The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

D.P.U. 12-02 October 9, 2012

Petition of New England Power Company d/b/a National Grid pursuant to G.L. c. 164, § 72 for approval to construct a transmission line and a petition of New England Power Company and Massachusetts Electric Company d/b/a National Grid pursuant to G.L. c. 40A, § 3 for exemption from the zoning bylaw of the Town of Westborough

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I. INTRODUCTION

A. Description of Proposed Project

On January 13, 2012, New England Power Company d/b/a National Grid ("NEP" or "Company") filed: (1) a petition with the Department of Public Utilities ("Department") pursuant to G.L. c. 164, § 72, for approval to construct and operate a 0.3-mile 115 kV transmission line in the Town of Westborough ("Town" or "Westborough") ("Section 72 Petition"); and (2) a related petition pursuant to G.L. c. 40A, § 3, seeking both individual and comprehensive exemptions from the Zoning Bylaw of the Town of Westborough ("Bylaw"), associated with the Company's proposed project ("Project"), as described below ("Zoning Petition"). Massachusetts Electric Company ("MECo") (also d/b/a National Grid) joined NEP as a petitioner in the Zoning Petition. The Zoning Petition and the Section 72 Petition are referred to collectively as the "Petitions," and NEP and MECo collectively are referred to as the "Company." The matters were docketed as D.P.U. 12-02.[1]

The Project involves, among other things, the installation of a second 115 kV/13.8 kV transformer at the East Main Street No. 314 Substation ("East Main Street Substation" or "Substation") in Westborough (Exhs. ED-PFT at 4; VB-PFT at 5). The Substation expansion also would include the installation of a switchgear building containing eight feeder positions;[2] two 13.8 kV capacitor banks; two 13.8 kV station service transformers; and other equipment including buswork, circuit breakers, various switches, and voltage transformers (Exh. VB-PFT at

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[1] Although there are two Petitions, they share a single docket number. This is due to a miscommunication between the Company and the Department prior to filing.

[2] The Company explained that the Substation will be designed to ultimately serve ten feeders (Tr. 19).

5, 6). The East Main Street Substation is located on a 22-acre property at the southeastern end of the right-of -way ("ROW"), which is bounded to the southeast by East Main Street and to the northwest by the 115 kV E-157 ("E-157") main transmission line (Exh. NM-PFT at 4, 5). The substation fence line would be expanded 25 feet to the northeast to accommodate the new transformer and associated equipment (Exh. VB-PFT at 6).

The new transformer would be supplied by a new 0.3-mile 115 kV supply line, connecting with NEP's E-157 line, which runs from the Millbury No. 2 Substation in Millbury to the Northborough Road Substation in Southborough (Exhs. AMD-1, at 1-2; JMT-PFT at 5). The existing tap line runs from the East Main Street Substation to the E-157 line and the new supply line would be located approximately 50 feet northeast of, and parallel to, the existing 115 kV tap line (Exh. AMD-1, at 1-2). Together with the existing tap line, the new supply line would create a loop ("Loop Line") from the E-157 line, which itself would be sectionalized with a breaker into two lines: the E-157W line from Millbury No. 2 Substation to the East Main Street Substation and the E-157E line from the East Main Street Substation to the Northborough Road Substation (Exh. NM-PFT at 5, 6). According to the Company, the expansion of the East Main Street Substation and the new source of supply would solve design violations set forth in the Company Distribution Planning Guide issued February 15, 2011, and thermal overloads that are arising due to an increase in load in the Westborough area (Exhs. JMT-PFT at 6; JMT-1).

The estimated cost for the East Main Street Substation expansion is $6.05 million and $2.10 million for the Loop Line (Exh. ED-PFT at 5). Tree clearing for both the substation and transmission line is scheduled for January and February 2013 (Tr. at 10). The construction of the substation expansion is scheduled to begin in August 2013 and be completed by May 2014,

while the Loop Line construction would begin in April 2014 and finish in May 2014 (id.).[3] The entire project is scheduled to be operational by June 1, 2014 (id.).

B. Procedural History

On February 28, 2012, the Department conducted a site visit in Westborough followed by a duly-noticed public hearing at the Forbes Municipal Building, also in Westborough. No person or entity filed a petition to be admitted to these proceedings as either a party or as a limited participant. The Company sponsored the following witnesses: (1) John Embriano, Project Manager[4]; (2) Nicole Maglione, Transmission Engineer; (3) John M. Thompson, Distribution Engineer; (4) Abhinav Rawat, Transmission Engineer; (5) John Vieira, Senior Scientist[5]; (6) Peter Valberg, EMF consultant; (7) Vipul Bhagat, Substation Engineer; and (8) Marisa L. Pizzi, Attorney.

The Department conducted evidentiary hearings at its offices in Boston on May 16, 2012. The evidentiary record contains approximately 152 exhibits, consisting almost entirely of pre-filed testimony, attachments thereto, and the Company's responses to information requests and record requests. The Company filed its brief on June 14, 2012.

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3 There would be a two-week outage in the spring of 2013 required for the installation of the new supply line, transformer, and high-side switches (Exhs. DPU-G-10; JMT-2, at 11). The East Main Street Substation loads would be transferred to adjacent feeders for the two-week period and service will not be interrupted (Exh. DPU-G-10).

4 Edward Delemos was the original project manager, and his pre-filed testimony was submitted with the Petitions. John Embriano replaced Mr. Delemos before the evidentiary hearing and, by affidavit, adopted Mr. Delemos's pre-filed testimony and accompanying exhibits (Exh. JE-PFT).

5 The Company submitted the testimony of Andrea Desilets in support of the Petitions. Mr. Vieira replaced Ms. Desilets at the evidentiary hearing and, by affidavit, adopted Ms. Desilets's pre-filed direct testimony and accompanying exhibits (Exh. JV-PFT).

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

A. Standard of Review

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

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

Thus, a petitioner seeking exemption from a local zoning 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 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) ("Tennessee Gas Pipeline Company (2002)"). Finally, 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).

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 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 Project. See D.T.E. 01-77, at 4-5; D.T.E. 01-57, at 5; Western Massachusetts Electric Company, D.P.U./D.T.E. 99-35, at 4, 6-8 (1999); Tennessee Gas Company, D.P.U. 92-261, at 20-21 (1993). It is a petitioner's burden to identify the individual zoning provisions applicable to the Project and then to establish on the record that exemption from each of those provisions is required:

> The Company is both in a better position to identify its needs, and has the responsibility to fully plead its own case . . . The Department fully expects that, henceforth, all public service corporations seeking exemptions under c. 40A, § 3 will identify fully and in a timely manner all exemptions that are necessary for the corporation to proceed with its proposed activities, so that the Department is provided ample opportunity to investigate the need for the required exemptions.

