

D.T.E. 04-66 / 04-81

Petitions of New England Power Company and Massachusetts Electric Company pursuant to G.L. c. 40A, § 3 for Exemptions from the Zoning Ordinance of the City of Haverhill to Expand Facilities at Ward Hill Substation.

ORDER GRANTING ZONING EXEMPTIONS TO MASSACHUSETTS ELECTRIC COMPANY

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I. INTRODUCTION

A. Description of the Proposed Project

Pursuant to G.L. c. 40A, § 3, Massachusetts Electric Company (“MECo” or “Company”) and New England Power Company (“NEP”), two affiliates of National Grid USA, have filed petitions with the Department of Telecommunications and Energy (“Department”) for exemptions from the Zoning Ordinance of the City of Haverhill (“ordinance”) in connection with proposed expansions of NEP’s existing Ward Hill Substation in Haverhill (Exhs. MEC-1; NEP-1; NEP-JWM at 1).^{1, 2} Because both the NEP project and the MECo project would be located on the Ward Hill Substation site, the two petitions were consolidated for hearing.³

MECo’s petition requests zoning exemptions for the construction of additional distribution-level facilities at the substation site (“distribution project” or “Ward Hill expansion”) (Exh. MEC-1). NEP’s petition requested zoning exemptions for the construction of additional transmission-level facilities on the substation site (“transmission project”)

¹ The Company explained that the existing 3.51-acre substation is located on a 39-acre parcel of land owned by NEP on Cross Road in Haverhill (Exh. MEC-KMH at 2-3). MECo stated that the substation currently contains four 115/23 kilovolt (“kV”) transformers, and four feeders each with one 23/13.2 kV transformer (*id.*). A 345/115 kV transmission substation is also located on the parcel, containing one 345/115 kV transformer and six 115 kV circuit breakers (*id.*; Exh. DTE 1-B-4).

² The Company indicated that the Department had previously granted zoning exemptions for Ward Hill Substation in 1994 (Exh. MEC-1, at 5 and Att. E). See New England Power Company, D.P.U. 92-278/279/280 (1994).

³ Although they would be located on the same site, the distribution facilities and the transmission facilities are functionally unrelated (Exhs. DTE-1-B-7; DTE-1-B-8).

(Exh. NEP-1). The Department issued a final order granting NEP's petition on March 3, 2005. This order addresses Meco's petition.

The Company stated that to accommodate three new 13.2 kV feeders extending from Ward Hill Substation, the distribution project would involve the installation of a new 115/13.2 kilovolt ("kV") eight-feeder "low profile" substation at the site, including two 115/13.2 kV transformers, fourteen 15 kV circuit breakers, two 6 megavolt-ampere-reactive ("MVar") capacitor banks, twenty-four voltage regulators, and a 30-foot-long, 14-foot-wide, 12-foot-high control house (Exhs. MEC-1, at 3; MEC-MJB at 3; MEC-KMH at 3; DTE 1-D-6; Tr. 1, at 6). The Company indicated that the substation fencing would be extended to enclose the 4.42 acres needed to accommodate both the NEP and Meco expansions (Exh. DTE 1-B-4; RR-DTE-9). Changes in substation acreage and the number of buildings and transformers at Ward Hill Substation are listed in Table 1, below.

Table 1. Changes Proposed for Ward Hill Substation

Element	Existing at Ward Hill	To be Removed	Distribution Project Additions	Transmission Project Additions *	Post-Construction*
Buildings	4	1	1	1	5
345/115 kV transformers	1			3	4
115/23 kV transformers	4	3		1	2
115/13.2 kV transformers			2		2
23/13.2 kV transformers	4				4
Substation area (inside fenceline)	3.51 acres		0.18 acres	0.72 acres	4.42 acres

Sources: Exhs. MEC-1; NEP-KMH at 2-4; DTE 1-T-5; DTE 1-D-6; Tr. 1, at 109-111; RR-DTE-9.

* Transmission project additions are listed only to show the cumulative change at Ward Hill Substation from the transmission and distribution projects. Acreages are subject to rounding.

B. Procedural History

NEP filed its zoning exemption petition on August 13, 2004 (D.T.E. 04-66); MECo filed its petition on August 24, 2004 (D.T.E. 04-81).⁴ The MECo petition was accompanied by a joint NEP-MECo motion to consolidate evidentiary hearings on the two petitions, which was granted by the Department on September 13, 2004.

