

THE COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES

Petition of Boston Edison Company: (a) under the provisions of G.L.c. 164, §72, as amended, for a determination that underground lines for the transmission of electricity are necessary, will serve the public convenience and are consistent with the public interest; and (b) for a determination that locations upon, under, ~~along or across certain boulevards or reservations in the care and control of the Metropolitan District Commission will be and are required by public convenience and necessity for wires, cables or pipes for the transmission of electricity, pursuant to the requirements of G.L.c. 92, §43, as amended.~~

To the Department of Public Utilities:

The petitioner, Boston Edison Company, a Massachusetts corporation having its principal office in Boston, Suffolk County, Massachusetts, respectfully represents that:

1. The petitioner is a public service corporation authorized to generate, transmit, distribute and sell electricity, and is an "electric company" as defined in G.L.c. 164, §1, as amended.

2. The petitioner seeks authority under the provisions of G.L.c. 164, §72, as amended, to construct, maintain and operate underground lines, consisting of conduits and manholes with wires and cables therein, for the transmission of electricity at 345 kV for the purpose of supplying electricity to itself, its customers and other electric companies.

3. The underground transmission lines (the "underground lines") will be of so-called pipe-type cable construction and will extend in a westerly direction from the petitioner's Mystic Generating Station, off Alford Street in the City of Boston, under Alford Street, under private lands now or formerly of the Massachusetts Bay Transportation Authority ("MBTA"), under the Mystic River, across the Boston/Everett municipal boundary, across the Boston/Somerville municipal boundary, under other lands now or formerly of the MBTA in the City of Somerville, under private lands now or formerly of the Boston and Maine Railroad ("B & M Railroad"), under private lands now or formerly of the Penn Central Transportation Company ("Penn Central Railroad"), under portions of Tenney Court (a private way), Mystic Avenue, Route I-93, Connector "K", Broadway, Winchester Street and McGrath Highway, all in Somerville, under Winchester Street and Newbern Avenue in the City of Medford, including two crossings of the Somerville/Medford municipal boundary, under two parcels of private property now or formerly of Lambro J. and M. Virginia Simmons and Raylen Realty Company, respectively, partly in Medford and partly in Somerville, under Broadway, Irving Street, Holland Street, Thorndike Street, again under property of the B & M Railroad, again under Thorndike Street, under Kingston Street and Meacham Street, all in the City of Somerville, across

the Somerville/Cambridge municipal boundary, under Meacham Street, Massachusetts Avenue, Rice Street, Rindge Avenue, Alewife Brook Parkway, under other private lands of the B & M Railroad, all in the City of Cambridge into the petitioner's Substation #509 off Alewife Brook Parkway, Cambridge, thence in a northerly direction under private lands of the B & M Railroad, under Alewife Brook Parkway, again under private lands of the B & M Railroad, all in Cambridge, under Alewife Brook, across the Cambridge/Arlington municipal boundary, under Herbert Road, Lake Street, Randolph Street, Elmhurst Road (a private way), under Massachusetts Avenue, Palmer Street, Warren Street, Chestnut Street, Mystic Street, all in the Town of Arlington, across the Arlington/Winchester municipal boundary, under Cambridge Street, Pond Street, Woburn Parkway and Cove Street, all in the Town of Winchester, across the Winchester/Woburn municipal boundary, to the petitioner's Substation #211 at the intersection of Cove Street and Lake Avenue in the City of Woburn, a distance of approximately 10.4 miles.

4. Alewife Brook Parkway in the City of Cambridge and McGrath Highway in the City of Somerville are boulevards and reservations in the care and control of the Metropolitan District Commission ("MDC") as described in G.L.c. 92, §43, as amended.

5. The general location of the proposed underground lines are indicated in red on a plan entitled "Boston Edison Company,

Key Map, Mystic to Cambridge - Cambridge to Woburn Showing Proposed 345 kV Pipe Type Cable Route", #S-4512 and 4513, dated February 7, 1972, a copy of which is attached hereto and marked Exhibit A.

6. The general descriptions of the proposed underground lines are attached hereto and marked Exhibits B and C.

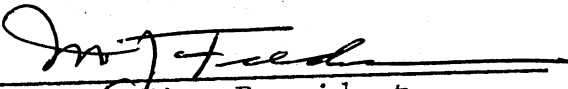
7. Estimates showing in reasonable detail the cost of the proposed underground lines are attached hereto and marked Exhibits D and E.

