STATE OF NEW YORK DEPARTMENT OF PUBLIC SERVICE

THREE EMPIRE STATE PLAZA, ALBANY, NY 12223-1350

Internet Address: http://www.dps.state.ny.us

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March 25, 2008

Hon. Jaclyn A. Brilling
Secretary to the Commission
NYS Department of Public Service
Three Empire State Plaza
Albany, New York 12223-1350

Re: Case 07-M-0548 – Energy Efficiency Portfolio Standard

Dear Secretary Brilling,

On behalf of the Staff of the New York State Department of Public Service, please find enclosed an original and five copies of the March 2008 DPS Staff Repot on Recommendations for the EEPS Proceeding. Staff will be submitting a Technical Appendix shortly. This Technical Appendix will include, among other things, program budgets and associated energy savings by service territory.

Very truly yours,

Saul A. Rigberg

SAUL A. RIGBERG
Assistant Counsel

Enc.

Cc: ALJ Eleanor Stein
ALJ Rudy Stegemoeller
EPS listserve

CASE 07-M-0548

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

CASE 07-M-0548 – Proceeding on Motion of the Commission Regarding An Energy Efficiency Portfolio Standard.

MARCH 2008 DPS STAFF REPORT ON RECOMMENDATIONS FOR THE EEPS PROCEEDING

EEPS STAFF TEAM

Dated: March 25, 2008
Albany, New York

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EXECUTIVE SUMMARY

As part of the Energy Efficiency Portfolio Standard (EEPS) proceeding, the Administrative Law Judges (ALJs) asked Department of Public Service Staff (Staff) to identify end user energy efficiency programs that can be implemented quickly. In response to this charge, Staff researched best practice programs from around the world and identified a portfolio of programs that meet the following criteria:

- Provide programs that are effective and useful to customers, easy for them to understand, and encourage their participation
- Build on existing successful programs and fill existing gaps
- Meet specific market segment needs
- Provide sufficient funding to expand current successful programs that are oversubscribed
- Include programs for all customer classes and for electric and gas customers
- Contain a significant role for a variety of market players
- Build the needed infrastructure for expanded program delivery in a systematic and logical way
- Develop an overall framework of programs that, taken together, form a logical and comprehensive world class energy efficiency approach

Staff examined the costs, energy savings, and ramp up rates of best practice programs with real world success and scaled these to New York State levels to come up with projected benefit/cost ratios (shown at the end of the Executive Summary – an explanation of the methodology used appears as Attachment 2). The rate impacts are shown as Attachment 3.

The programs presented in this document represent Staff's latest thinking on a portfolio of programs that meet these criteria. These programs have been updated from what we presented on December 3, 2007 to reflect recent legislation, input from other parties, and recent information about program performance. The major changes from the December 3 filing include: 1) adding back the Home Performance with ENERGY STAR® program, with modifications to program parameters to make it more cost effective and 2) providing additional funding for

market development, general marketing, and utility marketing of NYSERDA administered fast track programs.

Approach

It is important to note that there is a fundamental difference in the approach to portfolio development and resource allocation that Staff proposes and the method used in the ALJ's Straw Proposal. The Straw Proposal first broadly allocates resources and load reduction responsibility to program administrators for an extended period of time and then allows the administrators independently to develop plans to acquire the assigned level of efficiency resources. In their description of the Straw Proposal, the ALJs acknowledge that this would create overlap, which we believe would be inefficient.

Staff's fast track program portfolio, in contrast, is based on a market-centric approach that identifies the best practice program for developing energy savings within key market segments. Rather than using the "top down" approach taken in the Straw Proposal, Staff's method builds up from a based of existing, effective NYSERDA program. This approach of building a portfolio from programs to address the needs of market segments has been used to develop highly successful energy efficiency programs (e.g. those used by California, Connecticut, Massachusetts, New York, and Vermont).

Staff's fast track portfolio builds from and complements New York's current energy efficiency programs while avoiding duplication of effort. It also paves the way for an increased role for utilities in the planning and delivery of energy efficiency programs. The reality is that NYSERDA has a tremendous institutional understanding of how to successfully leverage resources through alliances with trade allies, manufacturers, educational institutions, and third party service providers. The utilities, for their part, have unique information and access to customers that could greatly enhance the marketing of existing and new programs. The emphasis in long term planning should be placed on how to

leverage the strengths of both groups to provide maximum effectiveness without duplicating efforts or creating confusion in the marketplace.

Staff firmly believes that our approach to program cost and energy savings estimates is the most appropriate basis for establishing initial resource allocations and initial energy savings targets. Since the March 5th Technical Conference, Staff and its consultant have had several discussions with NYSERDA about recent program performance, program costs and energy savings estimates.

Fast Track Concept

In previous documents, we have characterized programs that can be implemented quickly as "fast track" programs. Page 3 of the ALJs' March 20, 2008 "Ruling on Staff Motion for Reconsideration and Revising Schedule" (Ruling) refers to the fast track programs as "bridging" programs. The terms "bridging" or "interim" are appropriate because the programs identified in this document are tested programs, with proven track records that can be put in place quickly and form a solid basis for reaching the aggressive energy saving goals of the EEPS proceeding.[1] In fact, if the portfolio of programs that Staff has identified were extended through 2015, the projected energy savings levels would be sufficient to meet the necessary contribution to the 15 by 15 target of entities under the Commission's jurisdiction (i.e., utilities and NYSERDA) (see Attachment 1). However, we fully expect that market players will come up with even better ideas that will obtain more energy savings with higher benefit/cost ratios than the programs we have identified. Staff encourages interested parties to work collaboratively to develop strategies to ensure smooth operation of the long term implementation effort. There are many issues that need to be discussed further and we believe that these meetings should begin as soon as possible.

[1] We will use the terms "interim" and "bridging" throughout this document because they convey the concept of programs that can be superseded by even better programs in the future.

Role of Utilities

Staff believes that utilities can and should play a major role in an expanded energy efficiency delivery system. However, the utilities need to demonstrate that they are able to manage programs effectively and coordinate their efforts within a statewide structure. Thus far, with the exception of Central Hudson, the utilities have not provided detailed information about the types of programs they propose to implement or expected costs, energy savings, and benefit/cost ratios associated with specific programs. That type of information will be critical to an expanded role for utilities in energy efficiency delivery.

Staff believes that it is important for the State's utilities to begin to gain experience in the planning and implementation of energy efficiency programs. The most efficient way to proceed is to allow them to implement the programs that Staff has identified. The Small Business Direct Installation program has achieved significant success in California, Connecticut, and Massachusetts. National Grid has run a successful program of this type and will be an invaluable resource in establishing comparable programs in New York State. Staff also recommends introduction of a rebate program, known as Residential ENERGY STAR® HVAC and Efficient Gas Equipment. Central Hudson has prepared plans for an electric rebate program and LIPA currently has an effective program which electric utilities could use as a template. With regard to gas utilities, KeySpan and National Fuel Gas (NFG) have developed equipment replacement programs that could be emulated by other gas utilities. In this filing Staff is not making any recommendations about the funding by gas utilities of energy efficiency measures in the commercial and industrial market segments. We are waiting for the results of the updated gas energy efficiency potential study before making recommendations of this kind.

Interviews that Staff held with public utility commission staff and others in states that have the most successful energy efficiency programs consistently showed that the keys to success are:

- Programs that have a common look and feel throughout the state
- Programs that identify the needs of specific customer segments and design approach that address those needs
- Approaches that build the necessary infrastructure for program delivery, including training of professionals in energy efficiency delivery, a system for working with manufacturers and retailers offering energy efficiency solutions, and a system that encourages participation by third party providers
- Programs that are easy for customers to understand and that enable well-functioning enrollment and service fulfillment processes
- A portfolio of programs that includes whole building approaches, that obtain deep energy savings, as well as programs that allow customer participation in a more targeted way (e.g. encouraging purchases of ENERGY STAR® appliances and equipment when faced with a replacement or new purchase situation)
- Programs that meet cost effectiveness criteria and have favorable benefit/cost ratios

Utilities should be encouraged to develop programs that meet these criteria and that can be successfully integrated with existing programs. As soon as programs of this type are developed, with input from interested parties, they should be assessed in an open and transparent process to determine how best to assimilate them into the statewide portfolio, presented to the Commission, and implemented.

Implementation

At a Technical Conference held on March 5, 2008, some parties expressed concern about a jarring change in policies between the interim period and a longer term period. Transcript Record (Tr.) 258. This is not what Staff envisions. Instead, we see programs being implemented as soon as a compelling case has been made that they will fit into the overall portfolio framework and will enhance the statewide effort to achieve the EEPS goals. In order to be approved for implementation, programs must be clearly defined with identified goals that will

help New York State achieve the overall EEPS energy savings targets.[2] New programs should be compared with the fast track proposals and be able to demonstrate that they possess clear advantages. To bring some order to consideration of program proposals, we support the creation of a body to examine how proposals fit into the overall context of the EEPS framework using a structure along the lines of the entity described by Assemblyman Hevesi at the March 5, 2008 Technical Conference.

Program Administration

The entity administering any given EEPS program should be determined based on what is most sensible for that energy efficiency application and consumer sector. Criteria that should be considered when determining who is best equipped to administer a given energy efficiency program include:

- Access to the most appropriate economic resources
- Experience in this marketplace
- Effective relationship with the target customer base and with the service provider trade allies that influence customers' decision making process
- Entity likely to engender the broadest level of participation
- Ability to ramp up quickly and manage programs to achieve specific market outcomes cost effectively

Emphasis should be placed on ensuring seamless and complementary interactions between stakeholders in the marketing and delivery of services. No matter who takes the lead in program administration, coordination and sharing of information, using consistent reporting protocols, will be critical.

See Attachment 4 for Staff's recommended program budgets and energy saving targets by utility.

Next Steps

As Staff explained in its motion of February 21, 2008, entitled "Motion of the Department of Public Service Staff For Expedited Action On Its Request For

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[2] An area where we see a major role for utilities is provision of on-bill financing, identified in the Straw Proposal as TIP. Staff recommends that collaborative efforts on how best to implement programs of this type begin right away.

Reconsideration of the Schedule and to Bifurcate the Proceeding Into Two Phases," we believe that collaborative efforts should continue. There are a number of issues that need to be resolved to promote an effective long term effort. Staff recommends that the following collaborative efforts be implemented as soon as possible:

- On-bill financing
- Portfolio design for 2010 and beyond
- Demand response role in EEPS
- T&D improvements role in EEPS
- Long-term measurement and analysis framework
- Utility incentives framework
- Integrated and coordinated marketing
- Assessment of how best to assist in achievement of energy savings through use of Codes and Standards
- Measurement and Analysis protocols
- R&D initiatives

The energy saving targets set forth by the Commission in its Initiating Order are extremely ambitious. It is imperative that New York State begin work toward achieving these goals as soon as possible. Lessons learned from other states shows that ramping up in a logical, systematic way is critical. The focus needs to be on providing programs that customers want to participate in and giving them an appropriate call to action so that they will become involved in this important undertaking. This will include changes in daily behavior, making appropriate purchasing decisions, encouraging whole building audits, and taking advantage of the efficiency opportunities available in new construction. With such a large effort, there are opportunities for a wide variety of entities to play a part. Now is the time to begin implementing proven program approaches and building the structures that will make achievement of the Commission's energy efficiency targets a reality.

Statewide Program Budgets: 3/25/08 Proposed Update
CASE 07-M-0548
(No participant costs; millions, nominal dollars)

Electric	2008	2009
NYSERDA		
Residential		
New construction expansion	$ 3.33	$ 9.10
CFL expansion	$ 3.49	$ 4.90
CFL fixture expansion	$ 4.00	$ 6.47
Low-income - expand EmPowerNY	$ 5.21	$ 10.64
Multifamily	$ 25.48	$ 26.02
Home Performance with Energy Star expansion	$ 7.05	$ 15.32
	$ 48.57	*$ 72.46*
Commercial and industrial		
New construction expansion	$ 8.24	$ 21.10
Flex Tech expansion	$ 1.91	$ 3.91
Flex Tech industrial process	$ 13.40	$ 27.36
Existing commercial	$ 25.87	$ 63.39
	$ 49.43	*$ 115.77*
Standards and Codes Support	*$ 2.55*	*$ 2.61*
NYSERDA Program Budgets	*$ 100.55*	*$ 190.84*
PLUS		
Workforce Development	$ 2.76	$ 5.88
Market Development	$ 2.10	$ 6.70
NYSERDA Program Budgets with Development Costs	*$ 105.41*	*$ 203.42*
NYSERDA 2% General Fund Adder	$ 2.11	$ 4.07
NYSERDA Budgets	**$ 107.52**	**$ 207.49**
Investor-Owned Utilities		
Energy Star HVAC	$ 3.63	$ 6.73
Small C&I	$ 19.66	$ 40.14
Utility Marketing Costs	$ 3.73	$ 7.46
Investor-Owned Utilities Budgets	**$ 27.02**	**$ 54.33**
General Marketing of Both NYSERDA and IOU Programs	$ 3.00	$ 6.00
Electric Grand Total	***$ 137.54***	***$ 267.82***
Gas Programs		
Gas equipment	$ 5.91	$ 12.07
Low-income - expand WAP	$ 14.01	$ 28.62
Gas Grand Total	***$ 19.92***	***$ 40.69***
Fast Track Grand Total	**$ 157.46**	**$ 308.50**

NOTES: Several phase-ins of costs are disregarded. This table shows the full budgets as spent and encumbered. For Existing Commercial, these statewide budgets reflect a 20% adder on the load-based Con Edison portion. Funding levels are representative and subject to change based on policy considerations.

Statewide Fast Track Programs TRC Benefit/Cost Ratios

Millions 2007 Present Value Dollars

	Energy $ Savings		Total Resource Costs	Net PV	Benefit/ Cost
	Electric	Gas*			
Electric Programs					
NYSERDA					
Residential					
New construction expansion	$7.9	$23.9	$18.8	$13.0	1.7
CFL expansion	$217.6	$ -	$27.6	$190.0	7.9
CFL fixture expansion	$55.6	$ -	$31.5	$24.1	1.8
Low-income - expand EmPowerNY	$15.3	$6.7	$14.0	$8.0	1.6
Multifamily	$30.0	$74.0	$78.4	$25.6	1.3
Home Performance with Energy Star expansion	$9.8	$34.1	$39.6	$4.3	1.1
Subtotal	$336.2	$138.7	$210.0	$264.9	2.3
Commercial and industrial					
New construction expansion	$89.9	$7.3	$46.6	$50.6	2.1
Flex Tech expansion	$90.2	$29.2	$49.6	$69.8	2.4
Flex Tech industrial process	$299.9	$26.8	$93.7	$233.1	3.5
Existing Commercial**	$498.8	$0.4	$169.4	$329.8	2.9
Subtotal	$978.8	$63.7	$359.3	$683.2	2.9
Standards & Codes	$9,623.2	$1,205.8	$3,039.6	$7,789.4	**3.6**
(for spending and increments thru 2015)					
Totals for NYSERDA	**$10,938.2**	**$1,408.1**	**$3,608.9**	**$8,737.4**	**3.4**
Investor-Owned Utilities					
Energy Star HVAC	$52.2	$ -	$14.4	$37.8	3.6
Small C&I	$189.1	$ -	$71.0	$118.2	2.7
Totals for Investor-Owned Utilities	**$241.3**	**$ -**	**$85.3**	**$156.0**	**2.8**
Electric GRAND TOTALS	**$11,179.5**	**$1,408.1**	**$3,694.2**	**$8,893.4**	**3.4**
Gas Programs					
Gas equipment	$ -	$120.4	$35.3	$85.2	3.4
Low-income - expand WAP	$9.4	$31.2	$37.7	$3.0	1.1
Gas GRAND TOTALS	**$9.4**	**$151.7**	**$72.9**	**$88.2**	**2.2**
Fast Track Grand Totals	**$11,188.9**	**$1,559.8**	**$3,767.1**	**$8,981.6**	**3.4**

* For the electric programs, the gas savings are incidental to electric-savings measures.

** For Existing Commercial, the TR cost incorporates an extra 20% for NYC, applying only to the budget.

BACKGROUND

In its Preliminary Report, Staff identified 16 "fast track" programs with proven records of achieving energy usage reductions that could either be expanded or introduced quickly to begin obtaining enhanced results in mid-2008, while a longer-term energy efficiency planning process was established. Guided by parties' comments and additional research, Staff offered a 10-program subset of the originally-identified fast track programs in its "Revised Proposal for Energy Efficiency Design and Delivery and Reply Comments" that it filed on November 26, 2007.

A week later, on December 3, 2007, Staff submitted a supplemental filing that included a benefit/cost analysis of the proposed bridging programs and an explanation that due to a reevaluation of the real discount rate, we no longer recommended the Home Performance with Energy Star program. Several parties at the March 5, 2008 Technical Conference urged Staff to revisit the cost effectiveness of the Home Performance program with the view of restoring it to the suite of recommended interim programs.[3] Staff, its consultant, and NYSERDA carefully reviewed program data and program design. Based on that work, Staff has concluded that it should once again recommend the Home Performance program.

