June 13, 2001

D.T.E. 00-63

Joint Petition of Boston Edison Company, Cambridge Electric Light Company and Commonwealth Electric Company for approval by the Department of Telecommunications and Energy of a three-year Energy Efficiency Plan for 2000-2002.

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FOR: BOSTON EDISON COMPANY
CAMBRIDGE ELECTRIC LIGHT COMPANY
COMMONWEALTH ELECTRIC COMPANY
Petitioners

## I. INTRODUCTION

On July 27, 2000, Boston Edison Company ("BECo"), Cambridge Electric Light Company ("Cambridge") and Commonwealth Electric Company ("Commonwealth") (collectively, "the Companies") filed with the Department of Telecommunications and Energy ("Department") their three-year Energy Efficiency Plan ("Plan") covering the period 2000-2002. The filing was made pursuant to G.L. c. 25, § 19, G.L. c. 25A, § 11G, Boston Edison Company, D.P.U./D.T.E. 96-23 (1998), Cambridge Electric Light Company/ Commonwealth Electric Company/Canal Electric Company, D.P.U./D.T.E. 97-111 (1998), and Order Promulgating Final Guidelines to Evaluate and Approve Energy Efficiency Programs, D.T.E. 98-100 (2000) ("DTE Guidelines"). The Department docketed this filing as D.T.E. 00-63.

On August 28, 2000, pursuant to G.L. c. 25A, § 11G, 225 C.M.R. § 11.00 et seq. and the DTE Guidelines at § 6.2, the Commonwealth of Massachusetts, Division of Energy Resources ("DOER"), filed a report ("DOER Report") on the Plan with the Department. The DOER Report concluded that the Plan is substantially consistent with the statewide energy efficiency goals required by G.L. c. 25A, § 11G, and with DOER's Guidelines for energy efficiency programs (DOER Report at 2-3). See Guidelines Supporting the Massachusetts Division of Energy Resources Energy Efficiency Oversight and Coordination Regulation 225 C.M.R. 11.00.

On March 26, 2001, the Department issued a notice requesting comments on the Plan and the DOER Report. No comments were filed. The Companies responded to twenty Department information requests.[1]

## II. STANDARD OF REVIEW

The Department is required to ensure that energy efficiency activities are delivered in a cost-effective manner using competitive procurement processes to the fullest extent practicable. G.L. c. 25, § 19; G.L. c. 25A, § 11G. The Department has established guidelines that, among other things, set forth the manner in which the Department will review ratepayer-funded energy efficiency plans in coordination with DOER, pursuant to G.L. c. 25, § 19 and G.L. c. 25A, § 11G. D.T.E. 98-100.

DOER has the authority to oversee and coordinate ratepayer-funded energy efficiency programs, consistent with specified goals, and is required to file annual reports with the Department regarding proposed funding levels for said programs. G.L. c. 25A, § 11G; 225 C.M.R. §§ 11.00 et seq. If the DOER report concludes that ratepayer-funded energy efficiency programs are consistent with state energy efficiency goals, and if no objection to the DOER report is raised, the Department's review of the Plan is limited to cost-effectiveness issues and the use of competitive processes. DTE Guidelines at § 6.4; 225 C.M.R. § 11.00 et seq .

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[1] On its own motion, the Department moves the Plan and the Companies' 20 responses to Department information requests into the record of this proceeding. The responses are marked as Exhs. DTE-1-1 through DTE-1-13, Exhs. DTE 2-1 through DTE-2-6, and Exh. DTE-3-1. In addition, the Department incorporates by reference into the record of this proceeding the DOER Report. 220 C.M.R. § 1.10(3).

## III. ENERGY-EFFICIENCY PROGRAMS

### A. Summary of Programs

As shown in Tables 1-2, attached to this Order, the Plan proposes overall energy efficiency budgets for BECo of approximately $51 million for 2000, $42 million for 2001, and $37 million for 2002 (Plan, Table 2d).[2] The proposed overall energy efficiency budgets for Commonwealth are approximately $15 million for 2000, $11 million for 2001, and $10 million for 2002 (Plan, Table 2f). The proposed overall energy efficiency budgets for Cambridge are approximately $7 million for 2000, $4 million for 2001, and $4 million for 2002 (Plan, Table 2e). The budgets provide for shareholder incentives based on performance,[3] but the Plan specifies performance goals only for the 2000 program year (Plan, Tables 2a-2c, 5a-5c).