Pursuant to notice duly issued, the Department held a public hearing on the NEP and MECo petitions on October 6, 2004, in Haverhill and conducted evidentiary hearings on the consolidated petitions on December 9 and 10, 2004, in Boston. In support of their petitions, NEP and MECo presented testimony and exhibits from eight witnesses: Michael J. Busby, Lead Senior Engineer in the Distribution Planning and Engineering Department for MECo; John W. Martin, Principal Engineer in the Transmission Planning Department of National Grid USA Service Company;⁵ Kathy M. Horelik, Lead Senior Engineer for National Grid USA Service Company and Project Engineer for the distribution project; Daniel McIntyre, Principal Engineer in the Substation Engineering Group of National Grid USA Service Company; F. Paul Richards, Principal Environmental Engineer in the Environmental Group of National Grid USA Service Company; Andres J. Molina, Principal Engineer with National Grid USA

⁴ With its petition, NEP filed a motion for a protective order, requesting that the Department afford confidential treatment to a transmission system map that was submitted as an exhibit in the proceeding. The motion is pending. In keeping with Department practice, the transmission system map has been provisionally treated as a confidential document from the time of its filing with the Department and retains that provisional status until a ruling dispositive of the Company's motion is issued.

⁵ NEP stated that National Grid USA Service Company performs engineering and other services for National Grid USA companies (Exh. NEP-JWM at 1).

Service Company; Melissa L. Hall, Senior Environmental Engineer with MECo; and David J. Beron, Principal Engineer in the National Grid USA Transmission Line Engineering Department.

II. STANDARD OF REVIEW

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

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

Thus, a petitioner seeking exemption from a local zoning bylaw under G.L. c. 40A, § 3 must meet three criteria. First, the petitioner must qualify as a public service corporation. Save the Bay, Inc. v. Department of Public Utilities, 366 Mass. 667 (1975) (“Save the Bay”). Second, the petitioner must establish that it requires exemption from the zoning ordinance or bylaw. Boston Gas Company, D.T.E. 00-24, at 3 (2001) (“Boston Gas”). Finally, the petitioner must demonstrate that its present or proposed use of the land or structure is reasonably necessary for the public convenience or welfare. Massachusetts Electric Company, D.T.E. 01-77, at 4 (2002) (“MECo (2002)”); Tennessee Gas Pipeline Company, D.T.E. 01-57, at 3-4 (2002) (“Tennessee Gas (2002)”).

A. Public Service Corporation

In determining whether a petitioner qualifies as a “public service corporation” (“PSC”) for the purposes of G.L. c. 40A, § 3, the Massachusetts Supreme Judicial Court (“SJC”) stated: among the pertinent considerations are whether the corporation is organized pursuant to an appropriate franchise from the State to provide for a necessity or

convenience to the general public which could not be furnished through the ordinary channels of private business; whether the corporation is subject to the requisite degree of governmental control and regulation; and the nature of the public benefit to be derived from the service provided.

Save the Bay at 680. See also, Boston Gas at 3-4; Berkshire Power Development, Inc.,

D.P.U. 96-104, at 26-36 (1997) (“Berkshire Power”).

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

B. Exemption Required

In determining whether exemption from a particular provision of a zoning bylaw is “required” for purposes of G.L. c. 40A, § 3, the Department looks to whether the exemption is necessary to allow construction or operation of the petitioner’s project as proposed. See MECo (2002) at 4-5; Tennessee Gas (2002) at 5; Western Massachusetts Electric Company,

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

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

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

C. Public Convenience or Welfare

In determining whether the present or proposed use is reasonably necessary for the public convenience or welfare, the Department must balance the interests of the general public against the local interest. Save the Bay at 680; Town of Truro v. Department of Public Utilities, 365 Mass. 407, at 411 (1974). Specifically, the Department is empowered and required to undertake "a broad and balanced consideration of all aspects of the general public interest and welfare and not merely [make an] examination of the local and individual interests which might be affected." New York Central Railroad v. Department of Public Utilities, 347 Mass. 586, 592 (1964) ("New York Central Railroad"). When reviewing a petition for a zoning exemption under G.L. c. 40A, § 3, the Department is empowered and required to consider the public effects of the requested exemption in the State as a whole and upon the territory served by the applicant. Save the Bay at 685; New York Central Railroad at 592.

With respect to the particular site chosen by a petitioner, G.L. c. 40A, § 3 does not

require the petitioner to demonstrate that its preferred site is the best possible alternative, nor does the statute require the Department to consider and reject every possible alternative site presented. Rather, the availability of alternative sites, the efforts necessary to secure them, and the relative advantages and disadvantages of those sites are matters of fact bearing solely upon the main issue of whether the preferred site is reasonably necessary for the convenience or welfare of the public. Martarano v. Department of Public Utilities, 401 Mass. 257, 265 (1987); New York Central Railroad at 591.

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

⁶ In addition, the Massachusetts Environmental Policy Act provides that “[a]ny determination made by an agency of the commonwealth shall include a finding describing the environmental impact, if any, of the project and a finding that all feasible measures have been taken to avoid or minimize said impact” (“Section 61 findings”). G.L. c. 30, § 61. Pursuant to 301 C.M.R. § 11.12(5), Section 61 findings are required if the Secretary of Environmental Affairs has required an Environmental Impact Report (“EIR”) for the project. The Company stated that no EIR was required for the distribution project (Exhs. NEP-FPR at 7-9; DTE-2-B-7). Accordingly, Section 61 findings are not necessary in this case.