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

B. Public Service Corporation Status

NEP is an electric company as defined by G.L. c. 164, § 1, and, as such, is a public service corporation. Massachusetts Electric Company, New England Power Company and PPM Energy, Inc., D.P.U. 07-80, at 19 (2008). Accordingly, the Department 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. Existing and Proposed New Load

Westborough is located in the Marlborough power supply area ("PSA"), which also includes the towns of Northborough, Marlborough, and Southborough (Exhs. JMT-PFT at 5; AMD-1, at 1-5). Both the East Main Street Substation and the Westborough Substation serve

Westborough; in addition, Westborough is served by one 13.8 kV feeder from the Northborough Road Substation (Exh. JMT-PFT at 5).[6]

The Company expects a new high-load customer, located on Flanders Road in Westborough ("the Flanders Road customer"), to have a 2012 summer peak load of 6.9 MW (Exh. DPU-N-5). Incremental load increases anticipated by other new and existing customers in the East Main Street area include: 3.5 MW for two customers in 2012; 8.75 MW for eight customers in 2013; and 6.7 MW for six customers in 2014 (Exh. DPU-N-5). In addition, NEP has five customers requesting incremental Second Feeder Service capacity for another 5 MW in 2013 (Exh. DPU-N-5).[7] The Company stated that for long-range planning purposes, it typically plans for realization of 75 percent of new load projected by customers (Tr. at 35). Almost all of this load would be served from the East Main Street Substation (Exh. DPU-N-5).

b. Excessive Loss of Load in a Contingency

The East Main Street Substation has a single 115/13.8 kV transformer, and it is fed by a single 115 kV source. Customers served by the Substation could lose power in the event of either losing the transformer or a fault on the E-157 line. In either event, some of these customers can be shifted onto adjacent feeders. However, beginning in 2012, the residual load at risk of being unserved during summer peak conditions would be as much as 13.8 MW, even after

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6 The East Main Street Substation has four 13.8 kV feeders and the Westborough Substation has five 13.8 kV feeders (Exh. JMT-PFT at 5).

7 Second Feeder Service capacity is reserve capacity that is set aside by the Company to serve a customer if its primary supply is lost (Tr. at 31). See M.D.P.U. No. 1069-B.

a transfer to other feeders of 9.5 MW (Exh. JMT-PFT at 10).[8] NEP's estimate of a typical duration for such an outage, approximately 24 hours, yields a total outage of 340 MWh (id.).

The Company indicated that need for the project is supported by the projected exceedance of two NEP planning criteria (Exhs. JMT-PFT at 10; DPU-N-3). First, loss of 13.8 MW of supply through the East Main Substation would exceed the Company's criterion requiring that, following a substation N-1 contingency and after restoring as much load as possible by transferring customers to other feeders, unserved load should not exceed 10 MW (Exh. DPU-N-3). Second, the total projected power loss, 340 MWh, exceeds the Company's criterion that states that the amount of service at risk should not exceed 240 MWh for a substation N-1 contingency (id.). [9]

c. Feeder Overloads

NEP projected that beginning in 2012 under summer normal conditions,[10] the load in the Westborough area will cause thermal overloads on two feeders, one from the Westborough Substation and one from the Northborough Substation (Exh. JMT-PFT at 11). Specifically, the Company indicated that it needs to install two new feeders at the East Main Street Substation

8 Although the 6.9 MW increase in load from the Flanders Road customer is not currently on one of the East Main Street Substation feeders, the load is on a feeder that previously had spare capacity to support the East Main Street Substation feeder (Tr. at 24). With the 6.9 MW of new load on-line, the feeder cannot be used as a backup for picking up increased load that may have been transferred from the East Main Street Substation, which results in design criteria violations (Tr. at 26).

9 NEP conducts an annual distribution planning process for the Westborough area (Exh. JMT-PFT at 6). Here, the Company prepared a 2011 Westborough Area Reliability Update ("2011 Reliability Update") and followed it up with a Marlborough PSA Planning Review in February 2012 ("2012 Planning Review") (id.; Exh. DPU-N-1).

10 The Company filed its Petition in January 2012 and evidentiary hearings were held in May 2012, before the 2012 results were available.

prior to the summer of 2014 and a third feeder for the summer of 2015 (Exhs. DPU-N-1; DPU-N-5; Tr. at 16, 17). NEP stated that these three substations do not have feeder positions available for the additional feeders that are needed.[11]

d. Temporary Measures and Proposed Project

NEP indicated that it is operating temporary supply measures in Westborough. The Flanders Road customer is currently being served from a temporary Modular Integrated Transportable Substation ("MITS") supplying one feeder at the Westborough Substation (Exh. DPU-N-6). In addition, for the past four or five years, the East Main Street Substation area has had a temporary pole-topper fourth feeder (which would be removed when the Project is constructed) (Tr. at 50).

The Project would split the E-157 line, add a second connection to the East Main Street Substation, and add a second transformer to East Main Street Substation, with a configuration of buses and breakers that provide for service through the Substation in the event of a fault on either side of the sectionalized E-157 line (or on either connection to the E-157 line) or loss of either transformer (Exh. AR-PFT at 4, 5). The Project would also provide new feeder positions so that customers can be re-arranged on the distribution feeders to avoid equipment thermal violations under normal conditions.

The Company indicated that the Flanders Road customer is hastening the need for the new upgrades, but that even without the Flanders Road customer, the violations of NEP's substation criteria would still occur by 2014 (Tr. 1, at 27, 55). With the addition of the Flanders

[11] Construction of new feeders is not part of the Project. However, the proposed substation expansion does include new feeder positions at the East Main Street Substation.

Road customer, there is an existing need in the event of the loss of the existing transformer, an N-1 contingency (Tr. at 55).

e. Analysis and Findings

In 2012, absent the Project, NEP will be unable to serve as much as 13.8 MW of load in the Westborough area following a single-contingency fault on a 115 kV transmission line or loss of a transformer (Exh, JMT-PFT at 10). The Department notes that such a load loss exceeds NEP's internal criteria for a single-contingency loss (Exh. DPU-N-3). Further, the Company has identified approximately 19 MW of incremental load in the area and 5 MW of requested Second Feeder Service, which together will increase the load at risk of being dropped after a single contingency (Exh. DPU-N-5).

Prior to construction, the Company has already taken measures to mitigate some of the capacity issues resulting from the combination of high usage and the addition of a major customer. Specifically, these measures include the use of a MITS which supplies an additional feeder, as well as the use of another temporary feeder at the East Main Street Substation (Exh. DPU-N-6; Tr. at 50). While useful in the short term to ensure that system capabilities are not exceeded, these short-term measures do not fully address load growth and system flexibility issues. Thus, some flexibility exists with respect to the timing of initial Project operation. However, due to load growth in the Westborough area, a substantial amount of load is and will be at risk of being unserved following a single contingency. In addition, the Company has identified potential thermal violations on the limited number of distribution feeders in the area. Therefore, the Department finds that the Project is needed, and public benefits would result from, the construction and operation of the Project.

2. Alternatives Explored

a. Description

In addition to the Project, the Company considered alternative locations for a new substation with alternative transmission line placement and routes, the use of a MITS, and energy efficiency and renewables. The Company also considered and dismissed a no-build alternative, as it would not resolve the Company's planning criteria violations or allow the increase of supply in the area (Exhs. AMD-1, at 2-1; JMT-2, at 6). Further, the Company investigated alternative routes between the E-157 line and the East Main Street Substation, and routes for bringing additional supplies to other existing substations, and concluded that no other corridors existed in the area that would provide a reasonable route and resolve the need issues (Exh. AMD-1, at 5).