This report on recommendations is filed pursuant to the ALJs' March 20, 2008 Ruling. Staff sought expedited consideration of its February 20, 2008 "Motion of the Department of Public Service Staff for Expedited Action on Its Request for Reconsideration of the Schedule and to Bifurcate the Proceeding Into Two Phases." As part of that motion, Staff asked for an opportunity to revisit the program proposals it had introduced into the case via its previous filings. In their ruling, the ALJs granted Staff's motion in part and directed Staff to file the revised information by March 25, 2008. The ALJs also stated: "If Staff recommends the adoption of new programs, including those administered by utilities, it should also

[3] See. for example, Tr. 286-290.

recommend a schedule for stakeholder consultation, for utility filing of proposed programs, and for approval by the Commission." Finally, as regards Staff, the ruling declared:

> If Staff recommends early Commission approval of the use of SBC [System Benefits Charge] funds to augment the Division of Housing and Community Renewal [DHCR] programs, it should include its responses to the legal and policy issues raised in this proceeding concerning such use of SBC funds. Among other things, these include the identification or creation of a mechanism to implement its proposal, and to ensure that SBC funds can be channeled exclusively for energy efficiency programs as part of the EEPS.

In addition, the ALJs directed the parties to file two sets of briefs, one on April 8, 2008 and the second on April 16, 2009, addressing: (1) Staff's and other fast track proposals; (2) the policy rationale for including utility administration of energy efficiency programs; (3) "whether the program cost and bill impact figures presented in the Technical Appendix to the Straw Proposal represent a reasonable estimate of the overall cost of those elements of the 15 x 15 initiative to be achieved through utility ratepayer-funded and on-bill financing"; and (4) whether energy efficiency targets and funding should be allocated in advance among NYSERDA and each utility as did the Straw Proposal.

This document reflects Staff's current thinking on program design, program costs, and benefit/cost analysis for a suite of easily implemented bridge programs that we believe will best meet the following objectives:

- Represent successful, best practices programs that can be implemented quickly
- Produce substantial energy savings
- Cover a range of customer classes
- Meet the objectives of the Initiating Order in the EEPS proceeding
- Include both electricity and natural gas usage
- Include roles for a variety of market participants
- Represent a cost-effective mix of programs

The recommendations presented here reflect changes due to new legislation, input from parties in the case, and additional information about the state of the marketplace. It is also responsive to the ALJs' ruling regarding filing of utility programs and the ability of DHCR to ensure that EEPS funding is channeled exclusively to EEPS programs.

We have attempted to provide a complete description of the program attributes, but details about program structure and implementation roll-out will require further elaboration by those administering the programs. Staff strongly recommends that if the Public Service Commission (Commission) approves some or all of the programs described here, information about program initiations or expansions should be readily available to interested parties with opportunities to offer comments.

Staff also urges the utilities to submit implementation plans as compliance filings within 60 days of the issuance of a Commission order on the bridging programs for the two programs (Residential ENERGY STAR® HVAC and Efficient Gas Equipment, and small commercial/industrial direct installation) we have identified as the best programs for quick implementation by utilities. Staff acknowledges that Central Hudson, in particular, has worked on initial program designs that it believes it and other utilities could implement quickly. Staff met with Central Hudson recently to discuss its proposal but has not been able to complete an analysis of the benefit/cost presentation. We intend to continue this dialogue and report on our recommendations during the briefing period.

In pursuing an interim or fast track bridging approach Staff has been cognizant of the need to retain flexibility and ensure that decision making for the long-term energy efficiency planning process will not be hampered because of actions taken to implement the fast track programs. The long-term energy efficiency planning process will need to periodically examine the EEPS program portfolio and take stock of its performance looking at energy savings broadly,

including evaluating the success and reach of existing programs and exploring possibilities for totally new program and administrative approaches.

ISSUES PERTINENT TO BRIDGE PROGRAMS

1. Compliance Filings

Staff recommends that the Commission require submission of implementation plans as compliance filings, within 30 days of the issuance of the order regarding interim programs, for the Residential ENERGY STAR® HVAC and Efficient Gas Equipment and small commercial/industrial direct installation programs. The filing should address projected savings and costs (broken into administrative costs, marketing expenses, support services, incentives to customers, and other costs). If the utility expects significant differences from the Staff proposed fast track estimates for program budget and/or energy savings, these deviations should be explained and justified. This should include an updated benefit/cost analysis using Staff's avoided cost assumptions and the Total Resource Cost methodology. The compliance filings should also include tariff filings that provide for collection of an EEPS surcharge.

To help ensure consistency, Staff recommends that a lead utility be designated to convene a collaborative meeting of all relevant utilities, interested parties, NYSERDA, and Staff to discuss the parameters of each program and to ensure that marketing and outreach present a common look and feel to customers throughout New York State. Given their expertise and interest, we recommend that the small commercial/industrial program be convened by National Grid and that the Residential ENERGY STAR® HVAC and Efficient Gas Equipment program be convened jointly by KeySpan and Con Edison, with KeySpan taking the lead on gas issues and Con Edison taking the lead on electric issues.

Expansions of existing NYSERDA programs identified in this document should also be the subject of collaborative meetings among all interested parties.[4] This will allow an opportunity for input from interested parties to ensure that the revisions have the benefit of a wide range of constituents' best thinking. NYSERDA should update its current Operating Plan information to reflect increased funding and enhanced goals. Progress in achieving the goals and information on expenditures should be reported to the Department of Public Service on an annual basis.

The process of holding these collaboratives and preparing a compliance report should take about 60 days. We recommend a 30 day period for collaborative discussions followed by 30 days to prepare a compliance filing describing how each program will be implemented.

2. DHCR Protection of SBC Funds

Concern has been expressed that any SBC funds transmitted to DHCR would end up in the state general fund and become subject to appropriation by legislature. Tr. 298. DHCR has assured Staff that it can ensure that SBC funds are used exclusively for WAP and would not go into the general fund. See Attachment 6. DHCR is proposing to channel the SBC funds to its closely allied New York State Housing Trust Fund Corporation (HTFC), which is a public benefit corporation established under Section 45-a of the Private Housing Finance Law (PHFL) and is chaired by DHCR's Commissioner. Articles XVI-A and XVII of the PHFL specifically grant to HTFC the authority to fund weatherization activities of low-income housing units throughout the state. In the past, DHCR has used the HTFC to administer various state and federal low-income housing programs such as the Access to Home, New York Main Street, and Community Development Block Grant programs. DHCR further explains that as a public

[4] It is not necessary to have a separate meeting for each program expansion. For example, one meeting might cover changes to all residential programs.

benefit corporation, HTFC is not subject to the same constraints imposed upon state agencies by the Division of Budget or the Office of State Comptroller nor are its funds subject to being redirected to the state's general fund. The HTFC, moreover, would enter into a Memorandum of Understanding (MOU) with each utility, modeled on NYSERDA's utility MOUs, which would, among other things, restrict the use of such monies.

Another item of concern has been the possibility that money collected from gas ratepayers could be used to fund improvements in other heating systems (e.g., oil, wood, or propane). Staff believes that the enhanced funding for WAP paid for through the new gas energy efficiency collection mechanism should be allocated only to housing heated by natural gas. Other funding sources can be used for non-gas heating opportunities.

3. Cost Allocation and Recovery

In its comments, Multiple Intervenors presented a detailed analysis of cost allocation issues. It asserted that EEPS surcharges should not be imposed on billing for customers that have reduced energy costs due to NYPA low-cost power allocations and flex-rate contracts. Multiple Intervenors stated that EEPS costs must be recovered in a manner that promotes interregional, inter-class, and intra-class equity. These and related issues deserve more attention, but in order to get the bridge programs up and running quickly, Staff recommends continuing existing customer exemptions from SBC payments. Furthermore, we recommend that funds collected from a particular class should be used to fund programs for that class.

The model described in the ALJs' Straw proposal (page 18) explains how this might work:

> Cost allocation will be performed using the SBC model, updated with the most recently available utility operating revenues. Interclass equity will be achieved through program distribution and design, not cost

> allocation; programs will be targeted toward classes so as to match the sources of program funds. Intra-class equity issues will be addressed in the same manner, and program administrators will demonstrate that customers of different sizes have an opportunity to participate that is reasonably related to the proportion of the program funds. Programs utilizing on-bill financing must not rely unduly on one customer class for customer participation.

Staff further recommends that costs among utilities be allocated based on energy usage (kwh).[5]

Staff recommends that a new EEPS surcharge be instituted at applicable gas and electric utilities. The surcharge amount will be based on the budgets developed as part of this proceeding for each utility service territory and spread over the expected commodity sales for the year. On electric bills, this charge should be a combined line item with the System Benefits Charge and the Renewable Portfolio Standards charge. There should be an annual true-up to ensure that any unspent funds are returned to ratepayers.[6]

For the Residential ENERGY STAR® HVAC and Efficient Gas Equipment program, which is expected to be offered by utilities that do not currently have equipment rebate programs, Staff has initially allocated the cost to residential gas ratepayers for whom the program is targeted. However, it is possible that some smaller commercial and industrial customers may take advantage of the program. If a gas utility finds this to be the case, then it should allocate that portion of program costs for recovery from commercial customers. This adjustment can be done as part of the reconciliation process for these program costs.

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[5] Staff recognizes that programs in the New York City area are likely to have higher costs. We have reflected this in our cost estimate calculations.

[6] To the extent such funds are available it may be possible to use customer benefit funds to pay for a portion of efficiency program costs. This is an issue that should be examined for the longer term.

In the Preliminary Proposal, Staff recommended exempting customers of gas utilities that take interruptible sales service and/or interruptible transportation service from mandatory participation in energy efficiency programs, since many of these customers are dual-fueled (natural gas and oil). Staff continues to support that recommendation for the fast track programs.

Staff recommends that SBC-exempt customers (both gas and electric) that would like to participate in the fast track programs should be allowed (and encouraged) to do so provided that the customer agrees to contribute to energy efficiency funding (SBC plus incremental EEPS charges) through 2015.

We further recommend that allocations of EEPS gas funding across utilities be based on throughput levels (measured in therms or ccf). Allocation levels should be reviewed as part of the long-term energy efficiency planning process to see if it should be refined based on experience with the new gas energy efficiency programs.

Since there are currently four gas local distribution companies (LDCs) in the State that have natural gas efficiency programs in place, with attendant cost recovery mechanisms, Staff recommends that this situation be considered when allocating costs and collecting them from ratepayers through a new EEPS natural gas efficiency surcharge. If the proportional amount to be allocated to a LDC based on its share of total statewide residential throughput is less than what the LDC is already collecting (for example, National Fuel Gas (NFG), KeySpan – New York (KEDNY) and KeySpan Long Island (KEDLI) already have efficient gas appliance programs in place similar to that being advocated by Staff in the fast track portfolio), then the dollar amount currently being spent by the LDC should be subtracted from its allocation, and only the increment represented by the difference would be collected through the new EEPS efficiency surcharge. The existing surcharge mechanism would continue to collect the already approved amount for that program. If the utility's current program expenditures exceed what its proportional share of the statewide fast track program would be, the

higher amount should prevail. In the case of NFG, whose program was only approved for one year, the EEPS allocation should take the place of the existing surcharge when it expires.

Using the same approach for electric customers, the actual incremental EEPS related rate impacts for Con Edison of New York customers will be minimal over the next year as a result of the Commission's recent rate decision in case 07-E-0523. In the rate case the Commission took steps to create a financial reserve for EEPS programs amounting to approximately $80 million for the period April 1, 2008 to March 31, 2009.

LDCs that are currently developing efficiency programs as the result of Commission Order in rate cases should make every effort to ensure that such programs comport with the fast track suite of programs and associated program budgets.

4. Evaluation and Reporting

Evaluation and reporting will be integral components of the interim program portfolio by providing accountability to ratepayers and regulators, tracking progress toward the EEPS goals, evaluating individual program performance, and documenting "lessons learned" to help improve future generations of programs. From a planning perspective, reliable forecasts and validation of achieved energy impacts are critical for estimating future electricity generation, transmission, and distribution requirements.

Evaluation and reporting protocols went through a detailed review by Working Group 3 as part of the EEPS Proceeding. Key objectives of this review include establishing consistent evaluation terms and protocols, defining benefit/cost test policy, and establishing a statewide evaluation task force to help guide the evaluation process and coordinate statewide studies. Evaluation results need to be presented in such a way that the results and underlying premises are transparent to all interested parties.

Staff recommends that for expanded NYSERDA programs, existing mechanisms for program evaluation should be used, with the exception that expenditures of up to 5% of funding for the program can be used for measurement and analysis (current levels are 2% of funding). It should be noted that in instances where programs are being implemented in utility service territories that employ lost revenue recovery methodologies, a higher level of precision than is currently employed may be necessary (Staff recommends a reliability rate of 90%).

As identified by Working Group 3, a key principle of program evaluation is that the group performing the evaluation should not be the group installing the energy efficiency measure to allow for internal control. Consequently, for utility programs, Staff recommends that Department of Public Service staff should have oversight of measurement and analysis contractors, at least in the short term.

Staff also recommends further exploration of issues addressed by Working Group 3. These include establishment of an Evaluation and Reporting Task Force (ERFT), a collaborative formed to develop evaluation and reporting protocols. We recognize that ERTF will have responsibilities that require a significant investment of time and technical resources. To aid in this process, administrators of fast track programs will be required to contribute a small percentage of their program budget (probably less than one percent) to the ERTF. These funds will be made available to the ERTF to hire consultants to assist in assessing the technical merit of the plans and evaluations.

5. Low Income and Environmental Justice

Approximately one in seven New York households have incomes that are below federal poverty guidelines. Poverty rates in upstate cities are approximately 30%, much higher than the state overall. Staff's recommended 2008 fast track budget allocates 12.2% of funding to EmPower New York and WAP, which are complementary low income programs; the comparable figure for 2009 is 12.7%.

Aside from the Commission's directive to ensure that low income New Yorkers receive a consideration in program design, there are other good reasons to propose a relatively large share to programs that assist impoverished New Yorkers even though the benefit/cost methodology used by Staff shows a less favorable ratio than many other programs.[7] The costs for energy account for a much higher percentage of the annual incomes of impoverished New Yorkers than the percent of incomes of better off New Yorkers. A 2002 NYSERDA report[8] estimated that the "energy burden" or the percent of a household's cost for energy as a portion of gross income, ranges between 7% and 29% for low income customers compared to 3% for moderate to high income households. As of this writing, world oil prices are more than $100 per barrel and the energy burden of all New Yorkers has increased since the 2002 Report. The pressure that all New York families are feeling due to increased costs for necessities such as energy, but also including food, shelter, and health care, are greatest among low income families. Further, as Staff noted in its August 28, 2007 proposal, opportunities for cost-effective energy efficiency and weatherization improvements are common in the buildings in which the estimated 2.2 million low-income families that are eligible for the programs live, but they are less able than others to afford cost-effective investments to reduce their energy costs. In addition, it is common to have 18 month waiting lists to receive weatherization program assistance. The additional funding we proposed for programs to serve low-income customers should help to reduce the waiting lists and unmet demand for these programs.

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[7] Both EmPower NY and WAP use the same income eligibility criteria as those used for New York's Home Energy Assistance Program (HEAP), which is administered by the NY Office of Temporary and Disability Assistance and provides grants to defray the home energy costs of participants. Assistance is provided to households with incomes at or below the state median household income, adjusted for family size. A four-person household with gross annual income up to $43,308 is eligible during the 2007-2008 program year.

[8] New York Energy $mart Low-Income Energy Affordability Program, Evaluation and Status Report (July 1998 Through June 2002).

Regarding environmental justice, it is noted that New York City's dirtiest power plants, which burn oil and tend to be located in poorer neighborhoods and operate just about 100 hours a year during the summer's hottest periods, account for a significant portion of the City's greenhouse gas emissions because they release three to five times more pollution than gas-fueled base units. Staff met with representatives of environmental justice communities in New York City at a Regional Customer Roundtable in this proceeding. Those representatives emphasized the need to eliminate use of these dirty plants. From this perspective, flattening the City's load shape would be a highly desirable achievement. It may be possible to target energy efficiency and demand reduction efforts that can realize that objective. Also, it may be possible to focus programs to those communities most affected by the adverse environmental effects of electricity and natural gas production, delivery, and use. To do so, however, study is needed to identify the most appropriate strategies and approaches, which would require more time than is available if the fast track programs are to be implemented quickly. The Commission directed that environmental justice be considered in the development of the EEPS program. Staff recommends that this issue be fully investigated in the longer-term EEPS program planning process.

6. Marketing, Outreach, and Education for Customers

The implementation of fast track programs offers the opportunity to increase New York State customers' awareness of energy efficiency opportunities available to them as well as to inform the public about the EEPS target goals and how their actions can contribute to achieving these goals. Rather than wait until the long-term energy efficiency program implementation phase to increase outreach to customers, Staff recommends that the process begin as soon as possible after approval of a portfolio of fast track programs. We believe that DPS, NYSERDA, NYPA, LIPA, DHCR, DASNY, New York City and other municipalities, third party energy efficiency providers, ESCOs, and utilities will

all be major participants in communicating about energy efficiency initiatives. To be effective, these outreach efforts should have a consistent message and a common look and feel. A consistent statewide theme can provide the umbrella framework for all energy efficiency marketing efforts. This will allow customers to identify with a "brand" associated with New York energy efficiency efforts, thus leveraging the value of the marketing messages they receive, while also allowing the groups doing the marketing to include their logo as part of the marketing message.

We recommend initiating a collaborative planning effort among the groups listed above and other interested parties to determine how to organize and implement this effort within 30 days after a Commission decision on fast track proposals is reached. The parties should determine the budget needed for such a campaign and prepare a plan for how and when the money will be spent. Staff's initial determination is that annual levels of additional funding should be about $3 million for NYSERDA and $3 million for Department of Public Service efforts needed to implement a comprehensive outreach, education, and marketing campaign during 2008 and 2009. This number, however, needs to be refined as part of development of an outreach plan.

