

D.T.E. 05-1

Petition of Commonwealth Electric Company, d/b/a NSTAR Electric, pursuant to G.L. c. 164, § 72, for approval to construct and operate a transmission line and ancillary facilities in the Town of Barnstable

APPEARANCES:

David S. Rosenzweig, Esq.
Erika J. Hafner, Esq.
Keegan Werlin LLP
265 Franklin Street
Boston, MA 02110

-and-

Mary E. Grover, Esq.
NSTAR Electric & Gas Corporation
800 Boylston Street, P1700
Boston, MA 02199

FOR: Commonwealth Electric Company,
d/b/a NSTAR Electric
Petitioner

Paige Graening, Esq.
National Grid USA Service Company
25 Research Drive
Westborough, Massachusetts 01582

FOR: Nantucket Electric Company
Limited Participant

I. INTRODUCTION

A. Description of the Proposed Project

On January 13, 2005, pursuant to G.L. c. 164, § 72, Commonwealth Electric Company, d/b/a NSTAR Electric (“NSTAR” or “Company”) filed a petition with the Department of Telecommunications and Energy (“Department”) seeking a determination that the proposed 115 kV transmission line and ancillary facilities in the Town of Barnstable are necessary, serve the public convenience and are consistent with the public interest.

The Company requests approval to construct and operate an underground transmission line, approximately 3700 feet in length between NSTAR’s existing Barnstable Switching Station and a new substation at Merchant’s Way in Barnstable that Nantucket Electric Company (“Nantucket Electric”) is constructing in connection with its underwater transmission project. See Nantucket Electric Company, D.T.E. 04-10 (2004).

NSTAR’s proposed line would be located on an existing right-of-way (“ROW”) and would cross existing 23 kV and 125 kV lines also on the ROW (Exhs. NSTAR-1, at 2; NSTAR-GRS-1, at 3). At the existing Barnstable Switching Station, the Company would add a fourth bay with two 115 kV gas-insulated circuit breakers and would add two 115 kV circuit breakers in the existing third bay (Exh. NSTAR-GRS-1, at 3-4). At the switching station, the Company would connect the transmission line to the third bay and relocate Line #115 to the fourth bay (id.).

B. Procedural History

On February 16, 2005, pursuant to notice duly issued, the Department held a public hearing in the Town of Barnstable to afford interested persons an opportunity to be heard

regarding the Company's petition. The Hearing Officer granted the petition for limited participant status filed by Nantucket Electric.

The Department held an evidentiary hearing on April 14, 2005 at the Department's offices in Boston. In support of its petition, the Company sponsored the testimony of three witnesses: Gregory R. Sullivan, Director of Transmission Engineering for NSTAR; Charles P. Salamone, Director of System Planning for NSTAR; and Kevin F. McCune, Senior Environmental Engineer for NSTAR. The record consists of approximately 43 exhibits, including the Company's responses to information requests and one record request of the Department. On April 25, 2005, the Company and Nantucket Electric submitted briefs.

II. STANDARD OF REVIEW

G.L. 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.¹

The Department, in making a determination under G.L. c. 164, § 72, is to consider all aspects of the public interest. Boston Edison Company v. Town of Sudbury, 356 Mass. 406, 419 (1969). Section 72, for example, permits the Department to prescribe reasonable conditions for

¹ 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.

the protection of the public safety. Id. at 419-420. All factors affecting any phase of the public interest and public convenience must be weighed fairly by the Department in a determination under G.L. c. 164, § 72. Town of Sudbury v. Department of Public Utilities, 343 Mass. 428, 430 (1962).