8. The underground transmission lines herein described are necessary for the purposes alleged, will serve the public convenience and are consistent with the public interest. The installation of underground transmission lines upon, under, along or across Alewife Brook Parkway and McGrath Highway, as herein described, are required by public convenience and necessity.

WHEREFORE, the petitioner prays that the Department (1) acting under and in accordance with G.L.c. 164, §72, as amended, determine that said proposed underground lines, referred to above, are necessary for the purposes alleged, will serve the public convenience and are consistent with the public interest; (2) acting under and in accordance with G.L.c. 92, §43, as amended, determine that public convenience and necessity require the installation of said proposed underground lines under portions of

Alewife Brook Parkway and McGrath Highway, boulevards in the care and control of the Metropolitan District Commission; and (3) authorize the petitioner to construct, maintain, operate and use said underground lines herein described.

BOSTON EDISON COMPANY

By 
Vice President

Boston, Massachusetts
March 1, 1973

James M. Carroll, Esq.
John J. Desmond, III, Esq.
Boston Edison Company
800 Boylston Street
Boston, Massachusetts 02199

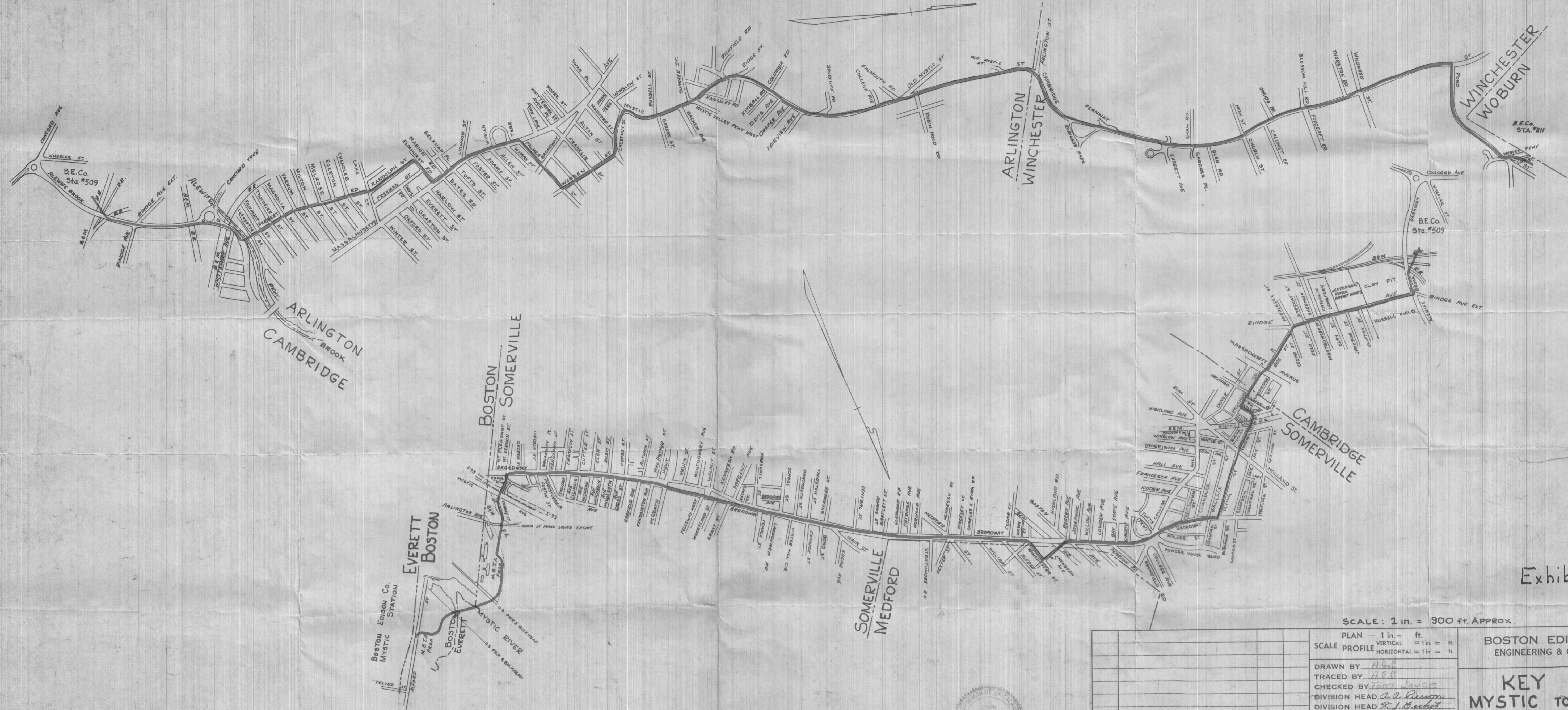


Exhibit A

SCALE: 1 in. = 900 ft. APPROX.

PLAN - 1 in. = ft.
 SCALE PROFILE VERTICAL = 1 in. = ft.
 HORIZONTAL = 1 in. = ft.

DRAWN BY *A.G.*
 TRACED BY *A.G.*
 CHECKED BY *Terry Joyce*
 DIVISION HEAD *A. J. Pearson*
 DIVISION HEAD *R. J. Bechet*
 APPROVED: February 7, 1972
A. F. Anderson
 BY **A.F. ANDERSON**

BOSTON EDISON COMPANY
ENGINEERING & CONSTRUCTION DEPT.

KEY MAP
MYSTIC TO CAMBRIDGE
CAMBRIDGE TO WOBURN
 SHOWING PROPOSED
 345 K.V. PIPE TYPE CABLE
 ROUTE

NO.	REVISION	APP'D DATE	SUPERINTENDENT

John Richard Brett
 JOHN RICHARD BRETT
 SUPERINTENDENT
 FEB 10 1972

EXHIBIT B

BOSTON EDISON COMPANY

General description of the 345 kV pipe type cable lines to be built from the Mystic Generating Station (Boston) to Substation #509 (North Cambridge).

- Length - Approximately 4.7 miles (including a 950 ft. river crossing).
- Pipes - Two 10-3/4" O.D. Somatic coated steel pipes spaced 2' on center in a trench 4' wide by 5.5' deep. A concrete envelope of 6" under and 12" over the pipes will be provided.
- Manholes - 20' x 8' x 9' deep concrete splicing manholes will be installed, spaced about every 2000 ft. Each manhole will be provided with two standard manhole covers.