An educational component aimed at school age children should be part of this effort. The major outreach effort is expected to be a statewide multi-media campaign focused on residential and small business customers. In addition, some NYSERDA programs have been oversubscribed in the past and marketing has been limited since the supply of funds has been unable to meet demand. The parties should look at whether enhanced marketing is appropriate for programs that will be receiving additional funding as a result of the fast track process.

Discussions among the outreach and education collaborative should include developing campaign messages to be sent, deciding on effective media vehicles, determining the timing and coordination of the outreach campaign, and deciding

on funding for this effort. Funding levels and coordination of efforts to avoid customer confusion will be key considerations.

To more fully and effectively engage the investor owned utilities in the implementation of energy efficiency programs Staff recommends that additional financial resources be made available to the utilities for energy efficiency program monitoring. The resources should be primarily used to recruit customers within their respective service territories into the NYSERDA administered fast track commercial and industrial energy efficiency programs to meet EEPS program goals. The increased resources should be used to provide for increased staffing of customer service personnel and account representatives to directly market the NYSERDA energy efficiency programs and to enroll customers. The utilities should delineate in EEPS compliance filings how they plan to budget the allocated marketing funds and what measurable enrollment levels they would expect to obtain on an annual basis.

7. Workforce Development

An important element for the success of the overall EEPS effort will be the availability of a workforce of trained energy efficiency practitioners adequate to serve all parts of the state. This will take a number of forms, including the need for increased employment in many specialties, including:

- energy audits and analysis of cost-effective efficiency measures for buildings
- building codes enforcement
- installation of energy efficiency measures
- efficiency measurement and analysis
- installation of renewable energy resources that will allow building owners to use less electricity from the grid
- energy efficiency information for school children
- energy efficient design and engineering
- energy efficient building construction and maintenance practices
- careers in energy sustainability fields (e.g., establishment of college majors in energy efficiency/sustainability).

This large undertaking will require lead time to develop curriculum, arrange for training, develop capabilities within colleges to deliver training programs, and arrange for staffing to offer training. To meet these ambitious goals, planning for building the training capability needs to start now. Staff recommends that collaborative discussions among partners in this effort (e.g., Staff, NYSERDA, community colleges and universities, trade associations, etc.) should begin within 30 days of a Commission decision on the fast track programs.

8. Demand Response

Some parties mentioned the importance of demand response programs as part of the EEPS effort. Staff agrees and believes that the efforts of Working Group 4 in this regard should be continued.

The role of demand response in the overall EEPS resource portfolio needs to be informed by additional collaborative discussion and analysis. Staff recommends that at a minimum a requirement should be placed on the EEPS portfolio that as a result of the implementation of energy efficiency programs there should be no net reduction system in load factor in any utility's service territory. If there is net system load factor degradation, it could produce inefficiencies in the production and delivery of electricity that could increase operational costs for ratepayers. Therefore, if net system load appears to be declining then the affected utility should develop and file a plan to bring the net system load factor back into compliance using demand response resources.

9. Enhanced Energy Codes and Standards

In the Preliminary Proposal, Staff included tables which showed the potential savings available from upgrades to building codes and enhanced appliance standards. In addition, we believe that significant savings can be achieved through strict enforcement of existing and future building code requirements. Based on further analysis and the latest information available, we

have updated our projections on the savings that can be obtained through improvements in building codes and appliance standards.

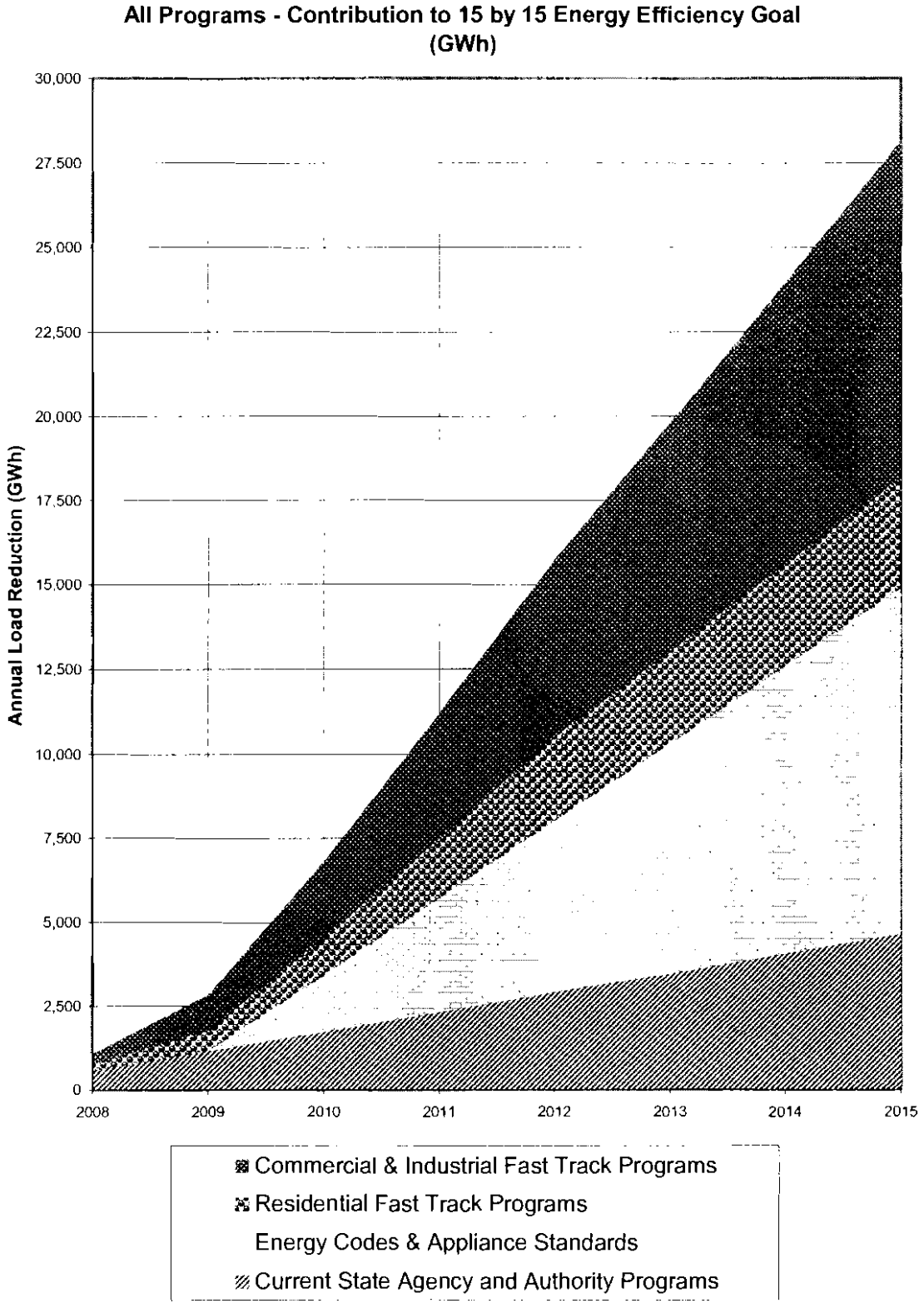
Potential impacts from building codes and appliance standards are so significant, and the lead times needed to effect and implement revised requirements are so long, that we recommend that work in this area should begin immediately and should not wait for completion of a long-term planning process review. In our Preliminary Report we recommended an annual budget for these activities of $2.5 million to be split between NYSERDA and the Department of State. We affirm that recommendation here. These funds should be used to help develop new state equipment efficiency standards, work on implementation of the new state Energy Code that is likely to be approved in 2008, and begin laying the groundwork for an aggressive round of new code enhancements to be adopted in 2010 and take effect in 2011. We believe that Staff, working with NYSERDA, the Department of State, and other interested parties, should develop strategies for gaining the maximum contributions from codes and standards that can be obtained between now and the end of 2015.

CONCLUSION

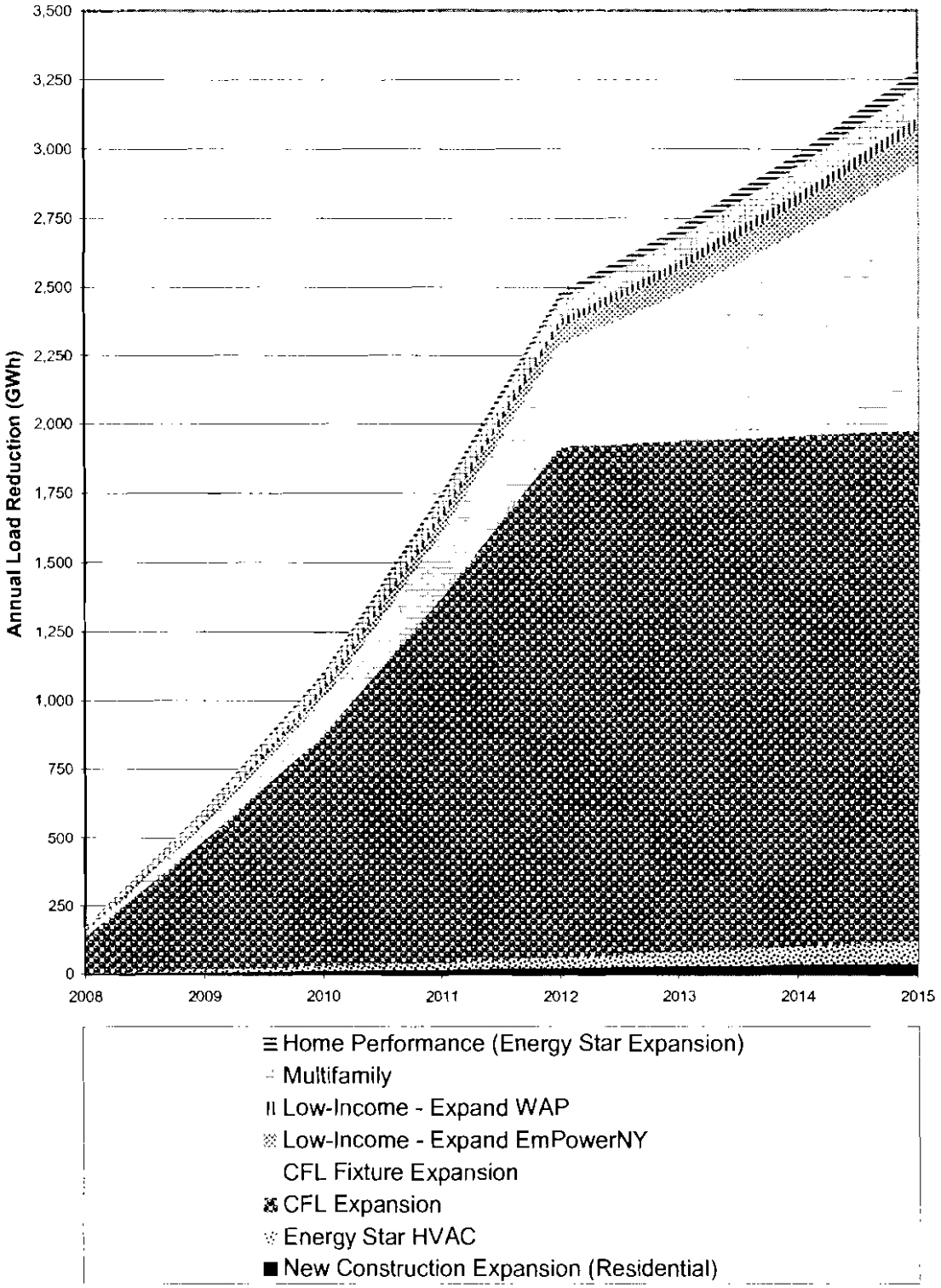
For the reasons discussed above, as explained further in the attachments, Staff urges the ALJs to recommend to the Commission implementation of Staff's proposed interim bridge programs, at suggested funding levels, as well as the other proposed initiatives so that a meaningful part of the EEPS goals can be achieved in the next two years.

Attachment 1

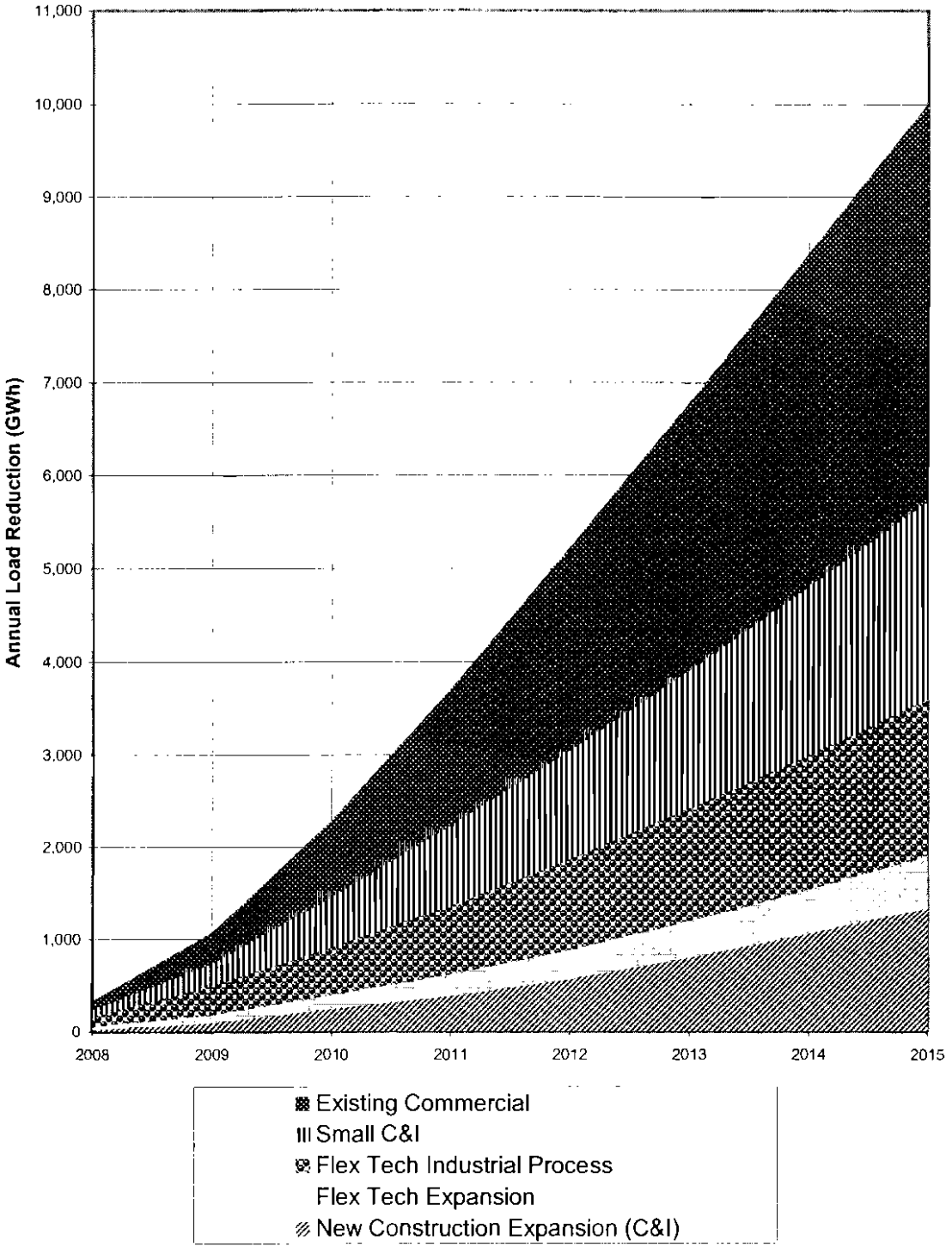
Extended Fast Track Program Impacts


All Programs - Contribution to 15 by 15 Energy Efficiency Goal
(GWh)
Annual Load Reduction (GWh)
30,000
27,500
25,000
22,500
20,000
17,500
15,000
12,500
10,000
7,500
5,000
2,500
0
2008
2009
2010
2011
2012
2013
2014
2015
Commercial & Industrial Fast Track Programs
Residential Fast Track Programs
Energy Codes & Appliance Standards
Current State Agency and Authority Programs

Residential Fast Track Programs - Contribution to 15 by 15 Energy Efficiency Goal (GWh)



C&I Fast Track Programs - Contribution to 15 by 15 Energy Efficiency Goal (GWh)



Attachment 2

Benefit/Cost Analysis: Key Assumptions and Methodology

In accordance with Commission guidance, the analysis follows the usual model for the Total Resources Cost test with 1.0 as the passing ratio. The avoided costs due to the lifetime savings of the measures installed, in 2007 present value dollars, are divided by the present value of the budget and participant costs.

For all the programs, there are only 2008 and 2009 costs (standards and codes is modeled as continuing through 2015). The program costs do not include funds for utility performance incentives. The costs shown in this document for 2008 and 2009 are incremental to SBC approved funding.

As in the 12/3/07 Supplemental Staff filing, the discount rate used for present valuing is 5.5% real, applicable to avoided costs and program costs expressed in 2007$. This rate reflects the utilities' marginal cost of capital, excluding taxes. The primary rationale is that the energy efficiency resources are considered to be viable options to supply side alternatives.

In all contexts, inflation of 1.021% is assumed for 2006 through 2030.

The Home Performance with Energy Star expansion program, dropped for the 12/3/07 filing, has been restored owing to improved cost effectiveness.

Avoided Costs

For electric energy avoided costs, actual 2006 location-based marginal prices (LBMPs) were escalated through 2015 using the price trajectory from a recent MAPS dispatch simulation analysis. Weighted average LBMPs for all of 2007 are not yet available, and 2006 was closer to the "Normal" in Cooling Degree Days.

