The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

D.P.U. 09-136/137 October 13, 2011

Petition of New England Power Company d/b/a National Grid pursuant to G.L. c. 40A, § 3 for exemption from the zoning bylaws of Auburn and Millbury and G.L. c. 164, § 72 for approval to alter and operate as altered existing transmission lines.

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I. INTRODUCTION

A. Description of Project

On December 4, 2009, New England Power Company d/b/a National Grid ("NEP" or "Company") filed two petitions with the Department of Public Utilities (the "Department") for (i) a determination pursuant to G.L. c. 164, § 72, that the proposed construction of a new 115 kilovolt ("kV") overhead transmission line in the towns of Millbury and Auburn, Massachusetts is necessary and will serve the public convenience and be consistent with the public interest ("Section 72 Petition"); and (ii) the grant of certain exemptions from the zoning bylaws of the Towns of Millbury and Auburn pursuant to G.L. c. 40A, § 3 ("Zoning Petition"; the Section 72 Petition and the Zoning Petition are referred to, collectively, as the "Petitions"). On January 5, 2010, the Chair of the Department consolidated the Petitions into a single proceeding, docketed as D.P.U. 09-136/09-137.

Specifically, the Company seeks approval from the Department to construct and operate a new 115 kV overhead transmission line for a length of approximately 6.9 miles on an existing electric transmission right-of-way ("ROW") in Millbury and Auburn (the "Proposed Line" or the "Z-126 Line"). Also, the Company requests authority for the related relocation of an approximately 1.1 mile portion of an existing 115 kV overhead transmission line known as the M-165 Line (the "M-165 Line") that is located within the same ROW in Millbury in the vicinity of the Millbury Substation, in order to create space for the Proposed Line (the Proposed Line together with the relocation of the M-165 Line are referred to collectively as the

"Project"). The Company asserts that the Proposed Line is necessary to maintain reliability of service to the Webster Street Substation in Worcester as well as to other substations.[1]

B. Procedural History

On February 11, 2010, the Department conducted a site visit in the Towns of Millbury and Auburn, followed by a public hearing in Millbury. The Company sponsored the following witnesses in the proceeding: (1) Suzanne Findlen, Lead Project Manager for National Grid USA Service Company, Inc. ("NGS"); (2) Dean M. Latulipe, Principal Engineer in Transmission Planning Department of NGS; (3) Jessica Farrell, Engineer in the Transmission Line Engineering Department for NGS; (4) Joshua Bennett Holden, Lead Environmental Engineer in the Environmental Group of NGS; (5) Dr. Peter A. Valberg, Principal and Senior Health Scientist at Gradient; and (6) Liana P. Moore, partner in the law firm of Bowditch & Dewey ("Bowditch").

The Department granted the petitions to intervene filed by Scott and Deborah Johnson, David Balkus, and Paul T. Worster (the "Intervenors"). Mr. Johnson, Mr. Balkus, and Mr. Worster each submitted pre-filed testimony, but no other exhibits. The Department received no other petitions to intervene or for limited participant status.

The Department conducted evidentiary hearings at its offices in Boston on December 14, 2010. The evidentiary record consists of approximately 177 exhibits, consisting almost entirely of pre-filed testimony, attachments thereto, and the Company's responses to information requests

[1] The other substations impacted are the Paxton Municipal Substation, the Barre Substation, and the Wendell Depot Substation.

issued by the Department and the Intervenors, as well as some responses to record requests made at the hearing. Only the Company and Mr. Balkus submitted briefs.

II. REQUEST FOR INDIVIDUAL ZONING EXEMPTIONS PURSUANT TO G.L. c. 40A, § 3

A. Standard of Review

Massachusetts General Laws chapter 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 by-law 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 exemption from the zoning ordinance or by-law. Boston Gas Company, D.T.E. 00-24, at 3 (2001). Finally, the petitioner must demonstrate that its present or proposed use of the land or structure is reasonably necessary for the convenience or welfare of the public. Massachusetts Electric Company, D.T.E. 01-77, at 4 (2002); Tennessee Gas Pipeline Company, D.T.E. 01-57, at 3-4 (2002).

1. 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 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. at 680. See also, D.T.E. 00-24, at 3-4; Berkshire Power Development, Inc., D.P.U. 96-104, at 26-36 (1997).

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 D.P.U. 96-104, at 30; Save the Bay at 685-686; Town of Truro v. Department of Public Utilities, 365 Mass. 407, at 410 (1974). 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." D.P.U. 96-104, 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). 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. D.P.U. 96-104, at 31.

2. Public Convenience and 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, 366 Mass. at 680; Town of Truro, 365 Mass. at 410.

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). 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, 366 Mass. at 685; New York Central Railroad, 347 Mass. 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 primary 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 primary 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, 347 Mass. 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. D.T.E. 00-24, at 2-6; D.T.E. 01-77, at 5-6; D.T.E. 01-57, at 5-6; Tennessee Gas Company, D.T.E. 98-33, at 4-5 (1998).

3. Exemption Required

In determining whether exemption from a particular provision of a zoning by-law is "required" for purposes of G.L. c. 40A, § 3, the Department makes a determination whether the exemption is necessary to allow construction or operation of the petitioner's proposed project. See Massachusetts Electric Company, D.T.E. 01-77, at 4-5 (2002); Tennessee Gas Pipeline Company, D.T.E. 01-57, at 5 (2002); 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 a petitioner's burden to identify the individual zoning provisions applicable to the proposed 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).

B. Public Service Corporation

NEP is an "electric company" as defined by G.L. c. 164, § 1, which makes it a public service corporation for purposes of G.L. c. 40A, § 3. Massachusetts Electric Company, New England Power Company and PPM Energy, Inc., D.P.U. 07-80, at 19 (2008); New England Power Company d/b/a National Grid, D.T.E. 06-37, at 17-18 (2007). Accordingly, the Siting Board finds that NEP qualifies as a public service corporation for the purposes of G.L. c. 40A, § 3.

C. Public Convenience and Welfare

1. Need for or Public Benefit of Use

a. The Company's Determination of Need

The Company determined the need for the addition of the Proposed Line based upon a comprehensive analysis of the performance of its Western Massachusetts transmission system.[2] The analysis, which was documented in the "Western Massachusetts Transmission Planning Study (2007 to 2017)," May 2007 ("WMS"),[3] examined performance in 2007 and, with projected load growth, in 2017, and also explored the performance implications of a variety of

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[2] The study focused on the Company's transmission system between the Millbury Substation and the New York border (Exh. DML-PFT at 5).

[3] The WMS was initially submitted into evidence in a highly redacted form (Exh. DML-1). Acting in response to Exh. DPU-N-18, the Company provided an unredacted copy to the Department on a confidential basis. The Company requested confidential treatment of the unredacted WMS because it contains information considered "Critical Energy Infrastructure Information" ("CEII") and only persons who have requested and obtained CEII clearance have authorization to read the document. The DPU staff has reviewed the unredacted version of the WMS. No intervenors requested permission to view the unredacted version of the WMS.

contingencies (Exh. DML-1). The WMS concluded that the addition of the Proposed Line was necessary to avoid:

- Violations of established voltage standards under peak load conditions at the Webster Street Substation in Worcester and at other substations served from the A-127 Line and the B-128 Line in the event of (a) the loss of the A-127 Line between the Millbury Substation and Tower 510 (or the loss of Tap Line 2 between Tower 510 and the Webster Street Substation), or (b) a double circuit loss of the A-127 and the B-128 lines between the Millbury Substation and Tower 510; and
- Violations of established thermal standards on both the A-127 and the B-128 lines in the event of a number of different single contingencies ("N-1 conditions").

(Exhs. DML-PFT at 8-10; DML-1 at 28, 34, 38; DPU-N-5; DPU-N-13)

The Company subsequently confirmed the need for the Proposed Line by updating its forecast of peak load at the Webster Street Substation based on its 2009 projections for its Worcester Power Supply Area (Exhs. DPU-N-11; DPU-N-19). The updated forecast indicates that peak summer 2011 load at the Webster Street Substation will be 107 MW, slightly greater (+2.0 MW) than the peak load projected for the substation in the WMS (Exh. DML-PFT at 17). The Company also observed that the 2010 ISO-NE forecast of Capacity, Energy, Load and Transmission [Requirements] (the "CELT Report") for the entire New England region indicates a slight increase in forecast 2010 peak system load above that forecast for 2010 in the 2006 ISO-NE CELT Report (Exh. DPU-N-22). The Company stated that this projected increase in New England load further bolsters the need for the Proposed Line, given that there are no other new or pending projects in the area that address the need at Webster Street Substation (id.).

b. Company's Description of Current Webster Street Substation Supply

The Company described that the Webster Street Substation, which serves approximately 100 MW of load, is currently served from two tap lines ("Tap Line 1" and "Tap Line 2" or together, "the Webster Street Tap Lines") originating at Tower 510 on the Company's ROW (Exh. DML-PFT at 3). The ROW runs northwest from Millbury Substation approximately 7.0 miles through the towns of Millbury and Auburn to Tower 510, located in Auburn (Exh. SF-PFT at 4).[4] The ROW carries two existing, double-circuited overhead 115 kV lines known as the A-127 Line and the B-128 Line (id.). The Webster Street Tap Lines are connected to the A-127 Line and the B-128 Line at Tower 510 via airbrake switches, and also are tied together at the Webster Street Substation with a single 115 kV breaker (id.). In normal conditions, the A-127 Line is operated in an open position at Tower 510, so that power on that line flows from the Millbury Substation, to Tower 510, and then into and out of the Webster Street Substation on the Tap Lines (id. at 4). In normal conditions, the B-128 Line, which shares a set of double-circuit towers with the A-127 Line, is not connected to the Webster Street Substation (id.). However, the Company described that switching can be done at Tower 510 such that the B-128 Line is connected to the Tap Lines and thus supplies power to the Webster Street Substation (id.). Such switching can be accomplished in less than ten minutes (id.). The Company described that historically the B-128 Line has been connected to the Tap Lines

[4] The ROW carrying the A-127 Line continues on beyond Tower 510 approximately 75 miles to the Harriman Station in southern Vermont (Exh. DML-PFT at 3). Currently in the event of the loss of the A-127 Line, it is the Harriman Station which is called upon to supply the Webster Street Substation (id. at 9).

periodically during maintenance or emergency conditions (id.). However, in the three year period between the completion of the WMS in May of 2007 and May of 2010, the B-128 Line was connected to the Tap Lines approximately 60 times (Exh. DPU N-2).

c. Current Voltage and Thermal Violations

The Company explained that it is required to set its planning criteria to assure that the Company adheres to reliability standards and criteria set by the Independent System Operator-New England (ISO-NE) and the Northeast Power Coordinating Council ("NPCC")[5]. The NPCC standards must be consistent with standards set by the North American Electric Reliability Council ("NERC") (Exh. DML-PFT at 6-8). The Company further explained that the criteria established by these organizations require that the Company design, test and operate its systems so as to maintain adequate voltage and thermal margins in normal conditions and under specified contingencies.[6] With regard to voltage, the Company stated that its established planning standards require it to design and operate its system such that after the loss of large element--referred to as an N-1 condition--the Company can maintain a minimum voltage of at least 0.90 per unit ("p.u.")[7] (Exhs. DML-PFT at 8; DML-5, Table 4-2; DPU N-

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[5] The ISO-NE is one of five control areas subject to the jurisdiction of the NPCC.