- Conductors - A 10-3/4" O.D. pipe will contain three 2,500 kcmil paper insulated copper conductors with two stainless steel skid wires each. The approximate O.D. of each insulated conductor is 4.33". One circuit will be installed now and the second circuit pulled in the second pipe at a later date.
- Terminations - Each conductor will terminate in a pothead mounted on station structures at each end of the line.
- Oil System - All piping is to be filled with low viscosity polybutene insulating oil. This oil is to be maintained at 200 psi nominal pressure by a pumping plant in the Mystic Station yard.
- Grounding - The entire pipe system will be cathodically protected and suitably grounded. Provision will be made for transient high voltage discharge to ground via polarization cells.
- Carrying Capacity - 600 MVA.

Boston Edison Company
Engineering and Construction Department

EXHIBIT C

BOSTON EDISON COMPANY

General description of the 345 kV pipe type cable lines to be built from a new Substation #509, North Cambridge to existing Substation #211 in Woburn.

- Length - Approximately 5.7 miles including a 100 foot river crossing.
- Pipes - Two 10-3/4" O.D. Somatic coated steel pipes spaced 2' on center in a trench 4' wide by 5.5' deep. A sand envelope of 6" under and 18" over the pipes will be provided.
- Manholes - 20' x 8' x 9' deep concrete splicing manholes will be installed spaced about every 2000 feet. Each manhole will be provided with two standard manhole covers.
- Conductors - A 10-3/4" O.D. pipe will contain three 2500 kcmil paper insulated copper conductors with two stainless steel skid wires each. The approximate O.D. of each insulated conductor is 4.33". One circuit will be installed now and the second circuit pulled in the second pipe at a later date.
- Terminations - Each conductor will terminate in a pothead mounted on station structures at each end of the line.
- Oil System - The pipe containing the cable will be filled with low viscosity polybutene insulating oil. This oil is to be maintained at 200 psi nominal pressure by a pumping plant to be installed in the North Cambridge Station yard for the purpose.
- Grounding - The entire pipe system will be cathodically protected and suitably grounded. Provision will be made for transient high voltage discharge to ground via polarization cells.
- Carrying Capacity - 470 MVA.