As an alternative to expanding the existing East Main Street Substation, the Company identified four possible locations for a new substation (Exh. JMT-PFT at 11, 12). Construction of a new substation at Fisher Street in Westborough would cost approximately $16.9 million and also include 4.4 miles of overhead spacer cable, 3.6 miles of manhole and duct system, and 5.4 miles of underground distribution cables (Exh. JMT-2, at 6). Construction of a new substation at Lyman Street in Westborough would cost approximately $14.4 million, require the acquisition of two acres of land and also include one mile of manhole and duct system, and two miles of underground distribution cables (id. at 6, 7). Construction of a new substation at Bartlett Street in Northborough would cost approximately $21.2 million, require the acquisition of two acres of land and also include 1.2 miles of overhead spacer cable, 5.1 miles of manhole and duct system, and 10.2 miles of underground distribution cables (id. at 7). Finally, construction of a new substation at Forest Street in Marlborough would cost approximately $22.9 million, require the acquisition of two acres of land and also include 1.8 miles of overhead

spacer cable, 4.7 miles of manhole and duct system, and 11.8 miles of underground distribution cables (id. at 7, 8). Aside from the increased costs, the Company asserted that supplying the identified load from the Fisher Street, Lyman Street, or Forest Street locations is infeasible due to the long distance between the source of supply and the load center (id. at 8).

The Company also reviewed the possibility of placing the Loop Line underground, either using the same ROW as the Project, or within public ways (Exh. ED-PFT at 6). Locating the Loop Line underground along the ROW would cost approximately $4.5 million, not including any necessary overhead work, and substation relay additions (id.). In order to construct and maintain this line, the Company indicated that it would have to construct a permanent access road along the ROW (Exh. ED-3, at 3). Therefore, an additional one acre of trees would need to be cleared. In addition, excavating an underground line in the ROW would impact wetlands (id. at 4; Exh. ED-PFT at 7). For the public way alternative, a 1.1-mile line would be installed from the Substation to the intersection with the E-157 line via East Main Street, Route 9, and Lyman Street (Exh. ED-PFT at 7). The cost of this alternative would be $11.7 (id.). Based on the high costs and environmental impacts, the Company did not consider either underground alternative a viable option (id.).

With regard to the possibility of using a temporary MITS at the East Main Street Substation, the Company asserted it is not a viable option (Exh. DPU-N-7). First, the supply-side voltage for a MITS is limited to 69 kV or less, and the nearest 69 kV line is fully loaded (id.). In addition, a MITS is designed to add one or two feeders in a small location (Tr. at 20). The Company explained that in order to accommodate the eventual ten feeders at the site, seven additional MITS transformers would be required, which would be more expensive than the

proposed work and require a larger footprint, necessitating additional expansion at the East Main Street site (id.).

In addition to the above alternatives, the Company considered energy efficiency and renewables. The Company asserted that the impact of continuing energy efficiency at 2012 levels through 2014 would reduce peak loads by only 0.85 MW, while a reduction of 6.5 MW would be needed to defer the project to 2015 (Exh. DPU-N-2). The Company indicated that it considered other demand-side opportunities in the Westborough area, but that no combination of resources could meet a 6.5 MW peak demand reduction; further, it is unaware of any plans by customers to install distributed generation in the area (id.; Exh. JMT-PFT at 14). The Company stated that the majority of customers in this area are commercial and that the area has been heavily targeted for energy efficiency programs (Tr. at 44). In May, 2012, the Flanders Road customer participated in the energy efficiency lighting plan offered by National Grid, which reduced its load by 9 kW (RR-DPU-1).[12] This customer has not participated in any other National Grid energy efficiency programs (id.).

b. Analysis

The Project, consisting of a 0.3-mile overhead route from the East Main Street Substation, is the shortest, most direct, least-cost option to meet the identified need. The Company identified four alternative substation sites; all four of the sites are considerably more expensive than the Project (Exh. JMT-2 at 6, 7, 8). The Company also would have to acquire two acres of land currently not used for substation purposes at three of the four sites (id. at 8).

[12] The Company offers two energy efficiency programs to its commercial and industrial customers: ("C&I"): (1) the C&I New Construction and Major Renovation Program; and (2) the C&I Large Retrofit Program (RR-DPU-2).

Three of the sites are not in the vicinity of the identified load area, rendering these solutions ineffective. In addition, while the Project consists of 0.3 miles of new transmission line, the four substation alternatives would require extensive manhole and duct work, and underground distribution lines. Further, the two underground 115 kV alternatives are considerably more costly than the proposed route, $2.4 million and $9.6 million more respectively, with no corresponding benefits (Exh. ED-PFT at 6, 7). Additionally, the MITS option is more expensive, would require more acreage, and might not be able to be sited at the existing location (Tr. at 20).

With respect to energy efficiency and distributed generation resources, the record indicates that there are insufficient known project opportunities to reduce peak loads to the levels necessary to defer the Project in the identified timeframe. Nonetheless, NEP should strongly encourage its customers, both existing and new, to take full advantage of its energy efficiency programs. This is of particular concern for large C&I customers, especially in areas where their load requirements directly contribute to the need for system upgrades, but our observation in this regard applies to all customers.

With respect to our review of alternative sites, we recognize that the statute does not require a petitioner to demonstrate that the primary site is the best possible alternative. However, failure to present real alternative sites renders the Department's alternative site review meaningless. We recognize that there will be cases—and this appears to be one of them—where for various reasons alternative sites are limited, if not entirely unavailable. We caution applicants that we expect the examination of truly viable alternative sites whenever possible.

We also note that in some cases there may be alternative approaches to a proposed project that may have certain advantages relative to the proposed approach, rendering the

primary site not necessary for the convenience or welfare of the public. The Department expects applicants in section 72 and zoning cases to explore energy efficiency, demand response, and distributed generation in appropriate detail in order to assist the Department in addressing this distinct issue.

Accordingly, the Department finds that NEP's decision to pursue the Project, rather than the alternatives, is reasonable.

3. Impacts of the Proposed Use

In accordance with its statutory responsibility to consider the general public interest and welfare, the Department examines the impacts associated with the Project to identify those of significance that may occur during construction and operation.

a. Land Use Resources

The Project is located within an existing transmission ROW which currently contains the 115 kV East Main Street tap line and East Main Street Substation (Exh. NM-PFT at 4). The ROW covers a total of 22 acres, and the cleared width along the transmission line is currently approximately 100 feet (id. at 5). Installation of the new parallel supply line would require widening the existing cleared width of the ROW by approximately 50 feet along the 0.3-mile length of the line, clearing approximately 1.2 acres of vegetation (Exh. NM-3). The East Main Street Substation fenceline would be expanded approximately one acre feet to the northeast (Exhs. VB-PFT at 6; VB-1).

There are a variety of land uses abutting the ROW where the Project is located, including land owned by NEP, and commercial, residential, forested, recreational, and conservation land (Exh. DPU-LU-9). There are no buildings within 300 feet of the edge of the ROW (Exh. DPU-

LU-1(S1); Tr. at 107). One residence and two businesses are located within 300 feet of the East Main Street Substation (Exh. DPU-LU-1(S1); Tr. at 107).