[6] Contingencies consist of conditions such as a transmission line, generator or substation being out of service. The generic contingencies to be examined are listed in Exh. DML-6, at 18 (Table 4.1). The Company tested these contingencies under then current (2006) loads.

[7] Note that if the Webster Street station were considered part of the Bulk Power System ("BPS"), the Company's planning standards would require that the voltage at the substation remain at or above 0.95 p.u. post contingency (Exh. DML-PFT at 8).

4). The Company's WMS revealed that under 2006 peak load conditions, the loss of either the A-127 line between Millbury Substation and Tower 510 (or the loss of Tap Line 2 between Tower 510 and the Webster Street Substation) or the double contingency loss of both the A-127 and the B-128 Lines would result in post contingency voltage violations at the Webster Street Substation (0.82 p.u), Paxton Municipal Substation (0.82 p.u.), Barre Substation (0.83 p.u.), and Wendell Depot Substation (0.84 p.u.) (Exh. DML-PFT at 9). The voltage drop after the loss of the A-127 Line between Millbury Substation and Tower 510 (or the loss of Tap Line 2 between Tower 510 and the Webster Street Substation) or the double contingency loss of both the A-127 and the B-128 Lines results from the fact that under such conditions the Webster Street Substation peak load of approximately 100 MW must be supplied from the Harriman Station (Exh. DML-PFT at 9). The Harriman Station is located more than 70 miles from the Webster Substation (id.). The Company explained that at times of high demand moving power over such a distance results in significant electrical impedance, which, in turn, results in a large voltage drop between the Harriman Substation and the Webster Street Substation (id.). The Company described that the voltage reduction at the Webster Street Substation is exacerbated by the fact the Harriman Station is a "weak" source, meaning that the voltage at the Harriman Station drops considerably when more power is being drawn from it (id.).

With regard to thermal loading of lines, the Company described that its established planning standards specify that lines should be designed and operated so that after a contingency condition the lines do not exceed their long-term emergency ("LTE") ratings (id.

at 10). However, the Company is allowed to exceed LTE ratings up to short-term emergency ("STE") rates, provided that automatic actions are in place to reduce the overloads back to the LTE rating within 15 minutes (id.). In the WMS, the Company examined the impact on thermal loading of a range of contingencies occurring under the then forecasted peak 2007 load conditions. In the case of the loss of the B-128 Line between Millbury Substation and Tower 510, the parallel portion of the A-127 Line and Tap Line 2 would exceed their LTE ratings by 25 percent (id. at 11). The Company explained that the A-127 and B-128 Lines and the Tap Lines are 1930's vintage copper lines that have relatively low thermal ratings compared to recently installed conductors (id.).[8]

d. Short-term Company Mitigations

The Company explained that in times of high load, it has taken operational measures to avoid voltage violations and thermal overloads (Exh. DML-PFT at 11-12). These measures, collectively referred to as the "High Load Configuration," include the opening of the A-127 Line at the Barre Substation, the B-128 Line at the Treasure Valley Substation, and reconfiguring the 115 kV switches at Tower 510 so that the A-127 and B-128 Lines each connects to one of the Tap Lines serving the Webster Street Substation (id. at 11). With the High Load Configuration in place, a loss of either the A-127 Line or the B-128 Line does not

[8] In a separate project described as the A-127/B-128 East Project, the Company plans to reconductor the A-127, B-128, and Tap Line 2 (Exh. SF-PFT at 5; Exh. Tr. at 5; Tr. at 28-29). As of the December 16, 2010 evidentiary hearing, the Company had completed most of the preliminary work required before reconductoring with heavier, higher capacity wire (including the reinforcements of existing towers, the complete installation of some new towers along the Tap Line ROW, and the construction of new tower foundations along the A-127/B-218 ROW) (id.).

result in low voltage at the Webster Street Substation, because the remaining line provides sufficient voltage support (id.). The High Load Configuration also eliminates the potential for thermal overloads of the A-127 and B-128 Lines, since no "through current" exists with the lines open at the Barre and Treasure Valley Substations (id.). The Company explained that the loss of either the A-127 or the B-128 Line does not result in an overload of the remaining line, because the load served by the remaining line is below the rated capacity of the remaining line (118 Megavolt Amperes ["MVA"]) (id. at 11-12).

The Company explained that the use of the High Load Configuration does not address the reliability risk associated with the fact that the A-127 and B-128 Lines are carried on the same towers (id. at 12). An event that would cause the simultaneous outage of the A-127 and B-128 Lines (for example a lightning strike or a tower's collapse) would result in total loss of service to the Webster Street Substation until such time as one or both lines could be restored (id.). The Company explained that given the limited time that the High Load Configuration was required, the Company had temporarily accepted the risk of a simultaneous or "double-circuit tower" ("DCT") loss until a permanent solution could be implemented (id.).[9]

[9] Company records indicate that double-circuit contingencies on the A-127 and B-128 Lines have occurred frequently (Exh. DML-PFT at 17). Out of 42 disturbances on the A-127 Line over the ten years prior to the WMS (1997-2006), ten of these disturbances occurred on the B-128 Line at the same time (id.). Out of 28 disturbances on the B-128 Line over this same period, ten of these disturbances occurred simultaneously on the A-127 Line (id.).

e. Analysis and Findings

The Company has demonstrated that voltage variations and thermal overloads threaten the reliability of current and future power supplies to the Webster Street Substation (Exhs. DML-PFT at 8-11; DML-1 at 28, 34, 38; DPU-N-5; DPU-N-13). In addition, the Company's current reliance on the double-circuited A-127 and B-128 lines from the Millbury Substation and the lack of adequate alternative power supply routes constrain the Company's ability to reliably provide power to the Webster Street Substation (and, at times its substations in Paxton, Barre and Wendell Depot) (Exh. DML-PFT at 12). The Company has also documented the vulnerability of the Webster Street Substation and other area substations associated with continued reliance on the Company's short-term mitigation measures (id. at 11-12). Consequently, the need for the Project is immediate; and its construction is, therefore, time-sensitive. The on-going project to reconductor the A-127 and B-128 lines between Millbury Substation and Tower 510 will reduce the risks of thermal overloads on supply lines from the Millbury Substation, but does not address the risk of voltage drops associated with continued reliance on a single double-circuited power source to support the Webster Street Substation.

Accordingly, the Department finds that there is a need for additional energy delivery capacity to the Webster Street Substation, and that public benefits would result from the construction and operation of the Proposed Line.

2. Alternatives Explored

a. Option 1 – The Company's Recommended Solution

The Company stated that the WMS recommended the construction of a new, seven-mile 115 kV overhead transmission line (the Z-126 Line) from the Millbury Substation to Tower 510 parallel to and within the same ROW as the double-circuited A-127 and B-128 Lines (Exhs. DML-PFT at 12-13; DML-1 at 40-43 and 44-47). The Company referred to the addition of the Z-126 Line as "Option 1" (Exh. DML-PFT at 12). The new Z-126 Line would connect exclusively with Tap Line 2 at Tower 510 (id.). The B-128 Line would be connected at Tower 510 exclusively to Tap Line 1 (id.). In Option 1, the A-127 Line would not be connected to either Tap Line and thus would be disconnected from the Webster Street Substation (id.). The Tap Lines would remain connected together at the Webster Street Substation (id.). As part of Option 1, both the A-127 and B-128 Lines and Tap Line 2[10] would be reconductored (id.). Option 1 includes the addition of two new 115 kV circuit breakers at the Webster Street Substation and one new 115 kV circuit breaker at the Millbury Substation (id.).

The Company explained that Option 1 addresses the low-voltage problem associated with relying on backup supply to the Webster Street Substation from the remote Harriman Station by providing two entirely separate transmission paths by which the Webster Street Substation can be supplied from the Millbury Substation. Under Option 1 in the event of the

[10] Initially, the Company proposed to reconductor both Tap Lines, but later decided to only reconductor Tap Line 2 (Tr. at 9). See also footnote 8.

loss of the proposed Z-126 Line alone, the loss of the B-128 Line alone, or the double-circuited loss of the A-127 and B-128 Lines, the Webster Street Substation could be supplied from the Millbury Substation (id. at 13). Option 1 addresses the thermal overload problems affecting the Webster Street Substation through the reconductoring of the A-127 Line,[11] B-128 Line, and Tap Line 2 (id. at 14).

The Company described that the addition of the Z-126 Line to the ROW containing the double-circuited A-127 and B-128 Lines will necessitate the relocation of the M-165 Line which currently shares the ROW with the A-127 and B-128 Lines for about 1.1 miles beginning at the Millbury Substation (Exh. JF-PTF at 5-6). After 1.1 miles, the M-165 Line leaves the ROW and heads north to the Vernon Hill Substation in Worcester (id. at 4). Under Option 1, the Company would relocate the existing M-165 Line to single-circuit, delta-davit-arm monopole structures to be constructed to the north of the new Z-126 Line approximately 95 feet from the centerline of the ROW and 35 feet from the north edge of the ROW (id. at 6). In order to make room for the relocated M-165 ROW, the Company would need to remove the structures that formerly carried two now-abandoned, de-energized lines known as "Feeder Lines 5 and 6" (id. 5-6). The structures that previously carried Feeder Lines 4 and 5 currently stand about 25 feet from the north edge of the ROW for the first 0.9 miles of the ROW beginning at the Millbury Substation (id. at 4-5).

