COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES

	)
D.P.U. 07-50; Investigation by the	)
Department of Public Utilities on	)
its own Motion into Rate Structures	)
that will Promote Efficient Deployment	)
of Demand Resources	)
	)

COMMENTS OF ENVIRONMENT NORTHEAST
CONCERNING THE DEPARTMENT'S STRAW PROPOSAL

Environment Northeast ("ENE") appreciates the opportunity to submit comments on the Department's June 22, 2007 Vote and Order Opening Investigation into Rate Structures that will Promote Efficient Deployment of Demand Resources. As an organization that addresses large-scale environmental problems that threaten regional ecosystems, human health or the management of regionally significant natural resources, ENE applauds the Department's initiative to address this important matter which has the potential to support increased investments in cost-effective energy efficiency, demand response, and other demand resource programs in Massachusetts. Many of the proposed changes set out in the Straw Proposal will help achieve these goals. In particular, we commend the Department for recognizing the need to better align electric and natural gas companies' financial incentives with customer and public policy interests in capturing all available economic energy efficiency opportunities. ENE also fully endorses the principles set forth by the Department for designing base rate adjustment mechanisms.[1]

ENE believes that Docket 07-50 is appropriately focused on removing counterproductive disincentives toward utility investment in demand resources. To successfully achieve this

[1] Massachusetts Department of Public Utilities, *Vote and Order Opening Investigation ("Order"),* Docket D.P.U. 07-50, 11, 12 (June 22, 2007).

potential, the Department must carefully craft a set of policies that is effective and fair to both consumers and utilities. Through this lens, ENE respectfully offers the following comments.

I. INTRODUCTION

Energy efficiency and demand-side resources are under-utilized energy resources in Massachusetts today. Energy efficiency, demand response, and other demand resource programs cost 3.2 cents per kWh[2] while electric supply costs from 9.5 to 11cents per kWh.[3] Nevertheless, Massachusetts spends more than $6 billion on electric supply each year while only investing $125 million in efficiency resources. Thus, it spends 48 times more on a resource that is more than three times as expensive. The $125 million annual investment in efficiency yields total savings to consumers exceeding $500 million[4] and creates 2,000 non-utility jobs, and generates hundreds of millions of dollars in economic growth.[5] In addition to pure cost-effectiveness, efficiency, demand response, and other demand resource programs provide significant environmental benefits associated with avoided air emissions, including carbon dioxide and other greenhouse gases, while also substituting in-state energy service jobs for imported fossil fuel expenditures.

Similar statistics show under-investment in cost-effective efficiency resources in the natural gas sector. For example, Keyspan's efficiency program shows that each dollar invested

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[2] All program costs and benefits are compiled by Environment Northeast from Massachusetts Division of Energy Resources ("DOER") spreadsheets based upon *2005 Energy Efficiency Annual Reports* filed by each company with DOER and the Massachusetts Department of Telecommunications and Energy. *See* Exhibit A, "MA Energy Efficiency Program Benefits," attached hereto.

[3] Based on current default/basic service generation rates for NSTAR, National Grid and WMECO; available at: http://www.nstaronline.com/residential/account_services/rates_tariffs/basic_service.asp, http://www.nationalgridus.com/masselectric/home/rates/4_default.asp, and http://nuwnotes1.nu.com/apps/wmeco/webcontent.nsf/AR/default/$File/Default%20Service.WMECO.1026AE.pdf

[4] *Supra,* at note 2.

[5] Division of Energy Resources, *2002 Energy Efficiency Activities* (2004).

in efficiency returned more than $2.70 in saved energy costs.[6] These efficiency resources cost approximately $0.25 per therm[7] while natural gas supply costs approximately $1 per therm.[8]

Massachusetts' severe under-investment in efficiency, demand response, and other demand resource programs is the result of many factors. One significant contributing factor to this imbalance is the way in which utilities are compensated. At present, Massachusetts utilities have an economic incentive to sell as much energy to their customers as possible because the more energy they sell the more revenue (and thus, profit) they generate. The inverse is also true: utilities have an economic *disincentive* to increase efficiency, demand response, and other demand resource programs because such investments would reduce earnings.

