The Commonwealth of Massachusetts

Department of Public Utilities

State Office Building, Government Center
100 Cambridge Street, Boston 02202

August 8, 1973

D.P.U. 17617

Petition of Boston Edison Company: (a) under the provisions of G. L. c. 164, sec. 72, as amended, for a determination that underground lines for the transmission of electricity at 345 kV through portions of the Cities of Boston, Somerville, Medford, Cambridge, Woburn and the Towns of Arlington and Winchester 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 (namely, Alewife Brook Parkway and McGrath Highway) 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, sec. 43, as amended.

D.P.U. 17618

Petition of Boston Edison Company: (a) under the provisions of G. L. c. 164, sec. 72, as amended, for a determination that underground lines for the transmission of electricity at 115 kV through portions of the Cities of Cambridge and Boston 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 (namely, Alewife Brook Parkway, Fresh Pond Parkway, Charles W. Greenough Boulevard, the Charles River and Soldiers Field Road) 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, secs. 33, 37, 38 and 43, as amended.

Appearances: John Desmond, III, Esq. 800 Boylston Street, Boston, Massachusetts, for the Petitioner

May, Bilodeau, Dondis & Landergan (By Michael Donlan, Esq.), One State Street, Boston, Massachusetts, representing Cambridge Electric Light Company.

Joseph A. Purcell, Esq., 50 Pleasant Street, Arlington, Massachusetts, Town Counsel, Town of Arlington and Philip J. McCarthy, Esq., Two Center Plaza, Boston, Massachusetts.

McLaughlin Brothers (By George McLaughlin, Esq.), 44 School Street, Boston, Massachusetts.

John J. Grigalus, 20 Somerset Street, Boston, Massachusetts, for Metropolitan District Commission.

D.P.U. 17617

This is a petition of Boston Edison Company under the provisions of Section 72 of Chapter 164 and Section 43 of Chapter 92 of the General Laws for (1) a determination by the Department that certain underground lines for the transmission of electricity at 345 kV through portions of Boston, Somerville, Medford, Cambridge, Arlington, Winchester and Woburn will serve the public convenience and are consistent with the public interest, (2) for authority to construct and use said transmission lines, and (3) 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 use of said transmission lines.

D.P.U. 17618

This is a petition of Boston Edison Company under the provisions of Section 72 of Chapter 164 and Sections 33, 37, 38 and 43 of Chapter 92 of the General Laws for (1) a determination

by the Department that certain underground lines for the transmission of electricity at 115 kV through portions of Boston and Cambridge will serve the public convenience and are consistent with the public interest, (2) for authority to construct and use said transmission lines, and (3) for a determination that locations upon, under, along or across certain boulevards, reservations and rivers 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 use of said transmission lines.

The proposed lines which are the subject of these proceedings will extend as follows: (a) the 345 kV underground lines (D.P.U. 17617) will extend from the petitioner's Mystic Generating Station (Everett) in a generally northwesterly or northerly direction under certain public ways, private or public lands and rivers in the Cities of Boston, Somerville, Medford, Cambridge, the Towns of Arlington and Winchester and the City of Woburn into the petitioner's existing Woburn Substation #211, a distance of approximately 10.4 miles, the route of said underground line being more fully shown on a plan of Boston Edison Company on file with the petition and entitled "Key Map - Mystic to Cambridge - Cambridge to Woburn, 345 kV pipe type cable route", S4512/4513, dated February 7, 1972; (Ex. No. 1) (b) the 115 kV underground lines (D.P.U. 17617) will extend from a connection at a proposed electric substation on Alewife Brook Parkway (Cambridge) under certain public way, private or public lands, and rivers in the Cities of Cambridge and Boston in a generally southerly direction to the

petitioner's existing Brighton Substation #329, a distance of approximately 2.8 miles, the route of said underground line being more fully shown on a plan of Boston Edison Company on file with the petition and entitled "Key Map - Cambridge - Brighton 115 kV pipe type cable route", S-4514, dated September 6, 1972. (Ex. No. 2).