The Plan provides for energy efficiency programs for residential (including low-income) customers and commercial-industrial ("C/I") customers, using lost opportunity, retrofit, and market transformation approaches (Plan at I-2, I-3). The Companies noted that many of these programs are regional or statewide in nature (Plan at I-2). Lost opportunity programs are designed to capture savings during new construction, major renovation, and equipment purchase or replacement ! that is, when

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[2] G.L. c. 25, § 19 authorizes and directs the Department to require, for all electric consumers as of March 1, 1998, a mandatory (fixed) charge per kilowatthour ("KWH") for energy efficiency activities, including, but not limited to, demand-side management activities. The per KWH charges for the following (calendar) years are: 3.3 mills for 1998; 3.1 mills for 1999; 2.85 mills for 2000; 2.7 mills for 2001; and 2.5 mills per KWH for 2002. The Plan's programs are funded solely from these charges.

[3] Section 5.3 of the DTE Guidelines specifies the maximum incentives allowed.

equipment purchase decisions are being made (Plan at I-2). Retrofit programs replace functioning equipment with new energy efficient technologies

(Plan I-1). The Companies stated that their retrofit programs target markets are difficult to reach, notably for the low-income and small C/I customer target markets (Plan at I-1). Market transformation programs are designed to overcome market barriers (such as lack of knowledge, high first cost, and split incentives between landlord and tenant) and transform markets for such equipment as clothes washers, lights and fixtures, general motors, chillers, air compressors, and air conditioners, as well as various maintenance practices (Plan at I-2, III-1 to III-10, III-20 to III-33, V-1, V-30 to V-62, Tables 2a-2c). The Companies explained that, in transformed markets, new energy efficient technologies will be used more widely and may become the standard practice, in part through upgraded building codes and higher equipment efficiency standards (Plan at I-2).

B. Cost-Effectiveness

The Companies calculated several types of benefits to their energy system from their programs, including the value of electric generation and capacity costs avoided, transmission and distribution costs avoided, and certain low-income benefits accruing to the Companies

(Plan, Tables 7a-7d; Exhs. DTE-1-1; DTE-1-2; DTE-1-4). See DTE Guidelines at § 3.3.2. Similarly, the Companies calculated several types of benefits specific to program participants, including the value of (1) reduced consumption of heating oil, natural gas, and water;

(2) longer equipment replacement cycles; and (3) several benefits specific to low-income participants, such as reduced disconnections for inability to pay (Plan, Tables 7a-7d; Exhs. DTE-1-4; DTE-1-5;

DTE-2-2). See Id. at § 3.3.3. The Companies also included, in their calculation of market transformation program benefits, savings from equipment expected to be installed in the future (i.e., post-program savings) due to activities undertaken during the program years 2000-2002, as required by the DTE Guidelines at § 4.2.1(b) (Exhs. DTE-1-2, Att. B; DTE-1-6; DTE-2-1).

The Companies reported that, using the total resource cost test required by the Department, all of their programs are cost-effective (Plan at I-3, II-2, Tables 6a-6d).
See DTE Guidelines at § 3. In particular, as shown in Table 1 attached to this Order, the Companies estimated benefit/cost ("B/C") ratios[4] for individual programs that range from 1.04 to 3.67, with B/C ratios of 2.20, 1.79, and 2.17 averaged across all programs for BECo, Commonwealth, and Cambridge respectively (Plan, Tables 6a-6c).

The Companies reported actual prices for electricity, natural gas, and heating oil in late 2000 (Exhs. DTE-2-5, DTE-2-6). These prices were thirteen to 86 percent higher than the price projections they used in the Plan to calculate program benefits for 2000 and 2001 (Exhs. DTE-2-5, DTE-2-6). Using these actual resource prices for late 2000 in place of their projected prices, the Companies stated that the benefit-cost ratios of their programs would increase, compared to the ratios shown in the Plan (Exhs. DTE-2-5, DTE-2-6).

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[4] To calculate the B/C ratios, the Companies discounted the costs incurred over the three program years and the value of the benefits across all the years in which they occur, at 6.6 percent per year (Plan at II-3; Exh. DTE-3-1 (revised)).