ENE's overall recommendation for changing rate structures so that they will effectively and fairly remove this disincentive involves two separate, but related mechanisms:

First, in rate proceedings for each company, the Department should establish parameters for annual adjustments to allowed revenue requirements which reflect expected changes in costs. For companies with existing rate plans, the proceedings would likely involve appropriate amendments to those plans. The adjustments should be based on factors similar to those considered in designing rate plans and may include inflation, productivity adjustments, forecasts of capital improvements and changes in customer numbers or composition. Notably, load growth would not be included because the purpose of the mechanism is to make the company indifferent to the level of sales. The mix and weight of various factors would likely differ among the companies because of their individual situations.

Second, the Department would periodically (at least annually) determine a decoupling adjustment by comparing the billed revenues to the allowed revenue requirement for the prior period. Any resulting revenue adjustments would be implemented through changes to the

[6] *See* KeySpan Energy Delivery, *Energy Efficiency Program Annual Status Report, May 1, 2005 – April 30, 2006*.

[7] *See id.*

[8] Current KeySpan residential R1 and R3 natural gas supply rates, available at: www.keyspan.com

volumetric charges in the distribution rates for the ensuing period. The decoupling mechanism is simple and symmetrical – consisting of small adjustments up or down – and does the work of removing the disincentive.

ENE believes that this approach would achieve the result of removing the disincentive to investments in energy efficiency in a simple and transparent way which treats utilities and customers fairly and provides significant benefits to the state.

II. ENE RESPONSES TO THE DEPARTMENT'S QUESTIONS

Allowed Revenues Per Customer

1. Question: The Department's proposal that a company's allowed revenues per customer be determined through a subsequent base rate proceeding is intended to ensure that the allowed revenue levels, which serve as the basis for the base revenue adjustment mechanism, are closely aligned with the company's costs. Under what, if any, circumstances should the Department permit a company's allowed revenues per customer to be determined through some manner other than a base rate proceeding?

Response: ENE believes that the guiding principles in determining how the allowed revenues should be adjusted over time are those set forth in the Department's Straw Proposal at pages 11and 12. In particular, the focus should be on "aligning company revenues with costs." Traditionally, the principal adjustment to utility distribution revenues resulted from increases in load growth over time, coupled with a fixed rate structure. In recent years the Department and Commissions in other jurisdictions have approached this task by developing rate plans which look more closely at the various factors which affect utility distribution costs. The principal factors utilized have included inflation, productivity adjustments and forecasts of capital improvements, with load growth as an implicit factor. The Straw Proposal would establish the baseline for the allowed revenues as a fixed amount per customer for each rate class. In effect, this approach would substitute changes in the number of customers for all of the factors discussed above in adjusting the allowed revenue requirement. ENE does not believe that this approach is likely to accomplish the goal of aligning utility revenues with costs over time and will likely result in a more frequent need for base rate proceedings.

Certainly, the number and relative size of a utility's customers has some impact on its costs. However, it seems very unlikely that in Massachusetts, where utility distribution systems are relatively built out and customer growth is uncertain, changes in the number of customers over the short term is likely to be a major driver of utility cost changes. ENE is not aware of any data supporting this contention. As one example, any reduction in the number of large commercial and industrial customers could lead to significant reductions in allowed revenue for a utility between reconciliation periods, while it may not appreciably change its costs.

Moreover, there are a number of issues involved in defining a "customer"—whether by account, by meter or by entity. Basing allowed revenues on the number of customers could provide an inappropriate incentive for companies to change the accounting of customers to increase their revenue requirement.

An efficient and direct approach would be to determine the periodic adjustment to a company's allowed revenues in a base rate proceeding based upon factors which the Department finds are most likely to affect changes in the company's costs. For utilities with existing rate plans, these proceedings should consider appropriate amendments to the plan which recognize that sales will no longer be a factor in determining revenues. ENE does not believe that there are any circumstances under which the mechanism for adjusting allowed revenues should be determined outside a base rate proceeding. However, once the mechanism is established, the adjustments can be made periodically as they are now for rate plans without the need for a separate proceeding.

2. Question: The Department's proposal uses an approach in which a company's allowed revenues per customer for each rate class does not change between base rate proceedings. An alternate approach would be to adjust the allowed revenues per customer values periodically, based on changes in each rate class' average usage per customer. Please discuss the merits of each approach.

Response: As ENE understands the alternate approach, it would increase the allowed revenues per customer when a rate class' average usage increases and vice-versa. The impact of this approach would be to reinstate the company's incentive to increase sales and usage so as to increase its revenues. ENE does not support this proposal.