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[11] The Company acknowledges that thermal issues will remain on other sections of the A-127 Line, but says that these will be addressed in a future project (Exh. DML-PFT at 14).

b. Other Alternatives Considered

The Company described that its WMS identified and analyzed three other options for addressing the voltage drops and thermal violations in the Webster Street Substation Area (Exh. DML-PFT at 14-15):

- Option 2 – physically separating the A-127 and B-128 Lines between the Millbury Substation and Tower 510, reconductoring the A-127 and B-128 Lines from Millbury Substation to Tower 510, and constructing a new six breaker 115 kV switching station at Tower 510 (id. at 14);
- New Erving Substation – construction of a new substation in Erving, Massachusetts (approximately 50 miles northwest of Millbury Substation) at the intersection of the A-127 and B-128 Lines with Northeast Utilities' Line number 354, which is a 345 kV line (id.);
- New Barre Substation – construction of a new 230 kV-115 kV substation adjacent to the existing Barre Substation in Barre, Massachusetts (approximately 25 miles northwest of Millbury Substation) (id. at 15).

The Company's WMS concluded that both Option 1 and Option 2 could resolve both the low voltage and thermal violation issues (id.). The Erving Substation alternative, because of its distance from the Webster Street Substation, would be less able to support the voltage as the Webster Street Substation load grew (id.). The Company also noted that a site for the new Erving Substation may not be readily available (id.). The Company stated that the Barre Substation option would, at best, be a marginal electrical solution with respect to supporting voltage at the Webster Street Substation and noted that preliminary cost estimates for the Barre Substation were substantially higher than for Option 1 (id.).

The Company estimated the costs and effectiveness of the alternatives as follows:

Table 1: Cost-Effectiveness of Alternatives.

Alternative	**"Study Grade" Cost Estimate From WMS 2007 ($MM)**	**Effectiveness of Solution**
Option 1 – construct Z-126 Line, reconductor A-127, B-128 Lines and Tap Line 2 and add two new circuit breakers at Webster and one at Millbury	$14.30	Robustly solves low voltage and thermal overloads in Webster St. Substation Area. Significantly improves reliability of supply to Webster St. Substation (as well as to Paxton, Barre, and Wendell Substations)
Option 2 – separate and reconductor A-127 and B-128 Lines and add a new six-breaker circuit switch at Tower 510	$18.43	Solves low voltage and thermal overloads and reduces risks of loss of power to Webster Street Substation
New Erving Substation – construct new substation approx. 50 miles NW of Millbury Substation and reconductor A-127 and B-128 Lines	$30.00	Solves low voltage problem, but maybe only short-term. Site for substation may be problematic due to distance from Webster Street Substation
New Barre Substation - construct new substation approx. 25 miles NW of Millbury Substation plus reconductoring A-127 and B-128	$20.00	Represents only a marginal support to voltage problems at Webster Street Substation

Source: Exh. DML-PFT at 13-16

The Company stated that upon reviewing the four alternatives, it concluded that Option 1 satisfied the needs that the WMS had identified in the Webster Street Substation area at the lowest cost (id. at 19). In making the cost comparisons among the four options, the Company explained that it had relied on preliminary estimates in 2007 dollars (id. at 16). The estimate of $14.3 million for Option 1 referred only to the cost (in 2007 dollars) of adding the Z-126

Line (Tr. at 35), and did not include the costs of reconductoring the A-127 and B-128 Lines[12] and Tap Line 2 or relocating the M-165 Line (Tr. at 35).[13] The Company later offered an updated and more inclusive estimate of the costs of Option 1 in 2009 dollars (Tr. at 34-36). The updated costs for the addition of the Z-126 Line by major elements are (Exh. RR-DPU-2):

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[12] The Company stated that the reconductoring of the A-127 Line is considered a separate project from the addition of the Z-126 Line and the reconductoring of the B-128 and Tap Line 2 (Tr. at 37). The Company stated that for construction efficiency the reconductoring of the A-127 and B-128 Lines would be undertaken at the same time. Work on the reconductoring of the A-127 and B-128 Lines had begun as of the date of the December 14, 2010, evidentiary hearing (id.).

[13] In addition to the updating of estimated costs from 2007 dollars to 2009 dollars, the Company included in its 2009 dollar estimate the cost of related projects totaling $9.90 million 2009 dollars. These related projects and their 2009 costs are: (1) reconductoring the B-128 Line from Millbury substation to Tower 510 ($4.07 million); (2) upgrading the B-128 terminal at Millbury Substation ($0.43 million); (3) installing breaker position for Z-126 Line at the Millbury Substation ($0.95 million); (4) upgrading the Webster Street Substation ($4.45 million) (Exh. RR-DPU-2).

Table 2: Breakdown of Project Costs

Element	**Millions of 2009 Dollars**
New Z-126 Line	$9.89*
M-165 Line Relocation	$1.52
Reconductoring of B-128	$4.07
Reconductoring of Tap Line 2	$1.50
Millbury Substation – new breaker position and upgrades	$1.38
Webster St. Substation – install 2 breakers + 3 circuit switchers + control house	$4.45
Permitting + real estate + community outreach	$1.17
Other^	0.51
Total Estimated Cost in 2009 $	$24.49

*Includes cost in 2007 $ plus all of estimated increases in design and construction costs between 2007 and 2009 ($4.64 million 2009 $) (Tr. 34-36).
^Includes $0.15 million in additional swamp mat costs plus $0.36 million of unspecified increases (Tr. at 36).

The Company estimated that the total cost of Option 1 in 2009 dollars would be $24.49 million (id.). The Company noted that the $24.49 million estimate of total costs in 2009 dollars does not include the cost of reconductoring of the A-127 Line (Tr. at 37). The cost estimate for Option 1 includes a contingency percentage in the range of five percent to ten percent, but does not specifically include any costs associated with screening or other mitigation for abutters (id. at 39-40). The Company noted that the updated 2009 dollar estimate for Option 1 (including the costs associated with the related projects), is less than the 2009 dollar estimate of $34.83 million for Option 2 (Exh. RR-DPU-2).

c. Analysis and Findings on Alternatives

The Company has demonstrated that the Proposed Line, in conjunction with the on-going reconductoring of the A-127 and B-128 Lines, will correct the voltage and thermal problems associated with supply to the Webster Street Substation (Exh. DML-PFT at 13-14). The Proposed Line also will reduce the threat to supply reliability associated with relying on a single double-circuited line (Exh. DML-PFT at 15-16). By contrast, the Erving and Barre substation options would not fully address the long-term the voltage issues at the Webster Street Substation as well as Option 1 and, according to the Company's estimated 2007 costs, the Proposed Line would be substantially less expensive than the other alternatives considered by the Company (Exh. RR-DPU-2).[14]

Accordingly, the Department finds that the Company reasonably established that the Z-126 Line would be preferable to the identified alternatives.

3. Impacts of the Proposed Use

In accordance with its responsibility to undertake a broad and balanced consideration of the general public interest and welfare, the Department examines the impacts associated with the Project to identify significant impacts that may occur during construction and operation.

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[14] The Company did not provide 2009 dollar estimates for the Erving and Barre Substation options (Exh. RR DPU-2). However, the Company described that the Erving Substation would require the location and purchase of a suitable site which would add extra uncertainty to the cost of the Erving option (Exh. DML-PTF at 15). The Company stated that the Barre Substation option was "a relatively high cost alternative" compared to Options 1 and 2 in the "study grade" 2007 estimates (id.).

a. Land Use Resources

The Project is located within an existing transmission ROW which currently contains a set of double-circuit towers with two 115 kV transmission lines, the A-127 and B-128 Lines, as well as the M-165 Line for 1.1 miles (Exh. JF-PFT at 3). The Company stated that no new land rights would be required to construct the Project. It will be necessary, however, for the ROW to be clear of trees and vegetation out to 40 feet from the proposed transmission line (Exh. DPU-W-2(a) at 1-6). To provide requisite space, the Company proposes to remove approximately 40 feet of existing wooded and vegetated area along much of the northeast side of the ROW, or a total of approximately 41 acres (id.). The Company discussed whether possible realignment of the A126/B127 double circuit line, consisting of 86-year-old lattice structures carrying horizontally arrayed circuits occupying significant ROW width, provided any opportunity to feasibly reduce clearing requirements (Exh. DPU-V-6). The Company indicated, however, that it did not intend to retire those lines despite their age, and cited costs of up to $750,000 per segment (of two dead end structures and a tension structure) to relocate these lines (id.).

The Company stated that there would be no adverse impact on historic or archeological resources along the Project route (Exh. JBH-PFT at 16). Further, the Company stated that there are no areas of either Mapped Estimated or Priority Habitat of State-listed Rare or Endangered Species within the ROW (id. at 17).

b. Visual Impacts

The Project is located within an existing transmission ROW which passes through several residential areas (Exh. SF-4). The existing lines are supported on a single set of lattice structures approximately 60 feet tall (Exh. JF-3). The Proposed Line will be supported on a set of monopole structures with an average height of 85 feet above ground (Exh. JF-PFT at 8). Requisite ROW clearing for the Project will result in loss of approximately 40 feet of vegetative buffer along much of the northeastern edge of the ROW (Exh. DPU-W-2(a) at 1-6).

There are 33 occupied structures within 50 feet of the northeastern edge of the ROW, and an additional 25 occupied structures between 50 and 100 feet of the same edge (Exh. DPU-G-7). Of those within 50 feet of the northeastern edge of the ROW, 21 occupied structures will experience a reduction in vegetative buffer, and of those between 50 and 100 feet, 19 occupied structures will experience a reduction in vegetative border (Exh. DPU-G-7). Furthermore, there are currently 44 residences with a direct and unobstructed view of the ROW, and as a result of the Project, eight more residences will have unobstructed views of the ROW (Exh. DPU-V-1).

The Company discussed whether possible adjustment of proposed structure locations and spans for the Proposed Line to match those of the adjacent A126/B127 line would provide visual advantage, without offsetting cost or other environmental disadvantages. The Company indicated, however, that longer spans would require higher structures and wider clearing of the ROW (Exh. DPU-V-5).