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 (see Massachusetts Electric Company, D.P.U. 93-29/30, at 10-14, 22-23 (1995); New England Power Company, D.P.U. 92-278/279/280, at 19-22 (1994) (“NEPCo, D.P.U. 92-278/279/280”); Tennessee Gas Pipeline Company, D.P.U. 85-207, at 6-9 (1986) (“Tennessee”)); (2) the environmental impacts or any other impacts of the present or proposed use (see NEPCo, D.P.U. 92-278/279/280, at 20-23; New England Power Company, D.P.U. 92-270, at 17-20 (1994) (“NEPCo, D.P.U. 92-270”); Tennessee, at 20-25); and (3) the present or proposed use and any alternatives identified (see NEPCo, D.P.U. 92-278/279/280, at 19; NEPCo, D.P.U. 92-270, at 17; Tennessee, at 18-20). 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.²

² In addition, the Massachusetts Environmental Policy Act (“MEPA”) provides that “[a]ny determination made by an agency of the commonwealth shall include a finding describing the environmental impact, if any, of the project and a finding that all feasible measures have been taken to avoid or minimize said impact” (“Section 61 findings”). G.L. c. 30, § 61. Pursuant to 301 CMR 11.12(5), these findings are required if the Secretary of Environmental Affairs has required an Environmental Impact Report (“EIR”) for the project. The Company informed the Department that no EIR is required for the proposed project (Tr. 1, at 122-123). Accordingly, Section 61 findings are not necessary in this case.

III. DESCRIPTION

A. Overview

NSTAR proposes to construct a transmission line between a new substation being constructed by Nantucket Electric Company at Merchant's Way in Barnstable and NSTAR's existing Barnstable Switching Station (Exh. NSTAR-1, at 1-2). From the new substation, the first approximately 200 feet of the transmission line would be underground and the remaining approximately 3,500 feet would be within an existing ROW on new, double-circuit transmission towers (*id.* at 2; Exh. NSTAR-GRS-1, at 3). As part of this project, NSTAR proposes to partially re-locate an existing transmission line in the right-of-way and to add four circuit breakers, associated bus work, and a "special protection scheme" at the Barnstable Switching Station (Exhs. NSTAR-GRS-1, at 3-4; DTE-1-14).

We summarize below the evidence presented by NSTAR regarding the need for the transmission line, project alternatives, and impacts of the proposed project.

B. Need for the Proposed Project

NSTAR stated that Nantucket Electric is planning to construct a new submarine and underground transmission line from Nantucket to Cape Cod to address increasing load growth on Nantucket Island, and that Nantucket Electric has requested an interconnection between its new substation at Merchant's Way in Barnstable (where the new line terminates) and NSTAR's transmission facilities in Barnstable (Exh. NSTAR-CPS-1, at 2-3). NSTAR explained that, as a transmission service provider, it has an obligation under the New England Power Pool ("NEPOOL") Open Access Transmission Tariff ("OATT") to provide a

transmission interconnection to Nantucket Electric as an “Eligible Customer” under Section 1.23 of the NEPOOL OATT (id. at 3). Further, NSTAR stated that Section 40.2 of the NEPOOL OATT establishes the obligation of NEPOOL Participants, such as NSTAR, to plan, construct, operate and maintain Pool Transmission Facilities (“PTF”) to provide customers with Regional Network Service, such as the interconnection with NSTAR’s PTF facilities that Nantucket Electric has requested (id.)

NSTAR stated that it currently does not have adequate transmission facilities adjacent to the Merchant’s Way Substation to integrate Nantucket Electric’s new facilities to the Cape Cod transmission grid (Exh. NSTAR-CPS-1, at 3). NSTAR asserted that, because the Department in D.T.E. 04-10 found that Nantucket Electric’s underground and submarine cable was needed, NSTAR’s transmission line upgrades are also necessary (id. at 3-4).

C. The Proposed Project and Alternatives

NSTAR indicated that it considered several alternative ways of interconnecting Nantucket Electric’s new facilities, including tapping directly into one of the existing lines in the ROW adjacent to the Merchant’s Way Substation, as well as various means of connecting at the Barnstable Switching Station (Exhs. NSTAR-GRS-1, at 6; NSTAR-GRS-4). The Company’s proposed approach for interconnecting the Nantucket Electric facilities includes the installation of approximately 200 feet of underground 115 kV line leading to a new 3500-foot double-circuit tower line in the middle of the ROW, and modifications to the Barnstable Switching Station to accommodate this line (Exh. NSTAR-GRS-1, at 3-4; NSTAR-GRS-4, at 21). The Company stated that the other side of the double-circuit tower would be reserved for future use, and explained that constructing double-circuit towers now would simplify the