Annual Reconciliation Calculation

3. Question: The Department's proposal that a company's actual versus allowed revenues be reconciled annually is intended to balance three objectives: rate stability, rate continuity, and administrative efficiency. Do annual reconciliations strike an appropriate balance among these three objectives or would alternate reconciliation periods (e.g., quarterly or semi-annually) better do so?

Response: ENE believes that reconciliations should occur as frequently as practicable to ensure that fluctuations in customer distribution rates are minimized and occur in reasonable proximity to the events which caused the fluctuation. This goal must be weighed against the administrative cost of performing the reconciliation. Changes which are more frequent than annual would likely require allocating the allowed revenues in a manner which reflects historic sales variations.

One advantage of frequent adjustments results from the fact that changes in the distribution rates will be inversely related to energy consumption and costs. When sales increase above forecasted levels due to weather or other causes, the resulting revenue increase will result in bill credits due to the decoupling adjustments and when sales decrease, the reverse is true. These offsetting adjustments should be closely linked to the events that caused them. Another consideration for the frequency of reconciliation is customer acceptance. ENE understands that under existing rate orders, utilities often make a number of adjustments on an annual basis. In this circumstance, ENE believes that an annual decoupling adjustment would be the least disruptive approach.

4. Question: The Department's proposal to determine a company's actual revenue based on billed revenues is consistent with the base rate treatment applied to distribution-related bad debt costs. An alternate approach would be to determine actual revenues based on payments received. Please discuss the merits of each approach.

Response: ENE agrees that actual revenue should be based on billed revenues rather than payments received. Because rate proceedings have historically contained adjustments for uncollected bills, ENE believes that the prudent policy choice is to continue to place the risk of uncollected bills on the company rather than the ratepayer.

5. Question: The Department's proposal for determining billed revenues is based on actual consumption. An alternate approach would be to determine billed revenues based on consumption normalized for weather and/or other factors.

(a) Please discuss the merits of determining billed revenues using actual versus weather-normalized consumption.

(b) Should consumption be normalized for other factors (e.g., economic conditions)? If so, identify those factors and describe how the normalization for such factors could be done.

Response: ENE believes that the creation of a full decoupling mechanism that adjusts actual revenues to the allowed level is preferable to a mechanism that adjusts revenues or consumption for weather, economic conditions, or any other factor. The justification for making such adjustments is typically based on an assertion that decoupling mechanisms shift these risks from the utility to its ratepayers. In considering this issue, it is important to note that decoupling affects only the distribution portion of customer bills and that the resulting charges and credits tend to counterbalance the impacts on the larger energy portion over time. Thus, consumption increases over projected levels due to weather or other causes will result in higher energy costs, offset to some extent by decoupling credits.

Weather adjustments are unnecessary because the utility and its ratepayers face offsetting risk with respect to weather. That is, under traditional rates, an unusually cold winter will cause a natural gas utility to over-recover its distribution revenues at the expense of its ratepayers. Implementing a decoupling mechanism allows the utility and its ratepayers to "swap" the weather risk that they face under traditional rates, reducing risk for both parties (*i.e.*, weather would no longer affect utility distribution revenues or customers' distribution charges).

While the Department's proposal contains the *potential* to shift risk due to changing economic conditions from the utility to its ratepayers, ENE believes that the cure is likely to be worse than the disease. In order to adjust billed revenues for factors such as economic conditions, the decoupling mechanism would need to use a more complicated adjustment equation (or set of equations). Specifically, a statistical study would need to be performed in order to estimate the effect of changes in economic conditions on revenues. There would likely be significant disputes regarding the appropriate methods for estimating this effect. In addition, parties might attempt to "game" the decoupling mechanism by conducting a specification search to find the most favorable adjustment factor based on their expectations of future economic conditions. Finally, if the utility underrecovers its distribution revenues, the likely response would be more frequent rate filings.

In summary, ENE believes that billed revenues should be based on actual consumption, unadjusted for factors such as weather and economic conditions. At worst, these adjustments could eliminate opportunities to reduce risk for both the utility and its ratepayers. In order for factor-specific adjustments to eliminate potential shifts of risk from the utility to its ratepayers, the design of the mechanism must become significantly more complicated and subject to inaccuracies and dispute with respect to the parameters of the program. ENE believes the Department should avoid these unnecessary complications and inaccuracies by establishing a mechanism which simply trues-up revenues to the allowed levels.