Boston Edison Company
Engineering and Construction Department

EXHIBIT D

BOSTON EDISON COMPANY

Estimated cost for the construction of one 345kV pipe-type cable and spare pipe from the Mystic Generating Station (Boston) to Substation #509 (North Cambridge).

Land and Right-of-Way		\$75,000
Survey		12,000
Materials		
Cable	\$1,427,000	
Terminals	67,000	
Pipe	240,000	
Oil	46,000	
Miscellaneous	83,000	
	<u>\$1,863,000</u>	\$1,863,000
Labor		2,891,000
Engineering (including indirect costs)		672,000
Contingencies		95,000
Permanent Paving		365,000
Interest during construction		<u>351,000</u>
	Total	<u>\$6,324,000</u>

Boston Edison Company
Engineering and Construction Department

EXHIBIT E

BOSTON EDISON COMPANY

Estimated cost for the construction of one 345kV pipe-type cable and spare pipe from Boston Edison's Substation #509 to Substation #211.

Land and Right-of-Way		\$30,000
Survey		14,000
Materials		
Cable	\$1,633,000	
Terminals	67,000	
Pipe	250,000	
Oil	49,000	
Miscellaneous	74,000	
	<u>\$2,073,000</u>	\$2,073,000
Labor		2,274,000
Engineering (including indirect costs)		623,000
Contingencies		88,000
Permanent Paving		460,000
Interest during construction		<u>385,000</u>
		<u>\$5,947,000</u>
	Total	\$5,947,000

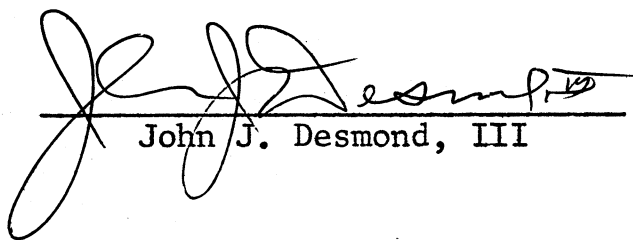
Boston Edison Company
Engineering and Construction Department

CERTIFICATE OF SERVICE

Suffolk, ss

March 2, 1973

I, John J. Desmond, III, a member of the Bar of the Commonwealth of Massachusetts, hereby certify that a copy of the foregoing petition has been forwarded to the Cities of Boston, Somerville, Medford, Cambridge and Woburn and the Towns of Arlington and Winchester by mailing the same, postage prepaid, to the City Clerk or the Town Clerk of each of the aforesaid municipalities.


John J. Desmond, III

BOSTON EDISON COMPANY
EXECUTIVE OFFICES
800 BOYLSTON STREET
BOSTON, MASSACHUSETTS 02199

RECEIVED BY
JAMES A. O'LEARY
MAR 5 11 00 AM '73

JOHN J. DESMOND, III
COUNSEL

CAMBRIDGE, MASS.

March 2, 1973

Mr. Francis J. Hickey, Jr.
Secretary
Department of Public Utilities
100 Cambridge Street
Boston, Massachusetts 02202

Re: Mystic to Cambridge to Woburn
345 kV Underground Lines -
Convenience and Necessity Petition

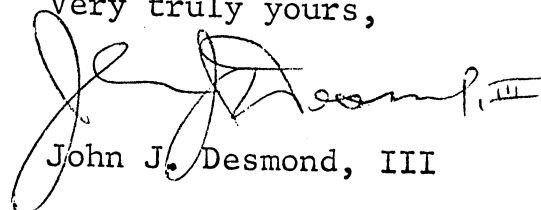
Dear Mr. Hickey:

Enclosed for filing is a petition of Boston Edison Company requesting a certificate of convenience and necessity (G.L.c. 164, §72) for 345 kV underground transmission lines to be constructed from our Mystic Station to Cambridge to Woburn, a distance of approximately 10.4 miles.

Copies of the petition, together with the filing letter, will be served on the Cities of Boston, Somerville, Medford, Cambridge and Woburn and the Towns of Arlington and Winchester.

The filing fee of ten dollars (\$10.00) is included with the enclosed material.

Very truly yours,


John J. Desmond, III

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CC wants report
from CM in detail