Since natural gas is usually the marginal source of fuel for generation of electricity in New York, Staff assumed growth in electric energy costs from 2016 to 2030 proportional to a long-term trend in the prices of natural gas. For commodity prices, recent EIA wellhead projections were used (Preliminary 2008 projections). The delivery component was kept flat in constant 2007 dollars, with different levels used for electric generators and for retail customers (for therm savings from gas measures).

Staff assumes that avoided bulk transmission capacity costs were captured in the congestion charges contained in the LBMPs, obviating any need to include a further avoided transmission cost component in the analysis.[9]

Staff defined "distribution" as sub-transmission, primary distribution, and secondary distribution for this analysis. Staff has assumed avoidable costs for distribution of $55/kW/year upstate and $110/kW/year downstate, in 2007 dollars, for all years.

Distribution-only line losses of 7.2% are applied to both electric energy and capacity.

For electric generation capacity, Staff used the results of 2007 NYISO capacity auctions, escalated to 2015 as per the demand curve approved by FERC in January 2008. For after 2015, Staff kept the 2015 cost of entry of pure capacity (gas turbine peakers) flat in constant 2007 dollars.

Avoided costs were developed on a load-weighted statewide average basis. For all the Fast Track programs, the average excludes non-SBC Long Island. For appliance standards and building codes, LI is included in the average avoided costs applied. (Similarly, statewide programs don't include LI in the potential market, whereas the S&C analysis does.)

Program Costs and Savings

Program costs and savings have been somewhat adjusted since the 12/307 filing by Staff's ACEEE consultant in close collaboration (and substantial agreement) with NYSERDA staff. The program costs include 15% adders for administration and evaluation, including 5% for the recommended enhanced M&V.

Regional Differentiation

All Benefit/Cost testing is done at the statewide level (with or without LI), without an attempt to model separately potentials, penetrations, program costs, and avoided costs at regional or utility levels.

For tables showing costs and savings by utility, the statewide values were in the first instance allocated according to the utilities' percentages of the statewide residential and Commercial& Industrial sales/consumption.

These load-weighted breakdowns were then modified for several programs. The Con Edison shares of residential and C&I construction were increased by a factor of 1.3, representing the greater concentration of construction downstate (the upstate utilities being allocated the reduced residual, keeping the statewide totals constant). For residential central air conditioning, the Con Edison share was multiplied by 1.8.

[9] These congestion charges equilibrate demand and supply of transmission capacity in real time, but tend to fall short of the cost of expanding the bulk transmission system. This places a lower value on energy efficiency measures than would the full long-run avoidable cost of bulk transmission capacity.

For the Multifamily program, Con Edison was allocated 83.8% of the statewide potential. This reflects program experience to date and coincides nicely with Census data showing that 81% of the eligible housing is located in New York City.

For Existing Commercial, the Con Edison load-weighted allocation of budgets was increased by 20% to reflect higher costs. The reported statewide total budgets for this program reflect this Con Edison addition.

Attachment 3

Electric Rate Impact Methodology

Base prices for all adjustments are actual bundled prices from EIA 2006 reports. The Department's "Typical Bill" for July 2006 was used as a basis to allocate the bundled price into delivery and commodity prices. The commodity price was further separated into residential and non-residential rates.

Escalation of Electricity Costs

The delivery price was escalated by an estimated 2.1% per year. The commodity price was increased for electric avoided cost estimates for 2006-2015. The energy portion of the commodity bill is assumed to be 90% of the upstate commodity cost and 80% of the downstate commodity cost in 2006.

Capacity prices reflect a ramp-up from historical levels to full cost of entry for NYC and the "rest of State" region. The costs of entry are based on a January 2008 FERC ruling that showed a significant increase in the assumed cost of entry.

Sales Forecasts

For each company, there are two sales forecasts (split between residential and non-residential). The first assumes that there will be no energy efficiency programs other than SBC III and some minor company-run DSM programs. This forecast was based on the Electric Energy Loads and Savings, as reported by the Utilities in Case 07-M-0548. The second forecast assumes that the EEPS Fast Track programs will be implemented. The kWh savings were allocated between utilities based on their projected sales if EEPS were not in effect.

Projected Program Costs

The EEPS costs were allocated between utilities based on the same allocation method used to apportion the kWh savings. To determine a price per kWh the expected program costs were divided by an amount of non-SBC exempted kWh expected with the EEPS program in effect.

Prices were adjusted for the lost delivery revenue associated with EEPS kWh savings, which the utilities will recover through Revenue Decoupling Mechanisms. The total reduction in kWh is multiplied by the volumetric delivery charge. The volumetric delivery charge is calculated using "Typical Bill" data, including customer service charges and total delivery charges. This "lost revenue" is collected from the post-EEPS forecast of non-SBC exempt kWh.

The service charge and total delivery charge for non-residential customers is assumed to be a straight average of the nine different customers assumed in the Typical Bills data. The effect of program non-participants and savings based on decreasing peak demand has not been quantified.

Gas Bill Impact Methodology

The gas methodology is general and broad. Gas residential program costs and British Thermal Units (BTU) savings were reported by regions (upstate and downstate). The upstate region is Central Hudson, NFG, National Grid, NYSEG, O&R, and RG&E and the downstate region is Con Edison, KeySpan Long Island, and KeySpan New York. Regional costs and BTU savings were allocated to individual utilities according to 2006 residential revenues for the region. Allocated BTUs were converted to Decatherms (Dts) and each utility's share was multiplied by the average cost of gas purchased by the utility in 2006 increased by an annual 2.1% inflation for the appropriate year. The bill impact is the ratio of net costs and gas cost savings, to residential revenues.

Impact of EEPS On Utility Rates

	Central Hudson			
	Residential		Non-Residential	
	2008	2009	2008	2009
Projected Delivery Price Without EEPS	5 85	5 97	3 10	3 16
Projected Commodity Price Without EEPS	7 68	8 02	7 61	7 94
Projected Avg Price without EEPS	13 53	13 99	10 71	11 11
Impacts of Environmental Programs (Cents per kWh)				
Projected EEPS Cost	0 13	0 20	0 10	0 22
Projected Lost Delivery Revenue Cost	0 02	0 04	0 01	0 03
Projected Delivery Price with EEPS	6 00	6 22	3 21	3.41
Projected Commodity Price with EEPS	7 68	8 02	7 61	7.94
Projected Avg Price with EEPS	13 68	14 23	10 82	11.35
Total Rate Increase Due to EEPS	1 1%	1.7%	1 0%	2 2%
Increase in Delivery Rate Due to EEPS	2 5%	4 0%	3.5%	7 9%
Percent Change in Gas Bill due to Gas EEPS programsl	0.4%	2 7%	0 0%	0 0%

	Consolidated Edison			
	Residential		Non-Residential	
	2008	2009	2008	2009
Projected Delivery Price Without EEPS	7 06	7 21	6 28	6.41
Projected Commodity Price Without EEPS	15.31	16.06	13.36	14.02
Projected Avg. Price without EEPS	22 37	23 27	19 63	20 42
Impacts of Environmental Programs (Cents per kWh)				
Projected EEPS Cost	0.13	0 20	0 10	0 22
Projected Lost Delivery Revenue Cost:	0 02	0.05	0 03	0.06
Projected Delivery Price with EEPS	7 21	7 46	6 40	6 69
Projected Commodity Price with EEPS	15.31	16.06	13 36	14.02
Projected Avg Price with EEPS	22 52	23 53	19 76	20 71
Total Rate Increase Due to EEPS	0 7%	1 1%	0.6%	1.4%
Increase in Delivery Rate Due to EEPS	2 2%	3 5%	2 0%	4 4%
Percent Change in Gas Bill due to Gas EEPS programsl	0 2%	1 0%	0 0%	0 0%

	National Grid - Niagara Mohawk			
	Residential		Non-Residential	
	2008	2009	2008	2009
Projected Delivery Price Without EEPS	8.06	8 23	5.80	5 92
Projected Commodity Price Without EEPS	7 62	7 94	9.28	9.68
Projected Avg. Price without EEPS	15 68	16.17	15.08	15 60
Impacts of Environmental Programs (Cents per kWh)				
Projected EEPS Cost.	0 13	0.20	0.14	0 31
Projected Lost Delivery Revenue Cost.	0 02	0 06	0 04	0 08
Projected Delivery Price with EEPS	8 22	8.50	5.97	6.31
Projected Commodity Price with EEPS	7 62	7 94	9.28	9 68
Projected Avg Price with EEPS	15 84	16 44	15 26	15 99
Total Rate Increase Due to EEPS	1 0%	1 6%	1 2%	2 5%
Increase in Delivery Rate Due to EEPS	1 9%	3 2%	3 0%	6 7%

Impact of EEPS On Utility Rates

NYSEG

	Residential		Non-Residential	
	2008	2009	2008	2009
Projected Delivery Price Without EEPS	7 21	7 36	4.79	4 89
Projected Commodity Price Without EEPS	7 24	7 56	8 10	8.46
Projected Avg Price without EEPS	14 45	14 92	12 89	13.35
Impacts of Environmental Programs (Cents per kWh)				
Projected EEPS Cost	0 13	0 20	0 10	0 24
Projected Lost Delivery Revenue Cost.	0 02	0 06	0 02	0 05
Projected Delivery Price with EEPS	7 37	7 63	4.92	5 18
Projected Commodity Price with EEPS	7 24	7 56	8 10	8.46
Projected Avg Price with EEPS	14 61	15 18	13 02	13.63
Total Rate Increase Due to EEPS	1 1%	1 7%	1 0%	2 1%
Increase in Delivery Rate Due to EEPS	2 1%	3 5%	2 6%	5.9%
Percent Change in Gas Bill due to Gas EEPS programs!	0 5%	1 1%	0.0%	0.0%

O&R

	Residential		Non-Residential	
	2008	2009	2008	2009
Projected Delivery Price Without EEPS	7 32	7.47	4 21	4 30
Projected Commodity Price Without EEPS	8 92	9 31	8 56	8 94
Projected Avg Price without EEPS	16 24	16 78	12.78	13.24
Impacts of Environmental Programs (Cents per kWh)				
Projected EEPS Cost	0 13	0 20	0.10	0 22
Projected Lost Delivery Revenue Cost.	0 03	0 06	0 02	0 04
Projected Delivery Price with EEPS	7 47	7 74	4 33	4 56
Projected Commodity Price with EEPS	8 92	9.31	8 56	8.94
Projected Avg Price with EEPS	16 39	17.05	12 89	13 50
Total Rate Increase Due to EEPS	1 0%	1 6%	0 9%	2 0%
Increase in Delivery Rate Due to EEPS	2 1%	3 6%	2 7%	6.1%
Percent Change in Gas Bill due to Gas EEPS programs!	0 3%	0 5%	0 0%	0.0%

RG&E

	Residential		Non-Residential	
	2008	2009	2008	2009
Projected Delivery Price Without EEPS	7 27	7 42	6 24	6 38
Projected Commodity Price Without EEPS	4 88	5 05	5 42	5 61
Projected Avg Price without EEPS	12 15	12 47	11 66	11.98
Impacts of Environmental Programs (Cents per kWh)				
Projected EEPS Cost	0 13	0 20	0 10	0 22
Projected Lost Delivery Revenue Cost	0 01	0 03	0 03	0 06
Projected Delivery Price with EEPS	7 41	7 65	6 37	6 66
Projected Commodity Price with EEPS	4 88	5 05	5 42	5 61
Projected Avg Price with EEPS	12 29	12 70	11 78	12 26
Total Rate Increase Due to EEPS	1 2%	1 9%	1 1%	2 4%

Impact of EEPS On Utility Rates

	NFG			
	Residential		Non-Residential	
Percent Change in Gas Bill due to Gas EEPS programsl	0.4%	0.4%	0.0%	0.0%

	KeySpan LI			
	Residential		Non-Residential	
Percent Change in Gas Bill due to Gas EEPS programsl	0.2%	0.5%	0.0%	0.0%

	KeySpan NY			
	Residential		Non-Residential	
Percent Change in Gas Bill due to Gas EEPS programsl	0.2%	0.1%	0.0%	0.0%

Attachment 4

Information By Utility

Central Hudson

Electric Program Budget	Program Budgets (No Participant Costs): Nominal Millions $ * 2008	2009	GWh Savings 2008	2009	2015 Cum	Peak Reduction from 2008/2009 Installed Measures 2008	2009	2015 Cum
Residential								
New construction expansion	$ 0 2	$ 0.4	0 1	0 2	0 2	0 0	0 0	0 1
CFL expansion	0 2	0.3	6.8	18 3	18 3	0.4	1 1	1 1
CFL fixture expansion	0.2	0.4	0 8	2 1	2 9	0 1	0 1	0.2
Low-income - expand EmPowerNY	0.3	0.6	0.3	0 6	0 9	0 0	0 1	0.1
Multifamily	0.4	0.4	0.2	0 2	0 4	0.0	0.0	0 0
Home Performance with Energy Star expansion	0.4	0.9	0.1	0 3	0 4	0.0	0 0	0.1
Subtotal	$ 1.7	$ 3.0	8.3	21 7	23 2	0.5	1 4	1 6
Commercial and industrial								
New construction expansion	0.3	0.9	1.0	2.5	3.5	0.2	0.6	0.8
Flex Tech expansion	0.1	0.2	1.4	2 8	4.2	0.3	0.5	0.8
Flex Tech industrial process	0 9	1.9	6.7	13.3	20.0	1.0	2.0	3.0
Existing Commercial	1.2	3.0	4.8	11.5	16.3	2.2	5.2	7.3
Subtotal	$ 2.6	$ 6.0	13 8	30 2	44 0	3.6	8.3	11.9
Subtotal	$ 4.3	$ 9.1	22.1	51 8	67 1	4.2	9.7	13.5
Standards & Codes	0.1	0.1			529.6			111.5
Resdential			-	-	345.8			72.2
C&I			-	-	183.8			39.3
NYSERDA Subtotal	$ 4.4	$ 9.2	22.1	51.8	596.8	4.2	9.7	124.9
Investor-Owned Utilities Electric Budget								
Energy Star HVAC	0.1	0.2	0.1	0.2	0.2	0.2	0.4	0.1
Small C&I	1 0	2.0	3.9	7 8	11 6	0.5	1.0	0.5
Utility Marketing	0.2	0 3	-	-	-	-	-	-
Total 1OU Electric Programs	$ 1.2	$ 2.5	3.9	7.9	11.9	0.7	1.3	0.5
Total Electric Programs	$ 5.6	$ 11.8	26.0	59.8	608 7	4.8	11.0	125.5

** Includes allocation of NYSERDA Administrative Programs and Fees*

Utility Run Gas Program Budget	Program Costs (Million $)		Dt Savings 2008	2009
Residentail	0.4	2.1	10,961	21,923
Non-Residentail	-	-	-	-

Consolidated Edison

Electric Program Budget	Program Budgets (No Participant Costs)· Nominal Millions $ * 2008	2009	GWh Savings 2008	2009	2015 cum	Peak Reduction from 2008/2009 Installed Measures 2008	2009	2015 cum
Residential								
New construction expansion	$ 1 9	$ 5 4	0 7	2 1	2.8	0 18	0.5	0.7
CFL expansion (7 yr life)	1 6	2.2	53.0	141 4	141.4	3.1	8.4	8.4
CFL fixture expansion	1 8	2.9	6.1	16 4	22.5	0.4	1 1	1.5
Low-income - expand EmPowerNY	2 3	4.8	2 4	4.8	7.2	0 3	0.6	1.0
Multifamily (83.8% ConEd)	23 3	24 2	11.8	11.8	23.7	1.1	1.1	2.3
Home Performance with Energy Star expansion	3 1	6.9	1.0	2 1	3.2	0.2	0.3	0.5
Subtotal	29.4	48.9	78.9	186 5	212 3	11.3	24.3	32.5
Commercial and industrial								
New construction expansion (without phase-in) (Nadel adj)	4.9	12.6	14.6	36 6	51 2	3 3	8.3	11.6
Flex Tech expansion (without phase-in)	0.9	1.8	12.3	24 6	37 0	2 3	4 5	6.8
Flex Tech industrial process (Nadel adjustment)	3.0	6.3	21.8	43 6	65.4	3 3	6 5	9.8
Existing Commercial (Budget includes NYC 20% extra)	13.0	32.4	42.5	101.9	144.4	19.1	45.9	65 0
Subtotal	28 7	64.7	123.8	271 9	395.7	32.1	73.4	105.5
Totals for FT programs	58.1	113.6	202.7	458 4	608.0	43.4	97.7	138.0
Standards & Codes	1.1	1.2			4,196 5			891 1
Resdential			-	-	2,710 4			582.7
C&I			-	-	1,486 0			308.4
NYSERDA Subtolal	$ 59.2	$ 114.8	202 7	458 4	4,804.5	43.4	97.7	1,029.1
Con Edison Run Electric Budget								
Energy Star HVAC (Nadel adjustment)	2.7	5.1	2.7	5.4	8.1	5.8	11.9	17.8
Small C&I	8.3	17.1	32.6	65.2	97.8	4 1	8.2	12.3
Utility Marketing	1.8	3.5	-	-	-	-	-	-
Total Con Edison Run Electric Programs	12.9	25.7	35.2	70.6	105.9	9.9	20.1	30.0
Total Electric Programs - Con Edison	$ 72.1	$ 140.5	237.91	528.99	4,910 36	53.31	117.81	1,059.10

* *Includes allocation of NYSERDA Administrative Programs and Fees*

Utility Run Gas Program Budget	Program Costs (Million $)		Dt Savings 2008	2009
Residentail	2.4	9 8	190,994	297,165
Non-Residentail	-	-	45,248	9,259