The Company has stated its willingness to work with individual abutters to address visual impacts, possibly by planting new vegetative buffers to mitigate the impact of tree clearing (Exh. DPU-V-2).

c. Wetlands and Water Resources

The Project will result in alterations to the following jurisdictional wetlands: bordering vegetative wetlands ("BVWs"), bordering land subject to flooding ("BLSF"), riverfront area ("RFA") and bank (Exh. JBH-PFT at 9). These impacts are summarized below in Table 3.

Table 3: Summary of Wetlands Impacts

Wetland/Resource Area Type	**Estimated Alterations**	
	Temporary (acres)	Permanent (square feet)
Bordering Vegetative Wetlands	2.39	120
Bordering Land Subject to Flooding	2.2	160
Riverfront Area	2.6	300
Bank	798 Linear Feet	0

Source: (Exh. DPU-W-2(a) at 1-8)

Because of the proposed work in jurisdictional areas, the Company must obtain permits or approval from the Massachusetts Department of Environmental Protection ("MADEP"), the United States Environmental Protection Agency ("USEPA"), and Orders of Conditions from the Auburn and Millbury Conservation Commissions (Exh. JBH-PFT at 11). The Company stated that, in order to minimize temporary and permanent impacts to wetland areas it would: avoid wetland areas whenever practicable, install swamp mats and siltation fences during

construction where appropriate, conduct weekly erosion and sedimentation control inspections during construction, and restore disturbed areas after construction (id. at 13).

In addition, the Company has undertaken a compensatory wetlands mitigation project that will include the preservation in perpetuity of a 29-acre parcel of land in the Broad Meadow Brook Conservation Center and Wildlife Sanctuary in Worcester (Exh. DPU-W-2(a) at 1-18). That 29 acres is part of a larger 137-acre parcel currently licensed to the Massachusetts Audubon Society and used as part of the Sanctuary (id.). The preserved land will be made up of 16.6 acres of wetlands and 12.4 acres of forested uplands (id. at 2-38).

d. Traffic

The Company stated that the volume of traffic generated during construction is not expected to be large enough to significantly affect traffic flow on public ways in the area of the ROW (Exh. SF-PFT at 7). The Company stated that it will alert residents and business owners prior to the start of construction, and avoid traffic interruptions during peak traffic periods whenever possible (Exh. DPU-T-2). While the towns will not require official access permits or traffic plans, traffic management plans will be developed in coordination with local officials where needed (id.; Exh. DPU-T-1). The Company will coordinate with local police and officials if any traffic details or road closings are required (Exh. DPU-T-1). Furthermore, traffic management plans will be submitted to the Massachusetts Department of Transportation, Highway Division, for state highway crossings (id.).

e. Construction-Related Noise and Air Impacts

The Company stated that regular construction hours for the Project will be Monday through Friday, 7 a.m. to 5 p.m. (Exh. DPU-G-8). The Company does not plan to work on weekends, but situations may arise that would require weekend or after hours work, such as outage restrictions or highway crossings (id.). If the Company does work on weekends, construction hours would be similar to weekday construction hours (id.). The Company stated that it will notify direct abutters of the Project and the Police Department of the relevant towns of the need and times for any extended work hours and/or weekend work (id.).

The Company provided estimated construction noise levels for the various phases of construction. The noisiest phases may result in maximum sound levels of 85 A-weighted decibels ("dBA") at nearby residences, with average noise levels between 74 and 79 dBA (Exh. DPU-NO-3). Each construction phase would last a week or less at any particular location, so nearby residences may experience construction noise in one-week intervals throughout the entire construction of the Project (Exh. DPU-NO-3). The Company estimated that approximately 120 residences along the ROW may be impacted by construction noise, with larger neighborhoods near Rice Road/Goddard Drive/Bancroft Street/Pakachoag Street (26 residences) and Rockland Road/Nancy Drive/Oxford Street (19 residences) (id.).

The Company stated that it intends to minimize construction air quality impacts by using ultra-low sulfur diesel fuel and low sulfur diesel fuel in its construction vehicles (Exh. DPU-G-10). Furthermore, the Company is currently developing a plan to retrofit some or all of its Company-owned diesel-powered non-road construction equipment, and plans to retrofit

all of its New England based equipment over time (Exh. DPU-G-12). Since the Company is using its own equipment for this Project, it is willing to retrofit any diesel-powered non-road construction equipment rated 50 horsepower or more to be used for 30 days or more over the course of the Project with EPA-verified emission control devices (id.).

f. EMF

The Project will add a 115 kV transmission line to an existing ROW with two existing 115 kV lines (A-127 and B-128), and for a short segment a third 115 kV line (M-165). The short segment of line M-165 on the Project ROW will be relocated within the ROW to allow for the Proposed Line (Exhs. JF-3, JF-4, JF-5). The ROW is 250 feet wide (id.). The existing 115 kV lines, A-127 and B-128, are situated on the southern side of the ROW (id.). The existing M-165 line is situated on the northern side of the ROW, but will be relocated closer to the northern edge (id.). The Proposed Line will be located between the existing A-127/B-128 lines and relocated M-165 lines (id.).

The Company measured existing and estimated proposed electric and magnetic fields along the route, divided into three sections according to the specific configuration at each point along the route (Exh. PAV-3 at 8). These measurements and estimates are presented in Tables 4 and 5 below.

Table 4. Summary of Measured Existing and Calculated Proposed Magnetic Fields

Segment	Existing Magnetic Field Levels (mG)			Proposed Magnetic Field Levels (Peak Load, mG)		
	Northern Edge	Maximum within ROW	Southern Edge	Northern Edge	Maximum within ROW	Southern Edge
Rice Road (Lines A-127 and B-128)	<1.0	40.0	<1.0	4.6	74.5	11.5
Railroad Avenue (Lines A-127, B-128 and M-165)	<2.5	23	<13.7	5.9	74.5	11.6
Millbury Avenue (Lines A-127, B-128 and M-165)	*	26.0	*	5.9	74.5	11.6

* The Company stated that the edge of the ROW was difficult to identify, therefore field levels were not determined (id. at 21, 33).

Table 5. Summary of Measured Existing and Calculated Proposed Electric Fields.

Segment	Existing Electric Field Levels (kV/m)			Proposed Electric Field Levels (kV/m)		
	Northern Edge	Maximum within ROW	Southern Edge	Northern Edge	Maximum within ROW	Southern Edge
Rice Road (Lines A-127 and B-128)	<0.01	0.9	<0.02	0.1	1.8	0.3
Railroad Avenue (Lines A-127, B-128 and M-165)	<0.1	0.6	<0.4	0.6	1.8	0.3
Millbury Avenue (Lines A-127, B-128 and M-165)	*	0.6	*	0.6	1.8	0.3

* The Company stated that the edge of the ROW was difficult to identify, therefore field levels were not determined (id.).

The greatest edge-of-ROW magnetic field increase up to approximately 10 mG occurs on the southern ROW edge at Rice Road, while the greatest proposed edge of ROW magnetic field would be 11.6 mG (id.). The greatest edge of ROW electric field increase would be up to approximately 0.5 kV/m at the northern ROW edge at Railroad Avenue. The greatest edge of ROW electric field would be 0.6 kV/m (id.).

The Company stated that it chose the optimal phasing arrangement for both the proposed line and the relocated M-165 line. The optimal phasing arrangement was determined by selecting the combined configuration that would maintain the ROW-edge fields on the northern side of the ROW at or below 4.0 mG under average load along the entire route (Exh. DPU-E-5).

g. Intervenor position

Mr. Balkus lives at 41 Rockland Road in Auburn, and his property abuts the ROW (Exh. DB-1, Att. (a)). Mr. Balkus expressed concern with the runoff of water from the Company's ROW onto his property, both currently and especially if the Company builds the Proposed Line (Tr. 1, at 124-125). Because the Project will involve clearing the ROW of an additional 40 feet of vegetation, he is concerned that the resulting deforestation of trees and filling of wetlands will adversely affect his property (Tr. 1, at 124-125, 136).

h. Analysis and Findings

The Project is located within an existing ROW traversing an area with a mix of residential and commercial uses and natural areas (Exh. JF-PFT at 3). There will be no adverse impacts to historic or archeological resources or Mapped Estimated or Priority Habitat

of State-listed Rare or Endangered Species (Exh. JBH-PFT at 16). The Project will require up to 40 feet of vegetation clearing along the ROW, totaling approximately 41 acres (Exh. DPU-W-2(a) at 1-6). Options for reducing required clearing entail substantial added cost or increased environmental impacts (Exh. DPU-V-6). Some clearing would be in or near wetlands, and the Company's preservation of an off-site parcel provides some mitigation (see below) (Exh. DPU-W-2(a) at 1-18). Considering the identified mitigation and the added costs associated with reducing required clearing, we conclude that impacts to land use resources would be minimized (Exhs. JF-PFT at 3; JBH-PFT at 16, 17; DPU-W-2(a) at 1-6).

The visual impacts of the Project will be greater than the existing conditions due to the height of the proposed structures (Exh. JF-PFT). Because of tree clearing, many residents will experience more substantial views of the ROW (Exhs. DPU-G-7, DPU-V-1). The Company has stated its willingness to work with abutters to address visibility concerns (Exh. DPU-V-2). In order to mitigate visual impacts, the Department orders that the Company shall, upon request of any person owning property directly abutting the ROW, provide additional screening (such as, but not limited to shrubs, trees, or window awnings). Upon completion of Project construction, the Company shall notify in writing all owners of property abutting the ROW of the option to request that the Company provide mitigation. The Company shall honor all reasonable and feasible requests for mitigation that are submitted by property owners within six months of receipt of the Company's written notification. With implementation of this condition, visual impacts will be mitigated.

The Project will result in alterations to jurisdictional BVWs, BLSF, RFA and bank, and the Company is obtaining necessary permits and orders for work in these and other areas (Exh. JBH-PFT at 9, 11). The Company will minimize wetlands impacts through the use of swamp mats and siltation fences where necessary during construction, and will also undertake a compensatory wetlands mitigation project that will preserve a 29-acre parcel in the Board Meadow Brook Conservation Center and Wildlife Sanctuary in Worcester (id. at 13; Exh. DPU-W-2(a) at 1-18). With the Company's proposed mitigation, impacts to wetlands and waterways will be minimized.