addition of a new line in the ROW in the future (Exh. DTE-1-21).³ The proposed modifications to the switching station entail the addition of two 115 kV circuit breakers to the existing third switching bay, installation of a new fourth bay with two 115 kV circuit breakers, relocation of the #115 Line from the third bay into the fourth bay, and connection of the proposed new line into the third bay (Exh. NSTAR-GRS-4, at 21). In addition, the proposed approach includes the implementation of a “special protection scheme” (“SPS”) to minimize the number of customers who would lose power during certain contingencies, specifically, the common-mode failure of existing Lines #120 and #122 (Exh. DTE-1-14; Tr 1, at 62-66).

With respect to the possibility of a direct tie-in to an existing line in the ROW, the Company rejected the alternative of tapping the #120 Line in the ROW because its capacity is reserved for future system requirements on Cape Cod (Exh. DTE-1-17). The Company rejected tapping the #122 Line, which is the northernmost line in the ROW, because of insufficient space to install the necessary equipment within the ROW (id.). The Company determined that tapping the #115 Line was feasible as a temporary approach only, explaining that tapping the line would exacerbate existing voltage concerns on that line during contingency conditions under peak load (id.). The Company stated that if it were to tap this line on a temporary basis, it would disconnect it after May 1, 2006, when the next peak season begins (id.).

³ The Company indicated that it is not seeking approval at this time for any future projects on the other side of the double circuit tower (Tr. at 15).

D. Impacts of the Proposed Project

1. Land Use and Visual Impact

NSTAR stated that the section of the ROW between the Merchant's Way Substation and the Barnstable Switching Station is approximately 270 feet wide (Exh. NSTAR-KFM-1, at 2). The Company stated that the new transmission line would be located generally in the middle of the ROW, between the existing steel double-circuit transmission tower line that runs along the northern part of the ROW, and a 115 kV line supported on wood structures closer to the southern edge of the ROW (Exh. NSTAR-GRS-1, at 3). The Company provided an aerial photograph showing that the ROW roughly parallels Route 6, a divided highway, and is located approximately 100 to 400 feet south of the eastbound lanes (Exh. DTE-1-4, Att.). NSTAR stated that the ROW runs through an area that is industrially zoned, and that part of it passes through a lumber yard and a sand-and-gravel operation (Exh. NSTAR-KFM-1, at 2). According to the Company, most of the land adjacent to the ROW is forested, with some industrial and transportation uses making up the remainder (Exh. DTE-1-4, Att.). NSTAR described some of the land surrounding the Merchant's Way Substation as urban open space (id.). The Company stated that the nearest residential property is located on the opposite side of Route 6 and is more than 500 feet away (id.).

With regard to the Barnstable Switching Station, the Company stated that the station is located in an Industrial District pursuant to the Barnstable Zoning Ordinances, and that the switching station is an allowed use (Exh. NSTAR-KFM-1, at 4). NSTAR noted that the parcel occupied by the switching station was the subject of a 1968 zoning exemption by the

Department when the switching station was originally built (id. at 4-5, citing D.P.U. 15687/15688/15689/15690). According to the Company, all proposed modifications to the station are consistent with its historic use and surrounding land uses (Exh. NSTAR-KFM-1, at 5).

According to NSTAR, the visual impact of the proposed line would be negligible due to the presence of the existing lines, including some of comparable height and style, located on the north side of the ROW to Route 6 (Exh. DTE-1-6; Tr. 1, at 36). The Company stated that the location of the proposed line south of the existing double circuit towers, and the north to south slope of the ROW, would also help to reduce its visual impact (Exh. DTE-1-21). NSTAR stated there are no mature trees within the ROW and that vegetation clearing would be limited to shrubs and other brush (Exh. NSTAR-KFM-1, at 4).