NYSEG

Electric Program Budget	Program Budgets (No Participant Costs) Nominal Millions $ * 2008	2009	GWh Savings 2008	2009	2015 Cum	Peak Reduction from 2008/2009 Installed Measures 2008	2009	2015 Cum
Residential								
New construction expansion	$ 0.4	$ 1.2	0.2	0.5	0.7	0.0	0.1	0 2
CFL expansion	0 6	0.8	20.2	53.9	53.9	1.2	3.2	3.2
CFL fixture expansion	0 7	1 1	2 3	6 3	8 6	0 2	0 4	0 6
Low-income - expand EmPowerNY	0 9	1 8	0.9	1.8	2.8	0.1	0 2	0 4
Multifamily	1 2	1.2	0.6	0.6	1.2	0.1	0.1	0.1
Home Performance with Energy Star expansion	1.2	2 6	0.4	0.8	1.2	0.1	0 1	0.2
Subtotal	$ 5.0	$ 8 9	24 6	63 9	68.3	1 6	4 1	4 6
Commercial and industrial								
New construction expansion	$ 0 9	$ 2 3	2 6	6.6	9.2	0.6	1 5	2.1
Flex Tech expansion	0 3	0 5	3.6	7.3	10.9	0.7	1 3	2 0
Flex Tech industrial process	2.4	5.1	17.5	34.9	52.4	2.6	5.2	7 9
Existing Commercial	3 2	8.0	12.6	30.2	42.7	5.7	13.6	19.2
Subtotal	$ 6 8	$ 15.8	36.3	79.0	115.3	9.5	21.7	31.2
Subtotal	$ 11 7	$ 24 8	60.9	142 9	183.6	11 2	25 8	35 8
Standards & Codes	0.4	0.4			1,391.4			292.9
Resdential			-	-	908.4			189 6
C&I			-	-	483.0			103 3
NYSERDA Subtotal	$ 12 1	$ 25 2	60.9	142.9	1,574.9	11.2	25.8	328 7
Investor-Owned Utilities Electric Budget								
Energy Star HVAC	$ 0.2	$ 0.4	0.2	0.5	0.7	0.5	1.0	0 5
Small C&I	2 8	5.7	10.8	21.7	32.6	1.4	2.7	3 7
Utility Marketing	0.5	1 0	-	-	-	-	-	-
Total IOU Electric Programs	$ 3.5	$ 7.1	11.1	22.2	33.3	1.9	3 7	4 2
Total Electric Programs	$ 15.6	$ 32.3	71.9	165.1	1,608 2	13.0	29 5	332.9

* *Includes allocation of NYSERDA Administrative Programs and Fees*

Utility Run Gas Program Budget	Program Costs (Million $)		Dt Savings 2008	2009
Residentail	1.9	4.5	55,470	110,941
Non-Residentail	-	-	2	-

National Grid - Niagara Mohawk

Electric Program Budget	Program Budgets (No Participant Costs). Nominal Millions $ * 2008	2009	GWh Savings 2008	2009	2015 Cum	Peak Reduction from 2008/2009 Installed Measures 2008	2009	2015 Cum
Residential								
New construction expansion	$ 0.8	$ 2.2	0 3	0.9	1.2	0.1	0.2	0 3
CFL expansion	1.1	1.5	36.1	96.3	96 3	2.1	5.7	5 7
CFL fixture expansion	1 2	2 0	4.1	11 2	15.3	0.3	0.8	1 0
Low-income - expand EmPowerNY	1 6	3 3	1.6	3.3	4.9	0.2	0.4	0 7
Multifamily	2.1	2.2	1.1	1.1	2.1	0 1	0 1	0.2
Home Performance with Energy Star expansion	2.1	4.7	0.7	1 5	2.2	0 1	0 2	0.3
Subtotal	$ 8.9	$ 15 9	44.0	114 1	122.0	2.9	7.4	8 2
Commercial and industrial								
New construction expansion	$ 2.3	$ 5.9	6.8	17 0	23.8	1 5	3 9	5.4
Flex Tech expansion	$ 0.7	$ 1 4	9.4	18.9	28.4	1 7	3.5	5 2
Flex Tech industrial process	$ 6.3	$ 13 1	45.3	90.7	135.9	6.8	13.6	20 4
Existing Commercial	$ 8 3	$ 20.7	32.6	78.3	110.8	14 7	35.2	49.9
Subtotal	$ 17.5	$ 41 1	94.1	204.9	298.9	24.7	56.2	80.9
Subtotal	$ 26.4	$ 57.0	138 1	319.0	420 9	27 6	63.6	89 1
Standards & Codes	0.8	0.9			3,068.9			646.1
Residential			-	-	2,003.6			418.2
C&I			-	-	1,065.3			227.9
NYSERDA Subtotal	$ 27.3	$ 57.9	138.1	319.0	3,489.8	27 6	63.6	735.1
Investor-Owned Utilities Electric Budget								
Energy Star HVAC	$ 0.5	$ 0.9	0.5	1.0	1.5	1.1	2 2	2.3
Small C&I	$ 6.0	$ 12.2	23.3	46.6	69.9	2 9	5.8	17 1
Utility Marketing	$ 1 0	$ 2 1	-	-	-	-	-	-
Total IOU Electric Programs	$ 7 5	$ 15.2	23.8	47.6	71.3	4 0	8.0	19.4
Total Electric Programs	$ 34.8	$ 73.1	161.8	366.6	3,561.1	31.6	71 6	754.6

* *Includes allocation of NYSERDA Administrative Programs and Fees*

Utility Run Gas Program Budget	Program Costs (Million $)		Dt Savings 2008	2009
Residentail	3 6	9.2	106,148	212,296
Non-Residentail	-	-	-	-

O&R

Electric Program Budget	Program Budgets (No Participant Costs) Nominal Millions $ * 2008	2009	GWh Savings 2008	2009	2015 Cum	Peak Reduction from 2008/2009 Installed Measures 2008	2009	2015 Cum
Residential								
New construction expansion	$ 0.1	$ 0 3	0 0	0.1	0.2	0.0	0 0	0.0
CFL expansion	0 2	0 2	5.3	14 1	14 1	0.3	0.8	0.8
CFL fixture expansion	0 2	0.3	0.6	1 6	2.2	0.0	0.1	0 2
Low-income - expand EmPowerNY	0.2	0.5	0.2	0.5	0.7	0.0	0.1	0.1
Multifamily	0.3	0.3	0.2	0.2	0.3	0.0	0.0	0.0
Home Performance with Energy Star expansion	0.3	0 7	0.1	0.2	0.3	0.0	0.0	0.0
Subtotal	$ 1 3	$ 2.3	6.5	16 7	17.9	0 4	1 1	1.2
Commercial and industrial								
New construction expansion	$ 0.2	$ 0.6	0.7	1.8	2.5	0.2	0 4	0.6
Flex Tech expansion	$ 0 1	$ 0.1	1.0	2.0	3.0	0.2	0.4	0 6
Flex Tech industrial process	$ 0 7	$ 1 4	4.9	9.6	14.4	0.7	1 4	2.2
Existing Commercial	$ 0.9	$ 2.2	3.5	8.3	11.8	1.6	3 7	5.3
Subtotal	$ 1.9	$ 4.3	10.1	21.7	31.8	2 7	5 9	8.6
Subtotal	$ 3 2	$ 6.7	16.6	38.4	49.6	3 1	7 0	9 8
Standards & Codes	0.1	0.1			401.6			84.5
Resdential			-	-	262 2			54.7
C&I			-	-	139.4			29.8
NYSERDA Subtotal	$ 3 3	$ 6.8	16.6	38.4	451.2	3 1	7.0	94 3
Investor-Owned Utilities Electric Budget								
Energy Star HVAC	$ 0.1	$ 0.1	0.1	0.1	0.2	0.1	0.3	0.0
Small C&I	$ 0.8	$ 1.5	2.9	5.8	8.7	0.4	0 7	0.3
Utility Marketing	$ 0.1	$ 0.3	-	-	-	-	-	-
Total IOU Electric Programs	$ 0.9	$ 1.9	3.0	5.9	8 9	0.5	1.0	0.3
Total Electric Programs	$ 4.2	$ 8.7	19.6	44.3	460.1	3.6	8.0	94.6

* *Includes allocation of NYSERDA Administrative Programs and Fees*

Utility Run Gas Program Budget	Program Costs (Million $)		Dt Savings 2008	2009
Residential	0.7	1.3	19,826	39,652
Non-Residential	-	-	-	-

RG&E

Electric Program Budget	Program Budgets (No Participant Costs): Nominal Millions $ * 2008	2009	GWh Savings 2008	2009	2015 Cum	Peak Reduction from 2008/2009 Installed Measures 2008	2009	2015 Cum
Residential								
New construction expansion	$ 0.2	$ 0 5	0 1	0.2	0 3	0 0	0.0	0 1
CFL expansion	0.2	0.4	8.5	22 6	22 6	0 5	1.3	1 3
CFL fixture expansion	0 3	0.5	1.0	2 6	3.6	0 1	0 2	0.2
Low-income - expand EmPowerNY	0.4	0.8	0.4	0.8	1 2	0.1	0.1	0 2
Multifamily	0 5	0 5	0.3	0.3	0 5	0.0	0.0	0 0
Home Performance with Energy Star expansion	0.5	1 1	0.2	0.3	0 5	0.0	0 0	0 1
Subtotal	$ 2.1	$ 3 7	10.3	26.8	28 7	0.7	1 7	1 9
Commercial and industrial								
New construction expansion	$ 0.4	$ 1 2	1.3	3 4	4 7	0.3	0.8	1 1
Flex Tech expansion	$ 0.1	$ 0.3	1.9	3.7	5.6	0 3	0.7	1.0
Flex Tech industnal process	$ 1.2	$ 2.6	9.0	17.9	26.8	1 3	2.7	4.0
Existing Commercial	$ 1.6	$ 4.1	6.4	15.4	21 9	2 9	6.9	9.8
Subtotal	$ 3.5	$ 8.1	18.6	40.4	59.0	4 9	11.1	16 0
Subtotal	$ 5.6	$ 11.9	28.9	67 3	87 7	5.6	12.8	17.9
Standards & Codes	0.2	0.2			636.1			133.9
Resdential			-	-	415.3			86.7
C&I			-	-	220 8			47 2
NYSERDA Subtotal	$ 5.7	$ 12.0	28.9	67.3	723.8	5.6	12.8	151 8
Investor-Owned Utilities Electric Budget								
Energy Star HVAC	$ 0.1	$ 0.2	0.1	0.2	0 3	0 2	0.5	0.1
Small C&I	$ 1.3	$ 2.6	5 0	10.0	15 0	0.6	1 3	0.8
Utility Marketing	$ 0.2	$ 0.4	-	-	-	-	-	-
Total IOU Electric Programs	$ 1.6	$ 3.3	5 1	10.2	15.3	0.9	1.7	0.9
Total Electric Programs	$ 7.4	$ 15.3	34.1	77 5	739 1	6.4	14.5	152.7

* *Includes allocation of NYSERDA Administrative Programs and Fees*

Utility Run Gas Program Budget	Program Costs (Million $)		Dt Savings 2008	2009
Residentail	1.8	2.8	52,206	104,413
Non-Residentail	-	-	-	-

National Fuel Gas

Utility Run Gas Program Budget	Program Costs (Million $)		Dt Savings 2008	2009
Residentail	3.5	4 3	101,858	203,715
Non-Residentail	-	-	-	-

KeySpan LI

Utility Run Gas Program Budget	Program Costs (Million $)		Dt Savings 2008	2009
Residentail	1.9	4.1	55,466	110,909
Non-Residentail	-	-	-	-

KeySpan NY

Utility Run Gas Program Budget	Program Costs (Million $)		Dt Savings 2008	2009
Residentail	3 8	2.7	111,856	223,665
Non-Residentail	-	-	-	-

Attachment 5

Fast Track Program Descriptions

Energy Efficiency Programs that Can Be Implemented Quickly

Achieving the goals of the Energy Efficiency Portfolio Standards (EEPS) proceeding will require major increases in the energy savings obtained from energy efficiency programs. Based on discussions with numerous parties from within New York and other states, Staff has identified programs with a proven track record for energy efficiency savings that can be implemented quickly and cost effectively. These programs, which we characterize as fast track programs, are categorized by customer class and fuel type. Many are expansions of efforts already in place. A few are programs that can be initiated quickly or are needed to address underserved markets. Staff recommends that these fast track programs be put in place as quickly as possible in 2008 to give a rapid boost to energy efficiency savings and awareness while a longer term, more comprehensive portfolio planning process is undertaken to thoughtfully and collaboratively design a longer term energy efficiency program portfolio. The fast track programs can also provide a space of time to more accurately gauge the contribution to achieving the EEPS goals that can be made by enhancing building codes and appliance standards and by employing alternative financing and procurement options.

The program areas identified here are not intended to be all-inclusive. Staff expects that programs in addition to those listed here will be part of the overall EEPS portfolio. Staff has not analyzed the potential for increased deployment of energy efficiency programs by the Long Island power Authority (LIPA), the New York Power Authority (NYPA) or other entities which are not under the Commission's jurisdiction.

Staff expects that there will be extensive coordination between LIPA, NYPA, and the Commission's jurisdictional entities to ensure consistent implementation of programs across the State to the maximum extent possible.

A preliminary benefit cost analysis has been performed on all of the proposed fast track programs and they all pass the Total Resource Cost Test. Details regarding Staff's analysis are included in the Executive Summary.

Achievement of more aggressive energy efficiency goals will require greater engagement of the utilities, NYSERDA, and other interested parties in the implementation process. Implementation of the proposed programs will also necessitate some adjustments to the current SBC portfolio in both scope and scale.

A. Residential Energy Efficiency Programs

On any given day, when residential customers watch the news on television or read the newspaper, they are likely to encounter information about energy prices, global warming, or "green technologies." This information is constantly in the media, which makes the present an opportune time to get customers to focus on energy saving opportunities. Below is a listing of programs with the potential to produce significant energy efficiency savings.

1. New Building Construction – Single and One to Four Unit Multi-family Housing (electric and gas)

Current Practice in New York: NYSERDA currently manages two programs that deal with new construction for residential housing. These programs, with estimated cumulative five year energy savings for the period 2006-2011 shown in parentheses, are: New York ENERGY STAR® Labeled Homes (6.5 GWh), and Multi-family New Construction (9 GWh), the latter is a program that has recently been launched. LIPA also operates a Residential New Construction program that provides incentives for achieving the Energy Star performance level.

New York ENERGY STAR® LABELED HOMES is an enhanced version of the U.S. Environmental Protection Agency's (US EPA) ENERGY STAR® Labeled Homes program that provides technical assistance and financial incentives to one-to-four-family home builders and Home Energy Rating System (HERS) raters. The program encourages the adoption of energy-efficient design features and the selection and installation of high efficiency equipment in new construction and substantial renovation projects. Participating homes use approximately 30% less energy than conventionally-built homes.

Real World Experience: According to the U.S. EPA, participation rates in ENERGY STAR® New Homes programs are as high as about 60% of new homes in some states (e.g., 64% in Alaska and 57% in Iowa). Program administrators in New Jersey and Vermont estimate participation rates of about 25% and 43%, respectively. These programs are reducing energy usage by at least 15% relative to prevailing local building codes. An analysis of the costs and savings associated with these programs indicates an average total resource cost for the Vermont and New Jersey programs of about $6 per million Btu of primary energy savings (e.g., gas at the furnace or at the power plant). Since residential gas rates in New York averaged about $25 per million Btu in the first half of 2007 (and electric rates are even higher), these programs are highly cost effective.

Description of Fast Track Program: It is desirable to influence construction at the early stages of building planning and design, including decisions about the building envelope, as well as HVAC efficiency, sizing, and ducting to ensure that easily obtained energy efficiency opportunities are not overlooked. Efficient homes can be promoted on the basis of energy cost savings as well as the improved market value of the resulting structure. The purpose of this effort is to increase the market penetration of existing programs and boost per housing unit energy savings. The incentive structure of the existing NYSERDA program should be reviewed to ensure that it can achieve results comparable to those of the best practice programs of this type.

A short-term program goal is to capture savings in homes being built now by using practices that will later become mandatory with the revision of the state building code for energy efficiency in the future. A medium term goal is to support continuous upgrades and revision of the building code to approximate the level of current ENERGY STAR® New Home Standards, a building code level that has already been adopted by several Long Island towns. Features of the program will include:

- Incentives for builders to complete houses that meet ENERGY STAR® standards
- Cooperative marketing of ENERGY STAR® homes with certified ENERGY STAR® builders
- Establish training and certificate programs for building designers and builders in cooperation with architects' and builders' associations
- Strategic partnerships with trade associations to help foster market transformation of the new home construction industry
- Use of independent third-party verification by a certified Home Energy Rating System (HERS) rater to ensure that the program complies with program guidelines
- Technical and financial incentives to HERS raters

- Continued focus on new multifamily buildings (two to four families)

Staff encourages the Long Island Power Authority (LIPA) to likewise increase its support for new construction initiatives in collaboration with NYSERDA.

Enhancements to Current Practice:

- Expanding marketing to builders about the benefit to builders about the benefits of the program for builders and information on how to participate
- Expanding marketing to home buyers, including co-marketing with participating builders
- Doing more to promote efficient appliances, lighting, and advanced energy systems (such as solar and geothermal heat pumps) as a means to increase energy savings and customer value
- Evaluating whether the program incentives for customers should be increased or whether other program attributes need to be adjusted to capture increased market share
- Exploring new methods to encourage use of energy efficient construction practices such as mortgage interest write-downs, accelerated permitting, or reductions in utility connection or local government fees
- Developing and promoting advanced building strategies with substantially greater energy savings than normal construction. For example, these efforts could target 50% energy savings relative to average base case construction practices and take advantage of corresponding federal tax incentives
- Developing and implementing a strategy to transition from a voluntary ENERGY STAR® program to the adoption of new building codes set at current ENERGY STAR® levels
- Providing incentives for incorporation of proven, cost-effective renewable technologies, such as geothermal applications and solar hot water systems.