The Company stated that there are no recorded historic or archeological resources within the Project area (Exh. AMD-PFT at 11). Further, the Company confirmed with the Massachusetts Natural Heritage and Endangered Species Program that there are no areas of either Mapped Estimated or Priority Habitat of State-listed Rare or Endangered Species within the ROW (id. at 12). The Company plans to mitigate any loss of wildlife habitat caused by the clearing of standing dead trees (snags) by creating new snags by girdling selected trees within or near the habitat conversion area. This proposed mitigation plan is consistent with guidance drafted by the Connecticut Department of Environmental Protection and subsequently recommended by the Massachusetts Department of Environmental Protection ("MassDEP") (Exh. AMD-1, at 3-30,

3-31).

To mitigate the loss of forest habitat resulting from the Project, NEP has entered into an agreement with the Westborough Community Land Trust to convey approximately 11.8 acres of land abutting the ROW for conservation (Exhs. DPU-LU-11; AMD-1, at 3-33, Fig 3.5). The preserved land would be made up of 8.50 acres of upland and 3.29 acres of wetland (Exh. AMD-1, at 3-33).

b. Visual Impacts

The Loop Line would be located within an existing transmission line ROW. The existing East Main Street tap line is supported by five structures, including three wooden H-frame suspensions ranging in height from 52 to 66 feet, a terminal dead-end tap structure, which would

be removed, and a three-pole suspension pulloff (Exh. DPU-V-6).[13] The new supply line would run parallel to the existing line 50 feet to the east and use similar pole types with heights in the same range (Exhs. NM-PFT at 7, 8; DPU-V-6; Tr. at 89, 90). No residences currently have, or would have as a result of the Project, a direct view of the ROW. One residence and one hotel have a partially obstructed view of the ROW (Exh. DPU-V-3).

Construction of the proposed line would require clearing approximately 50 feet of vegetation along the length of the ROW (Exh. NM-3). This would reduce the vegetated buffer between the lines and abutting land owners to approximately 300 feet (Exh. DPU-V-1). The expansion of the East Main Street Substation would leave a vegetated buffer between the limits of clearing and the nearest residence at least 120 feet wide (id.). This wooded buffer would consist of trees averaging 70 feet in height (Exhs. VB-PFT at 7; DPU-V-5). The highest point of the new Substation equipment would be the new transmission line termination structure at 47.5 feet (Exh. VB-PFT at 7).

c. Wetlands and Water Resources

The Project would result in alterations to jurisdictional wetlands, the primary impacts being permanent wetland fill associated with placement of new utility structures and the permanent conversion of forested wetland to scrub/shrub and or emergent wetland types

[13] During these proceedings, the ground clearance of the X-24E 69 kV line, which runs parallel to the E-157 Line near the tap to the East Main Street Substation, was studied and the ground clearance of the conductors between X-24E structures 25 and 26 was found to be substandard (Exh. DPU-V-7; Tr. at 90-92). To mitigate this, the Company explained that it will replace structures 25 and 26 with taller poles, increasing the height of the structures from 36 feet to 43 feet (id.).

(Exh. AMD-1, at 3-4). These impacts, along with additional permanent and temporary alterations, are summarized below in Table 1.

Table 1: Summary of Wetlands Impacts (in acres, except for Bank area)

Wetland/Resource Area Type	**Estimated Alterations**	
	Temporary	**Permanent**
Bordering Vegetated Wetlands ("BVWs")	0.42*	0.95*
Bordering Land Subject to Flooding ("BLSF")	0.42*	0.95*
Bank (feet)	94 Linear Feet	0
100-Foot Buffer Zone	0.13	0.302
Upland Impact w/in 100-Foot Stream	0.01	0.07

* BVW and BLSF wetland resource areas overlap.
Source: Exh. AMD-1, at 3-6

Because of the proposed work in jurisdictional areas, the Company must obtain permits from the US Army Corps of Engineers and MassDEP (id. at 3-7). The Company stated that, in order to minimize impacts to wetland areas, it would: avoid wetland areas whenever practicable, install temporary swamp mats and erosion control barriers during construction, and restore disturbed areas after construction where necessary (id., at 3-27 to 3-29).

Further, the Company stated it would undertake compensatory environmental mitigation, as discussed in Section 3.a. above, which would include the permanent preservation of four parcels of land located immediately adjacent to the Project ROW (id. at 3-33, Fig 3.5). This approximately 11.8-acre mitigation site would be conveyed to the Westborough Community Land Trust (id.).

d. Traffic

The Company stated that there would be construction vehicles and material transfer vehicles, as well as five to ten personal vehicles, entering and leaving the construction site daily

(Exh. DPU-T-2). Delivery trucks would be scheduled during lighter traffic periods and the Company would coordinate with local officials when necessary to minimize traffic disruptions (id.). The Company stated that there would be 12 to 16 workers on the transmission line portion of the Project and a contractor crew whose number would be determined upon contractor selection for the Substation expansion civil work (Exh. DPU G-3). Local officials and residents would be notified of a parking plan for these crews when the plan is finalized (id.). There would be seven workers responsible for the electrical Substation work, and they would park in the Substation driveway (id.).

Access to the construction site would be primarily from East Main Street (Tr. at 76). However, when necessary, the construction access road from Haskell Street, northwest of the ROW, also would be utilized (Tr. at 76-83). This route passes through a ball field in the Haskell Street Recreation Area, wrapping around the backstop and bleachers (Exh. AMD-1, at Fig 1.3). The Company has discussed this access route with Town officials and would coordinate the necessary use of the access road with the officials to prevent disruption of scheduled recreational activities (Exh. DPU-LU-4; Tr. 78-81, 107). The existing access road from the E-157 main transmission line that transverses the Mitigation Site would not be used for Project construction (Tr. at 81-83).

e. Noise Impacts

The Company proposes to limit construction noise impacts by limiting construction activities to daytime hours, Monday through Friday (Exh. DPU-RR-5). Specifically, the Company would perform construction at the East Main Street Substation Monday through Friday from 7:00 a.m. to 4:00 p.m. and the Loop Line Monday through Friday between 7:00 a.m. and 5:00 p.m. (Exh. DPU-G-2). The Company has scheduled a two-week outage period for

construction of the Project (Exhs. DPU-G-10; JMT-2, at 11). During this and any additional outage periods, the Company proposes extending construction hours to Monday through Friday between 7:00 a.m. and 6:00 p.m. for all aspects of the Project, and, additionally Saturdays 7:00 a.m. to 5:00 p.m. for the Substation and 7:00 a.m. to 6:00 p.m. for the new supply line (Exh. DPU-G-2). Service to customers will not be interrupted during any scheduled outages as the loads normally handled by the East Main Street Substation will be transferred to adjacent feeders (Exh. DPU-G-10).

The Company provided maximum noise levels for various types of equipment that would be used during construction (Exh. DPU-NO-1). Typical sound levels from construction equipment at a reference distance of 50 feet would range between 76 A-weighted sound level in decibels ("dBA") for a dump truck to 84 dBA for a chain saw (id.). The Company estimates that the maximum sound level outside the nearest residence to the ROW during construction would be approximately 73 dBA, and 69 dBA at the nearby hotel (id., Exh. DPU-RR-6). The nearest point of the Haskell Street ball field to construction activity would be 50 feet and the sound level at this point may be up to 85 dBA (id.). Substation construction would occur further from the Haskell Street Recreation Area and have a maximum noise level of 55 dBA at the ball field (id.).