The petitioner is an electric company as defined by Chapter 164 of the General Laws authorized to generate, transmit and distribute electricity and is a public service corporation providing electric service in the City of Boston and in several surrounding communities, including some through which the proposed lines will pass.

On the foregoing matters, public hearings were held at the hearing room of the Department in the Leverett Saltonstall Building in Boston on March 27, 1973, April 12, 1973 and May 14, 1973, and at the Arlington Town Hall on May 23, 1973, at which time all parties in interest were given an opportunity to be heard. Although no one doubted the need for the line, opposition was expressed as to the routing of the underground line through one community (Town of Arlington) and the location on Alewife Brook Parkway in Cambridge of a related electrical substation facility. The nature and extent of these areas of opposition will be discussed in a later section of this order.

At the outset of the hearings, the petitioner requested that the findings, orders, decisions and dockets of the Department in certain prior proceedings be incorporated by reference in these proceedings. The request concerned the following dockets:

D.P.U. 17279 - Boston Edison Company, order dated April 28, 1972, grant of a zoning exemption for construction of the petitioner's Mystic Unit No. 7 at its generating station in Everett.

D.P.U. 17540 - Boston Edison Company, public hearing held on December 21, 1972, concerning a requested zoning exemption to the petitioner's existing Woburn Substation No. 211.

The foregoing matters relate to facilities which are required for the full operation of the lines and facilities under consideration here (Ex. Nos. 9 and 12). There being no objections, the request was granted.

THE PROPOSED LINES

The Need for the Lines

Both the 345 kV lines (D.P.U. 17617) and the 115 kV lines (D.P.U. 17618) fulfill different, yet related, purposes for the petitioner, Boston Edison Company, and the Cambridge Electric Light Company.

The 345 kV underground lines which the petitioner proposes to construct will extend from its Mystic Generating Station in Everett to the petitioner's proposed Substation #509 in Cambridge to the petitioner's existing Substation #211 in Woburn. The 115 kV underground lines will extend from said Substation #509 in Cambridge to the petitioner's existing Substation #329 in Brighton. Together the lines will (a) provide additional transmission capacity to the central section of the petitioner's system to meet continually growing loads of its customers, (b) relieve projected overloads on the existing 115 kV overhead and underground transmission facilities of the petitioner, (c) alleviate substandard voltage conditions occurring, and projected to occur, throughout such central

section of the petitioner's system, (d) provide a necessary connection from the 345 kV New England Transmission System to the northern portion of the petitioner's system to complement existing 345 kV connections existing in the southern portion of said system and (e) connect the output of the new Mystic Unit No. 7 to both the petitioner's transmission system and the 345 kV Backbone. (Ex. Nos. 9, 12 and 13).

The bulk of the available generating capacity is located to the south of the petitioner's system, available generating capacity to the north of the system being limited at this time; capacity at meet the systems growing loads in the north and north central part of its service area is provided in part by the 345 kV New England grid but primarily by the petitioner's 115 kV transmission system. Computer load studies have shown that the available transmission capacity to meet these growing loads is rapidly becoming marginal and, indeed, under certain contingencies voltage conditions will be unsatisfactory and load shedding may become necessary. It is, therefore, essential that this line be operative when the new Mystic #7 unit goes on stream so that its output (600 M.W.) will be available to meet the loads in the north and north central areas via Woburn Substation #209, the proposed Cambridge Substation #509 and the petitioners underlying 115 kV and 230 kV system. In addition, it will be possible to feed the output or a portion thereof of Mystic #7 generating unit into the 345 kV New England grid as load conditions require. In like manner, the flow can be reversed and to introduce capacity from the New England grid into Edison's system.