III. ANALYSIS AND FINDINGS

A. Public Service Corporation Status

The Company stated that MECo is a Massachusetts corporation authorized to transmit electricity, an electric company as defined by G.L. c. 164, § 1, and a public service corporation (Exh. MEC-1, at 1). See Massachusetts Electric Company, D.T.E. 03-130, at 15 (2004); Massachusetts Electric Company, D.P.U. 92-232, at 17 (1994). Accordingly, the Department finds that MECo qualifies as a public service corporation for the purposes of G.L. c. 40A, § 3.

B. Public Convenience or Welfare

1. Need or Public Benefit of Use

a. Company Position

MECo stated that the Ward Hill expansion is needed to supply three new distribution feeders to, in turn, provide needed additional distribution capacity into the Haverhill area (Exh. MEC-MJB at 2-3; Tr. 1 at 6). MECo stated that the Haverhill area averaged 4.7 percent annual load growth from 1998 to 2002 (Exh. MEC-MJB-1; Tr. 1, at 9-10). MECo stated that there is broad-based load growth in the area and that Haverhill is making an effort to redevelop its downtown area as well (Tr. 1, at 26-29). MECo indicated that numerous feeders in the area will approach or exceed their normal capabilities between 2003 and 2013 (Exh. MEC-MJB-1, at 3). In addition, MECo stated that during the 2004-2013 period, the existing distribution system in Haverhill would violate the Company's feeder outage design criterion, which limits loss of service to 20 megawatt-hours ("MWh") under the contingency of an outage of a single

feeder (Exhs. MEC-MJB at 3; MEC-MJB-1, at 1, 4).⁷

In support of its petition, MECo provided a June 8, 2004, memorandum regarding a study of loading and reliability on the Haverhill area distribution system (Exh. MEC-MJB-1). Subsequent to filing its petition, MECo provided a supporting study dated September 2004, titled “Haverhill Area Distribution Study” (Exh. DTE 1-B-7, Att. A). The June 8, 2004, memorandum shows that, under normal operation, two feeders supplied from Ward Hill Substation – the 43L1 and 43L2 – and three feeders supplied from other Haverhill area substations – the 65L3, 32J1, and 32J8 feeders – are projected to reach 92 to 103 percent of their summer thermal capacities by 2013; further, with the addition of one new large customer at the Ward Hill industrial park, the 43L3 feeder supplied from Ward Hill Substation would exceed its normal capacity as well (Exh. MEC-MJB-1).⁸ According to the Company, these loadings can be relieved by upgrading Ward Hill to allow connection of three new feeders and switching some customers among existing feeders (id.; Exh. DTE 1-D-22; RR-DTE-1). The memorandum also shows that, throughout the study period of 2004 to 2013, contingency losses on any one of seven circuits would cause outages in excess of 20 MWh (Exh. MEC-MJB-1).⁹

⁷ MECo provided a copy of National Grid Procedure EDP-PLN-1, which states, inter alia, that a distribution system should be designed to limit the interruption caused by an outage of a single distribution feeder to 20 MWh, based on peak load (Exh. MEC-MJB-2, at 7).

⁸ In 2003, actual peak load on the 32J8 line reached 98 percent of capacity; other Haverhill distribution lines were not as close to full capacity (Exh. MEC-MJB-1).

⁹ The feeders exceeding the 20 MWh design criterion include the 43L1, 43L2, 43L3, and 43L4, feeders from Ward Hill Substation, the 48L1 and 48L2 feeders from North Haverhill Substation, the 48L3, 65L1, and 65L3 feeders from East Bradford

(continued...)

MECo stated that the distribution project would resolve a potential 43.9 MWh outage from a single contingency loss of the 43L3 feeder from Ward Hill Substation, and potential outages over 20 MWh from contingency outages on several feeders extending from the North Haverhill and East Bradford substations (RR-DTE-1).

MECo stated that it analyzed several alternatives to the distribution project (Exh. MEC-MJB at 3). One option, according to MECo, would be to carry power into the center of Haverhill at 115 kV (id. at 4). Since this option would require several miles of new 115 kV right-of-way and construction of a new substation in the downtown area, MECo concluded that such option would not be a cost-effective solution (id.). MECo pointed out that for customers close to Ward Hill, construction of the distribution project would allow direct distribution of power at 13.2 kV from Ward Hill, thereby replacing the current system of carrying power from Ward Hill to satellite substations at 23 kV and bringing the power back towards the customers near Ward Hill at 13.2 kV (Tr. 1, at 22-28). MECo stated that the proposed distribution project would result in lower line losses and a better voltage profile (id.).

b. Analysis

MECo demonstrated that its existing Haverhill area distribution system is inadequate for expected load growth. MECo also has demonstrated that single feeder outages could result in loss of service amounting to over 20 MWh, which exceeds the feeder design criterion.