Importance: New construction represents the most important "lost opportunity" market in that it offers a one-time opportunity to design the building with energy efficiency as an important goal. Current practices have developed building designs with significant energy savings that can be realized at little or no net capital cost because of cost savings in downsized mechanical systems. The features that are incorporated have the potential to produce continuing energy savings for decades. If this opportunity is missed, it will be much more expensive to retrofit these homes later. The New York ENERGY STAR® New Homes program is currently reaching about 11% of new homes while programs in other leading states have higher market shares of over 20%, up to 60%. Obtaining additional energy savings (through both electricity and natural gas usage reductions) from each participating home will help reach the EEPS targets.

Lead Administrator: NYSERDA with assistance from: 1) the utilities, in the form of customer referrals, promotion of the HERS scoring system, and distribution of educational materials and 2) the Department of State through assistance with marketing

of builder and subcontractor training opportunities and providing contact information to builders as part of its training on building code compliance.

The core program support services can be developed and administered by NYSERDA. The potential to use utilities, municipalities, etc. as front line marketers for the program needs to be further explored. There are numerous opportunities for partnerships with builders, builders' associations, and installers, and manufacturers of energy efficient equipment. Realtors should be trained and encouraged to promote energy efficient homes and to appreciate how a rating system can be useful in explaining the value of energy efficiency in a dwelling. Opportunities to more aggressively market new technologies through a new homes program, such as high efficiency lighting and appliances, geo-thermal HVAC systems, and passive and active solar technologies needs to be more fully explored, including how these technologies could contribute to long terms goals of developing zero net energy dwellings.[10]

2. Statewide Residential Point-of-Sale Lighting Program (electric)

Current Practice in New York: LIPA runs a residential lighting and appliances program that coordinates with programs undertaken by the Northeast Energy Efficiency Partnership (NEEP) and NYSERDA initiatives to make high-efficiency products available to residential customers. LIPA's program offers consumers rebates to lower the price premiums for lighting. It also provides marketing and training assistance to retailers to make stocking and selling efficient products easier for them.

During the period 1999-2007 NYSERDA has run a program for residential lighting focused on market transformation. The program partners with retailers for increased stocking of compact fluorescent lamps (CFLs) and to promote these products in stores. The program also includes an extensive Energy Star marketing campaign, in association with efforts to promote efficient appliances. These steps have substantially increased use of CFLs in New York State. The program only makes limited use of incentives, partnering with fixture manufacturers to cost-share incentives paid to retail stores for CFL fixtures that are sold.

Real World Experience: Use of compact fluorescent (CFL) bulbs and fixtures designed exclusively for CFLs, rather than incandescent bulbs, can result in significant electricity savings, which in turn can reduce customer bills. Compact fluorescent and other types of energy efficient light bulbs and associated fixtures are easy to install measures that can be used to interest customers in energy efficiency opportunities.

In California the statewide Single-Family Energy Efficiency Rebates (SFEER) program provides rebates on various home improvement products. The Upstream Lighting element resulted in the sale of 5,560,000 energy saving lighting products through 190 retailers or chains. In the northwest (Washington, Oregon, Idaho, and Montana) more

[10] A zero energy building (ZEB) or zero net energy building is a term applied to a building with a net energy consumption of zero over a typical year. This can be measured in different ways (relating to cost, energy, or carbon emissions).

than 10 million CFLs were sold in 2006, strongly pushed by a decade-long market transformation strategy. Current programs emphasize expanding availability in grocery, drug, and hardware stores and reducing CFL prices in these outlets. The Northwest expects to raise regional sales to 23 million in 2009.

Currently, sales of compact fluorescent bulbs in New York State are averaging about 1.7 lamps per household per year. Leading programs in the northwest and New England are achieving rates of about 3.0 lamps per household per year. In terms of associated fixtures, the figures are about 0.09 fixtures per household per year in New York. Staff's expanded program assumes that sales should be increased 67% over two years, laying the groundwork for substantial additional increases in market share in future years. Staff encourages LIPA to coordinate its efforts with NYSERDA.

Description of Fast Track Program: The Statewide Residential Lighting program will cover residential lighting measures, expanded efforts to increase CFL sales, and a significant emphasis on lighting fixtures that are designed for pin-based compact fluorescent bulbs. Staff believes that accelerated and stepped-up efforts are needed to increase the annual number of CFLs purchased to more than 3.0 per household per year. This could be achieved through increased partnering with manufacturers to provide incentives to retailers for CFL bulbs and fixtures sold. By providing incentives to retailers, they can sell products to consumers for a lower price. The program will also include significantly increased marketing efforts. More retail channels can be developed and opened with this approach since the manufacturers' reach is much broader than other market actors.

Through these efforts to buy down the cost of energy efficient lighting products, customers would receive a discount of approximately $5 to $10 per unit for hardwired indoor or outdoor lighting fixtures, as well as a $10 discount for torchiere floor lamps. Discounts for CFLs would vary depending on the type of bulb. The program has cross-cutting attributes in that some lighting products go to non-residential facilities by virtue of the open market nature of the retail outlet approach.

All qualifying products should be ENERGY STAR® labeled. There are at least 14 manufacturers that have participated in such upstream residential lighting programs in New York and other states..

Potential Enhancements: Another component that could be considered is short-term in-store coupons provided directly to consumers with their electric bills. Such coupons would be good for only a few months (so as not to create long-term disturbances in the marketplace) and would be timed to coincide with major campaigns to increase stocking in retail stores (i.e., stores would receive advance notice of the campaign so that they can stock sufficient product).

Some utilities have had success with issuance of a lighting catalog, either in hard copy and/or on-line, that includes hard-to-find fixtures and bulbs. Items in the catalog could

have subsidized pricing to make their use especially attractive to customers. This approach has been highly successful in marketing to senior citizens.

Enhancements to Current Practice:

- Increase marketing and co-promotions with retail stores
- Reach all significant retail channels for light bulbs so that an appropriate compact fluorescent bulb and fixture is available when a consumer is shopping for these items
- Provide inducements to retailers for energy efficient lamps and fixtures sold. These could be co-funded by lamp and fixture manufacturers (this strategy has worked well on the west coast)
- Consider use of time-limited coupons or in store rebates for CFL lamp and fixture discounts, especially for smaller (non-chain) retailers
- Consider development of a lighting catalog, either in hard copy or on-line, that includes hard-to-find fixtures and bulbs. Items in the catalog could have subsidized pricing to make their use especially attractive to customers
- Consider use of in-store promotions and point-of-purchase information

Importance: This program has a proven track record of stimulating sales for energy efficient lighting. Switching to more energy efficient lighting is an easy step for customers to take that, in the aggregate, can have a significant impact on energy usage. Energy efficient lighting programs can be used as a stepping stone to get customers interested in additional energy efficiency opportunities.

Before implementing a large lighting campaign, it is important to ensure that the product is of high quality and that there is adequate product availability. Otherwise, the program could lead to customer dissatisfaction and the impression that using energy efficiency products means getting by with lower levels of service or quality. Consequently, a key component of the program is to emphasize Energy Star products, which are products that have to undergo and pass a variety of performance tests. Customer inertia is also a barrier. Showing customers the difference in energy usage via graphic displays is a powerful way to get customers' attention and persuade them to take action. Proper disposal of CFLs, which contain trace amounts of mercury, also needs to be addressed as part of the program design.

This fast-track program is an important part of the transition to federal standards on incandescent lamps that take effect in 2012-2014 (three-year phase in, varying by product light output). Under the new federal standard, conventional incandescent lamps will be phased out but both CFLs and more efficient incandescent lamps will compete in the market. The CFLs are much more efficient (e.g. 15 W vs. 40 W to provide the same light output as today's typical 60 W incandescent bulb), and therefore an important goal of this fast-track program is to better position CFLs to thrive in the market when the new standards take effect.

Lead Administrator: NYSERDA with marketing of programs undertaken by utilities and municipalities

Mass market, product specific programs lend themselves to a statewide centralized administration, since the program needs to be identical for all participating manufacturers and retailers. NYSERDA is well equipped to fulfill this role, working closely with retailers and manufacturers. A turn-key third party with demonstrated experience in delivering residential lighting mass market programs could also be employed. Utilities can provide assistance in making customers aware of the existence of these programs.

3. Residential ENERGY STAR® HVAC and Efficient Gas Equipment (mostly gas, some electric)

Current Practices in New York: Currently, only a subset of New York gas utilities is offering a point of sale program for residential gas appliances and equipment which have been approved in recent rate cases.

In terms of air conditioning, LIPA's residential new construction program offers financial incentives for central air conditioning that reaches ENERGY STAR® performance levels. It offers full incremental cost incentives for homes with both central cooling and either electric or gas heat. Partial incremental cost incentives are offered for homes without central air conditioning or without gas or electic heat. As part of its Residential HVAC Efficiency program, LIPA offers financial incentives for customers buying high efficiency central electric cooling; efficiency standards and incentive levels are designed to be consistent with neighboring New Jersey utilities and HVAC contractors must provide documentation of proper sizing and installation.

Real World Experience: KeySpan's High Efficiency heating program, which is jointly operated with the Regional GasNetworks program, has been running since 2002. The program aims to increase the demand for residential high-efficiency heating equipment by offering participants financial incentives for the purchase of efficient furnaces and boilers, and providing training to trade allies. Nearly 7,000 residential customers participated in the program in 2005. In the same year the program achieved natural gas savings of 1,142,193 therms with a benefit/cost ration of 3.67. In 2007, residential heating customers are eligible for a rebate of up to $500 for high-efficiency furnaces and boilers. The High Efficiency Water heating program, also a part of the Regional GasNetworks Program, achieved natural gas savings of 91,245 therms and a benefit/cost ration of 1.90 in 2005. Nearly 1,200 customers received $300 rebates for high efficiency water heaters, encouraging the purchase of and customer awareness of both indirect and tankless water heaters.

Description of Fast Track Program: This program will promote efficient furnaces, boilers, water heaters, central air conditioners, clothes washers (most of their energy use is for hot water), solar hot water technology, and hot water conservation measures. Measures promoted will include efficient gas furnaces and boilers (meeting ENERGY STAR® levels), efficient new water heaters (including efficient tank-type units as well as

even more efficient direct-vent, indirect, condensing and instantaneous water heaters[11]), ENERGY STAR® and even more efficient central air conditioners, efficient clothes washers (significantly exceeding ENERGY STAR®), low-flow showerheads, and faucet aerators. Five mechanisms will be used to promote these measures: (1) point-of-sale rebates for retail sale of efficient gas products; (2) upstream incentives for promotion of efficient air conditioners, (3) marketing training for heating contractors and plumbers and rebates to these trade allies for efficient gas equipment they sell; (4) discounted sales of low-flow showerheads, faucet aerators and tank wraps via the Internet and mail order; and probably (5) additional training, education, and incentives on quality installation of new central air conditioners.

Enhancements to Current Practices:

- Set a single set of statewide eligibility and incentive levels. Having different eligibility requirements across utility service territories confuses contractors, store owners, and consumers, making it more difficult to achieve high participation rates
- Expand ENERGY STAR® promotion efforts to include furnaces, water heaters, and central air conditioners. NYSERDA's marketing efforts should promote all ENERGY STAR® appliances
- Offer incentives for the purchase of high-efficiency furnaces, boilers, furnace fans, central air conditioners, and advanced water heaters (instantaneous, condensing, and solar). The incentives can be made directly to customers or upstream.
- Promote low-flow showerheads and faucet aerators. Utilities can provide coupons with gas bills, give retailer incentives, or provide discounted sales via the internet or mail order
- Consider ways to promote quality installation of new air conditioners, building on the Air Conditioning contractors of America (ACCA) quality installation specification and successful programs offered by LIPA and New Jersey
- Develop a joint marketing plan involving NYSERDA and gas utilities with input from contractors and consumers so that marketing is complementary and clear to consumers

Importance: As part of the Energy Efficiency Portfolio Standard development process, Staff notes the importance of increasing opportunities for utilities to offer energy efficiency programs directly to customers. Building the infrastructure to undertake such programs, including hiring and training staff, will take time and considerable effort. Staff selected this program to be offered by natural gas utilities that do not already have an appliance rebate program because it has been found to be effective in other jurisdictions and can be implemented quickly. Space heating is the largest use of natural gas in residential applications and water heating is the second largest use, so these programs address significant savings opportunities. NYSERDA will also play a role by expanding

[11] Many of these are likely to be recognized under a new ENERGY STAR® water heater specification scheduled to be finalized in April 2008.

its ENERGY STAR® promotion efforts to include HVAC. As part of its promotional efforts associated with ENERGY STAR® appliances, NYSERDA should also offer upstream incentives for efficient central air conditioning systems (primarily electric but gas air conditioning as well).

The gas utility part of the program will promote purchases by consumers of efficient furnaces, boilers, water heaters, and other gas appliances (e.g., efficient clothes washers for homes with gas hot water). This program focuses on equipment replacement and encourages consumers to purchase ENERGY STAR® or better products when existing equipment fails. Hot water conservation measures, such as low-flow showerheads, will also be promoted. The program includes incentives to pay part of the incremental cost of the more-efficient equipment. When a customer's appliance fails, a decision on what to do to replace it needs to be made quickly, so it is important that customers have easy access to information that will let them know about the energy efficient options available to them and have a simple and timely way to participate.

The NYSERDA portion of the program will include broadening and expanding its ENERGY STAR® promotion efforts to include furnaces, boilers, central air conditioners, and water heaters. Current promotion efforts emphasize lighting and appliances so this will be a significant expansion. In addition, NYSERDA will work with distributors, contractors, and big-box stores to provide upstream incentives for ENERGY STAR® and more efficient equipment, incorporating lessons learned form successful programs offered by LIPA and New Jersey. The central air conditioning effort will focus on downstate, since that is where most central air conditioner installations take place. As part of this effort, NYSERDA should explore ways to promote quality installation jobs, again based on lessons from LIPA and New Jersey as well as the Home Performance with ENERGY STAR® program.

Lead Administrators: Utilities. NYSERDA should play a complementary role in statewide promotion of ENERGY STAR® products. All major utilities should meet with Staff, NYSERDA, and other interested parties to collaboratively design a common "look and feel" for promotional materials. Program design should be standardized to the maximum extent feasible. The air conditioner efforts should be coordinated with the LIPA program and perhaps also with the program in northern New Jersey.

The program should be developed on a statewide basis so that qualifying equipment and rebate levels are the same, since many participating contractors and retailers work across utility system boundaries. NYSERDA should play a role since in currently offers ENERGY STAR® product programs. Some utilities in New York State and in other states currently offer programs of this type, which involve rebates for new space and water heating equipment. The gas and electric portions of the program need to be coordinated since many of the same HVAC contracts will be involved in both. The electric HVAC portion of this program may be more significant in the southern part of the state.

4. Home Performance with ENERGY STAR® (electric and gas)

Current Practice in New York: Home Performance with ENERGY STAR® is designed to implement comprehensive energy efficiency-related improvements and technologies by qualified contractors for one to four family homes. It encourages the adoption of energy-efficient design features and the selection and installation of high efficiency equipment in new construction and substantial renovation projects. The program increases the capacity and expertise of home improvement contractors through training, certification of individual technicians, and accreditation of firms. Included in the comprehensive improvements offered by the program are building shell measures, heating and cooling measures, electric measures, and health and safety features. Participating homes typically reduce their energy use by 25-30%.

The program uses a whole house approach that gives homeowners recommended energy efficient improvements from participating contractors accredited by the Building Performance Institute. Low interest financing options are available. The program also providers training and financial incentives to contractors who want to receive certification and to purchase diagnostic equipment needed to conduct home performance testing.

Description of Fast Track Program: The current program is budget limited and not heavily promoted. This fast track effort will seek to more than double the size of the program over a two-year period. Promotion, contractor training, and budgets will be supplemented so that the program can increase from an estimated 4,500 homes in 2007 to 10,000 home completions in 2009. As part of this effort, less comprehensive packages of measures will be allowed for homeowners who do not want a "soup to nuts" comprehensive retrofit. The majority of the expansion will take place upstate where colder weather makes the program particularly attractive and where there are more contactors experienced with program procedures. However, the program will continue to devote substantial resources to increasing the number of contractors operating downstate. Staff encourages LIPA to likewise increase its support for residential retrofits.

Enhancements to Current Practice:

- As noted above, develop streamlined packages to appeal to homeowners who not want a totally comprehensive package. Incentive amounts will be tied to the comprehensiveness of the measures installed in a tiered fashion
- Hold discussions with National Grid/KeySpan on how to best market this program with National Grid/KeySpan's new weatherization programs so that comprehensive packages of measures are encouraged, to maximize energy and financial savings.

Importance: New York has millions of eligible homes. This expanded program will allow more homes to be served and achieve the substantial energy and bill savings, and comfort benefits of the program.

Lead Administrator: NYSERDA with some marketing support from utilities and municipalities.

NYSERDA is already running this program and is the logical agency to oversee this expansion. Contractors, utilities, and municipalities can help with promotion.