The proposed lines will assist the Cambridge Electric Light Company to

(a) Provide additional transmission capacity to meet the growing electrical loads in the West Cambridge area of its system. Cambridge proposes to purchase 50 M.W. from Mystic Unit #7 via proposed Substation #509 and the proposed new 115 kV lines which are the subject of these proceedings. This arrangement will also permit Cambridge to increase its future takings as load requirements dictate;

(b) Give the Cambridge company a direct access to the 345 kV Backbone system which it now lacks and its available capacity sources;

(c) Through joint planning permit both the Cambridge company and the petitioner to realize cost savings in the installation and operation of required new facilities;

(d) The existing 115 kV supply is from Mystic via Brighton #329 Substation, Cambridge will now have a second 115 kV supply which will greatly enhance the reliability of service.

In 1972, the summer peak load for the petitioner's service area was approximately 2,000 megawatts, with the projected summer peak loads for 1974 and 1975 being 2,170 megawatts and 2,250 megawatts, respectively. Furthermore, the projected load growth to 1980 will average approximately 7% per year. (Ex. No. 10). This growth rate requires the periodic addition of new generating and transmission facilities. The consequences of the failure to add needed facilities in a timely manner is further demonstrated by the load flow studies undertaken by the petitioner. These studies

consisted of a series of computer load flow runs which compared the loadings on various lines and facilities under listed contingencies. The contingencies included the loss of transmission lines, transformer facilities, generating units and listed combinations thereof. The resulting overload on the remaining facilities was described in megavolt amperes (MVA), together with the voltage levels on the affected substation buses. (Ex. Nos. 11A, 11B and 11C). The loading table exhibits described the conditions for the "1974 summer peak - No additional transmission" (Ex. No. 11A), the "1974 summer peak - 345 kV Woburn - North Cambridge/115 kV North Cambridge - Brighton" (Ex. No. 11B), and the "1975 summer peak (95%) - 345 kV Woburn - North Cambridge - Mystic/115 kV North Cambridge - Brighton/ Mystic Unit #7 in service" (Ex. No. 11C). For example, the Mystic-Somerville cables (Refer, Ex. No. 11A, column #1) has a normal rating of 250 MVA and an emergency rating of 275 MVA. The normal operating level of said underground lines is 246 MVA. If both of the Medway-Framingham-Waltham 230 kV lines are out of service - these lines were both out of service for an extended period during 1972 because of troubles with their autotransformers at the petitioner's Medway Substation #446 - the loading on the Mystic-Somerville cables would approach 319 MVA, or approximately 44 MVA <u>above</u> the emergency rating; (Ex. Nos. 11A and 12). Under such contingencies, the utilization voltage in the Brighton core area of the petitioner's territory, which is normally maintained at a level of 118.5 kV, decays to levels of 108 kV. Any voltage below 112.5 kV will create serious operating conditions; (Ex. No. 11A).

However, with the proposed 345 kV lines and 115 kV lines in service, the situation is dramatically improved. The voltages maintain acceptable levels of 117 kV to 117.5 kV, even though the Medway - Framingham - Waltham 230 kV lines out of service (Ex. No. 11B), and the output of Mystic Unit No. 7 is handled without difficulty; (Ex. No. 11C).

The system operating problems created by the failure to have the proposed lines, and associated substation facilities, in service by the summer of 1974 is exceedingly grave. This is readily apparent when the following factors are considered. First, the low voltage condition could occur at anytime during the summer period and the exposure of loss of a critical facility (line, generating unit or transformer) is enlarged. Second, the ability of the petitioner's system dispatching personnel to call upon other utility company members of the New England Power Pool (NEPOOL) to alter their regional generating patterns to improve the petitioner's voltage condition would depend upon the overall regional system load and capability at that moment. Finally, the petitioner's system dispatcher would be faced with decisions of selected load shedding in order to bring the voltage back to an acceptable level and retain the integrity of the rest of the petitioner's system. This situation, and the serious consequences it poses for the petitioner and its customers, and the Cambridge Electric Light Company and its customers can be avoided by the timely construction and operations of the transmission facilities proposed in these proceedings.