Based on a sound study conducted by the Company, the anticipated increase of operational noise due to the new East Main Street Substation equipment at the nearest residential property line and residences would be zero to three dBA over existing background noise levels (Exhs. VB-3; DPU-NO-5). Specifically, the property line of the nearest residence (located on East Main Street) would experience a three dBA increase; while the nearby hotel on East Main Street would not experience any increase in sound level (Exh. VB-PFT at 7, 8). The Company

indicated that operation of the proposed transformer would not cause any "pure tones" as defined by the MassDEP Noise Policy (id.).

f. Air Impacts

The Company would mitigate construction air impacts by using only ultra-low sulfur diesel fuel in its diesel-powered construction equipment and limiting vehicle idling in accordance with 310 CMR 7.11 (1)(b) (Exh. AMD-3, at 6). The Company stated it is committed to retrofitting all diesel-powered non-road construction equipment rated 50 horsepower or above to be used for 30 or more days over the course of the Project with USEPA-verified (or equivalent) emission control devices, such as oxidation catalysts or other comparable technologies (id.).

Sulfur hexafluoride ("SF_6") gas has been identified as a non-toxic but highly potent greenhouse gas ("GHG"). The Massachusetts Clean Energy and Climate Plan[14] adopts a 2020 statewide GHG emissions limit of 25 percent below 1990 emissions levels and sets forth an integrated portfolio of policies to reach the Commonwealth's clean energy and climate goals.[15] One of the policies set forth in the Plan is reducing SF_6 emissions by 2020 equivalent to a reduction of 0.2 million metric tons of CO_2, which would reduce state-wide GHG emissions by approximately 0.2 percent.

National Grid's reported nameplate capacity for its entire Massachusetts system is approximately 106,014 pounds of SF_6 gas (Exh. DPU-AIR-1). For calendar year 2011, National Grid reported the emission of 3,028 pounds of SF_6 in Massachusetts for a leakage rate of 2.8

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14 On December 29, 2010, the Secretary of Energy and Environmental Affairs issued the Massachusetts Clean Energy and Climate Plan for 2020. See G.L. c. 21N.

15 SF_6 is a GHG that is 23,900 times more potent than CO_2. One pound of SF_6 has the same global warming impact as eleven tons of CO_2. See the Massachusetts Clean Energy and Climate Plan for 2020, at 77.

percent (id.). SF_6 is currently being used at the East Main Street Substation for one 115 kV circuit switch, which contains approximately 8.4 pounds of SF_6 (id.). The new portion of the Substation would include one additional circuit switch and a circuit breaker, containing 8.4 pounds and 58 pounds of SF_6 respectively (id.). Combined with the 8.4 pounds of SF_6 currently on site, this would result in a total of approximately 74.8 pounds of SF_6 at the East Main Street Substation (id.). The new equipment installed at the Substation is guaranteed by the manufacturer to have a maximum leakage rate of 0.5 percent per year for five years (annually 4.1 tons CO_2 equivalent) consistent with the performance of circuit breakers at other Company-owned substations (Exh. DPU-AIR-1; Tr. at 96). Finally, the Company entered into an SF_6 Emissions Reductions Partnership Memorandum of Understanding with the United States Environmental Protection Agency in December 2003 (id.).

g. Magnetic Fields

The Company conducted a phase rotation analysis to minimize magnetic fields and plans to phase the Loop Line to provide the lowest possible field values at the west edge of the ROW (Exh. PAV-3, at 14). The Company calculated the magnetic field levels for existing and post-Project conditions under peak load at the east and west edges of the ROW and within the ROW.

Table 2: Peak Load Magnetic Fields within and at Edges of Transmission Corridor for Proposed and Existing Configurations for the Interconnecting Lines between E-157 ROW and Substation

	Location	**Existing**	**Proposed**
Magnetic Field milligauss ("mG")	East edge of ROW	0.20	0.073
	West edge of ROW	7.6	43
	At point of maximum field within ROW	37	290

Source: Exh. PAV-3, at 20

A decrease in magnetic field level from 0.20 mG to 0.073 mG is expected at the east edge of the ROW, which is the side closest to residences (Exhs. DPU-EMF-1; PAV-3, at 20). As shown above, the magnetic field level is projected to increase significantly at other measured points within the ROW and at the west edge of the ROW, which is the side on which the new 115kV line would be located. However, the Company's calculations show that at a distance of 275 feet from the center line of the ROW, either east or west, the magnetic field level is approximately zero (Exh. PAV-3, at 13). The Company noted that there are no residences along the ROW within 300 feet from the center line (Exh. DPU-LU-1(S1)).

With respect to the EMF attributable to the existing and new Substation, the nearest residential property line would be approximately 200 feet northeast of the expanded Substation fence line and the average magnetic field is projected to increase from 0.2 mG to 1.5 mG (Exh. DPU-EMF-1).

h. Analysis and Findings

Land use impacts would be minimal, given that the Project would occur entirely within an existing transmission line ROW and involve minimal tree clearing of approximately 1.2 acres (Exh. NM-3). There would be no adverse impacts to historic or archeological resources or Mapped Estimated or Priority Habitat of State-listed Rare or Endangered Species (Exh. AMD-PFT at 11). Some clearing would be in or near wetlands; however, the Company's preservation of four parcels within the current ROW, including 3.29 acres of wetlands, more than compensates for the clearing (Exh. AMD-1, at 3-33, Fig. 3.5).

The visual impacts of the Project would be minimal as well. The new supply line would parallel the existing line and utilize poles of similar type and height (Exh. NM-PFT at 7, 8). The highest point of the proposed Substation expansion would not exceed the height of current

equipment (Tr. at 88, 89). The Substation would have a 120-foot wide vegetated buffer, and a 300-foot wide buffer would remain between the cleared area of the ROW and the nearest residential or business structure (Exh. DPU-V-1).

The Project would result in alterations to jurisdictional BVWs, BLSF, and Bank (Exh. AMD-1, at 3-1 to 3-4). The Company is obtaining necessary permits and orders for work in these and other areas (id.). The Company would minimize wetlands impacts through the use of swamp mats where necessary during construction, and would also undertake a compensatory wetlands mitigation project that would preserve 11.8 acres (id. at 3-27, 3-33).

With respect to traffic, the Company would coordinate with local police and Town departments to minimize traffic disruptions when necessary (Exh. DPU-T-1). The majority of the proposed work would occur off-road within the ROW, and therefore would have little traffic impact (id.).

The Project may require construction vehicles to access the site using a route that crosses the Haskell Street Recreation Area. To mitigate such impacts, the Company is directed to avoid use of the construction access route through the Haskell Street Recreation Area during scheduled recreational activities whenever possible, and is further directed to seek permission from relevant municipal officials at least one week in advance of using this access route.

With regard to noise, the potential Project noise impacts consist of construction and operational noise. The Company would mitigate noise impacts by using newer vehicles with the latest exhaust systems equipped with mufflers, employing medium-sized excavators, dump trucks and other construction equipment and by performing construction primarily during business hours (i.e., Monday through Friday from 7:00 a.m. to 5:00 p.m.) (Exh. DPU-NO-4).

To help mitigate noise impacts from construction, NEP shall work Monday through Friday from 7:00 a.m. to 5:00 p.m., with the exception of a two-week scheduled outage. Should the Company need to extend work beyond the construction hours it has proposed, the Company is directed to seek written permission from the relevant Town authority prior to the commencement of such work and to provide the Department with a copy of such permission. If the Company and Town officials are not able to agree on whether such extended construction hours should occur, the Company may request prior authorization from the Department. The Company shall provide the Town with a copy of any such request. With regard to operational noise, the noise increase at the nearest residence and southwest property line is projected to be three dBA, which is a minimal baseline increase and well within increases accepted by the Department (as well as the Siting Board) in past cases.