⁹ (...continued)
Substation, and the 76L1 feeder from Whittier Substation in the northeastern corner of Haverhill (Exh. MEC-MJB-1).

The record shows that MECo considered at least one alternative means of addressing distribution needs in the Haverhill area – specifically, constructing facilities to deliver power at 115 kV into downtown Haverhill. The record indicates that the Ward Hill expansion would involve less extensive improvements and be more cost-effective than the alternative considered by the Company. Therefore, the Department finds that construction of the Ward Hill expansion would serve the general public interest by contributing to the reliability of the distribution system in the North Shore area.

2. Impacts of the Proposed Use

a. Land Use

The Company indicated that there is an active railroad right-of-way along the eastern edge of the site, and electric and natural gas rights-of-way immediately surrounding the site to the south, west, and east (Exhs. MEC-1, Att. A; MEC-FPR at 3; DTE-1-B-1, Att. A, Sheet 1). MECo provided maps and an aerial photograph showing a mixed residential and commercial area further to the east; a wooded bank descending to the Merrimack River to the west; woodlots and farm fields to the north; and additional woodland to the south (Exhs. MEC-1, Att. A; MEC-KMH-1R; DTE 1-B-1, Att. A; RR-DTE-6, Att. A). The proposed transmission project together with the distribution project would increase the size of Ward Hill Substation from 3.51 to 4.42 acres, as defined by the substation fenceline, by incorporating adjacent areas to the south and to the north (Exhs. MEC-KMH-1R, MEC-DM-3R, Sheet 1; DTE 1-B-4).

MECo indicated that the substation would be extended into areas of low-growing shrubs, and that no clearing of woodland would be required for the distribution project (Exh. MEC-KMH-1R; Tr. 2, at 167-168). The Company stated that most of the substation site has previously been disturbed and that there are no known historic sites in the area (Exh. MEC-FPR at 8). The Company stated that the Massachusetts Historical Commission has indicated that the Ward Hill expansion is unlikely to affect significant archeological resources (id.; Exh. MEC-FPR-3). MECo stated that the 11th edition of the Massachusetts Natural Heritage Atlas, prepared in 2003, shows no upland habitat for any species designated as rare under the Natural Heritage and Endangered Species Program (“NHESP”) at the Ward Hill Substation site (Exh. MEC-FPR at 8; Tr. 1, at 121-122).

b. Wetlands

The Company stated that no Bordering Vegetated Wetlands (“BVW”) would be filled to construct the distribution project, and that the distribution project would trigger neither the Wetlands Protection Act nor Haverhill Wetland Bylaw jurisdiction (Exh. MEC-FPR at 3; RR-DTE-9).

c. Water Resources

MECo indicated that the distribution project, which would be undertaken on the south portion of the substation yard, would have no impact on the Merrimack River to the north of the substation (Exh. MEC-FPR at 4; RR-DTE-9). The Company stated that there are no known public water supply sources within one-half mile of Ward Hill Substation (RR-DTE-4). Also, the Company stated that the City of Haverhill has no record of private water supply wells within one-half mile of Ward Hill Substation (id.).

MECo stated that the expanded substation would not generate additional wastewater (Exhs. MEC-FPR at 8; DTE 1-B-39). The Company indicated that existing storm water drainage patterns would be maintained throughout the area of the distribution project (Tr. 1, at 120-121). The Company stated that rainfall onto the driveway, concrete, and other impermeable surfaces would sheet off to areas of crushed stone and infiltrate into the soil (Exh. MEC-DM at 2; Tr. 1, at 121).

d. Visual

The Company stated that existing and proposed distribution facilities have a maximum height of approximately 40 feet (Exh. MEC-FPR at 5). The Company stated that the low profile substation would be visible from the mixed residential and commercial area east of Ward Hill Substation and could present a more congested appearance than presently exists at the site (Exh. DTE 1-B-36, Att. B; RR-DTE-9). The tallest structure at the substation site would continue to be an existing microwave communication tower (Exhs. DTE 1-B-36, Att. A; DTE 1-B-36, Att. B). The proposed NEP facilities, which are towards the west side of the substation site, would include 95-foot tall transmission line towers and lightning shield masts (Exhs. NEP-1, at 5-6; NEP-FPR at 5; DTE 1-T-2, Att. A; Tr. 1, at 96).

Shadows on an aerial photo provided by the Company indicate that there is an irregular line of small trees between the railroad line and the residential/commercial area east of Ward Hill Substation (Exh. MEC-KMH-1R). Another photo shows some low brush between the substation and the railroad line (Exh. DTE-1-B-36, Att. A). The Company stated that existing vegetative screening is not located on property of NEP or MECo, and that

maintenance of this visual screening is not under either company's control (Exh. DTE 2-B-1(c); RR-DTE-6, Att. A).