The Construction Characteristics of the Lines

The proposed underground construction for both the 345 kV and 115 kV lines will be standard high-pressure, oil-filled cable. For the 345 kV lines, it will consist of two 10-3/4" (outside diameter) somastic coated steel pipes spaced two feet on center in a trench four feet wide by five and one-half feet deep. For the segment from the petitioner's Mystic Generating Station to the proposed Cambridge Substation #509, a concrete envelope of six inches under and twelve inches over the pipes will be provided. For the segment from the Cambridge Substation #509 to the Woburn Substation #211, a thermal sand envelope of six inches under and eighteen inches over the pipes will be used for heat dissipation improvement. Each 345 kV line will consist of three 2500 kcmil paper insulated copper conductors installed in each pipe containing oil maintained at a nominal pressure of 200 pounds per square inch by connections to pumping plants at the Mystic Generating Station and proposed Cambridge Substation #509. The entire system will be cathodically protected and suitably grounded. In addition, provisions will be made for transient current discharge to ground via polarization cells. The carrying capacity of the Mystic to Cambridge segment is 600 MVA while the Cambridge to Woburn segment is 540 MVA. Splicing manholes which will be constructed of concrete, twenty feet long by eight feet wide by nine feet deep, will be spaced approximately every 2000 feet; (Ex. Nos. 3 and 4).

The 115 kV line will consist of two 8-5/8" (outside diameter) somastic coated steel pipes spaced two feet on center in a trench four feet wide by five feet deep. A concrete envelope of six inches under and twelve inches over the pipes will be provided.

The lines will consist of three 2250 kcmil paper insulated copper conductors installed in each pipe containing oil maintained at a nominal pressure of 200 pounds per square inch by connection to a pumping plant at the proposed Cambridge Substation #509. Again, the entire system will be cathodically protected and suitably grounded. Provision will be made for transient current discharge to ground via polarization cells. Splicing manholes, which will be constructed of concrete, seventeen feet long by eight feet wide by nine feet deep, will be spaced approximately every one-half mile. The carrying capacity is 250 MVA per circuit; (Ex. No. 7).

Both the 345 kV lines and the 115 kV lines have been designed and will be built to conform to the Massachusetts Department of Public Utilities Code for the Installation and Maintenance of Electric Transmission Lines (D.P.U. 16475, approved May 7, 1970). The petitioner presently operates approximately 120 circuit miles of similarly designed pipe-type cable underground lines as part of its transmission system. (Ex. No. 9) in both urban and suburban areas.

The route of the proposed underground lines involves the use of public ways and the crossing of the Mystic River and the Charles River. Consequently, street locations must be obtained from the affected cities and town, together with the Metropolitan District Commission, for both the 345 kV lines and the 115 kv lines, and, in addition, rights for the underwater crossings of the rivers must be obtained from the U. S. Army Corps of Engineers, Metropolitan District Commission and the affected communities.

THE ENVIRONMENTAL IMPACT OF THE PROPOSED LINES

The possible environmental impact of the proposed lines

has been carefully analyzed and all feasible measures have been taken to avoid or minimize such impact. The installation of an overhead transmission line through this urbanized area of the petitioner's system is not feasible. The cost of acquiring an overhead right-of-way in this populated area would mean the condemnation of existing homes and businesses. Any attempt to utilize existing railroad rights-of-way or highways would result in a combined patchwork of overhead and underground construction which would not only be excessive in cost, but also pose technical operating difficulties. Consequently, the overhead alternates to the proposed underground lines are not feasible. Moreover, Chapter 371 of the Acts of 1911 requires the underground installation of all electric transmission lines over 5000 volts alternating current in the City of Boston. In planning the route, several relevant considerations had to be kept in mind. First, the termini of the lines were fixed by the Mystic Generating Station (Everett), the proposed Substation #509 (Cambridge), the existing Substation #211 (Woburn) and the existing Substation #329 (Brighton). Second, the lines to be kept as short as possible for economic, environmental and operating reasons. Third, an effort was made to use available public streets (here an established corridor containing similar subsurface facilities of gas, water or sewer lines presently exist). Finally, the wishes of the local community as to the maintenance of traffic patterns, neighborhood characteristics (residential and commercial interests) and the like were evaluated. The installation itself is underground and, as such, has no visual impact; (Ex. No. 14). The construction activities themselves are