In order to ensure that that information about construction and operation of the Project is disseminated to the community, the Department directs the Company, in consultation with the Town, to develop a community outreach plan for Project construction and operation. This outreach plan should, at a minimum, lay out procedures for providing prior notification to affected residents of: (a) the scheduled start, duration, and hours of construction; (b) any construction the Company intends to conduct that must take place outside of the hours detailed above due to unusual circumstances; (c) any operation the Company intends to conduct that could result in unexpected community impacts due to unusual circumstances; and (d) complaint and response procedures including contact information.

In terms of mitigation of construction air impacts, consistent with recent Department and Siting Board requirements, the Department directs the Company to use ultra-low sulfur diesel

fuel in its diesel-powered construction equipment, limit vehicle idling to five minutes pursuant to state regulations, and retrofit all diesel-powered non-road construction equipment rated 50 horsepower or above to be used for 30 or more days over the course of the Project. See NSTAR Electric Company and New England Power Company, D.P.U.11-51, at 30, 31 (February 27, 2012); Tennessee Gas Pipeline Company, D.P.U. 11-26, at 20, 21 (January 6, 2012); New England Power Company, D.P.U 10-77, at 37 (May 6, 2011). Further, the Department directs the Company to submit a list of retrofitted equipment within six months after completion of construction detailing: type of equipment, make/model, model year, engine horsepower, and the type of emission control technology installed.

With respect to SF_6 impacts, the Department reviewed NEP's proposed use of SF_6 at the Substation and we find that the Company is minimizing SF_6 emissions to the maximum extent possible. The new equipment would add approximately 66.4 pounds of SF_6 to the Substation, with a maximum leakage rate of 0.5 percent per year for five years, consistent with the performance of circuit breakers at other Company-owned substations (Exh. DPU-AIR-1, Tr. at 96).

To minimize magnetic fields, the Company has configured the conductors using phase rotation analysis to achieve the lowest possible magnetic field levels at the west edge of the ROW (Exh. PAV-3, at 14). Magnetic field levels would increase significantly on the west side of the ROW due to the presence of the new line. However, any residences to the west of the ROW are over 300 feet away from the center line and, therefore, have estimated magnetic fields of approximately zero. The residential property closest to the Project area, and most affected by its estimated magnetic fields, is approximately 200 feet east of the Substation; this property

would experience an increase from 0.2 mG to 1.5 mG. The modeled increase in the magnetic field and the resultant field strength are both well below magnetic field strengths modeled for projects approved in prior Department and Siting Board cases. See NSTAR Electric Company, D.P.U. 11-80, at 35-36 (July 9, 2012) ("NSTAR Plympton"); NSTAR Electric Company, EFSB 10-2/D.P.U. 10-131/132, at 73 (April 27, 2012) ("NSTAR Lower SEMA"); Western Massachusetts Electric Company, D.P.U. 09-24/25, at 22-23 (2010) ("WMECO Agawam/West Springfield").

Based on the above, the Department concludes that compliance with all applicable federal, state and local regulations plus the mitigation measures proffered by the Company – and as additionally directed by the Department herein – would result in a Project that includes feasible measures to avoid or minimize environmental impacts.

4. Conclusion 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 or welfare.

D. Exemptions Required

1. Introduction

The Company is seeking a number of individual exemptions as well as a comprehensive exemption from the Westborough Bylaw (Zoning Petition at 3; Exh. MLP-2). NEP asserts that unless the requested individual exemptions are granted, there is some likelihood that the Bylaw provisions from which exemptions are requested would result in an adverse outcome, a burdensome requirement, or an unnecessary delay as part of the zoning review (Zoning Petition

at 8). The Company argues that the existence of "some likelihood" of any of these three results is sufficient to demonstrate that the requested zoning exemptions are required (Company Brief at 39 citing NSTAR Carver 2008, D.P.U. 07-60/07-61, at 49).

The Company also argues that the requested zoning exemptions are required because: (1) the provisions of the Bylaw are likely to conflict with state and industry safety and engineering standards; (2) constructing the Project would require variances, which are difficult to obtain, constitute a disfavored form of relief, and are susceptible to overturn on appeal; (3) coordinating the acquisition of all necessary local, state, and federal governmental permits so that they remain in effect during construction would be a difficult or impossible task; (4) zoning bylaws are, in general, difficult to apply to energy infrastructure projects; and (5) the discretionary and subjective nature of the permit-granting criteria governing such issues as variances, special permits, and site plan review may result in burdensome or restrictive conditions (Exh. MLP-PFT at 9; Company Brief at 49-53).

2. Individual Exemptions

a. The Company's Position

In addition to the general reasons cited above, Table 3, below, summarizes the provisions of the Bylaw from which the Company seeks exemptions, the relief available from the Town, and the Company's argument as to why the Project cannot comply with the identified zoning provisions.

Table 3: The Company's Position – Westborough Zoning Bylaw Exemptions

Individual Zoning Exemption Requested	**Available Relief from Town**	**Why Project Cannot Comply: Company's Position**
Use Regulation Schedule Section 2300	Variance and/or Special Permit	The Substation would likely be considered a "Public Utility with Outdoor Equipment or Storage" which is a prohibited use in a residential district and thus, would require a use variance (Exh. MLP-2, at 4). Use variances are specifically allowed by the Bylaw (Exh. MLP-3, § 1320). The new Loop Line, considered separately, would likely be considered a "Public Utility with none of the above," which would require a special permit (id.).
Multiple Buildings on Lot Section 2450	Variance	This Bylaw section limits each lot to one principal building (Exh. MLP-2, at 9). A control house presently exists on the Substation site (id.). Therefore, the construction of the new Switchgear Building, which is part of the Project, is likely to create a second, and prohibited, principal building that cannot be constructed unless the Company obtains a variance.
Dimensional Regulations Section 2610	Variance	The new Loop Line would cross the rear boundary of the Substation to connect with the E-157 Line (Exh. MLP-2, at 8, 9). Town officials have opined that the Loop Line would require a variance for those places where the minimum setback provisions are not met (id.).
Off-Street Parking Section 3120	Special Permit, Variance, or Site Plan Review	The Company does not plan to create off-street parking spaces because there would be no employees routinely working at the Property (Exh. MLP-2, at 11, 12). This Bylaw section, however, provides that the minimum parking requirements are to be determined by the Board of Selectmen. Therefore, the Selectmen could require the Company to create parking spaces. If that happened, the Project could not be constructed unless a variance was first obtained.
Off-Street Loading Section 3140	Variance	Traditional off-street loading facilities would neither be required nor constructed at the Substation site (MLP-2, at 12, 13). This Bylaw section, however, requires the Building Commissioner to find that "adequate" loading facilities have been provided for the Project at the site (id.). Consequently, the Company could be required to obtain a variance.
Signs Section 3300	Variance	NEP's policy and the industry standard is to place a significant number of "keep out" and warning signs around substations and pole structures. This Bylaw section restricts the number of signs that can be posted (Exh. MLP-2, at 10, 11). Therefore, a variance would be required.