The Company indicated that 30 cluster lamps and 12 twin floodlights would be installed at the substation; however, the floodlights would have manual switches and would be used only for emergencies (Exhs. MEC-KMH at 5; DTE 2-B-8).

e. Noise

The Company indicated that transformers for the transmission and distribution systems would be the principal sources of noise from the expanded substation; secondary sources would include wall fans and climate control for buildings (Exh. MEC-KMH-7, at 12). Noise from these sources was modeled by Black & Veatch Corporation, accounting for wave divergence, absorption, and attenuation of generated noise (id.). At partial load on the transformers, typical of normal operations, the modeling projected that, with the expansion, noise from Ward Hill Substation would be 41 and 44 sound decibels on the A-weighted scale ("dBA") at the two closest residences (id. at 13; Tr. 2, at 185-189).

Considering the transmission and distribution projects separately and then together, the Company estimated that the lowest hourly background (L_{90}) sound level at the nearest residence, measured at 43 dBA, would increase to 47 dBA from the transmission project alone, would increase to 45 dBA from the distribution project alone, and would increase to 48 dBA from the transmission and distribution projects together (Exh. MEC-KMH-7, at 17; RR-DTE-8, Att. A; RR-DTE-9).

f. Traffic

The Company estimated that average daily traffic flow, including workforce commuters and delivery trucks, would be eight vehicles per day over the construction period, with a peak of ten vehicles per day (RR-DTE-3). Trucks would deliver fill, concrete, building material, pole structures, and electrical equipment (Exh. DTE 1-B-30; Tr. 1, at 113). The Company indicated that vehicles coming from Interstate 495 to the site would travel 1.2 miles on Route 125, a four-lane road, and 0.3 miles on local streets (Exh. DTE 1-B-30). The Company indicated that Route 125 typically has 16,000 vehicles passing per day (RR-DTE-3). Also, the Company stated that no parking or queuing would be necessary on Cross Road (id.). The Company indicated that construction hours would be 7 a.m. to 7 p.m., Monday through Saturday, in accordance with local law (Tr. 1, at 89). The Company indicated that it would provide police details or signage at the driveway entrance during the site preparation phase, if required by the Haverhill Police Department (Exh. DTE 3-11).

g. Other

The Company stated that it would update its Spill Prevention Control and Countermeasures (“SPCC”) plan for the site (Exh. MEC-DM at 3). The Company stated that mineral oil dielectric fluid (“MODF”) in existing transformers that are to be removed would be handled as waste oil under Massachusetts regulations (Tr. 1, at 112). The Company stated that construction wastes from the proposed project, including materials such as waste concrete, sheet metal, and excess wire, would be hauled to an approved landfill (id. at 111-112).

The Company stated that it would maintain fencing around the substation during construction, in order to maintain site security and safety during the construction period

(Exh. DTE 1-B-32). The Company stated that it would post several safety signs around the substation fenceline, and post the work area with “No Trespassing” signs (id.). The Company stated that changes in magnetic field strengths from the distribution project are expected to be negligible (RR-DTE-9).

h. Analysis

The record shows that the distribution project facilities would be located in a mixed use area, with mixed residential and commercial uses to the east, across an active railroad line; the Merrimack River to the west; mostly agricultural land to the north; and partly forested land with utility easements to the south. As discussed below, the record indicates that the distribution project would result in some visual, noise, and construction traffic impacts, while having minimal land use, wetlands, water resources, waste, and safety impacts.

The record shows that the distribution project would have no significant land use impacts, since the existing substation is being expanded into an area of disturbed shrub vegetation, and no cultural or outstanding natural resources were identified. The record shows that the distribution project would not encroach on wetland areas. With respect to water resources, the record indicates the project would not create additional sources of wastewater and that stormwater handling would be consistent with current conditions.

With respect to visual impacts, the record indicates that views of the expanded substation from the adjacent residential and commercial area would be generally comparable to existing views. While some existing clutter would be removed, the expanded substation would appear more dense than at present. The Company did not discuss or propose additional means for improving the visual aspect of the substation site.

The record indicates that the transmission and distribution projects, together, would cause an increase in noise levels of approximately 5 dBA at the closest residence during quiet periods. This is close to projected noise increases accepted in previous zoning exemption cases. See New England Power Company, D.T.E. 04-4 (2004); Boston Edison Company, EFSB 96-1/D.P.U. 96-35/D.P.U. 96-36 (1997). As modeled, the increase in noise is due principally to the transmission project, not the distribution project.

The record indicates that distribution project construction traffic would be limited to eight to ten vehicles per day delivering machinery and workers. The record indicates that this traffic could be accommodated by the existing road network, and that the Company would arrange special traffic management when required by City officials.

With respect to other issues, the record indicates that the Company will update its SPCC plan for Ward Hill Substation. The record also indicates that the site will remain secured during construction. The Department concludes that waste and safety issues are being adequately addressed by the Company.