temporary in nature and consist of three stages; namely, trenching and pipe installation, cable pulling and splicing, and permanent restoration of the road surfaces. The hours of construction are to be limited to normal daytime working hours. Any traffic pattern delays and access to property along the route during construction will be handled by police details and temporary coverings for the trenches. Specific precautions are taken to insure that the trees along the route of the underground lines are not damaged. These precautions can include wrapping or balling of the roots, hand digging and feeding of the trees. In addition, the petitioner works with the local tree warden in carrying out these projects. Finally, underground lines of pipe type cable design have been installed and operated on the petitioner's system, and elsewhere, with excellent service and safety records.

Unquestionably, there will be some inconvenience to citizens residing in the immediate area of construction, but efforts will be made to minimize this effect by, one, always maintaining access to fire hydrants, driveways and private property entrances; two, temporarily providing pedestrian bridges with handrails where necessary; three, covering trenches at street crossings with steel plates to allow continued traffic flow; and, four, installing manholes away from street intersections and driveways wherever practical, again to provide minimum inconvenience to both the general public and the individual living in the immediate area; five, where construction activities involve the normal use

of heavy equipment and its resulting inherent noise levels, work will be be confined to the normal daytime working hours, and; lastly, police detail will be maintained on the job throughout the construction period in order to maintain a proper flow of traffic.

Although the majority of the line is to be installed under paved areas, there are a few locations -- noticeably the MDC crossings -- where existing grass area are disturbed. It is planned to cut out the sod and, upon completion of the subsurface work, reinstall that sod to the satisfaction of the MDC.

The proposed route of the lines involves crossing of both the Mystic River and the Charles River. Here again, the petitioner has previously designed and installed similar underwater crossings; namely, the Mystic River, the Fort Point Channel and the Reserved Channel. The primary environmental concerns are the disturbing of the river bottom and the replacement of fill material over the installed cables. The exact procedures to be followed (particularly regarding the disposal of the dredged material) are matters of present discussion with the Metropolitan District Commission the U. S. Army Corps of Engineers and the Environmental Protection Agency.

THE RELATED FACILITIES

Although the matters considered by the Department under the petitions in D.P.U. 17617 and D.P.U. 17618 are the proposed 345 kV lines and 115 kV lines, there are related facilities not within the scope of the petitions, but to which appropriate consideration must be given here; namely, the Mystic Unit No. 7 project, the proposed Cambridge Substation #509 and the facility additions to the existing Woburn Substation #211 and Brighton substation #329.

Mystic Unit No. 7

By order dated April 28, 1972 (D.P.U. 17279), the Department found that the proposed construction of a 600 megawatt steam generating unit (so-called Mystic Unit No. 7) at the petitioner's Mystic Station site in Everett, Massachusetts, was reasonably necessary for the convenience and welfare of the public and, thereupon, granted an exemption from the operation of the zoning ordinance of the City of Everett. Unit No. 7 is presently under construction and will be completed by early 1975.