In his brief, Mr. Balkus objects to the Company's proposal to mitigate the Project's impacts on wetlands by undertaking a compensatory wetlands mitigation project (Balkus Brief at 3). He asserts that the Army Corps of Engineers ("ACOE") prefers that wetlands impacts be mitigated on-site rather than with compensatory off-site measures (id.). The Company met with ACOE several times to discuss wetland mitigation (Exh. DPU-W-2(a), at 1-9). While the ACOE may typically prefer on-site mitigation, in this case the ACOE agreed with and was satisfied with the proposal to permanently preserve 29 acres of off-site wetlands and uplands (id.).

With respect to traffic, the Company will work with the relevant public officials and departments to coordinate any traffic details or road crossings necessary throughout construction (Exhs. SF-PFT at 7; DPU-T-1). Furthermore, the Company will alert residents and business owners of possible traffic interruptions prior to the start of construction on the Project and avoid traffic interruptions during peak traffic periods whenever possible (Exh.

DPU-T-2). Because overall traffic impacts will be minimal – including construction-related traffic impacts - we find that the Project's traffic impacts would be minimized.

With respect to construction noise impacts, approximately 120 residents along the ROW may be impacted by construction noise during regular construction hours, Monday through Friday (Exh. DPU-NO-3). The Company may need to work after their regular weekday construction hours of 7 a.m. to 5 p.m. or on weekends for specific reasons, such as outage restrictions or highway crossings (Exh. DPU-G-8). Given the large number of residents who may be impacted by construction noise, the Department finds the following condition to be warranted. In order to minimize construction noise impacts, the Company is directed to avoid construction outside of the regular weekday construction hours of 7 a.m. to 5 p.m. and on weekends. To the extent that the Company finds that construction performed outside of these hours or on weekends is necessary, the Company shall seek permission from the relevant municipal authority prior to the commencement of such work. If the Company and the municipal officials are not able to agree whether weekday evening or weekend construction should occur, the Company may seek permission from the Department. The Company shall notify affected abutters prior to commencing work outside of regular working hours. If such work is authorized, the Company shall use best efforts to minimize noise impacts.

The Company will minimize construction air quality impacts by using ultra-low and low sulfur diesel fuel in its construction vehicles, and it is willing to retrofit its diesel-powered non-road construction equipment rated 50 horsepower or more to be used for 30 days or more over the course of the project with EPA-verified emission control devices (Exhs. DPU-G-10; DPU-

G-12). With implementation of the Company proposed mitigation measures and the above conditions the Project's construction-related noise and air impacts will be minimized.

With respect to electric and magnetic fields, the Project would result in a slight increase or decrease in the electric and magnetic field levels, depending on the portion of the Project route (Exh. PAV-3 at 21, 33). The Company has configured the conductors to avoid magnetic fields over 4 mG at the northern edge of the ROW under average load (Exh. DPU-E-5). With the proposed transmission design, electric and magnetic field impacts will be minimized.

The Department concludes that with compliance with (1) applicable federal, state and local regulations; and (2) the directives herein, the Project would include feasible measures to avoid or minimize environmental impacts.

4. Conclusions on Public Convenience and Welfare

Based on the foregoing analysis of: (1) need for or public benefit of use; (2) alternatives explored; and (3) impacts of the proposed use, the Department finds that the benefits of the Project exceed adverse local impacts, and thus, that the proposed use is reasonably necessary for the public convenience and welfare.

D. Zoning Exemptions

1. Introduction

NEP seeks individual zoning exemptions as well as comprehensive exemptions from the zoning by-laws of the Towns of Millbury and Auburn (Exh. NG-PET-Zoning, ¶¶ 15-52). The Company has engaged in extensive outreach to each Project community (Exhs. SF-PFT at 9-10; SF-5; DPU-S-1; DPU-G-3) and has held numerous discussions with local officials on the

substance and merits of the requested zoning exemptions (Exhs. DPU-Z-1; DPU-Z-2). As a result, officials from Auburn and Millbury have offered their support for the Company's request for zoning exemptions (Tr. at 103-104; Exhs. LPM-7; DPU-Z-2 (Att.)).

2. Applicability of Russell Decision

In consulting with the affected municipalities, the Company has acted to fulfill the duties imposed upon petitioners seeking zoning exemptions by the Energy Facilities Siting Board ("Siting Board") decision in Russell Biomass LLC/Western Massachusetts Electric Company, EFSB 07-4/D.P.U. 07-35/07-36, at 60-65 (2009) ("Russell"). In Russell, the Siting Board set forth a new approach to determine whether an exemption from a particular provision of a zoning bylaw is "required" for purposes of G.L. c. 40A, § 3. Specifically, the Siting Board set forth the following approach to be used by applicants when seeking zoning exemptions:

> First, in cases where (1) a local zoning provision would on its face preclude construction and operation of a proposed energy facility, and (2) there is no provision in a local zoning by-law for a special permit, variance, or other relief, relief under G.L. c. 40A, § 3 could be considered without further consultation with the local zoning authority. Second, if relief appears to be available, but consultations with the local zoning authority demonstrate that a petitioner is unlikely to obtain that relief, relief under G.L. c. 40A, § 3 could be considered without further local efforts. Absent such circumstances, it is our expectation that a project proponent will make a good faith effort to consult with local zoning authorities and apply for necessary zoning approvals or other relevant relief, as appropriate.
>
> Russell, EFSB 07-4/DPU 07-35/07-36, at 62.

Since Russell was issued, the Department has issued three zoning exemptions decisions each of which discussed Russell. NSTAR Electric Company, D.P.U. 08-1 (2009) ("NSTAR

2009 Decision"); Western Massachusetts Electric Company, D.P.U. 09-24/09-25, at 33, n. 15 (March 19, 2010) ("WMECo"); New England Power Company, D.P.U. 09-27/09-28, at 47, n. 16 (March 26, 2010) ("New England Power Company"). In these decisions, the Department did not formally apply Russell because each of the cases was filed with the Department prior to the issuance of Russell, and the Department determined that each case was grandfathered from having to comply with Russell. Thus, this is the first Department zoning exemption case to be filed after Russell. Nonetheless, in these three recent decisions, we provided guidance on how the Russell principles should be applied going forward.

For instance, in the NSTAR 2009 Decision, the Department stated:

> In applying Russell in the future, the Department will consider the relevant facts on a case-by-case basis. We recognize that there may be factual circumstances where it may not be appropriate for an applicant to apply for local zoning approvals or other relevant relief prior to filing a G.L. c. 40A, § 3 zoning exemption petition, even when such relief may theoretically be available. Such circumstances may arise, for instance, where the appropriate municipal authority does not oppose the applicant's plan to file a G.L. c. 40A, § 3 petition at the Department.
>
> NSTAR 2009 Decision at 34 (emphasis supplied).

In the two other post-Russell cases, WMECo and New England Power Company, the Department found that the proposed transmission projects, that would pass through multiple municipalities, were needed immediately to satisfy proper transmission planning criteria. D.P.U. 09-24/09-25, at 36; D.P.U. 09-27/09-28, at 51. In both cases, the Department noted that even though the applicants did not formally apply for any local zoning relief prior to filing their zoning exemption petitions, the applicants' actions with respect to communications with the municipalities before filing zoning exemption petitions were "consistent with the spirit and

intent" of Russell. WMECo, D.P.U. 09-24/09-25, at 33, n. 15 (March 19, 2010); New England Power Company, D.P.U. 09-27/09-28, at 48, n. 16 (March 26, 2010). Specifically, in each case, prior to filing for zoning exemptions, the applicant engaged in extensive communications with the applicable towns about the proposed project and the needed zoning relief. In addition, in WMECo, the Department noted that the applicant's consultations included the applicant's making a good faith effort to abide by the reasonable recommendations of town officials with respect to the applicant's project. In both cases, the Department notes that none of the municipal officials expressed any objection to the Company's seeking zoning relief from the DPU in the form of exemptions pursuant to G. L. c. 40A, § 3.[15]

The facts of this case satisfy the Russell standard as the Department has further defined that standard in the three post-Russell decisions cited above. Specifically, we find that the Company made a good faith effort to consult with local zoning authorities and, as a result, that neither of the two towns through which the transmission lines will pass has objected to the Department granting the zoning exemptions. Furthermore, as noted above, the reliability need for the Project is immediate; and its construction is, therefore, time-sensitive (section II.C.1,

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[15] The Siting Board recently addressed the significance of both Russell and the three post-Russell decisions cited above in New England Power Company, EFSB 09-1/D.P.U. 09-52/53 (March 11, 2011), involving the construction of an underground transmission line in Worcester and related substation equipment in Worcester, Millbury and Shrewsbury (a/k/a the Worcester decision). In Worcester, the Siting Board agreed with the Department that the purpose of Russell is to encourage applicants to consult with local officials before seeking zoning exemptions so that local concerns may be addressed on a local level. Id. at 76-77. Consequently, the Siting Board found that the Company had complied with Russell through its "significant contact and consultation with the relevant municipalities" even though it had not formally applied for any zoning permits prior to filing its zoning exemption petition with the Department. Id. at 77.

above). Additionally, the Project will affect electric reliability in towns besides those from which zoning exemptions are sought.

The Company seeks the following exemptions from the zoning by-laws of Auburn and Millbury.

Table 6: Requested Exemptions, Town of Auburn

Description	**Provision**
Project Use Regulations	Sections 3, 4.1, and 4.3
More than One Principal Use/Structure Per Lot	Sections 3.1 and 3.7
Dimensional Requirements	Section 5
Site Plan Approval	Section 9.4
Landscape Requirements	Section 11
Earth Removal	Section 3.8

Table 7: Requested Exemptions, Town of Millbury

Description	**Provision**
Project Use	Article 2, §§ 22, 23
Use and Activities in Floodplain District	Article 3, § 36
Dimensional Requirements	Article 2, §§ 22, 23, 26
Site Plan Review	Article 1, § 12.4
Activities in Bank, Marsh, Swamp	Article 3, § 35.23
Vegetation Removal	Article 3, § 35.6
Aquifer and Watershed Protection Overlay District	Article 4, § 47

3. The Company's Position

Tables 8 and 9 below summarize the Company's position with respect to the requested individual exemptions from the Auburn and Millbury zoning bylaws.