C. Competitive Procurement

The Companies reported that out-sourcing and competitive procurement account for all of their program implementation, marketing, and miscellaneous expenses, 64 percent of their evaluation expenses, and ten percent of their program planning and administration expenses, or 83 percent of their overall expenses (Plan, Tables 3a-c). The Companies noted that a large portion of their planning and administration is conducted internally in order to effectively monitor energy efficiency activities and respond promptly to regulatory policies (Exh. DTE-1-10). The Companies reported that they coordinate service delivery for low-income programs with other electric and gas utilities and with the Low-Income Energy Action Network (Plan at I-2). See G.L. c. 25, § 19.

## IV. ANALYSIS AND FINDINGS

The Companies provided expected B/C ratios for their proposed programs for the years 2000-2002, showing that all B/C ratios are greater than 1.00. When the benefits of programs exceed the costs, the programs are cost-effective. DTE Guidelines at § 3.5. The Department has reviewed the method by which the Companies determined the benefits and costs for their programs and finds that the benefits and costs were determined consistent with Department criteria for establishing program cost-effectiveness. Id at §§ 3-4.

The Department notes that the benefits of the programs are likely to be even greater than the Companies estimated in their Plan. The benefits of avoided electricity, natural gas, and heating oil are higher than the Companies claimed in the Plan, because the actual prices for these resources were

thirteen to 86 percent higher in late 2000 than the prices the Companies used to calculate benefits for the program year 2000. Accordingly, the Department finds that, based upon the assumptions used in their analysis, the Companies' programs are cost-effective.

The Companies provided evidence that they competitively procured all of their program implementation, marketing, and miscellaneous expenses, and that they complied with the requirements of G.L. c. 25, § 19 for low-income programs (Plan at I-2; Tables 3a-3c; Exh. DTE-1-10). The Companies conducted most program planning and administration internally to ensure effective program oversight. Accordingly, the Department finds that the Plan provides for competitive procurement to the fullest extent practicable.

The Department hereby approves the Companies' Energy Efficiency Plan because (1) the DOER Report concludes that the Plan is substantially consistent with the statewide energy efficiency goals, and (2) the Department found above that the programs are cost-effective and use competitive procurement to the fullest extent practicable.

In order to improve the accuracy of their cost-effectiveness analyses, the Department directs the Companies, in their Energy Efficiency Annual Report, to use, to the extent reasonable, actual prices for past program years and best available price projections for future program years, in the calculation of program benefits from saving electricity, natural gas, and heating oil. However, to the extent that the Companies base their performance incentives on actual benefits achieved, the Companies shall calculate

program benefits using the same resource prices used in setting the performance goals on which the incentives are based. See DTE Guidelines at § 5.

Since the Plan provides specific performance incentive goals only for 2000, the Department directs the Companies to file within sixty days an updated budget and specific performance incentive goals for 2001 programs, and to file in the first quarter of 2002 an updated budget and specific performance incentive goals for 2002 programs.

## V. ORDER

Accordingly, after due notice, opportunity for public comment, and consideration, it is

ORDERED: That the Petition of Boston Edison Company, Cambridge Electric Light Company and Commonwealth Electric Company for approval of their energy efficiency programs for the years 2000 through 2002 is APPROVED; and it is

FURTHER ORDERED: That Boston Edison Company, Cambridge Electric Light Company and Commonwealth Electric Company shall follow all directives contained in this Order.

By Order of the Department,

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James Connelly, Chairman

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W. Robert Keating, Commissioner

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Paul B. Vasington, Commissioner

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Eugene J. Sullivan, Jr., Commissioner

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Deirdre K. Manning, Commissioner

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 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. (Sec. 5, Chapter 25, G.L. Ter. Ed., as most recently amended by Chapter 485 of the Acts of 1971).