Cambridge Substation #509

The petitioner, in conjuction with the Cambridge Electric Light Company, proposes to install an electric substation on Alewife Brook Parkway in Cambridge. The substation is to be located on the site of an abandoned drive-in movie theatre, which encompasses approximately 11-1/2 acres. The surrounding area is basically industrial or commercial in character with some residential uses. The initial installation will include 345 kV switching equipment, two autotransformers (each with a 300 MVA rating) two 345 kV underground lines terminations and related 115 kV facilities; (Ex. No. 16A). The ultimate development will include an expansion of the 115 kV facilities and the installation by Cambridge Electric Light Company of a 13.8 kV substation; (Ex. No. 16B). The landscaping and similar design features of the site have been prepared with the assistance of Richard J. Donovan, Inc., of Winchester. The accoustical analysis has been made by Bolt, Beranek and Newman of Cambridge, who have stated that the sound levels of the proposed facility ". . . will not create a nuisance or probable

complaint condition and little or no adverse community reaction due to sound from this site will result." Finally, the decision to use this site was made after giving due consideration to the plans of both the Boston Transportation Planning Review and the Massachusetts Bay Transportation Authority; neither organization has voiced objection to the selection.

Woburn Substation #211

In a matter docketed as D.P.U. 17540, the Department has held a public hearing involving the petitioner's requested addition of a 345 kV transformer and associated facilities to its existing Woburn Substation #211. The substation site is located in a residential area and has been used for substation purposes since the 1920's. The testimony in the proceeding included a description of the accoustical and visual aspects and their protection.

Brighton Substation #329

The petitioner's existing Brighton Substation #329 will be modified by the installation of 115 kV terminal and switching facilities. This equipment is similar to that existing at the substation, and represents a minor addition to the substation development; (Ex. No. 15). The outward appearance of the substation will remain the same. The added facilities, particularly the heat exchanger, will be installed in a manner so as not to affect adversely the existing ambient noise level in the neighborhood.

OBJECTIONS TO THE PETITIONS

Some opposition was voiced against two aspects of the overall project; namely, the location of the proposed Cambridge Substation #509 on Alewife Brook Parkway, Cambridge, and the route

of the proposed 345 kV undergrown lines through the Town of Arlington. It should be noted that the municipal officials of five of the communities involved, i.e., Boston, Somerville, Medford, Winchester and Woburn, voiced no opposition at the hearings or to the Department.

With reference to the location of the Cambridge Substation #509,(which, as previously stated is not within the scope of these petitions) a statement was made by the Cambridge City Manager, John Corcoran, indicating that the Cambridge City Council wished to be recorded in opposition to the proposed substation construction on the site of the former drive-in theatre on Alewife Brook Parkway. Mr. Corcoran, however, pointed out that the matter of the substation location is still under active study by various city departments. Although he did not know what further action the Council might wish to take, it was, in his judgment, possible that the Council could reverse the position it thus far expressed. In any event, Mr. Corcoran did state that, in his personal view, the substation was properly located and beneficial to the needs of the City of Cambridge.

Statements were also made by two Cambridge residents who either objected to the selection of this site (Attorney George McLaughlin) or expressed the regret that (in his view) there had not been greater public participation in the site selection process; (Roger Marshall, Cambridge Neighborhood Association). The Department is of the opinion that the Alewife Brook Parkway site is properly selected from both the power supply needs aspect

and the environmental maintenance aspect. Communications, on file with the Department, from both the Massachusetts Bay Transportation Authority and the Boston Transportation Planning Review Northwest Area Study indicate that the location of the proposed Substation #509 is consistent with their plans.

With reference to the routing of the 345 KV lines through the Town of Arlington, the Town Manager, Donald R. Marquis, stated that it was not in the best interests of the Town to agree to the installation of the line along the route proposed by the petitioner. He stated his opposition to be based on safety factors, concern for possible tree damage, and anticipated disruption of the community during the construction period. He suggested that an alternate route be followed, making use of Alewife Brook Parkway, Mystic Valley Parkway (both MDC boulevards), Davis Avenue and Mystic Street; (Ex. No. 18). He gave no indication that he had been authorized by the Metropolitan District Commission to offer the use of its boulevards, nor whether the Commission would grant the petitioner the necessary rights for such route. The position expressed by Mr. Marquis was supported by State Representative Joseph Daly of Arlington. The Record indicates that the petitioner has analyzed and costed such alternate route through Arlington. The additional cost incurred in adopting such alternate route would total $710,000 for the installation of both the required circuits.