Earth Removal Section 4100	Special Permit	This Bylaw section requires a special permit from the planning board in order to move more than 500 cubic yards of earth (MLP-2, at 9, 10). The Project would require moving approximately 7,400 cubic yards. Therefore, a special permit would be required.
Flood Plain District Section 4540	Special Permit or Variance	Public utility uses are not permitted by right in the Flood Plain District (Exh. MLP-2, at 5). Depending on how the Town officials view the Project, it would require either a special permit or a variance (id. at 5, 6).
Structure Height Section 4452	Variance	The Bylaw sets a 35-foot height limit for structures in the R District, where the Project is located (Exh. MLP-2, at 7, 8). Therefore, the 47.5-foot dead-end structure and the 52 to 66-foot tall new pole structures would require dimensional variances.
Aquifer and Watershed Protection District, Use Regulation Sections 4740, 4742	Variance and Special Permit	A public utility is not a use permitted as of right within the Aquifer and Watershed Protection District (Exh. MLP-2, at 6, 7). Consequently, the Company would need to obtain a variance (id.). Furthermore, some Substation equipment would contain mineral oil (id.). Consequently, the Company also would need to obtain a special permit for the use of a toxic or hazardous material as a secondary activity in the Aquifer and Watershed District (id.; Exh. DPU-Z-11, at 1, 2).

b. Analysis and Finding

The Project would require variances with respect to several Bylaw provisions. Specifically, the Project would not meet, and thus would require a variance from, the Use Regulation Schedule (Section 2300), the prohibition against multiple buildings on one lot (Section 2450), the setback provisions (Section 2610), the off-street parking provisions (Section 3120), the off-street loading provisions (Section 3140),[16] the limitations on signage (Section 3300), the height limitations for structures located in a residential district (Section 4452), and construction of a public utility structure in a Flood Plain District (Section 4540) and in an

[16] It is possible that the off-street parking and the off-street loading issues could be resolved by the Board of Selectmen in the context of a site plan review, which would obviate the need for variances (Exh. MLP-2, at 11). Given the uncertainty of this possibility, we examine these issues in the context of variances.

Aquifer and Watershed Protection District (Sections 4740, 4742). [17] Furthermore, construction of the Loop Line (Section 2300) and the earth removal portion of construction (Section 4100) would both require a Special Permit, as would the use of mineral oil in the Substation (Sections 4740 and 4742).

The Department concurs with the Company that variances are difficult to obtain, constitute a disfavored form of relief, and are susceptible to overturn on appeal. Consequently, the need to obtain variances is likely to result in an adverse outcome, a burdensome requirement, or an unnecessary delay. The Department finds that the Company requires exemptions from Bylaw Sections 2230, 2450, 2610, 3120, 3140, 3300, 4540, 4452, and 4740.

The need to obtain Special Permits creates its own risks (Exh. MLP-PFT at 8). Specifically, the discretionary standards for approving a Special Permit may result in the imposition of burdensome, restrictive, or unreasonable conditions (id.). Consequently, even if the Project were to receive all Special Permits it might require, the conditions imposed by those permits might impede or thwart the development of the Project (id.). Consequently, the Department also finds that NEP requires exemptions from Bylaw Sections 4100 and 4742.

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[17] The Project will be constructed in the Single Residential zoning district ("R District") (Exh. MLP-2, at 4); the Proposed Line will be constructed primarily in the Aquifer and Watershed Protection Overlay District Zone II (Direct Recharge Area) with portions located within the Flood Plain Overlay District (id.); and the Substation expansion will be located within the Aquifer and Watershed Protection Overlay District Zone III (Contributing Recharge Area) (id.).

3. Consultation with Municipality

a. Introduction

NEP met with Westborough town officials on two separate occasions in the spring and summer of 2011. On May 10, 2011, Project Manager Edward Delemos, NEP Counsel Christopher Novak, and NEP Zoning Counsel Marisa Pizzi met with the Town Building Commissioner, the Town Planner, and the Town Engineer. At that meeting, the participants discussed the applicability of the Bylaw to the Project (Exhs. MLP-2, at 2, 3; MLP-5; MLP-6; MLP-7). On July 26, 2011, Messrs. Delemos and Novak and Ms. Pizzi made an informal presentation to the Westborough Planning Board (Exh. MLP-2, at 3). The Town did not seek to intervene in this proceeding, and the Building Commissioner sent a letter to the Company supporting the request for both individual exemptions and a comprehensive exemption from the Bylaw (RR-DPU-9(1)).

b. Analysis and Findings

The Department continues to favor the resolution of local issues on a local level whenever possible to reduce concern regarding any intrusion on home rule. Russell Biomass LLC/Western Massachusetts Electric Company, EFSB 07-4/D.P.U. 07-35/07-36, at 60-65 (2009) ("Russell"). The Department believes that the most effective approach for doing so is for applicants to consult with local officials regarding their projects before seeking zoning exemptions pursuant to G.L. c. 40A, § 3. NSTAR Electric Company, D.P.U. 11-80, at 41, 42 (2012) ("NSTAR Plympton"); Tennessee Gas Pipeline Company Southwick, D.P.U. 11-26, at 26; New England Power Company, D.P.U. 09-136/09-137, at 36 fn. 15 (2011) ("New England Power Company Millbury").

In this case, prior to seeking zoning relief from the Department, the Company had contact with various local Westborough authorities regarding the Project. The record shows that the Westborough building commissioner represented that the Town supports both individual exemptions and a comprehensive exemption from the Bylaw (RR-DPU-9(1)). Consequently, we find that the Company made a good faith effort to consult with municipal authorities and that the Company's communications were consistent with the spirit and intent of Russell.

4. Conclusion on Request for Individual Zoning Exemptions

As described above, the Department finds that: (1) NEP is a public service corporation; (2) the proposed use is reasonably necessary for the public convenience or welfare; and (3) the specifically identified zoning exemptions are required for purposes of G.L. c. 40A, § 3. Accordingly, we grant the Company's request for the individual zoning exemptions listed above in Table 3.

III. REQUEST FOR A COMPREHENSIVE EXEMPTION

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) ("Princeton"); 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 at 37 (2007). Rather, the Department will consider a request for comprehensive zoning relief only when issuance of a comprehensive exemption 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 discussed above, the Company also requested a comprehensive exemption from the Bylaw (Zoning Exemption Petition at 9-12; Exh. MLP-PFT at 5, 11-13). The Company asserted that granting a comprehensive exemption is appropriate because the Project is "needed immediately" and a comprehensive exemption would prevent delays in Project construction (Exh. MLP-PFT at 11-13; Company Brief at 62). Additionally, the Company noted the Town's support for the granting of such an exemption (Company Brief at 60-66). Finally, the Company asserted that the granting of a comprehensive exemption in the present case would be consistent with Department and Siting Board precedent (id. at 63).

C. Analysis and Findings

The grant of a comprehensive exemption is based on the specifics of each case. Compared to the grant of individual zoning exemptions, which is tailored to meet the construction requirements of a particular project, the grant of a comprehensive exemption serves to nullify a municipality's zoning code in its entirety with respect to the project under review. Thus, compared to the grant of individual zoning exemptions, a comprehensive zoning exemption constitutes a broader incursion upon municipal home rule authority. In the absence of a showing that substantial public harm may be avoided by granting a comprehensive exemption, the granting of such extraordinary relief is not justified. NSTAR Plympton, D.P.U. 11-80, at 43, 44 (2012); Tennessee Southwick, D.P.U. 11-26, at 31; NSTAR Electric Company, D.P.U. 08-1, at 35-37 (2009) ("NSTAR Waltham").