The Department finds that local adverse environmental impacts of the transmission project would be modest. Based on the foregoing, the Department finds that the general public interest in implementing the distribution project at Ward Hill Substation would outweigh any adverse local impacts of the project.¹⁰ Consequently, the Department finds that the distribution project is reasonably necessary for the convenience and welfare of the public.

¹⁰ The Company stated that it met with City of Haverhill officials regarding the Company's plan to obtain zoning exemptions from the Department and that the officials voiced no objections to the distribution project (Exh. DTE 2-B-4).

C. Need for the Requested Zoning Exemptions

MECo seeks exemption from eleven individual provisions of the ordinance (Exh. MEC-1, at 3-6).¹¹ The Company also seeks a comprehensive exemption from the ordinance as a whole (Company Brief at 7-8).

1. Individual Zoning Exemptions

a. Physical Conflicts With the Project as Proposed

The record indicates that construction of the distribution project as described by MECo would conflict directly with three provisions in the ordinance. One of these provisions pertains to fence height, and the other two pertain to the posting of signs in a Residential High Density (“RH”) district.

(i) Fence Height

The Company stated that, under the ordinance, Ward Hill Substation is classified as a private utility (Exh. MEC-1, at 4 and Att. D, Table 1, at 4). The Company stated that locating a private utility in an RH district requires a special permit (*id.*).

Table 1 of the ordinance allows fences as of right in an RH district if they do not use barbed wire or exceed six feet in height; fences up to ten feet in height are allowed by special permit (Exh. MEC-1, Att. D, Table 1, at 22). The Company stated that its standard substation fence, for security reasons, is seven feet high and topped with one foot of barbed wire (Exh. MEC-1, at 5). MECo asserted that, without a zoning exemption, installation of the

¹¹ Attachment D to Exhibit MEC-1 is a copy of the Haverhill Zoning Ordinance. This copy of the ordinance has been certified by the City Clerk, in accordance with G.L. c. 233, § 74, and as required by the Department’s Zoning Exemption Checklist.

substation fence would require a special permit from the Haverhill Zoning Board of Appeals (id., Att. D at § 255-75; Company Brief at 12).

(ii) Signs

MECo stated that it requires exemption from two provisions of the ordinance pertaining to signs. Section 255-28 requires that all signs conform to the requirements of the Haverhill building code, fire code, and electrical code, and “other applicable city regulations” (Exh. MEC-1, Att. D, § 255-28). MECo explained that the specifications for its substation safety signs are governed by the National Electric Safety Code (“NESC”) (Exh. DTE 2-B-3(c)). The Company stated that its safety signs would comply with all requirements of the Haverhill building code, fire code and electric code, and that MECo was seeking exemption from § 255-28 only to the extent that this provision might conflict with the NESC standards (id.).

Section 255-36 of the ordinance limits the number of signs on property in an RH district to one (id.). MECo stated it requires an exemption from § 255-36 because the NESC standards require the posting of signs at approximately 50-foot intervals along the entire length of a substation fence (Exh. DTE 2-B-3(c), Att. A).

MECo asserted that, in the absence of a zoning exemption, it would be required to seek a variance from the requirements of § 255-28 and § 255-36 of the ordinance (Exh. MEC-1, Att. D at § 255-75; Company Brief at 11).

b. Potential Delay in Construction Schedule

The Company does not assert that requiring it to comply with the other eight provisions of the ordinance from which it has requested exemption would categorically preclude

construction or operation of the distribution project. Rather, MECo has asserted that obtaining the special permits and variances that would be required by these provisions, in the absence of the requested exemptions, could be time-consuming and thus could delay completion of the project (Company Brief at 10). MECo stated that both special permits and variances may be appealed by third parties to the Land Court, Superior Court, Housing Court or District Court, and that “[b]ecause of the uncertainties associated with appeals, the potential time delays associated with an appeal would virtually assure that NEP and/or MECo could not construct the project according to schedule” (*id.*).

(i) Zoning Board Proceedings

The Company stated that the existing substation is a nonconforming use, and seeks exemption from § 255-53 of the ordinance, which limits the extent to which a nonconforming use may be expanded or altered (Exh. MEC-1, at 4 and Att. D at § 255-53). This section provides that nonconforming uses may be extended or altered only if the Zoning Board of Appeals issues a finding that the proposed changes will “not be substantially more detrimental than the existing nonconforming use to the neighborhood or environment in which it is sited” (Exh. MEC-1, Att. D at § 255-53, par. 1). MECo asserted that, without a zoning exemption, construction of the project would require a variance (Company Brief at 11).

Section 255-13 of the ordinance provides that unless a use is designated as a permitted use in a particular zoning district, the use is prohibited (Exh. MEC-1, at 4 and Att. D at § 255-13). The Company stated that the substation is considered a private utility under the ordinance, and is an allowed use in an RH district only by special permit (*id.* at 4 and Att. D, Table 1, at 4, and Article XI). Obtaining a special permit requires a hearing before the Zoning

Board of Appeals (Exh. MEC-1, Att. D at § 255-76A). MECo asserted that, without a zoning exemption, construction of the project would require a variance from the requirements of § 255-13 (Company Brief at 11).

