has noted, petitions for comprehensive zoning relief are infrequently granted but may be appropriate in certain circumstances. For example, the Department will consider the issuance of comprehensive relief where numerous individual exemptions are required or where the issuance of a comprehensive exemption could avoid substantial public

harm by serving to prevent delay in the construction and operation of the proposed use. USGen New England, D.T.E. 03-83, at 34 (2004); Commonwealth Electric, D.T.E. 03-7, at 33-34 (2003); Tennessee Gas Pipeline Company, D.T.E. 01-57, at 11 (2002).

The record shows that the Company's transmission system currently is in violation of NEPOOL and NEP reliability standards. The record shows that construction and testing of Phase I of the substation expansion, which would eliminate the post-contingency overload, would take approximately 18 months to construct. It is therefore essential to the public interest that construction of the proposed substation expansion begin without needless delay.

The Department finds that the advantage to the public in the immediate construction of the proposed project outweighs any benefit that could be obtained from further local review. Accordingly, in light of the substantial advantage in the immediate construction of the proposed project, the Department finds that exemption from Sections 2.6F(1)(e), 2.6F(2)(b), 2.6F(3)(a), 2.6F(3)(b), 2.6G, 3.1, 3.2E (2), 3.3C, 3.6, 4.1A, 4.2, 4.3F, 5.3D, 5.4 and 5.6E(3) of the zoning bylaws is required within the meaning of G.L. c. 40A, § 3. In addition, the Department finds that it is appropriate in this case to grant NEP's request for a comprehensive exemption from the operation of the zoning bylaws generally in connection with its use of the site, and the construction, operation and maintenance of the proposed substation expansion.

The Department notes that this exemption extends only to the work described as Phase I of the substation expansion. Because the projected construction date of Phase II is at least a decade away, any findings that could be made here regarding the public interest served by Phase II, the level of local impacts, and the balance between the two would be speculative.

Moreover, the Department cannot now predict the future form and content of the West Boylston Zoning Bylaws. When the Company is ready to pursue Phase II, it may seek any necessary zoning relief either from the Department in a separate petition filed pursuant to G.L. c. 40A, § 3, or directly from West Boylston.

VI. ORDER

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

ORDERED: That New England Power Company's petition for an exemption from Sections 2.6F(1)(e), 2.6F(2)(b), 2.6F(3)(a), 2.6F(3)(b), 2.6G, 3.1, 3.2E (2), 3.3C, 3.6, 4.1A, 4.2, 4.3F, 5.3D, 5.4 and 5.6E(3) of the West Boylston Zoning ByLaws is allowed; and it is

FURTHER ORDERED: That New England Power Company's petition for a comprehensive exemption from the West Boylston Zoning ByLaws is allowed; and it is

FURTHER ORDERED: That New England Power Company install a noise barrier wall on the west side of the 115/69 kV transformers; and it is

FURTHER ORDERED: That New England Power Company shall obtain all other governmental approvals necessary for this project before construction commences; 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 West Boylston; and that New England Power Company shall serve a copy of this order on the West Boylston Board of Selectmen, the West Boylston Planning Board, the West Boylston Board of Health, and the West Boylston Zoning Board of Appeals within five business days of its issuance and shall certify to the Secretary of the Department within ten business days of its issuance that such service has been accomplished.

By order of the Department,

_____
Paul G. Afonso, Chairman

_____
James Connelly, Commissioner

_____
W. Robert Keating, Commissioner

_____
Eugene J. Sullivan, Jr., Commissioner

_____
Deirdre K. Manning, Commissioner

Appeal as to matters of 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).