Department and Siting Board cases that have considered and granted comprehensive exemptions have typically involved projects that were time sensitive and that dealt with the zoning ordinances of multiple municipalities, where conflicting interpretations could arise.

NGrid Worcester, EFSB 09-1/D.P.U. 09-131/09-132 (2011); Western Massachusetts Electric Company, EFSB 08-2/D.P.U. 08-105/08-106 (2010) ("GSRP"); New England Power Company Millbury, D.P.U. 09-136/09-137 (2011); New England Power Company, D.P.U. 09-27/09-28 (2010); Western Massachusetts Electric Company, D.P.U. 09-24/09-25 (2010).

The projected overload, which the Project would rectify, is due in large measure to the addition of a significant new customer on Flanders Road in Westborough (Exhs. JMT-PFT at 11; JMT-2, at 5; Company Brief at 11, 12). While this customer would ultimately be served from the East Main Street Substation, until Project upgrades can be completed, the customer is being served from a new temporary MITS installation at the Westborough 312 Substation fed from the 69 kV system (Exhs. JMT-PFT at 11 n. 1; JMT-2, at 5; Company Brief at 11, 12). Consequently, there is insufficient evidence to persuade the Department that completion of the Project is so time-sensitive that delay may result in substantial public harm.

Furthermore, it does not appear that granting a comprehensive exemption would expedite the Project. The Town itself appears to be in favor of the Project, and we have granted all the requested individual zoning exemptions. Consequently, the Company has not presented sufficient evidence to persuade us that the grant of a comprehensive exemption would avoid substantial public harm. In addition, the Project is subject to a single town's zoning ordinance, which eliminates the concern regarding numerous and potentially conflicting zoning provisions for a project involving multiple municipalities. See GSRP, EFSB 08-2/D.P.U. 08-105/08-106, at 137. Considering all these circumstances, NEP's request for a comprehensive zoning exemption is denied.

The Department denies the Company's request for a comprehensive exemption even though the Town of Westborough Building Commissioner has indicated that the Town supports the issuance of such an exemption (RR-DPU-9(1)). Municipal acceptance is one factor in determining whether the issuance of a comprehensive zoning exemption under G.L. c. 30A, § 3 is appropriate. See NSTAR Electric Company, EFSB 10-2/DPU 10-131/132, at 111 (2012). However, as discussed above, the standard for the granting of a comprehensive exemption is whether substantial public harm will be avoided. The record is sufficiently clear in this case that the issuance of a comprehensive zoning exemption is not necessary to avoid the occurrence of substantial public harm.

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.[18]

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).

[18] 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.

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.

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 line is necessary for the purpose alleged, will serve the public convenience, and is consistent with the public interest.

V. SECTION 61 FINDINGS

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" ("Section 61 findings"). G.L. c. 30, § 61. Pursuant to 301 C.M.R. § 11.01(3), Section 61 findings are necessary when an EIR is submitted to the Secretary of Energy and Environmental Affairs, and should be based on such EIR. Where an EIR is not required, Section 61 findings are not necessary. 301 C.M.R. § 11.01(3). On July 7, 2011, the Secretary of Energy and Environmental Affairs issued a Final Record of Decision, granting a waiver from the requirement to prepare an EIR. Accordingly, Section 61 findings are not necessary in this case.[19]

VI. ORDER

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

ORDERED: That the petition of NEP seeking the specific exemptions set forth in Table 3, from the operation of the Town of Westborough Zoning Bylaw pursuant to G.L. c. 40A, § 3 is granted; and it is

FURTHER ORDERED: That the petition of NEP seeking comprehensive exemption from the operation of the Town of Westborough Zoning Bylaw is denied; and it is

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

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[19] The Department notes the requirements set forth in G.L. c. 30A, § 61, effective November 5, 2008, regarding findings related to climate change impacts. Since Section 61 findings are not required in this case, the Project is not subject to the Greenhouse Gas Emissions Policy and Protocol. The Department nonetheless notes that this Project will have minimal greenhouse gas emissions, as it consists of modifications to an existing substation station and a new transmission line. As such, the Project will have minimal direct emissions from a stationary source under normal operations and will have minimal indirect emissions from transportation sources limited to construction, occasional repair, or maintenance activities. The Department addresses Project SF_6 emissions and temporary emissions from off-road construction vehicles in Section II.C.3.f, above.

FURTHER ORDERED: That NEP work cooperatively with municipal and state officials and affected property owners in Westborough to minimize any noise, visual, traffic, or other local impacts associated with the Project; and it is

FURTHER ORDERED: That the Company is directed to avoid use of the construction access route through the Haskell Street Recreation Area during scheduled recreational activities whenever possible, and is further directed to seek permission from relevant municipal officials at least one week in advance of using this access route; and it is

FURTHER ORDERED: That to help mitigate noise impacts from construction NEP work Monday through Friday from 7:00 a.m. to 5:00 p.m., with the exception of a two-week scheduled outage. Should the Company need to extend work beyond the construction hours it has proposed, the Company is directed to seek written permission from the relevant Town authority prior to the commencement of such work and to provide the Department with a copy of such permission. If the Company and Town officials are not able to agree on whether such extended construction hours should occur, the Company may request prior authorization from the Department. The Company shall provide the Town with a copy of any such request; and it is

FURTHER ORDERED: That to ensure that information about construction and operation of the Project is disseminated widely within the community, the Department directs the Company, in consultation with the Town, to develop a community outreach plan for Project construction and operation. The outreach plan should, at a minimum, lay out procedures for providing prior notification to affected residents of: (a) the scheduled start, duration, and hours of construction; (b) any construction that must take place outside the hours or days indicated above; (c) any operation the Company intends to conduct that could result in unexpected

community impacts due to unusual circumstances; and (d) complaint and response procedures including contact information; and it is

FURTHER ORDERED: That to help mitigate air impacts from construction, the Company is directed to: (1) use ultra-low sulfur diesel fuel in its diesel-powered construction equipment; (2) limit vehicle idling to five minutes pursuant to state regulations, and (3) retrofit all diesel-powered non-road construction equipment rated 50 horsepower or above to be used for 30 or more days over the course of the Project. Prior to the commencement of construction, the Company shall submit to the Department certification of compliance with this condition and a list of retrofitted equipment, including type of equipment, make/model, model year, engine horsepower, and the type of emission control technology installed; and it is

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

FURTHER ORDERED: That NEP and its successors in interest notify the Department of any significant changes in the planned timing, design, or environmental impacts of the Project so that the Department may decide whether to inquire further into a particular issue; and it is

FURTHER ORDERED: That NEP obtain all other governmental approvals necessary for the Project; and it is

FURTHER ORDERED: That the Secretary of the Department transmit a certified copy of this Order to the Town of Westborough, and that NEP serve a copy of this Order on the Westborough Board of Selectmen, the Westborough Planning Board and the Westborough

Zoning Board of Appeals within five business days of its issuance and 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.