Historically, the Department has heard voiced in proceedings of this nature strenuous opposition to the construction of overhead transmission lines. In almost each and every instance,

the affected communities proposed an underground line as the alternative. The Department, upon occasion, has considered their alternative proposals valid and the lines have been placed underground. Although the opposition here centers around the selection of underground routes, the Department cannot ignore its other responsiblities of assuring to the citizens of the Commonwealth an adequate and reliable supply of electricity at reasonable cost to all.

Lines for the high voltage transmission of electric energy for lighting, heating and power have never been of a purely local character. Suburban Light and Power Co. v. Board of Aldermen of Boston, 153 Mass. 200, 203-204 (1891). This fact has been recognized by the Legislature, which has comprehensively provided for the regulation of almost every conceivable phase of transmission line construction and operation at the State level. Over fifty years ago, the Massachusetts Supreme Judicial Court noted that the existence of a "uniform legislative policy with reference to the maintenance of lines for the transmission of electricity." Comiskey v. Lynn, 226 Mass., 210, 222 (1917). The Court has further recognized that the granting of such powers over matters involving transmission lines, to a State department, and not a local board, indicated that the Legislature intended a broad and balanced consideration of all aspects of the general public interest and welfare and not merely examination of the local and

individual interests which might be affected. Framingham v. Department of Public Utilities, 351 Mass. 127, 130 (1966); Boston Edison Company v. Town of Sudbury et al; 356 Mass. 406, 419 (1969).

Accordingly, after notice as provided by statute, a public hearing, a view of the location, a review and evaluation of the impact on the natural environment and consideration of the evidence, the Department is of the opinion and hereby

FINDS that the environmental impact of the proposed 345 kV and 115 kV underground transmission lines, and the related substation facilities or additions, is limited to possible noise and dirt during the construction period, and, in the instance of the substation facilities, to noise and visual factors once the facilities are in operation, for which the petitioner has taken all feasible measures by control of its construction activities, restoration of disturbed road surfaces and noise level design criteria and architectural treatment, all as described in the proceeding, and

DETERMINES that the proposed 345 kV and 115 kV underground lines are necessary for the purposes alleged, will serve the public convenience and are consistent with the public interest, and the Department hereby

GRANTS the authority under Section 72 of Chapter 164 of the General Laws to construct and use the aforesaid underground transmission lines in the locations described in Exhibits Nos. 1 and 2, entitled, respectively, "Key Map of Mystic to Cambridge to Woburn showing proposed 345 kV Pipe-Type Cable Route", dated February 7, 1972" and "Key Map of Cambridge to Brighton showing

proposed 115 kV Pipe-type Cable Route", dated September 6, 1972.

And the Department also

FINDS, by order, that the locations in the care and control of the Metropolitan District Commission in Alewife Brook Parkway, McGrath Highway, Fresh Pond Parkway, Charles W. Greenough Boulevard, Soldiers Field Road and the Charles River for underground wires, cables or pipes together with the necessary related facilities as shown on Exhibits Nos. 1 and 2, entitled, respectively, "Key Map of Mystic to Cambridge to Woburn showing proposed 345 kV Pipe-Type Cable Route", dated February 7, 1972" and "Key Map of Cambridge to Brighton showing proposed 115 kV Pipe-type Cable Route", dated September 6, 1972, copies of which are on file with the Department, are required by public convenience and necessity for the transmission of electricity.

By order of the Department

/s/ Francis J. Hickey, Jr.

FRANCIS J. HICKEY, JR.,
Secretary

A true copy
ATTEST:

Secretary

CCM-101

City of Cambridge

IN CITY COUNCIL

337

Pipe-type Cable Route.

In City Council

September 10,1973