Annual Base Rate Adjustment

6. Question: The Department's proposal to recover the difference between a company's target and projected revenues through adjustments to its base energy charges is intended to send appropriate price signals to consumers. An alternate approach would be to adjust both base energy and demand charges (where applicable) to recover this difference. Please discuss the merits of each approach.

Response: As the Department articulated in its Order, any base rate adjustment mechanism should be "simple, easily understood, and transparent."[9] Consistent with these guiding principles, ENE believes that reconciliation between actual and allowed revenues should be recovered only through adjustments to base energy charges. Reconciliation through changes to demand changes would unnecessarily complicate the recovery mechanism and risk confusing customers. In addition, the amounts involved in periodic decoupling adjustments are likely to be relatively small and not sufficient to justify a mechanism for allocating the adjustment between energy and demand charges for the customer classes affected.

The goal of the Department's proposal is to encourage conservation and energy efficiency. Therefore, one would expect that adjustments will, on average, result in small increases in rates. Therefore, ENE believes that the energy charge adjustment policy advanced in the Department's straw proposal will provide the maximum economic incentive for customers to invest in energy efficiency and conservation measures. An alternative method that also (or only) adjusts demand charges will only affect customer-level incentives to conserve during peak hours.

Reconciliation Filing

7. Question: The Department's proposal to require a company to submit quarterly filings identifying actual and allowed revenues is intended to ensure that changes in rates are made in a predictable and gradual manner.

(a) Under what circumstances should the Department allow an adjustment in base charges during a reconciliation period?

(b) Under what circumstances should the Department initiate a review of a company's base revenue adjustment mechanism?

Response: (a). If required adjustments are made on an annual basis, the Department could establish a "trigger level" where quarterly adjustments would occur if the change exceeds this level over one or two periods, taking into account seasonal variations in sales.

[9] Order at 12.

Massachusetts Energy Efficiency Program Benefits

The current Massachusetts energy efficiency programs administered by the utilities deliver the following benefits:

- Utility programs invest ~$125 million per year with total savings to consumers exceeding ~$500 million
- For every $1 invested by utilities and customers, more than $3 are saved
- The efficiency programs deliver energy savings at about 3.2 ¢/kWh while energy supply costs customers about 10 ¢/kWh
- We spend around $6 Billion/yr on energy supply that costs 10 ¢/kWh, while only investing ~$125 million per year in 3.2 ¢/kWh efficiency programs – we are not investing in the low-cost resource
- Energy efficiency is the cleanest energy resource with annual program investments yielding avoided consumption of ~5 Million MWh of energy which would be equivalent to ~2.8 Million tons of carbon dioxide – efficiency programs are critical to meeting our clean air and greenhouse gas goals
- Over the next 10 years total savings to MA consumers will be over $5 Billion
- Efficiency investments put money in consumers wallets, reduce a fossil fuel trade deficit that has grown into the Billions, and grow energy service jobs and the economy
- Current efficiency programs create about 2,000 non-utility jobs and generate hundreds of millions of dollars in economic growth (DOER, 2002)

See detailed tables and sources on the following pages.

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Environment Northeast is a nonprofit research and advocacy organization focusing on the Northeastern United States and Eastern Canada. Our mission is to address large-scale environmental challenges that threaten regional ecosystems, human health, or the management of significant natural resources. We use policy analysis, collaborative problem solving, and advocacy to advance the environmental and economic sustainability of the region.

Total & Projected Massachusetts Efficiency Program Costs & Benefits

Based on 2005 Programs for All Companies

Environment Northeast

One Year Costs and Benefits (2005)

Utility Cost	$124	Million
Total Resource Costs	$164	Million
Total Resource Benefits	$506	Million
Net Total Resource Benefit	$343	Million
Electric System Only Benefits	$410	Million
Total Resource Benefit Cost Ratio	3.1	(Benefit/Cost)
Electric System Benefit Cost Ratio	3.3	(Benefit/Cost)
Peak (Summer) Demand Reduction	58.5	MW
Annual Energy Savings	458,325	MWh
Lifetime Energy Savings	5,123,738	MWh
Total Resource Summer Demand Cost	2,800,376	$/MW
Total Resource Energy Cost	32.0	$/Lifetime-MWh
Approx. Avoided Energy Cost (ISO-NE 2005 Avg. LMP)	80.0	$/MWh
Equivalent Lifetime Emissions Avoided		
SO_2	5,201	Tons
NO_x	1,383	Tons
CO_2	2,823,180	Tons