5. Low Income Residential Energy Efficiency and Weatherization (electric and gas)

Current Practice In New York: The New York State Division of Housing and Community Renewal (DHCR) administers a program that uses the federally-funded Weatherization Assistance Program (WAP) to provide weatherization services to low income customers in all counties in New York State. These services are supplemented by a NSYERDA program called EmPower New York that provides weatherization and energy efficiency services coordinated with the WAP. Both programs are delivered by a network of weatherization agencies and private contractors who are accredited by the Building Performance Institute. There is no charge for services to income-eligible participants. The programs are budget limited and, as a result, there are waiting lists for WAP service and only a fraction of the eligible population has been served.

WAP is designed to obtain heating cost savings regardless of the heating fuel used, and to remediate health and safety problems found in the residences served. Due to limited funding, priority for services is given to the elderly, households with children, persons with disabilities, and those with high fuel costs. The WAP program currently serves about 12,000 households annually with a budget of $55 million. In addition, NYSERDA uses electric SBC funds to run several programs for low and moderate income customers. Major programs include:

- EmPower New York – A program for low-income households that provides mainly electricity related energy efficiency services, coordinated with the WAP. EmPower New York was designed to provide bill-reducing energy efficiency services to low income customers who are participating in electric utility low-income payment assistance programs, and it also accepts some referrals of other income-eligible households. The program's primary focus is on achieving electricity savings.[12] It has a budget of $9.9 million per year until 2011 and has an annual goal to serve 6,300 households.
- Buying Strategies – Discounts on heating oil and heating system preventive maintenance services. This also includes technical assistance on heating equipment repair and replacement.
- Energy Awareness – Workshops and other outreach strategies in low-income communities.

Description of Fast Track Program: Staff's proposal for an enhanced program will extend the availability of both the WAP and the EmPower New York programs to more

[12] EmPower New York also has been used as a vehicle to deliver gas efficiency improvements to low-income gas heating customers with separate utility funding outside the SBC under National Grid's Low Income Gas Efficiency Program. approved in Cases 05-G-0668 and 07-G-0733.

customers. Energy efficiency and weatherization services will be provided to eligible low-income households by expanding two existing programs – DHCR's Weatherization Assistance Program (WAP) and NYSERDA's EmPower New York program. Both programs contract with community groups across the state to provide these services. There is a large overlap in contractors between the two programs and there is coordination in the operation of the programs to promote complementary and timely services to households. Expansion of the WAP program will allow more households to be served, including some households not targeted by EmPower New York. Expansion of EmPower New York will allow additional services to be provided to WAP participants and also targets payment-troubled customers. The two programs together provide a comprehensive set of services for the low income sector.

Under the WAP program, blower door assisted audits will be used to identify air-sealing opportunities. A whole-house approach will be used with a goal of providing all cost-effective electric and gas energy saving measures, including insulation, weather stripping, caulking, space and water heating systems repair and replacement, and electric lighting and appliance replacement with ENERGY STAR® fixtures and appliances. The expansion of the WAP program primarily provides natural gas savings, with more limited electric savings. Accordingly, we recommend that the incremental cost for enhancing this program should be funded via a gas surcharge. The EmPower New York program provides additional services not covered by WAP, with an emphasis on measures that save electricity. For the fast track program, the incremental costs for the EmPower New York program should be funded by electric EEPS charges.

For both programs, an eligibility criterion will be used that is the same as that used for the current WAP and EmPower New York programs, as well as the Home Energy Assistance Program (HEAP); household income must be at or below 60% of the state median, adjusted for family size. Service will be provided at no cost to participants.

Enhancements to Current Practice:

- NYSERDA, DHCR, DPS Staff, and representatives from the weatherization installation community should meet to identify any potential changes to current practice that would most effectively leverage program funding when additional resources are available for these low income efforts
- Memoranda of Understanding between DPS, the utilities, and DHCR should be developed to specify how the funding process will be administered

Real World Experience: New York has extensive experience with both the EmPower New York and WAP programs. The EmPower New York program, for example, has been recognized by the American Council for an Energy-Efficient Economy as one of the U.S.'s most exemplary low-income programs.

Another example of successful services in this sector is Connecticut Light & Power Company's Weatherization Residential Assistance Program (WRAP), which in 2006 helped 10,192 low-income customers save energy and improve living comfort. 2006

WRAP program energy savings were 10,814 MWh, yielding a peak load reduction of 1.4 MW. Similarly, United Illuminating Company's UI Helps low income program served 6,500 customers and saved 8,105 MWh and reduced peak loads by 1.1 MW. Southern California Edison's Low-Income energy efficiency program served 53,017 low-income customers. Energy savings were 26,753 MWh and peak load reduction was 5.8 MW.

Importance: There are approximately 2.2 million low-income households statewide that meet the family income criterion described above. Current programs serve only a small fraction of those that are eligible.

The Commission Order initiating the EPS case states that the ALJ and parties should:

> Develop energy efficiency programs to ensure all New Yorkers, especially those with low incomes, have the opportunity to benefit from lower bills resulting from lowered usage and consider environmental justice concerns in program design.

Low-income families tend to live in older building stock that was built when energy was far less expensive and that has been less well maintained and is generally less energy efficient than other housing in the State. Consequently, there is a large potential for cost-effective savings per household in this sector. Since existing programs are unable to serve all eligible customers as a result of inadequate funding, expanding application of existing programs is an opportunity to better serve this segment of the population. The program will also produce non-energy benefits, such as improved housing stock and better health and safety conditions for low-income residents.

Also, low income families tend to spend a larger portion of their total income on energy costs and can be at risk of losing utility service because they can not afford their energy bills. Energy efficiency and weatherization programs are among the most effective long-term strategies for making energy bills more affordable for low-income New Yorkers.

Further, programs for low-income customers promote environmental justice. Parties in this case have commented that EEPS programs can promote environmental justice by ensuring that customers that otherwise cannot afford to make bill-saving energy efficiency improvements, and those that have traditionally borne a disproportionate share of the environmental cost of energy generation, distribution and use, receive services under EEPS programs. Some parties have specifically urged that the EEPS program should address the long waiting lists for WAP program services that currently exist in many parts of the state. The program can, therefore, effectively serve multiple policy goals.

Lead Administrators: Division of Housing and Community Renewal for the WAP program and NYSERDA for the EmPower New York program. Utilities will provide referrals of eligible customers to the EmPower New York program.

Both NYSERDA and the Division of Housing and Community Renewal have established state-wide networks to deliver services to the targeted sector and both should continue

these programs with expanded funding to serve more households. These programs employ Independent Energy Efficiency Service Providers, including community-based organizations, to install the energy efficiency measures.

6. Multifamily Building Home Performance with an Emphasis on New York City (electric and gas)

Current Practice in New York: NYSERDA has operated several programs targeting multifamily buildings, but these mostly served townhouses and low-rise buildings. Barriers, such as split incentive issues, have also frustrated attempts to implement widespread programs for high rise buildings. In May 2007, NYSERDA revamped its multifamily building program and has had encouraging results, including increased participation in the program.

Description of Fast Track Program: Staff's recommended fast track program expands on the new NYSERDA program. We recommend that greater attention be paid to coops and condos in the New York City market because this market segment represents a large potential for energy efficiency gains.

The program will include the following features:

- Incentive payments for specific measures:
  - Common area lighting
  - Efficient air conditioning or combined heat and cooling units
  - Gas heating or water heating efficiency upgrades
  - Recommissioning measures

- Other program features could include:
  - Free low-cost measures at the individual apartment level using a "blitz" approach in which the program notifies tenants in advance of the date and time of the visit and then goes door-to-door on the appointed day to deliver services, such as free CFLs and low flow showerheads and faucet aerators.
  - For buildings with room air conditioners, bulk purchases of replacement ENERGY STAR® (or even higher efficiency level)air conditioners, provided to tenants at below the bulk purchase cost, provided the tenant trades in a functioning, existing room air conditioner
  - Peak load management
  - Training and certification opportunities for building managers related to operating building energy systems efficiently
  - Outreach efforts for building occupants about energy efficiency
  - Low cost financing for installation of energy efficiency measures
  - Coupons for discounts on upgrading appliances to ENERGY STAR® rated appliances with even higher incentives for products meeting "Save More" efficiency levels

- Encouraging use of individual meters so that customers are responsible for paying for the energy they use
- Customized incentive for the installation of a combined heat and power unit, where a minimum of 60% of the waste heat can be utilized, on average, or for solar installations

In order to expand program activity in New York City, including a targeted effort aimed at condos and coops, Staff recommends that a New York City residential multi-family program design team be formed to develop recommendations for the Commission on how to effectively address the condo and coop market segment. Success in reaching this market with significant levels of energy efficiency has proven to be elusive. The transaction costs associated with achieving market success are high, in part because the project approval and decision making processes are cumbersome. The multi-family program design team would develop cost effective recommendations on program elements, incentive levels and criteria, program administration, program goals, and budgets in a concise report within 90 days of a Commission Order. The collaborative design team should include: the City of New York, Con Edison, KeySpan, Staff, NYSERDA, the Real Estate Board of New York, and other interested stakeholders. What is learned with the coop and condo segment of the multi-family housing market can later be used to inform work for all parts of the high-rise apartment marketplace.

- As a starting point for these discussions, Staff suggests:
  - For coops and condos, the governing board has the clear authority to execute a project agreement without requiring individual owner consent or voting. Alternatively, a rental property can demonstrate that there is unlikely to be a tenant originated or other legal impediment to project initiation and completion.
  - Payment of significant project assessment costs (e.g. the cost to perform an energy audit) upfront
  - Incentives will initially follow those of the new NYSERDA program, but enhancements are likely as a result of the proposed design collaborative

Importance: There are more than 82,000 multi-family apartment buildings, including coops and condos, in the metropolitan New York City area that have been underserved by existing energy efficiency programs. Staff recommends that over 80% of the increased program funding in the multi-family program be directed to the New York City market because over 80% of the multi-family buildings with 10 units or more reside in New York City.

Program Delivery: NYSERDA will implement this fast-track program, expanding upon their recently redesigned Multifamily Building Home Performance program. New York City and local utilities should be actively involved in program marketing. For the longer term, the possibility of implementing the program through the New York City Economic Development Authority (NYCEDC) should be explored. The NYCEDC currently does work with the City's real estate interests and oversees redevelopment projects within the

City and, therefore, understands the unique aspects of undertaking such projects in the City.

B. Commercial and Industrial Energy Efficiency Programs

Energy efficiency programs for large commercial and industrial customers typically have a much lower average cost per KWh than programs for other customer classes, especially in retrofit market segments. Programs that increase energy efficiency in commercial and industrial applications have an enormous potential to result in significant cost-effective energy efficiency savings that will need to be addressed to enable New York to achieve the EEPS targets. For instance, the New York Energy $mart commercial and industrial programs use 34.6% of the SBC funding, yet are achieving 76% of the GWh savings and have the highest benefit/cost ratios. The keys to encouraging customer participation in these programs are taking advantage of opportunities to let customers know that assistance is available and making it straightforward for customers to participate. Opportunities to streamline enrollment processes should be explored and implemented.

Below is a list of fast track programs for commercial and industrial applications that can be implemented in 2008. Staff is recommending that additional resources be allocated to the electric utilities to increase staffing primarily for the purpose of marketing NYSERDA administered fast track commercial and industrial programs. The amount of resources recommended to be allocated could provide approximately 50 additional customer service and customer account personnel statewide to enable the achievement of the EEPS goals. Staff is not recommending that any increased EEPS resources be allocated to financing programs until the issue of on-bill financing has been

resolved. Furthermore, Staff does not recommend that any additional resources be directed to the development of any new or emerging opportunities because those efforts should be able to be funded using existing System Benefits Charge funding.

1. New Commercial Buildings – Whole Building Design (electric and gas)

Current Practice in New York: NYSERDA has a program called High Performance New Buildings that aims at creating long-term changes in design practices by integrating energy efficiency and green building concepts into new building designs. The program provides technical assistance and financial incentives for the design and construction of high performance buildings that consume less electricity and gas than conventional designs. The program offers a performance-based approach in which incentives are determined by total electricity savings and are tiered to reward progressively better designs. Through design team incentives and recognition, the program promotes green building projects as well as projects planned for Leadership in Energy and Environmental Design (LEED) certification. The current program is serving about 12% of new commercial floor area. Leading programs in New England have more than a 50% market share. Obviously, there is substantial room for achieving additional energy savings as a result of enhanced funding. Target participants are building owners, architects, and engineering firms. Custom and whole building incentives are available.

Description of Fast Track Program: The goal of the whole building design approach is to create a high-performance energy efficient building by applying an integrated team approach during the project planning, design and construction phases. One aspect of the program will be to focus on achieving savings of around 30% per building, a level of performance that ASHRAE is targeting for its 2010 model building code. By familiarizing developers, architects, and engineers with this level of performance, New York can be an early adopter of the new ASHRAE standard. Incorporation of renewable technologies, such as geothermal installations, can help achieve the target savings levels.

As in all new buildings markets, the principal-agent problem typically splits the builder's incentive to minimize first costs from the final occupant's incentive to minimize total occupancy costs. In addition, the fragmentation of the construction industry limits optimizing building design and performance because the various energy-related components are rarely designed well to work as a system. Getting the key players/decision makers to the table early in the process is essential to the whole building design approach. In addition, adequate infrastructure (experienced and knowledgeable technical support in the various planning, design and construction sectors) needs to be in place to aggressively target the new building sector.

NYSERDA's current programs need to be reviewed to evaluate the potential to increase market penetration and the level of per unit savings (i.e., possibly increasing financial and infrastructure support to aggressively promote these programs to capture the energy savings potential for all new commercial building construction). The roles that utilities

and municipalities can play in program marketing needs to be explored. A program feature should be promoting these programs early in the planning phase to key customers in their service territories and offering assistance to the customer.

Enhancements to Current Practice:

- Increase program marketing and outreach dramatically
- Increase the number of technical assistance providers. NYSERDA has a number of providers under contract, but this number will need to increase substantially to meet increased demand.
- Consider increases to incentive levels. NYSERDA is now paying less than the major New England programs.
- Provide increased compensation to enable building developers, architects, and engineers to participate in the analysis of design options.
- Place more emphasis on a whole building approach since comprehensive approaches can achieve more energy savings, at a lower cost per unit of energy saved.
- Place special emphasis on achieving 30% savings relative to ASHRAE 90.1-2004, since that is the level of savings targeted by ASRAE 90.1-2010. Promoting this level of efficiency now will make it easier to adopt the new ASHRAE code when it is completed.
- Expand the number of measures promoted by the program to help increase savings per building.
- Review measures in the program periodically and adjust incentives or drop measures as market share grows and free rider levels for specific measures increase.

Real World Experience: Two of the leading programs in the country are operated in the neighboring states of Massachusetts and Connecticut – the National Grid Design 2000 Plus and the NU/UI Energy Conscious Blueprint. Evaluations a few years ago showed that Design 2000 Plus was reaching about 50% of new commercial floor area being constructed and program staff believe that this figure has increased in recent years. The program emphasizes a comprehensive design approach that strives to reduce building energy usage by 20% related to baseline practice. Prescriptive incentives are also offered. Data from 2002 and 2006 indicate an average cost of saved energy of just over four cents per KWh. The Energy Conscious Blueprint program is similar but serves a larger area, has lower incentives, and includes a greater emphasis on technical assistance. In 2006, statewide, the program saved about 67 GWh and reduced summer loads by 13.5 MW, with total utility expenditures of $12.6 million. The cost of saved energy was about 1.8 cents per KWh.

Importance: Businesses and institutional sectors account for about 50% of NY's primary energy use. Whole building design approaches reduce the lost opportunities for incorporating energy efficient equipment and energy systems in new buildings. Designing buildings to take advantage of energy saving opportunities (e.g., lighting controls, programmable thermostats, continuous commissioning equipment etc.) can

significantly reduce energy usage and lower peak demand. Retrofitting these buildings later in their life will be much more expensive than building them right the first time, and may not be accomplished by 2015.

Energy efficiency programs for commercial customers typically have a much lower average cost per KWH than residential programs and have an enormous potential to result in significant cost-effective efficiency savings. Designing new buildings with energy efficiency in mind is a highly effective way to ensure savings that will persist for decades. We encourage LIPA to consider comparable program enhancements for Long Island.

Lead Administrator: NYSERDA with assistance from: 1) the utilities, in the form of customer referrals, promotion of advanced metering, marketing to all new building projects, assistance with energy code training, and post-construction review of energy bills and 2) the Department of State through assistance in updating the Energy Code, administering training, and supervising contract trainers.

2. Small Business Direct Installation Program (electric and gas)

Current Practice in New York: NYSERDA currently has a small business direct installation program that employs a Mobile Energy Clinic that provides energy efficiency services to small business in Central New York and the Finger Lakes region. In comments in this proceeding, NYSERDA suggested that its current program could be expanded statewide or, alternatively, this type of program could be effectively delivered by utilities using statewide protocols. Staff recommends that this program be administered by utilities since it is expected that utilities will play a significant role in the EEPS initiative going forward, and a small business direct installation program is a good place for them to begin their efforts.

LIPA has had experience with a program that involved extensive use of independent providers to install energy efficiency measures; LIPA's experiences should be considered when preparing the program design.

Real World Experience: Two of the leading programs are operated in the neighboring states of Massachusetts and Connecticut. The Massachusetts program pays nearly all measure costs and, over a decade, has served more than 30% of eligible customers at an average cost of saved energy of just over 4 cents per KWh.

Connecticut Light and Power (CL&P) runs the Small Business Energy Advantage Program, which provides turnkey, energy-saving products and services for small business customers. CL&P pays substantial incentives (50% of installed cost) for retrofit lighting measures and other eligible energy-efficiency measures and offers on-bill 0% financing for the remaining 50%, which lowers the cost to the utility to about 2 cents per KWh. The program targets all business customers with an average 12 month peak demand of between 10 KW and 200 KW, with an emphasis on customers with loads below 50 KW. CP&L goes out to bid every two years and generally receives 50-60 contractor proposals.