Table 8: Individual Exemptions, Auburn

Individual Zoning Exemption Requested	**Available Relief from Town**	**Why Project Cannot Comply: Company's Position**
Uses §3 (table of principal uses)	Use Variance	The Auburn Zoning Bylaws set forth allowable uses of all land, structures, and buildings (Exh. LPM –PFT at 9; Exh. LPM-4, at 53, Auburn Zoning Bylaws, § 3). Governmental and public service uses are allowed, but towers of the height to be constructed are excluded. Therefore a use variance may be necessary. The Bylaws do provide for the issuance of use variances. The need to obtain such a variance, however, may cause uncertainty and delay. Zoning bylaws are not written with facilities such as the Project in mind. Therefore, the bylaws are often in conflict with state and industry safety and engineering standards, and are difficult to apply to transmission lines.

		Furthermore, the application of these bylaws may result in the imposition of burdensome conditions. All of these factors cause uncertainty regarding whether the Project can be constructed as designed and may delay the construction or make it impossible. (Company Brief at 30-40, 46; Exh. DPU-Z-11; Tr. at 101-102). Furthermore, variances are a disfavored form of relief and can be appealed, causing further delay. Therefore, an exemption is required in order to construct the Project promptly (Company Brief at 30-40, 46).
Uses §§ 3.1 and 3.7	Use Variance (§ 3.1) No relief available (§ 3.7)	Section 3.1 provides that only one principal use per lot is authorized, and the Project may be deemed to constitute a second use or structure. Therefore, a use variance may be required. Variances, however, are a disfavored form of relief and can be appealed, causing delay. Therefore, an exemption is needed so that the Project may be constructed without uncertainty and delay (Company Brief at 30-40, 46). Section 3.7.4 also prohibits the construction of more than one dwelling or principal use structure per lot. Therefore, the Project may violate this provision. No relief at all is available for the potential violation of section 3.7.4 because section 9.5 of the bylaws expressly prohibits the ZBA from granting variances for uses prohibited in section 3.7 (LPM-4, at 111).
Floodplain District § 4.1	Use Variance	Portions of the Project will be located within the Floodplain District (LPM-PFT at 11). The Project use, however, is not specifically listed as a permitted use in the Floodplain District and also is not permitted in the underlying zoning districts (id.). Consequently, a variance would be required in order to construct the Project in this district. Variances, however, are a disfavored form of relief and can be appealed, causing further delay. Therefore, an exemption is required in order to construct this Project promptly (Company Brief at 30-40, 46).
Aquifer and Watershed Protection Overlay District § 4.3	Use Variance	Portions of the Project would be within Zone II and Zone III of the Aquifer and Watershed Protection Overlay District ("AWPOD") (Exh. LPM-PFT at 11). Uses allowed in the underlying districts are allowed in the AWPOD unless specifically prohibited by section 4 of the zoning bylaws. The Auburn Building Inspector confirmed that section 4 does not specifically regulate the Project use (id.). Nevertheless, if the Building Inspector's use interpretation were not upheld, then the Project would need to obtain a variance (id.). Variances, however, are a disfavored form of relief and can be appealed, causing further delay. Therefore, an exemption is required in order to construct this Project promptly (Company Brief at 30-40, 46).
Site Plan Approval §§ 9.4	Site Plan Approval	Site plan approval is required for any development that requires a special permit or variance (Exh. LPM-PFT at 12). As demonstrated herein, the Project will require a special permit and variances. Therefore, the Project

		would require site plan approval (Company Brief at 47). Obtaining such approval, however, would result in uncertainty and delay. Therefore, an exemption is required (Company Brief at 30-40, 47).
Landscaping Plan § 11.2	Variance or Waiver	The Auburn Zoning Bylaws require that a landscaping plan accompany each application for a building permit, special permit, and site plan approval. Consequently, the Company would be required to submit a landscaping plan in this case (LPM-PFT at 12-13). The Company promises to work with abutters and municipal officials regarding landscape issues on a case-by-case basis, but requests an exemption to avoid delays and uncertainty (Company Brief at 30-40, 48).
Height Regulations §§ 5.2.7, 5.3	Variance	The height of the proposed structures ranges from 60 feet to 105 feet (LPM-PFT at 14). The Auburn Zoning Bylaws, section 5.3, limits the height of structures to 25 or 35 feet in the relevant zoning districts (Exh. LPM-PFT at 13-14; Exh. LPM-4, at 87). Consequently, the Project would require a variance (Company Brief at 47). Variances, however, are a disfavored form of relief and can be appealed, causing further delay. Therefore, an exemption is required in order to construct this Project promptly (Company Brief at 47).
Setbacks §§ 5.2.4, 5.2.5	Variance	The zoning bylaws require that all structures be set back certain prescribed distances from the property lines (Exh. LPM-4, at 85). The Project manager has represented that several structures associated with the Project will be within the yard setbacks (Exh. LPM-PFT at 15). Therefore, the Project will require a variance. Variances, however, are a disfavored form of relief and can be appealed, causing further delay. Consequently, an exemption is required in order to construct this project promptly (Company Brief at 47).
Earth Removal § 3.8	Special Permit	The Auburn Zoning Bylaws explicitly designate “earth removal” as a restricted use in all districts, and they require that a special permit be obtained for all earth removal (Exh. LPM -4, at 63). It would be difficult or impossible for the Company to comply with any conditions that might be imposed as part of such a special permit (LMP-PFT at 18; Company Brief at 48-49). Therefore, an exemption is required in order to construct this project promptly (Company Brief at 30-40, 48-49).

Table 9: Individual Exemptions, Millbury

Individual Zoning Exemption Requested	**Available Relief from Town**	**Why Project Cannot Comply: Company's Position**
Use Regulations, Article 2, §§ 22.21, 22.22, 22.23, 23.2	Special Permit in R-1, R-2, S-1, S-3 and S-4 zoning districts; use variance in R-3 zoning district	Zoning bylaws are not written with facilities such as the Project in mind. Therefore, the bylaws are often in conflict with state and industry safety and engineering standards, and are difficult to apply to transmission lines. Furthermore, the application of these bylaws may result in the imposition of burdensome conditions. All of these factors cause uncertainty regarding whether the Project can be constructed as designed and may delay the construction or make it impossible. (Company Brief at 30-40; Exh. DPU-Z-11; Tr. at 101-102). In the present case, depending on how one interprets the term "Public Utility," the Project would be allowed by special permit only in certain zoning districts through which it runs; and in other zoning districts the Project would be allowed only by grant of a variance (Exh. LPM-PFT at 8-9). Furthermore, variances are a disfavored form of relief and can be appealed, causing further delay.
Floodplain District, Article 3, § 36	Special Permit	Portions of the Project are located in the Floodplain District (Exh. LPM-PFT at 7). The Millbury Zoning Bylaws, however, forbid the relocation or transfer of earth in that district, which would appear to prohibit the planned construction (Exh. LPM-PFT at 8-9). Furthermore, the Project is not included as a permitted use in the Floodplain District (id.). Consequently, a special permit may be required (id. at 9). An exemption from this requirement is necessary in order to avoid uncertainty and delay (Company Brief at 30-40, 50).
Site Plan Review, Article 1, § 12.4	Site Plan Approval	Site plan approval is required for all projects that require a special permit, including special permits for water body protection and vegetation removal, both of which apply to the Project (Exh. LPM-PFT at 11-12). An exemption from this requirement is necessary in order to avoid uncertainty and delay (Company Brief at 30-40, 51).
Setbacks, Article 2, §§ 22.3, 23.31, 23.33, 23.34, 26.3	Variance	There are some structures located within the yard setbacks, and "yard" is defined in the zoning bylaws to exclude any area containing a structure (LPM-PFT at 14-15). Consequently, a variance from the setback requirements of the Millbury Zoning Bylaws may be required (LPM-PFT at 15). Variances, however, are a disfavored form of relief and can be appealed (Exh. NG-PET-Zoning, Zoning Petition at ¶ 23). Also, variances lapse one year after they are granted unless construction has begun (G.L. c. 40A, § 10). Because several boards and agencies must give approval to Project, the variance might lapse before all such approvals are obtained thereby causing delays and uncertainty (Exh. NG-PET-Zoning, Zoning Petition at ¶ 23).

Waterbody Protection Article 3, § 35.2	Special Permit	Two poles will result in the permanent loss (fill) of wetlands, thereby requiring a special permit which can only be issued by the Planning Board upon determination that the provisions of the Wetland Protections Act have been satisfied (Exh. LPM-PFT at 16). Local review by the Millbury Planning Board is likely to cause uncertainty and delay (Company Brief at 30-40, 52).
Vegetation Clearing Article 3, § 35.6	Special Permit	The Project will result in the clearing of more than one acre of contiguous trees in Millbury, thereby requiring a special permit from the Millbury Planning Board (Exh. LPM-PFT at 16-17). An exemption is required in order to avoid uncertainty and delay.
Aquifer Protection District Article 4, § 47	Variance and Special Permit	After the Company filed its petition, the Town of Millbury amended its bylaws. As a result, the Project now is located within the Aquifer and Watershed Overlay Protection District (Exh. DPU-Z-7; Exh. DPU-Z-12; Tr. at 93-96). The Project is not a permitted use and is thereby prohibited in the Aquifer and Watershed Overlay Protection District. Consequently, the Company would need to obtain a special permit for the part of the Project located in the R-1, R-2, S-1, S-3, and S-4 zoning districts and a variance for the part of the Project located in the R-3 zoning district (Exh. LPM-PFT at 8). Variances are a disfavored form of relief and can be appealed, causing further delay, and obtaining the special permits, assuming that were possible, would also cause delay. Therefore, an exemption is required in order to avoid uncertainty and delay (Company Brief at 30-40, 52-53).

4. Community Input

The record indicates that the Company engaged in extensive community outreach (Exh. SF-PFT at 10; Exh. SF-6). On four separate occasions during 2009, Company representatives met with Millbury and Auburn Town officials (Exh. SF-PFT at 10-11). Furthermore, in July of 2009, the Company sent out "fact sheets" to all abutters within 300 feet of the edge of the ROW (id. at 9). Company representatives also went door-to-door to meet with abutters and held two public open houses regarding the Project (id. at 90).