Projected Costs and Benefits over Ten Years

Utility Cost	$1,242	Million
Total Resource Costs	$1,637	Million
Total Resource Benefits	$5,064	Million
Net Total Resource Benefit	$3,426	Million
Electric System Only Benefits	$4,096	Million
Peak (Summer) Demand Reduction	585	MW
Annual Energy Savings	4,583,250	MWh
Lifetime Energy Savings	51,237,380	MWh
Equivalent Lifetime Emissions Avoided		
SO_2	52,006	Tons
NO_x	13,834	Tons
CO_2	28,231,796	Tons

Sources: All program costs and benefits are compiled from MA DOER spreadsheets based on *2005 Energy Efficiency Annual Reports* filed by each company with MA DOER and DTE

Emissions based on: ISO New England, May 2006, *2004 New England Marginal Emission Rate Analysis*, from annual average (all hours) and lifetime energy savings

2005 Massachusetts Efficiency Program Costs & Benefits

Summary by Company and Sector

Company	Sector	Utility Costs ($)	Customer Costs ($)	Total Resource Costs ($)	Electric System Benefit (Discounted $)	Total Resource Benefit (Discounted $)	Electric System B/C Ratio	Total Resource B/C Ratio	Summer Demand Reduction (MW)	Annual Energy Savings (MWh)	Lifetime Energy Savings (MWh)	Total Resource Summer Demand Cost ($/MW)	Total Resource Energy Cost ($/Lifetime-MWh)	Equivalent Lifetime Emissions Avoided*: SO_2 Tons	Equivalent Lifetime Emissions Avoided*: NO_x Tons	Equivalent Lifetime Emissions Avoided*: CO_2 Tons
National Grid	Residential	*$19,962,794*	$7,857,388	$27,820,182	$60,233,870	$83,684,472	*3.02*	*3.0*	9.5	116,207	833,157	*$2,928,440*	*$33.4*	*846*	*225*	*459,070*
(MECo)	Low Income	*$9,252,813*	$60,571	$9,313,384	$9,771,938	$34,586,608	*1.06*	*3.7*	0.7	8,155	134,264	*$13,304,834*	*$69.4*	*136*	*36*	*73,979*
	Commercial & Industrial	*$24,976,679*	$9,919,606	$34,896,285	$85,924,142	$90,117,869	*3.44*	*2.6*	12.4	74,770	1,170,335	*$2,814,217*	*$29.8*	*1,188*	*316*	*644,855*
	Total	*$54,192,286*	*$17,837,565*	*$72,029,851*	*$155,929,950*	*$208,388,949*	*2.88*	*2.9*	*22.6*	*199,132*	*2,137,756*	*$3,187,162*	*$33.7*	*2,170*	*577*	*1,177,904*
NSTAR	Residential	*$12,930,348*	$4,978,612	$17,908,960	$38,632,296	$51,733,810	*2.99*	*2.9*	7.2	73,063	493,875	*$2,487,356*	*$36.3*	*501*	*133*	*272,125*
	Low Income	*$4,984,142*	$0	$4,984,142	$8,726,193	$19,462,479	*1.75*	*3.9*	0.7	7,334	122,711	*$7,120,203*	*$40.6*	*125*	*33*	*67,614*
	Commercial & Industrial	*$34,006,097*	$11,899,918	$45,906,015	$153,965,731	$161,004,401	*4.53*	*3.5*	19.7	120,612	1,681,172	*$2,330,255*	*$27.3*	*1,706*	*454*	*926,326*
	Total	*$51,920,587*	*$16,878,530*	*$68,799,117*	*$201,324,220*	*$232,200,690*	*3.88*	*3.4*	*27.6*	*201,009*	*2,297,758*	*$2,492,722*	*$29.9*	*2,332*	*620*	*1,266,065*
	Residential	*$3,042,432*	$681,119	$3,723,551	$4,653,034	$7,953,381	*1.53*	*2.1*	0.8	8,905	74,389	*$4,654,439*	*$50.1*	*76*	*20*	*40,988*