(ii) Planning Board Review

Section 255-64 of the ordinance provides that all applications for zoning permits must be accompanied by a site plan (Exh. MEC-1, Att. D at § 255-64). MECo stated that site plan review requires a proceeding before the Haverhill Planning Board, which MECo asserted could delay the project (Exh. MEC-1, at 5; Company Brief at 12). MECo asserted that it would be required to obtain a variance unless an exemption from this section was granted (Company Brief at 12).

(iii) Building Inspector Approvals

Section 255-62 of the ordinance prohibits the construction or alteration of a structure without a building permit issued by the City building inspector (Exh. MEC-1, Att. D at § 255-62). This section imposes certain prerequisites for obtaining such a permit and requires certain findings by the building inspector (*id.*). MECo asserted that because this provision “does not contemplate construction of substations or construction pursuant to a zoning exemption,” the Company would, in the absence of a zoning exemption, need to seek a variance (Company Brief at 11).

Pursuant to § 255-63 of the ordinance, certain types of approvals issued by the Zoning Board of Appeals and the City Council (*e.g.*, special permits and variances) must be recorded in the Registry of Deeds before the building inspector may issue a building permit (Exh. NEP-1, Att. D at § 255-63). MECo asserted that, with its requested exemptions, the

Company would not need to obtain any of the specific approvals listed in § 255-63; the Company stated that, if an exemption were not granted, it would be necessary to obtain a variance (Company Brief at 11).

Section 255-65 of the ordinance prohibits the use or occupancy of any structure or lot requiring a zoning permit until the building inspector has issued a certificate of use and occupancy (Exh. MEC-1, Att. D at § 255-65). Section 255-65 provides that the building inspector must take action within 14 days on an application for a certificate of use and occupancy and that “[f]ailure of the Building Inspector to act within the 14 days shall be considered approval”(id.). MECo asserted that, in light of the expedited construction schedule for the transmission project, this 14-day period “could unnecessarily burden or delay” that schedule (Exh. DTE 2-B-3; Company Brief at 12). MECo asserted that, unless a zoning exemption were granted, the Company would require a variance from § 255-65 (Company Brief at 12).

(iv) Environmental Standards

Section 255-82 of the ordinance contains environmental performance standards applicable to air emissions, flammable and explosive materials storage, radioactivity, water discharges, vibration, and lighting (Exh. MEC-1, Att. D at § 255-82). This section applies to “[a]ny use permitted by right, special permit and/or variance in any district” (id.).

MECo stated that the proposed distribution project will be constructed in accordance with all applicable federal, state, and local environmental laws, and argued that requiring the Company to comply with the environmental performance standards would result in duplicative

regulation (Exh. MEC-1, at 5). In addition, the Company stated that its ability to meet one of the performance standards (prohibiting direct or sky-reflected glare from floodlights) could be an issue because emergency lighting would be located on the substation site (*id.*). MECo also stated that “[b]ecause of vague language that prevents the precise determination of how the provisions in subsections A, B, and F may be enforced,” the Company, if not exempted from this section, would need to obtain a variance (Company Brief at 12).

2. Comprehensive Exemption

MECo stated that it is seeking a comprehensive zoning exemption from the Department, in part, because the Department has previously granted zoning exemptions to the Company for construction at Ward Hill Substation, and the Company wishes “[t]o maintain consistency in permitting” (*id.* at 10). Citing to earlier Department orders in zoning exemption proceedings, MECo also asserted that comprehensive zoning relief for the distribution project is appropriate because the project otherwise would require numerous individual zoning exemptions (*id.* at 8).

3. Conclusion on Requested Exemptions

Based on the record, the Department has concluded, above, that the proposed distribution project is reasonably necessary for the convenience and welfare of the public. MECo has identified eleven specific provisions of the ordinance from which it seeks exemption, to minimize delay in construction and ultimate operation of the project. The Department concludes that, with one exception, the record supports MECo’s assertion that requiring the Company to comply with the identified provisions of the ordinance could result in project delay.

As discussed above, Section 255-65 of the ordinance provides that the maximum amount of time that the Haverhill building inspector may take to act on an application for a certificate of use and occupancy is 14 days; moreover, this section provides that, should there be delay beyond the 14-day period, the application is automatically approved. MECo stated that construction of the distribution project will require approximately 6 to 9 months (Exh. DTE 2-B-10(c)). There is insufficient information in the record to support a conclusion that a waiting period of a maximum of 14 days, within the context of a 6 to 9 month construction period, would delay overall progress on the distribution project. Accordingly, the Company's request for exemption from this provision is denied.