TABLE 1. Budgets for 2000 ($000) and Benefit/Cost Ratios for 2000-2002

| | BECo | | Commonwealth | | Cambridge | |
|---|---|---|---|---|---|---|
| | Budget | B/C | Budget | B/C | Budget | B/C |
| Residential | | | | | | |
| Energy Star Homes (transform market) | 986 | 1.15 | 1,332 | 1.88 | 145 | 1.15 |
| Lights | 1,308 | 2.11 | 1,150 | 2.02 | 128 | 2.04 |
| Appliances | 1,112 | 1.08 | 712 | 1.06 | 77 | 1.07 |
| High Use | 1,546 | 1.04 | 2,557 | 1.06 | 195 | 1.06 |
| Energy Audits (RCS) | 1,000 | 1.21 | 347 | 1.18 | 34 | 1.18 |
| Education | 226 | | 208 | | 35 | |
| Past Programs | 7,352 | | 252 | | 25 | |
| Other | 228 | | 108 | | 10 | |
| Subtotal | 13,757 | 1.25 | 6,667 | 1.39 | 649 | 1.24 |
| Low-Income | | | | | | |
| New Construction | 681 | 2.10 | 79 | 1.81 | 246 | 1.79 |
| Single-Family | 2,324 | 1.61 | 594 | 1.65 | 38 | 1.45 |
| Multi-Family | 1,338 | 3.67 | 461 | 1.75 | 357 | 1.67 |
| Other | 57 | | 26 | | 4 | |
| Subtotal | 4,399 | 2.18 | 1,160 | 1.73 | 645 | 1.76 |
| Commercial / Industrial | | | | | | |
| New Construction | 7,451 | 3.15 | 1,484 | 3.23 | 1,243 | 3.19 |
| Retrofit | 6,776 | 1.90 | 1,093 | 1.85 | 1,312 | 2.09 |
| Small C/I Retrofit | 6,219 | 2.51 | 1,088 | 2.46 | 885 | 2.53 |
| Products & Services (transform market) | 1,477 | | 335 | | 120 | |
| Peak Load Control | 350 | | 295 | | 30 | |
| Past Programs | 10,193 | | 2,717 | | 1,934 | |
| Other | 636 | | 113 | | 66 | |
| Subtotal | 33,102 | 2.57 | 9,760 | 2.63 | 5,591 | 2.60 |
| TOTAL | 51,259 | 2.20 | 14,951 | 1.79 | 6,885 | 2.17 |

Source: Plan, Tables 2d-2f, Table 6a-6c

TABLE 2. Budgets ($000) for 2001-2002

| | BECo | | Commonwealth | | Cambridge | |
|---|---|---|---|---|---|---|
| | 2001 | 2002 | 2001 | 2002 | 2001 | 2002 |
| Residential | | | | | | |
| Energy Star Homes (transform market) | 729 | 501 | 1,064 | 883 | 106 | 102 |
| Lights | 967 | 637 | 919 | 751 | 94 | 89 |
| Appliances | 822 | 542 | 569 | 465 | 56 | 53 |
| High Use | 1,143 | 753 | 2,042 | 1,670 | 143 | 135 |
| Energy Audits (RCS) | 1,000 | 900 | 277 | 227 | 25 | 24 |
| Education | 0 | 0 | 0 | 0 | 0 | 0 |
| Past Programs | 5,178 | 5,178 | 0 | 0 | 0 | 0 |
| Other | 168 | 91 | 86 | 58 | 7 | 6 |
| Subtotal | 10,008 | 8,602 | 4,958 | 4,054 | 432 | 408 |
| Low-Income | | | | | | |
| New Construction | 642 | 627 | 57 | 59 | 136 | 143 |
| Single-Family | 2,191 | 2,138 | 429 | 439 | 21 | 22 |
| Multi-Family | 1,261 | 1,231 | 333 | 341 | 197 | 207 |
| Other | 57 | 55 | 27 | 27 | 4 | 4 |
| Subtotal | 4,150 | 4,050 | 847 | 865 | 358 | 376 |
| Commercial / Industrial | | | | | | |
| New Construction | 6,171 | 5,733 | 936 | 835 | 462 | 400 |
| Retrofit | 5,611 | 5,135 | 689 | 606 | 488 | 418 |
| Small C/I Retrofit | 5,150 | 4,712 | 686 | 603 | 329 | 282 |
| Products & Services (transform market) | 1,223 | 1,119 | 211 | 185 | 45 | 38 |
| Peak Load Control | 0 | 0 | 0 | 0 | 0 | 0 |
| Past Programs | 9,579 | 7,179 | 2,482 | 2,482 | 1,820 | 1,820 |
| Other | 636 | 346 | 71 | 50 | 25 | 17 |
| Subtotal | 28,208 | 24,224 | 5,075 | 4,761 | 3,168 | 2,798 |
| TOTAL | 42,366 | 36,876 | 10,879 | 9,679 | 3,958 | 3,759 |

Source: Plan, Tables 2d-2f