The Company acknowledged that the new structures would be visible to businesses abutting the south side of the ROW, and partially visible through the screen of existing trees along Route 6 adjacent to the north side of the ROW (Exh. DTE-1-6; Tr. 1, at 37). The Company stated, however, that no residential abutters would have a direct view of the new transmission line (Exh. NSTAR-KFM-1, at 3).

The Company noted that while similar in design to the existing double-circuit towers in the ROW, the new double-circuit towers would be spaced differently as a result of topography and ground clearance requirements, and in most instances their placement would be staggered with respect to the existing structures in the ROW (Exh. DTE-2-1; Tr. 1, at 35-36). The Company stated that it does not have any policy regarding the use of matched versus staggered

pole locations, for purposes of minimizing visual impact (Tr. 1, at 36).⁴

2. Water Resources

NSTAR stated that there are no surface waters or wetlands in the vicinity of the proposed project (Exh. NSTAR-KFM-1, at 3, 5). The Company stated that parts of the new transmission line would be located in a Wellhead Protection Overlay District (“WPOD”) or Groundwater Protection Overlay District (“GPOD”), as defined in the Barnstable Zoning Code (id. at 4; Exh. DTE-1-2). In addition, the Zoning Map of the Town of Barnstable indicates that all parts of the town not within either a WPOD or GPOD are in an Aquifer Protection Overlay District (“APOD”) (Exh. DTE-1-2, Att. B).⁵ According to Barnstable’s Zoning Ordinance, any use permitted in the underlying zoning district is allowed in an APOD (id., Att. A at Sec. 240-35 (E)). The Company noted that permitted uses in a GPOD include anything allowed by underlying zoning except certain specified prohibited uses, such as landfills, junk yards, underground storage tanks, chemical laboratories, and storage of liquid petroleum products, heating fuels or road salt (Exh. DTE-1-2). The Company stated that in WPODs, which are more restrictive, prohibited uses include those prohibited in a GPOD, as well as parking or storage of transport vehicles for fuel or toxic and/or hazardous substances, and any use that uses, generates or stores toxic or hazardous substances that at any one time total more than 50 gallons (id.). The Company asserted that because the project is an allowed use in the Industrial

⁴ To incorporate an alignment with new structure locations matched to those of the existing double-circuit line structures, the Company stated that two or more additional poles likely would be required, at an estimated cost of \$70,000 per additional pole (Exh. DTE-RR-1).

⁵ According to the Company, the drinking water well closest to the project area is at a distance of approximately 2,000 feet (Exh. DTE-1-3).

District in which it is located, and because the proposed use does not entail any of the uses prohibited in the GPOD or WPOD, no additional restrictions apply to the project (id.).

3. Electromagnetic Fields

NSTAR stated the addition of the 115 kV line to the Merchant's Way Substation would have minimal effects on the electric and magnetic fields ("EMF") along the ROW on either side of the Barnstable Switching Station because the new line essentially redistributes the existing power flow to Nantucket (Exh. DTE-1-12). NSTAR offered additional reasons for the minimal changes: the new line would be located near the center of the ROW; the line phases would be arranged vertically; the line current would be low compared to the current along the existing 115 kV and 23 kV lines; and the power flow is in the opposite direction to the power flow of the other 115 kV lines (id.).

The Company stated that it calculated EMF levels for the ROW west of the Barnstable Switching Station by using a computer program developed by Power Technologies, Inc. (Exh. DTE-2-3, at 2). The Company explained that it modeled peak and off-peak load conditions, both with and without the new 115 kV line to the Merchant's Way Substation operating (id.). As inputs to the model, the Company stated that it used actual line currents from 6 p.m. during the July 31, 2004 peak day and from 4 a.m. during the May 3, 2004 light-load day; line loading on the new 115 kV line to the Merchant's Way Substation was assumed to be 50 percent of the Nantucket load during peak and off-peak conditions (id.). NSTAR stated that the model predicted an increase in electric field strength of 0.009 kV/meter along both the southern and northern edges of the ROW. With respect to magnetic field strengths, the Company stated that the model predicted a 0.1 milligauss ("mG") increase (from 9.3 mG to 9.4 mG) along the

southern edge during peak load conditions, and no change during off-peak conditions; along the northern edge, the model predicted decreases in magnetic field strength of 0.4 mG/ during peak conditions and 0.2 mG during off-peak conditions (id. at 3). NSTAR did not provide EMF calculations for the ROW east of the Barnstable Switching Station, but stated that the effects of the new line would be minimal (Exh. DTE-1-12).