Based on the record, the Department concludes that requiring compliance by MECo with ten identified provisions of the ordinance could preclude or delay construction and operation of the project. Accordingly, the Department finds that, within the meaning of G.L. c. 40A, § 3, exemption of the distribution project from ten provisions of the ordinance is necessary: Table 1, at 4; Table 1, at 22; and §§ 255-13, 255-28, 255-36, 255-53, 255-62, 255-63, 255-64, and 255-82. The Department finds that exemption of the distribution project from § 255-65 is not necessary.

The Department has previously noted that petitions for comprehensive zoning relief are infrequently granted, but may be appropriate in certain circumstances. The Department will consider the issuance of comprehensive relief where numerous exemptions are required or where the issuance of a comprehensive exemption could avoid substantial public harm by serving to prevent delay in the construction and operation of the proposed use. NEP/MECo, D.T.E. 04-4/04-81, at 32-33; USGen New England, D.T.E. 03-83, at 34 (2004); Tennessee

Gas Pipeline, D.T.E. 01-57, at 11 (2002) (“Tennessee Gas”).

As noted above, on March 3, 2005, the Department granted NEP a comprehensive zoning exemption for its proposed transmission project at Ward Hill Substation. In that case, NEP established that the project was reasonably necessary for the convenience or welfare of the public; that a highly expedited schedule for construction of the transmission project was needed; that expedited completion of the project could have significant public benefits; and that granting NEP a comprehensive exemption could avoid substantial public harm by preventing the possibility of zoning-related delay in the construction and operation of the proposed transmission facilities. NEP/MECo, D.T.E. 04-66/04-81, at 30-32.

Initially, MECo and NEP indicated that the transmission project and the distribution project would be constructed simultaneously (Exh. DTE 2-B-10(c)). However, the Companies subsequently determined that completion of the transmission project was a higher priority than completion of the distribution project, and that the start of distribution project construction would be postponed until the transmission project had been completed, approximately 15 months beyond the start date originally proposed for the distribution project (*id.*). The record in D.T.E. 04-66 shows that NEP’s proposed construction schedule would allow the Company approximately 15 months to start and complete the transmission project; under the proposed distribution project schedule, MECo will have 15 months lead time before starting construction. NEP/MECo, D.T.E. 04-66/04-81, at 10. Thus, while the record pertaining to the distribution project shows that the distribution project, like the transmission project, will provide public benefits, the record also shows that the distribution project is not as urgent, or as time-sensitive, as the transmission project.

The Department has stated that it may consider the granting of a comprehensive exemption where doing so “could avoid substantial public harm by serving to prevent delay in the construction and operation of the proposed use.” In the case of the distribution project, the record shows that MECo does not intend to start construction of the distribution project until after the transmission project is completed, which would be mid-2006 or later. Thus, the record does not support a finding that a comprehensive zoning exemption is needed to prevent delay in order to avoid “substantial” public harm. Additionally, as compared to the granting of individual zoning exemptions, which are tailored to meet the construction and operational requirements of a particular project, the granting 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 granting of individual zoning exemptions, which entail specific demonstrations of need, a comprehensive zoning exemption constitutes a broader incursion upon municipal Home Rule authority. Moreover, the rationale advanced by the Company, “to maintain consistency in permitting,”¹² is too insubstantial and undeveloped to support granting a comprehensive zoning exemption. The Department concludes that, 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 justifiable. Tennessee Gas, D.T.E. 01-57, at 11. Accordingly, MECo’s request for a comprehensive zoning exemption is denied.

¹² Company Brief at 10.

IV. ORDER

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

ORDERED: That Massachusetts Electric Company's petition for an exemption from Table 1, at 4; Table 1, at 22; and §§ 255-13, 255-28, 255-36, 255-53, 255-62, 255-63, 255-64, and 255-82 of the City of Haverhill Zoning Ordinance is allowed for this project; and it is

FURTHER ORDERED: That Massachusetts Electric Company's petition for an exemption from § 255-65 of the City of Haverhill Zoning Ordinance is denied for this project; and it is

FURTHER ORDERED: That Massachusetts Electric Company's request for a comprehensive exemption from the City of Haverhill Zoning Ordinance is denied for this project; and it is

FURTHER ORDERED: That Massachusetts Electric Company shall obtain all other governmental approvals necessary for this project before construction commences; and it is

FURTHER ORDERED: That the Secretary of the Department shall transmit a certified copy of this Order to the Haverhill City Clerk; and that Massachusetts Electric Company shall serve a copy of this order on the Clerk of the Haverhill City Council, the Haverhill Planning Board, the Haverhill Board of Health, and the Haverhill Zoning Board of Appeals within five business days of its issuance and shall certify to the Secretary of the Department within ten business days of its issuance that such service has been accomplished.

By order of the Department,

Paul G. Afonso, Chairman

James Connelly, Commissioner

W. Robert Keating, Commissioner

Judith F. Judson, 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.