On October 5, 2009, the Building Inspector of the Town of Auburn wrote to the Company representing that the Town did not object to the Company's petition for an

exemption from the Auburn Zoning Bylaws (Exh. LPM-7). The letter concludes with the statement that the Town, "look[s] forward to working with National Grid to ensure that this important project proceeds expeditiously" (id.). The Company also provided a letter from Town of Millbury officials who state that the Town has no objection to the Department granting the zoning exemptions sought by the Company (Exh. DPU-Z-2, Att. (a)).

In his brief, Mr. Balkus asserts that the Company failed to adequately inform the public about the exact nature of the Project (Balkus Brief at 1). For instance, mentioning the language of a Municipal Project Notification that was sent to the abutters, Mr. Balkus complains that the Company does not specifically mention its plans to install "new Towers (sic) in wetlands, floodplains or your backyard" (Balkus Brief at 2). Mr. Balkus's criticism of this document, however, does not take into account the wider context of the Company's outreach, described below, wherein notice was given many times and in many ways.

The Company published a notice of public hearing on the Project ("Notice") in both the Boston Globe and the Worcester Telegram and Gazette on January 25 and February 1, 2010 (Exh. NG-ROS, Atts. B, C). The Notice described the Project in some detail; it informed the public of the time, date, and location of the public hearing; and it described the procedures required for intervention in this proceeding as either a limited participant or as an intervenor (id. at Att. A). In addition, the Company sent the Notice to various city or town offices in the City of Worcester and the Towns of Millbury, Auburn, Leicester, Oxford, Sutton, and Grafton

(id. at Atts F, G).[16] The Company also provided Notices and copies of both the Zoning Petition and the Section 72 Petition for posting and public review in the Town Clerks' offices and the public libraries for Millbury and Auburn (id. at Atts. D, E). Finally, the Company also sent Notice to property owners abutting the proposed location of the Project and to abutters within 300 feet of the Project (id. at Att. I).

The public hearing itself took place on February 11, 2010, at the Millbury Junior/Senior High School. Representatives of the Company were present to explain the Project and to answer questions (Tr. dated 2/11/10).

We find that notice of this proceeding was completely adequate, both from the point of view of what is required by statute and from the point of view of what is reasonable under the circumstances. Therefore, we conclude that Mr. Balkus's argument on this point is unavailing.

5. Analysis and Findings

The Company has identified the above-described provisions of the Auburn and Millbury zoning bylaws from which it seeks exemption to minimize delay in the construction and ultimate operation of the Project (Tables 6 and 7, supra). We find that the Project would not be an allowable use in Millbury's R-3 zone and may not be an allowable use elsewhere under either of the Towns' zoning bylaws. Further, while use variances are allowed, the Department concurs with the Company that obtaining a variance can cause undue delays and subject the Project to a difficult legal standard to meet and uphold in court. New England Power

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[16] The Company sent the Notice to each of the Town's or City's Board of Selectmen and Mayor, Town Manager or Administrator, Planning Board, Building Inspector, and Zoning Board of Appeals (Exh. NG-ROS, Attachment F).

Company, D.P.U. 09-27/28, at 45 (2010); Western Massachusetts Electric Company, D.P.U. 09-24/25, at 32 (2010).[17] The Department concludes the same factors apply to the Floodplain District in the Auburn and Millbury zoning bylaws and the Aquifer Protection and Watershed Overlay District provisions of the Auburn Zoning Bylaws, and to the potential necessity for variances under those provisions.

The Department notes that there is uncertainty whether the referenced Millbury setback regulations apply to the Project. If the provisions were to apply to the public utility use, the Project would not comply (Exh. LPM-PFT at 14-15). While variances for setback requirements are not prohibited under the zoning bylaws, obtaining a variance can cause undue delays and subject the project to a difficult legal standard to meet and uphold in court. Russell Biomass, LLC, EFSB 07-4/D.P.U. 07-35/36, at 65; Russell Biomass, D.T.E./D.P.U. 06-60-A at 10 (2008).[18]

With regard to the additional provisions relating to uses, earth removal, vegetation, clearing, landscaping, waterbody protection, aquifer protection, removal of topsoil, locating in a floodplain zone, and site plan review, the Company maintains that exemptions are required as such reviews could cause delay and could result in burdensome or restrictive conditions that

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[17] Regarding the standard for granting variances, the SJC has held that, "no person has a legal right to a variance and they are to be granted sparingly." 39 Joy Street Condominium Ass'n v. Board of Appeal of Boston, 426 Mass. 485, 489 (1998); see also, Broderick v. Board of Appeal of Boston, 361 Mass. 472, 479 (1972); Damaskos v. Board of Appeal of Boston, 359 Mass. 55, 61 (1971).

[18] In support of this assertion, the Department in D.T.E./D.P.U. 06-60-A cites to a more recent SJC case, Lussier v. Zoning Board of Appeals of Peabody, 447 Mass. 531, 534 (2006) (variances are not allowed as a matter of right and should be sparingly granted).

may interfere with established utility standards for safety and reliability. The Department acknowledges that while these provisions do not on their face prevent the development of the Project, there is some likelihood that these provisions would result in one or more of the following: an adverse outcome, a burdensome requirement, or an unnecessary delay as part of zoning review. D.P.U. 09-24/25, at 33; D.P.U. 09-27/28, at 46-47.

6. Conclusions on Request for Individual Zoning Exemptions

The Department finds that the substantive sections of the Auburn and Millbury zoning bylaws included in Tables 6 and 7 above would or could affect the Company's ability to implement the Project as proposed. Accordingly, the Department finds that NEP has demonstrated that the requested zoning exemptions are required pursuant to G.L. c. 40A, § 3.

As set forth in detail above, we have determined that: (i) NEP qualifies as a public service corporation for the purposes of G.L. c. 40A, § 3; (ii) the proposed use is reasonably necessary for the public convenience and welfare; and (iii) the specifically named zoning exemptions, as identified by NEP, are required for the purposes of G.L. c. 40A, § 3.

Accordingly, we grant the Company's request for the individual zoning exemptions listed above in Tables 6 and 7.

III. REQUEST FOR COMPREHENSIVE ZONING EXEMPTIONS

A. Standard of Review

The Department has granted requests for a comprehensive zoning exemption on a case-by-case basis. NSTAR Electric Company, D.P.U. 07-60/07-61, at 50-51 (2008), citing Princeton Municipal Light Department, D.T.E./D.P.U. 06-11, at 37 (2007); NSTAR Electric

Company, D.T.E./D.P.U. 07-9/07-10, at 37 (2007). The Department will not consider the number of exemptions required as a sole basis for granting a comprehensive exemption. Princeton Municipal Light Department, D.T.E./D.P.U. 06-11, at 37 (2007). Rather, the Department will consider a request for comprehensive zoning relief only when construction of a proposed facility would avoid substantial public harm. Id.; see also NSTAR Electric Company, D.P.U. 07-60/07-61, at 51-52 (2008).

B. The Company's Position

In addition to the individual exemptions enumerated above, the Company requests comprehensive exemptions from the zoning bylaws of both Auburn and Millbury (Exh. NG-PET-Zoning at 20-25). The Company argues that the issuance of comprehensive exemptions is appropriate in this case because it will prevent delays in construction, and that prompt construction may avoid "substantial public harm" (Company Brief at 54).

The Company asserts that the Project is necessary in order to address thermal and voltage violations in the case of foreseeable contingencies (Company Brief at 9-10). Additionally, the goal of the Project is to eliminate the risks associated with operating the A-127 Line and the B-128 Line in the present high-load configuration, an interim measure the Company represents that it has adopted in order to mitigate risk until the Project can be completed (id. at 54). Consequently, the Company characterizes the Project as important for reliability, and the relief that it will provide as "essential" and "time-sensitive" (Company

Brief at 54).[19] Furthermore, the Company notes its extensive outreach to the community and the support of local officials (Company Brief at 55).

The grant of comprehensive zoning exemptions in the present situation, the Company argues, would be consistent with recent Department decisions (Company Brief at 54). Specifically, the Company cites to New England Power Company, D.P.U. 09-27/09-28, at 51 (2010), in which the Department held that: "The immediate reliability need to proceed with project construction without interruption, supports the issuance of comprehensive exemptions," and to Western Massachusetts Electric Company, D.P.U. 09-24/09-25, at 36 (2010), in which the Department held that the grant of comprehensive zoning exemptions was warranted in order to avoid delay in construction of project improvements designed to rectify "existing and near-term reliability problems."

C. Analysis and Findings

The record shows that the Project is needed for reliability reasons. The Company has submitted evidence showing that unless the Project (the Z-126 line) is constructed, then under a variety of contingencies for which NEP must test its transmission system, the Webster Street Substation, as well as other substations, would violate established voltage and thermal standards and the A-127 and B-128 lines would violate established thermal standards (Exhs. DML-PFT at 8-10; DML-1 at 28, 34, 38; DPU-N-5; DPU-N-22). Furthermore, the need for construction of the Project is immediate, since the voltage and thermal violations that occur

[19] See "Need for or Public Benefit of Use," Section II.C.1, *supra*, for a more complete explanation of the specific problems the Project is intended to alleviate.

under some of the contingencies occur at current peak load levels (Exh. DML-PFT at 8-10). Consequently, we conclude that construction should proceed as quickly as possible. Furthermore, as we stated in New England Power Company, D.P.U. 09-27/09-28, at 51 (2010), the immediate reliability need to proceed with Project construction without delay supports the issuance of comprehensive exemptions.

The Department further notes that none of the affected towns sought to intervene or participate in this process. Indeed, both the Town of Auburn and the Town of Millbury have explicitly stated that they do not object to the relief the Company seeks in its petition (Exh. LPM-7; Exh. DPU-Z-2(a)).

Accordingly, the Department grants the Company's request that the Project receive comprehensive exemptions from the zoning bylaws of the Towns of Auburn and Millbury. These comprehensive exemptions shall apply to the construction and operation of the Project as described herein, to the extent applicable. See Planning Bd. of Braintree v. Dep't of Public Utilities, 420 Mass. 22 (1995).