NSTAR stated that the proposed project also would have minimal EMF effects at the Merchant's Way Substation and the Barnstable Switching Station (Exh. DTE-1-12; Tr. 1, at 29). The Company explained that the underground portion of the line entering the Merchant's Way Substation would consist of three solid dielectric cables, each housed in a separate pipe, located within a duct bank, and that the close proximity of the three phases would largely mitigate any magnetic field (Tr. 1, at 27, 33). The Company stated that underground lines generally create lower EMF effects than overhead lines, and that the existing overhead facilities would dominate any magnetic fields in the area (id. at 29, 32). Further, the Company noted that there are no intervening properties between the parcel upon which the Merchant's Way Substation is to be constructed and the overhead ROW, and that public access to the area is minimal (id. at 26, 32).

With respect to the Barnstable Switching Station, NSTAR explained that magnetic field changes would be minimal because total power flow through the station would be unchanged (Exh. DTE-1-12). The Company noted, however, that the location of the magnetic field associated with the #115 Line would be shifted south along the west fence of the switching station due to the relocation of this line, and the magnetic field strength along the south fence line would increase slightly (Exh. DTE-2-3, at 2). Similarly, the Company stated that electric

fields would be increased slightly where the station bus is expanded 70 feet to the south within the switching station (Exhs. DTE-1-12; DTE-2-3). The Company predicted that the magnetic field along the north fence line would decrease where Line #118 crosses the fence because some of the power this line carries to supply Nantucket would be transferred to the new 115 kV line (Exh. DTE-2-3, at 2). The Company does not anticipate any changes in magnetic fields along the east fence of the switching station (id.).

4. Other

NSTAR stated that there would be temporary construction noise at the Barnstable Switching Station associated with earthwork, concrete placement, and the erection of structures (Exh. NSTAR-KFM-1, at 5). The Company expects most work to be performed between 7:00 a.m. and 6:00 p.m., with possible extended hours work only to make up for schedule delays (Exh. DTE-1-7). The Company stated that, for the nearest residences (which are located on the opposite side of Route 6), the construction noise would be similar to and indistinguishable from background traffic noise (id.). The Company stated that there would be no permanent noise impacts (Exh. NSTAR-KFM-1, at 5).

NSTAR indicated that the project area would not include any estimated or potential habitat for protected species (id. at 5, 6; Exh. NSTAR-KFM-3).

IV. ANALYSIS AND FINDINGS

NSTAR Electric is an electric company as defined by G.L. c. 164, § 1, authorized to generate distribute and sell electricity. Commonwealth Electric Company d/b/a NSTAR Electric, D.T.E. 03-7, at 5 (2003). Accordingly, the Company is authorized to petition the

Department for a determination under G.L. c. 164, § 72 that its proposed transmission line “is necessary for the purpose alleged, and will serve the public convenience, and is consistent with the public interest.” As discussed in Section II, above, the Department, in making this determination, first examines the need for or public benefits of the proposed use. The Department then examines the identified alternatives and the environmental impacts of the project. Finally, the Department balances the interests of the general public with any identified local interests.

As an initial matter, the Department finds that NSTAR, in its filing under G.L.c. 164, § 72, has complied with the requirement of § 72 that it describe the proposed transmission line, provide diagrams showing its general location, and estimate its cost in reasonable detail.

A. Need for the Proposed Project

The Company has explained its obligation under the NEPOOL OATT to serve Nantucket Electric in response to that company’s request for interconnection to NSTAR’s Pool Transmission Facilities. NSTAR has further attested to the fact that it currently does not have adequate transmission facilities in the Merchant’s Way Substation area to integrate Nantucket Electric’s new submarine and underground transmission line, previously approved by the Department, with the Cape Cod transmission grid. The Company has shown that construction of the proposed transmission line and ancillary equipment will enable it to meet its obligation to serve Nantucket Electric and continue to provide service to its existing Cape Cod customers without any adverse effects on reliability. Accordingly, the Department finds both a need for, and public benefits of, the construction and operation of the proposed transmission line.