Western Mass	Low Income	*$1,566,135*	$475,442	$2,041,577	$814,322	$2,679,407	*0.52*	*1.3*	0.1	962	13,505	*$20,415,770*	*$151.2*	*14*	*4*	*7,441*
Electric Co. (NU)	Commercial & Industrial	*$7,554,862*	$2,417,992	$9,972,854	$31,532,422	$37,748,060	*4.17*	*3.8*	4.9	28,968	437,972	*$2,035,276*	*$22.8*	*445*	*118*	*241,323*
	Total	*$12,163,429*	*$3,574,553*	*$15,737,982*	*$36,999,778*	*$48,380,848*	*3.04*	*3.1*	*5.8*	*38,835*	*525,866*	*$2,713,445*	*$29.9*	*534*	*142*	*289,752*
Unitil (FG&E)	Residential	*$518,008*	$207,202	$725,210	$576,457	$1,436,808	*1.11*	*2.0*	0.1	826	6,776	*$7,252,100*	*$107.0*	*7*	*2*	*3,734*
	Low Income	*$202,097*	$0	$202,097	$133,464	$640,091	*0.66*	*3.2*	0.0	148	2,029	*$20,209,700*	*$99.6*	*2*	*1*	*1,118*
	Commercial & Industrial	*$916,010*	$182,696	$1,098,706	$3,119,738	$3,183,819	*3.41*	*2.9*	0.5	2,508	34,651	*$2,197,412*	*$31.7*	*35*	*9*	*19,093*
	Total	*$1,636,115*	*$389,898*	*$2,026,013*	*$3,829,659*	*$5,260,718*	*2.34*	*2.6*	*0.6*	*3,482*	*43,456*	*$3,321,333*	*$46.6*	*44*	*12*	*23,944*
Cape Light	Residential	*$2,188,056*	$364,695	$2,552,751	$5,227,818	$7,328,724	*2.39*	*2.9*	0.9	6,799	67,686	*$2,836,390*	*$37.7*	*69*	*18*	*37,295*
Compact	Low Income	*$703,497*	$84,146	$787,643	$514,968	$1,136,467	*0.73*	*1.4*	0.1	596	7,802	*$13,127,383*	*$101.0*	*8*	*2*	*4,299*
	Commercial & Industrial	*$1,422,048*	$382,556	$1,804,604	$5,742,786	$3,666,479	*4.04*	*2.0*	0.9	8,472	43,414	*$2,005,116*	*$41.6*	*44*	*12*	*23,921*
	Total	*$4,313,601*	*$831,397*	*$5,144,998*	*$11,485,572*	*$12,131,670*	*2.66*	*2.4*	*1.9*	*15,867*	*118,902*	*$2,766,128*	*$43.3*	*121*	*32*	*65,515*
Summary	Residential	*$38,641,638*	*$14,089,016*	*$52,730,654*	*$109,323,475*	*$152,137,195*	*2.83*	*2.9*	*18.5*	*205,800*	*1,475,883*	*$2,850,306*	*$35.7*	*1,498*	*398*	*813,212*
	Low Income	*$16,708,684*	*$620,159*	*$17,328,843*	*$19,960,885*	*$58,505,052*	*1.19*	*3.4*	*1.6*	*17,195*	*280,311*	*$11,037,480*	*$61.8*	*285*	*76*	*154,451*
	Commercial & Industrial	*$68,875,696*	*$24,802,768*	*$93,678,464*	*$280,284,819*	*$295,720,628*	*4.07*	*3.2*	*38.4*	*235,330*	*3,367,544*	*$2,439,543*	*$27.8*	*3,418*	*909*	*1,855,517*
	Total	*$124,226,018*	*$39,511,943*	*$163,737,961*	*$409,569,179*	*$506,362,875*	*3.30*	*3.1*	*58.5*	*458,325*	*5,123,738*	*$2,800,376*	*$32.0*	*5,201*	*1,383*	*2,823,180*

Note: Numbers in italics are calculated by ENE based on the sources noted below

Sources: All program costs and benefits are compiled from MA DOER spreadsheets based on *2005 Energy Efficiency Annual Reports* filed by each company with MA DOER and DTE

* Emissions based on: ISO New England, May 2006, *2004 New England Marginal Emission Rate Analysis*, from annual average (all hours) and lifetime energy savings