IV. REQUEST FOR AUTHORITY TO CONSTRUCT AND USE TRANSMISSION LINE PURSUANT TO G.L. c. 164, § 72

A. Standard of Review

General Laws c. 164, § 72, requires, in relevant part, that an electric company seeking approval to construct a transmission line must file with the Department a petition for:

> authority to construct and use ... a line for the transmission of electricity for distribution in some definite area or for supplying electricity to itself or to another electric Company or to a municipal lighting plant for distribution and sale ... and shall represent that such line will or does serve the public convenience and is consistent with the public interest .... The [D]epartment,

> after notice and a public hearing in one or more of the towns affected, may determine that said line is necessary for the purpose alleged, and will serve the public convenience and is consistent with the public interest.[20]

The Department, in making a determination under G.L. c. 164, § 72, considers all aspects of the public interest. Boston Edison Company v. Town of Sudbury, 356 Mass. 406, 419 (1969). Among other things, Section 72 permits the Department to prescribe reasonable conditions for the protection of the public safety. Id. at 419-420.

In evaluating petitions filed under G.L. c. 164, § 72, the Department examines: (1) the need for, or public benefits of, the present or proposed use; (2) the environmental impacts or any other impacts of the present or proposed use; and (3) the present or proposed use and any alternatives identified. New England Power Company d/b/a/ National Grid, D.T.E. 06-37, at 2-3 (2007); Boston Edison Company d/b/a NSTAR Electric, D.T.E. 04-71, at 2-4 (2005); Commonwealth Electric Company d/b/a NSTAR Electric, D.T.E. 05-1, at 2-3 (2005); Massachusetts Electric Company, D.T.E. 03-130, at 2-3 (2004). The Department then balances the interests of the general public against the local interests and determines whether the line is necessary for the purpose alleged and will serve the public convenience and is consistent with the public interest.

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[20] Pursuant to G.L. c. 164, § 72, the electric company must file with its petition a general description of the transmission line, a map or plan showing its general location, an estimate showing in reasonable detail the cost of the line, and such additional maps and information as the Department requires.

B. Analysis and Findings

In evaluating petitions filed pursuant to G.L. c. 164, § 72, the Department relies on the standard of review established for G.L. c. 40A, § 3 for determining whether the Project is reasonably necessary for the convenience or welfare of the public. Based on the record in this proceeding and the above analysis in Section II.C.3, compliance with the directives and mitigation discussed in section II.C.3, above, and compliance with applicable state and local regulations, the Department finds pursuant to G.L. c. 164, § 72, that the proposed transmission lines are necessary for the purpose alleged, will serve the public convenience, and are consistent with the public interest.

V. SECTION 61 FINDINGS

The Massachusetts Environmental Policy Act ("MEPA") 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." G.L. c. 30, § 61. Pursuant to 301 CMR, § 11.01(3), these findings are necessary when an Environmental Impact Report ("EIR") is submitted by a petitioner to the Secretary of Environmental Affairs, and should be based on such EIR. Where an EIR is not required, G.L. c. 30, § 61 findings are not necessary. 301 CMR, § 11.01(3). The record indicates that a Single Environmental Impact Report ("SEIR") was required for the proposed addition of the Z-126 transmission line and, therefore, a finding under G.L. c. 30, § 61 is necessary in this case (Exh. JBH-4). The SEIR was submitted in November 2010 (Exh. IR-W-2 Supplemental Response dated November 1, 2010).

On December 15, 2010, the Secretary of the Office of Energy and Environmental Affairs ("EOEEA") issued a Certificate on the Company's SEIR (Exh. DPU-W-2(a)). The Secretary found that the SEIR adequately and properly complies with MEPA (G.L. c. 30, §61-62I) and with its implementing regulations (301 CMR 11.00) (id.).

The Company presented evidence that it has received approvals of the Project from other federal, state and local authorities concerning environmental impacts. The Project has received Orders of Condition from the Conservation Commissions in Millbury and Auburn (Exh. DPU-W-1).

The Department has undertaken a comprehensive investigation and analysis of the environmental impacts of constructing the proposed Z-126 transmission line and the related action of relocating the M-165 Line (see Section II.C.3). The project will be constructed on an existing electric ROW owned by the Company and no additional land will be required. The Project will result in alterations to jurisdictional BVWs, BLSF, RFA and bank, and the Company is currently engaged in obtaining necessary permits and orders for work in these and other areas (Exh. JBH-PFT at 9, 11). The Company will minimize wetlands impacts during construction through the use of swamp mats and siltation fences (id. at 13; DPU-W-1(a) and 1(b)). The Company also will undertake an off-site compensatory wetlands mitigation project which will preserve in perpetuity a 29-acre parcel (Exh. DPU-W-2(a) at 1-18). The preserved land will be used to compensate for the 120 square feet of wetland loss and 5.84 acres of wetland alterations during construction (id. at 2-38 – 2-39). The 29 acres is located about 1 ½ miles north of the project and is part of a larger 137-acre parcel currently licensed to the

Massachusetts Audubon Society for use as part of the Sanctuary (id. at 2-38). The preserved parcel contains about 16.6 acres of wetland and 12.4 acres of forested upland (id.). The preservation of 29 acres represents a compensation ratio of 2.8:1 and the Army Corps of Engineers has agreed that this ratio will meet its prescribed compensation ratios (id. at 2-39).

The Department also evaluated the visual, EMF, and construction-related traffic, noise and air impacts (see Section II.C.3). Because of the greater height of the new poles and the need to clear a wider area of the ROW, there will be visual impact on abutters. In order to minimize the visual impacts, the Company has agreed to optimize pole placement and to work with individual abutters to provide vegetative and non-vegetative screening. With respect to EMF impacts, the Company has agreed to utilize phasing design measures to keep edge-of-ROW EMF levels on the northern edge of the ROW at or below existing levels. To reduce construction related noise impacts, the Company has agreed to Department conditions on days and hours of construction. Construction-related air quality impacts will be minimized by the Company's agreement to use ultra-low-sulfur and low-sulfur diesel fuel in its construction vehicles and equipment, and its agreement to retrofit certain construction vehicles, as further specified in the conditions. Construction-related traffic impacts are expected to be small and any interruptions in traffic necessitated by construction will be preceded by Company notification to the affected town and residents. With the implementation of these mitigation measures, we hereby find that all feasible measures have been taken to minimize environmental impacts.

VI. ORDER

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

ORDERED: That the petition of National Grid seeking the specific exemptions set forth in Tables 6 and 7 above from the operation of the Town of Auburn Zoning Bylaws and the Town of Millbury Zoning Bylaws pursuant to G.L. c. 40A, § 3 is allowed; and it is

FURTHER ORDERED: That the petition of National Grid seeking comprehensive exemptions from the operation of the Town of Millbury Zoning Bylaws and the Town of Auburn Zoning Bylaws is allowed; and it is

FURTHER ORDERED: That the petition of National Grid seeking approval to construct and operate a transmission line pursuant to G.L. c. 164, § 72 is allowed; and it is

FURTHER ORDERED: That to help mitigate visual impacts National Grid shall, upon request of any person owning property directly abutting the ROW, provide additional screening (such as, but not limited to shrubs, trees or window awnings). Upon completion of construction, the Company shall notify in writing all owners of property directly abutting the ROW of the option to request that the Company provide mitigation. The Company shall honor all reasonable and feasible requests for mitigation that are submitted by property owners within six months of receipt of the Company's written notification; and it is

FURTHER ORDERED: That National Grid submit a report to the Department within six months after completion of construction detailing: (a) a list of all addresses of property owners that were notified of available visual mitigation; (b) the number of property owners that received visual mitigation from the Company; (c) the type of visual mitigation (if landscaping

was provided then specify the number and species of plants, shrubs, and/or trees); and the average cost of landscaping per property, broken down by material, labor and design costs; and it is

FURTHER ORDERED: That to help mitigate impacts to wetlands, waterways, BVWs, BLSF, RFA, and bank, National Grid shall use swamp mats and siltation fences where necessary during construction, and will also undertake a compensatory wetlands mitigation project which will preserve a 29-acre parcel in the Board Meadow Brook Conservation Center and Wildlife Sanctuary in Worcester; and it is

FURTHER ORDERED: That to mitigate traffic impacts, the Company shall work with the relevant public officials and departments to coordinate any traffic details or road crossings necessary throughout construction and, furthermore, the Company shall alert residents and business owners prior to the start of construction and avoid traffic interruptions during peak traffic periods whenever possible; and it is

FURTHER ORDERED: That to help mitigate noise impacts from construction, the Company is directed to avoid construction outside regular weekday construction hours of 7 a.m. to 5 p.m. and on weekends. To the extent that the Company finds that construction performed outside of these hours or on weekends is necessary, the Company shall seek permission from the relevant municipal authority prior to the commencement of such work. If the Company and the municipal officials are not able to agree whether weekday evening or weekday construction should occur, the Company may seek permission from the Department. The Company shall notify affected abutters prior to commencing work outside of regular

working hours. If such work is necessary, the Company shall use best efforts to minimize noise impacts; and it is

FURTHER ORDERED: That to mitigate the impacts of electric and magnetic fields, the Company must keep in place a configuration of the conductors that will avoid magnetic fields over 4 mG at the northern edge of the ROW under average load; and it is

FURTHER ORDERED: That to help mitigate construction air impacts, the Company shall retrofit any diesel-powered non-road construction equipment rated 50 horsepower or more to be used for 30 days or more over the course of the project with EPA-verified emission control devices; and it is

FURTHER ORDERED: That the Company and its contractors and subcontractors shall comply with all applicable state and local regulations for which the Company has not received an exemption, including those pertaining to noise, emissions, blasting, herbicides and hazard materials; and it is

FURTHER ORDERED: That the Company must obtain all necessary permits and orders and government approvals necessary for the completion and maintenance of the Project; and it is

FURTHER ORDERED: That National Grid must notify the Department of any significant changes in the planned timing, design, or environmental impacts of the Project; and it is

FURTHER ORDERED: That the Secretary of the Department shall transmit a certified copy of this order and the Section 61 findings contained herein to the Secretary of the

Executive Office of Energy and Environmental Affairs and shall transmit a certified copy of this Order to the Town of Auburn and the Town of Millbury, and that National Grid shall serve a copy of this Order on the Auburn Board of Selectmen, the Auburn Zoning Board of Appeals, the Millbury Board of Selectmen and the Millbury 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:

_____
Ann G. Berwick, Chair

_____
Jolette A. Westbrook, Commissioner

_____
David W. Cash, Commissioner

An 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 the 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. G.L. c. 25, § 5.