B. The Proposed Project and Alternatives

As noted in Section III.C. above, the Company considered tapping directly into existing lines in the ROW adjacent to the Merchant's Way Substation. The record shows that these approaches would be temporary at best, and infeasible in other cases. The record demonstrates that the proposed project, including the construction of a new transmission line in the ROW and modifications to the Barnstable Switching Station, would enable NSTAR to meet its obligation to interconnect Nantucket Electric's facilities. The Department finds that the Company's decision to pursue the proposed project is reasonable.

C. Impacts of the Proposed Project

In accordance with its responsibility to undertake a broad and balanced consideration of all aspects of the general public interest and welfare, the Department examined the impacts associated with the proposed project to identify any significant impacts that might occur during construction and operation of the project.

With respect to land use and visual impacts, the record shows that the proposed project would be constructed in an industrially zoned area – within an existing ROW already occupied by five transmission lines, and at a switching station already containing equipment similar to that proposed. Thus, the project would be consistent with existing land uses. The record indicates that new transmission line would be visible to neighboring businesses, but as with the existing lines, would be partially screened from vehicles along Route 6 and from residences on the north side of Route 6. The proposed double-circuit design is consistent with that of the existing #120/#122 double-circuit line. Based on the record, the Company has taken reasonable measures to minimize the visual impacts of the project.

With respect to water resources, the record demonstrates that the project would not traverse or abut any surface waters or wetlands, but would traverse for its entire length a GPOD and WPOD. However, the record indicates that none of the restrictions associated with these groundwater protection districts would be applicable to the proposed project.

With respect to EMF, the record demonstrates that the project would have very minor effects on the strengths of existing fields. Along the ROW, the only increase in magnetic field strength would occur on the southern edge during peak load conditions, and both the absolute value and increase in strength of this field is low; during off-peak conditions or along the northern edge of the ROW, the project would either decrease the magnetic field strength or have no impact. The record indicates that the strength of the electric fields along both sides of the ROW would increase very slightly. Similarly, the EMF impacts along the fence lines at the Barnstable Switching Station would be slight to none.

With respect to noise impacts, the record demonstrates that temporary construction noise would be audible at adjacent businesses during daytime hours. The record indicates that off-hours work may occur, but that at the nearest residences located on the opposite side of Route 6, noise from any off-hours construction would be comparable to background levels.

With respect to protected species, the record indicates that the project area does not include any estimated or potential habitat.

D. Conclusion

The Department has found, above, both a need for, and public benefits of, the construction and operation of the new 115 kV transmission line. The Department also has found that NSTAR's decision to pursue the proposed project, rather than one of the identified

alternatives, was reasonable. Based on its analysis in Section IV.C., above, the Department finds that the public interest in the construction of the proposed project would outweigh the adverse environmental impacts (primarily, visual impacts) of the project. Consequently, pursuant to G.L. c. 164, § 72, the Department finds that the proposed 115 kV transmission project is necessary for the purpose alleged, will serve the public convenience, and is consistent with the public interest.

V. ORDER

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

ORDERED: That the proposed 115 kV transmission project in the Town of Barnstable, as described in the petition and exhibits of Commonwealth Electric Company d/b/a NSTAR Electric, is necessary for the purpose alleged, and will serve the public convenience and is consistent with the public interest pursuant to G.L. c. 164, § 72; and it is

FURTHER ORDERED: That Commonwealth Electric Company d/b/a NSTAR Electric work cooperatively with municipal and state officials and affected property owners in Barnstable to minimize any traffic, noise, visual or other local impacts associated with the proposed transmission project; and it is

FURTHER ORDERED: That Commonwealth Electric Company d/b/a NSTAR Electric shall obtain all other governmental approvals necessary for this proposed transmission project before construction commences.

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.