Contractors are asked to bid on 200-300 retrofit scenarios. Contractors must market the program, have varied geographic coverage, possess technical expertise, and provide a minimum number of leads and projects per month. Contractor performance is monitored quarterly and trends evaluated. Project costs can be as high as $30,000 with a project average of $10,000. The most recent year's program activity saw 900 projects completed. Program annual budgets range from $2.9-$3.1 million, but motivated contractors and interested customers oversubscribe the project. In 2006, the program saved approximately 518,159 MWh and reduced peak loads by 3.2 MW.

Southern California Edison has a direct installation program with a 2006-2008 project program budget of $48.4 million. Projected program impacts are estimated at 348,848 MWh and the program cost effectiveness, as stated by a Program Administrator Cost Test ratio, is 3.82. The Program Administrator Cost compares the same quantifiable life-cycle benefits against implementation costs as NYSERDA's Program-Efficiency Test. In 2006, the program saved 62,706 MWh and reduced peak load by 9.6 MW.[13]

Description of Fast Track Program: This program will deliver energy efficient hardware retrofits for electric and gas customers, targeting small commercial/industrial customers with monthly peak demand or energy usage less than a designated amount (100 KW is a suggested starting point that may be adjusted based on experience and demand for services). Eligible customers will be reached through a combination of direct outreach by contractors and utility customer representatives. Measures to be addressed will include lighting, selected refrigeration maintenance, gas energy efficiency measures, and other installations deemed to be cost effective. Staff recommends use of a 70/30 cost split with 70% of the funding provided by the utility and the other 30% being paid by the customer (approximately midway between the Connecticut and Massachusetts programs).

The utilities will work through a set of approved contractors and third-party implementers who are empowered to promote, enroll, and audit qualified customers to the program and to install measures at reduced cost to participants. To the extent feasible, on bill financing or low cost loads should be used to help finance the customer share of high upfront costs.[14] This combination of a dedicated delivery mechanism providing low cost installation and using local contractors and community agencies creates a powerful engine to encourage participation by historically non-participating customers. As NYPA has found, a turnkey program that includes energy audits, design services, construction, and project management services, with access to low cost financing, is an especially appropriate methodology for these customers.

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[13] www.sce.com/nrc/aboutsce/regulatory/eefilings/quarterly/2006/4thQuarter2006EEReport032907.xls

[14] Separate monthly billing could be used while arrangements for on-bill financing are being implemented.

Enhancement to Current Practice:

- This would essentially be a new program, building off of NYSERDA's experience with its Mobile Energy Clinic and experience of utilities in other parts of the country tat have conducted programs similar to the program described above.

Importance: Small businesses provide a significant source of historically untapped potential for cost-effective energy efficiency. This program is designed to overcome the barriers that typically prevent participation by this customer segment.

Major Barriers: Small business customers generally lack the expertise or the time to understand and implement energy efficiency projects. In addition, limited capital resources, lack of confidence in timely financial benefit and generally high finance option interest rates are significant barriers to participation. Furthermore, the majority of these customers occupy short-term leased facilities. Consequently, there is also a split incentive barrier to adoption of energy efficiency improvements. Only direct installation programs address these barriers.

Lead Administrator: This program would be administered by utilities, working with installation contractors that offer turnkey partnerships with local governments, community based organizations, and other selected organizations.

Staff recommends that a program design team, consisting of the utilities, NYSERDA, and DPS be formed to develop a specific program implementation plan, principles, and plans to be submitted to the Commission. The program plan should borrow significantly from the successful program that National Grid has implemented in New England for over a decade. The plan should address customer eligibility, incentive levels, contractor selection and administration, bulk equipment purchasing, financing, etc. The same basic program should be implemented in all regions of the state, with each utility implementing this common program in its service area.

3. Existing Commercial Buildings (electric)

Current Practice in New York: NYSERDA currently offers the Commercial/Industrial Performance Program and Peak Load Reduction Programs which offer several strategies to provide technical assistance to customers and helps them obtain financial incentives for energy efficiency projects. The program is divided into three tiers: Tier I offers pre-qualified incentives for the purchase and installation of energy-efficient equipment such as lighting and controls, motors, HVAC equipment, variable-speed drives, commercial refrigeration, and kitchen equipment. Tier II enables eligible participants to receive incentives based on KWh saved through the installation of energy efficiency measures. A technical engineering analysis of the energy savings is required. Tier III provides performance-based financial incentives to contractors/energy service companies who implement energy efficiency projects for eligible customers.

As part of its Performance Program, NYSERDA has a target sector specific "Focus" initiative that seeks high participation in five sectors that account for approximately half of the commercial floor area in the state. These five sectors are: commercial real estate, health care, lodging (hotel/motel), education, and state buildings. NYSERDA is working to simplify its existing commercial buildings offerings to make them easier for customers to understand and use.

NYSERDA also has a program called Business Partners that focuses on market development, where business partners agree to work with NYSERDA to promote energy-efficient products and services. In exchange, business partners gain access to special training, tools, guidelines, and performance incentives.

Real World Experience: Many utilities and independent program operators offer existing commercial programs as a core part of their energy-efficiency program offerings. A recent trend is to focus marketing and services on a sector-by-sector basis (e.g. hospitals, real estate, etc.).

The Northwest Energy Efficiency Alliance is now focusing its commercial sector efforts on three sectors – hospitals, groceries, and commercial real estate. The hospital initiative was started first and is already working with hospitals accounting for 31% of the beds in the region, primarily by focusing on hospital chains and large community hospitals. Initial results are 10-20% energy savings in existing hospitals and higher savings in new construction. Connecticut Light and Power has similarly targeted the hospital sector with a program administered by the Connecticut Hospitals Association that provides no-interest loans for energy-efficiency projects, targeting the 31 acute care hospitals in the state. The program also provides technical assistance to the Hospitals and includes quality assurance by independent contractors. The scope of work and contractors to do the work are selected by the hospitals.

In Rhode Island, National Grid has had a special focus on schools and has provided services to more than 50% of the schools in the state. National Grid and Connecticut Light and Power have also provided focused services to municipalities and state facilities in their service areas. National Grid, in addition to focused attention from their suite of efficiency programs, helped support the development of new rules for state facilities to specify that new buildings must be LEED certified, including a minimum of 20% energy savings over ASHRAE standard 90.1-2001 (a national model building code).

In Vermont, sector-based approaches are a substantial part of the marketing efforts. Likewise, the major California utilities have reorganized their commercial programs to focus on more than a dozen major sectors. For example, in 2006, Southern California Edison's Business Incentives and Services program provided energy efficiency incentives and energy surveys, resulting in annualized energy savings of 255,879 MWh and 40.2 MW in peak load reduction. Impacts are tracked by sector and are summarized below:

SCE 2006 Impacts by Commercial Segment	kWh	kW	% Energy
Agricultural	2,371,405	284	0 9%
Assembly	12,691	1	0 0%
College/University	368,539	70	0 1%
Grocery Store	13,175,389	879	5 1%
Hospital	1,511,714	205	0 6%
Hotel/Motel	14,555,868	1,756	5 7%
Industrial	88,975,289	11,671	34 8%
Medical Clinic	1,910,771	224	0 7%
Miscellaneous Commercial	72,203,416	13,025	28.2%
Nonrefrigerated Warehouse	17,584,550	3,893	6 9%
Office	12,216,782	2,671	4 8%
Refrigerated Warehouse	4,600,760	1,008	1 8%
Restaurant	4,913,605	313	1 9%
Retail Store	18,254,893	3,446	7 1%
School	3,223,052	744	1 3%
	255,878,725	40,188	

Description of Fast Track Program: This program will build on the current Commercial/Industrial Performance Program but include greater emphasis on serving key subsectors and include increased efforts to promote retrocommissioning.
The current Commercial Industrial Performance Program includes a substantial standard offer program that is one of the leading programs of this type in the U.S. With Staff's proposal to expand funding for this program, the standard offer component of this program will expand.

In addition, we propose to significantly increase resources for the current Commercial Industrial Performance Program to permit many more buildings to be served. The program is currently budget limited and does little marketing. This fast track program will include significant marketing and a larger budget to accommodate the increased demand expected to result. We believe that utilities will play an important role in marketing this program through their customer-service representatives and other means. The utilities should propose budgets for these services.

By concentrating on building sectors that are especially common in New York, much experience can be gained and readily replicated and existing networks within these sectors can be used to help "spread the word." This program will target specific commercial building sectors and will work with leaders and trade associations in each sector to develop appropriate services, incentives, and case studies. This approach is now the cornerstone of several leading commercial sector programs including efforts in the northwest, Rhode Island, and Vermont. NYSERDA has already begun to focus on the school, healthcare, commercial real estate (e.g., rental office buildings), state buildings, and hospitality (hotel/motel) sectors through the Energy Smart Focus program; these are likely targets for an expanded effort.

To obtain deep market penetration, it can be helpful to determine the trade associations in which key customer segments participate, such as real estate management groups, hospitals, and higher education engineering associations, retailers associations, contractors associations, etc. This allows the program to reach the entire network through a focused effort and also builds credibility and confidence in the programs. Utilities can help recruit participants and stimulate interest in the program.

The retro-commissioning portion of this program will assist building owners and property management companies from large commercial buildings to tune up building systems and initiate on-going operations and maintenance programs. The tune-up process, often called retro-commissioning, is somewhat similar to new building commissioning, but is designed for existing buildings. Opportunities abound to promote efficient lighting, advanced building controls, building management systems, advanced heating, ventilation and air conditioning (HVAC) system, and other energy efficiency measures. Customers will be made aware of energy efficiency opportunities available to them and will be offered support in installing cost effective measures. The program will include initial scoping studies to assess whether a building is a good candidate for retro-commissioning (using procedures developed in a recent NYSERDA pilot program); commissioning services for buildings where appropriate, using experienced commissioning providers; technical and financial assistance for implementing commissioning recommendations; assistance developing on-going operations and maintenance procedures, and building operator training and certification (a program that has been very successful in New England and other regions and has recently been piloted in New York).

Enhancements to Current Practice:

- Substantially expanded networking in the five target sectors to build interest and participation. This should be considered a long-term market transformation effort that will ultimately seek large savings per building in the targeted sectors
- NSYERDA should review lessons on sector targeting from programs in the northwest, California, Vermont, and Rhode Island
- Significant marketing efforts for the Commercial Industrial Performance Program
- An expanded effort to promote retro-commissioning

Importance: This is a key production program needed to generate large energy savings. Commercial/industrial retrofits are among the most cost-effective and most widely available efficiency opportunities. In order to meet the 15 by 15 goal, a robust commercial/industrial effort for existing buildings is essential. Staff has increased its previously estimated costs for the delivery of this program by 20% in the New York City market to account for the cost of inducing retrofit replacements in that market.

We encourage LIPA to develop a complementary program for Long Island.

Lead Administrator: NYSERDA, because its C/I Performance Program is in place, working well, and can be quickly expanded. Utilities can play an important role in promoting the program and offering referrals, distributing bill inserts about program opportunities, and taking advantage of other marketing opportunities. NYPA can expand its collaboration with NYSERDA for eligible public entities and possibilities for partnering with the Dormitory Authority of New York (DASNY) should be explored further. NYSERDA should provide a report to the Commission which summarizes its plans for enhancing exiting commercial building participation in energy efficiency programs.

NYSERDA has done several pilot retro-commissioning programs, and thus is well-positioned to take the lead in these efforts. New York City featured retro-commissioning prominently in its *Greener, Greater New York Plan* and can play a useful role. For example, a new program at CUNY is modeled after a Texas program that has played a central role in developing commissioning for existing buildings. Overall, these programs can be delivered by NYSERDA, LIPA, and NYPA with utility and ESCO support. Key trade associations should be heavily involved. ESCOs may also decide to specialize in delivery of energy efficiency services to particular market segments.

NYPA, by law, plays a major role in providing energy efficiency services to schools in the state. It also has played a large part in improving energy efficiency in governmental buildings. Opportunities for an expanded NYPA role in other sectors of the New York State economy should also be explored, along with an examination of the role that NYPA might play in financing these projects.

4. Flex Tech Including Industrial Process Improvements (electric and gas)

Current Practice in New York: NYSERDA's Flex Tech Technical Assistance program provides customers with objective and customized information to facilitate wise energy efficiency, energy procurement, and financing decisions. The program is available to all commercial and industrial customers. Cost-shared technical assistance is provided for detailed energy efficiency studies from energy engineers and other experts. Small customers are eligible for quick walkthrough energy audits, with the cost share reimbursed upon implementation of recommendations. Participants may use NYSERDA-contracted or customer-selected consultants.

Real World Experience: Connecticut Light and Power (CL&P) has a program, known as Process Reengineering for Increased Manufacturing Efficiency (PRIME) that seeks to lower costs through reduced energy consumption, improved manufacturing productivity, reduced inventory requirements and associated costs, and reduced floor space requirements. Customers with average demand of 1500 KW or less are eligible. CL&P provides 100% reimbursement of the cost for qualifying projects. Manufacturers can pre-qualify via an energy audit.

NYSERDA's Flex Tech program is one of the most successful programs in the country and received recognition as a "Best Practice" program by ACEEE in a 2003 study, one of 35 programs receiving this recognition nationally. As of March 31, 2007, this program has achieved savings of 738 GWh per year and peak savings of 136 MW, at a cost of only $22.1 million, making for an average cost of saved energy of 0.3 cents per KWh.

Description of Fast Track Program: Flex Tech has been one of the most successful programs under the NYSERDA electric SBC set of programs. It provides cost-shared technical assessments of specific energy-saving opportunities to large commercial and industrial customers, using expert private consultants. Customers then implement a large proportion of recommendations, 70% at their own costs (the other 30% take advantage of

other SBC incentives), resulting in an average cost of saved energy of less than ½ cent per KWh. Given the success to date, this program should be expanded.

Flex Tech is also the primary SBC program that serves industry. The industrial portion of the program should receive extra attention and resources in a program expansion. Industry typically requires "boutique" approaches to energy efficiency. Each production line is different, so a targeted approach is necessary to ensure that all energy efficiency improvement opportunities are identified and addressed. Industrial applications often involve motors and lighting projects. Since the NYSERDA Flex Tech Technical Assistance program has been successful, with large, highly cost-effective savings and good feedback from customers, it should be significantly expand these programs with a larger budget, more technical assistance providers, and increased outreach.

Customers are reluctant to spend money on capital improvements that have multi-year pay back periods. Many industries do not want to risk interruptions or losses in production lines that efficiency investments may introduce. Credibility and quality of technical assistance is essential.

Enhancements to Current Practice:

- Increase the number of service providers substantially, particularly providers who are experts in particular industrial processes.
- Make incentives available for industrial process improvements. There are currently incentives available for commercial projects through other NYSERDA programs, and many companies implement recommendations without incentives. In the industrial sector there are not significant incentives currently available.
- Expand marketing of this program substantially.
- Allow customers that are currently exempted from paying into the SBC an opportunity to opt-in to participation (with a requirement that they contribute through 2015) so that they can participate in this program.

Importance: Industrial applications provide opportunities for large energy efficiency gains with relatively short pay back periods. The current Flex-Tech program is a key pathway for serving these applications and is among the most cost-effective of the existing Energy $mart programs. Staff believes that the additional utility marketing resources that it has recommended should be allocated to the EEPS fast track initiatives should substantially increase customer enrollment in this program.

Lead Administrator: NYSERDA, since it has been successfully operating this program for many years and can quickly expand it. Utilities can play a role in promoting the program and providing referrals, provide bill inserts about program opportunities, and take advantage of other marketing opportunities. NYPA can expand its collaboration with NYSERDA for projects undertaken for eligible public entities.

Selected experts with credibility in key industries should also be engaged to overcome barriers to acceptance. Services will largely be delivered by specialized engineering contractors selected via a competitive bidding process.

C. Cross-Cutting Program – Residential, Commercial, and Industrial Sectors

Enhancements to building codes and appliance and equipment standards have a huge potential to help New York State achieve its energy efficiency goals. Nearly one third of the EEPS target levels could be achieved through increased attention and focus on improving the energy efficiency building codes and appliance and equipment standards.

Building Codes

The New York State Energy Conservation Construction Code (Energy Code) is mandatory across New York State for all new construction and substantial renovation of residential and commercial buildings. New York's Energy Code is a component of the broad health and life safety Buildings Code and is linked to the International Energy Code Council (IECC) documents and update cycles. The New York State Department of State (DOS) administers and supports the Energy Code; local municipalities and their code officials enforce it. The code officials usually conduct building plan reviews and field inspections for residential buildings. For commercial projects, the code officials (while still responsible for plan checks and buildings) may rely more heavily on certification of plans by architects and engineers. NYSERDA has provided technical analysis to Energy Code updates to assist the DOS and has secured federal Department of Energy grant funds to provide training and to support DOS participation in the national IECC process.

Updates to the Energy Code must comply with Article 11 of the New York Energy Law. Any proposed changes to the Energy Code must be cost-effective over a ten-year simple payback period. For 2010, ASHRAE is proposing to increase the energy efficiency level of the 90.1 standard to be 30% more stringent than ASHRAE 90.1-2004. As of January 2008, the New York Energy Code has been updated but it is one update cycle behind where it should be. The current New York Energy Code is based upon the following, with minor New York enhancements.

- Residential component based on 2004 IECC version
- Commercial Provisions are based on ASHRAE 90.1-2001

Appliance and Equipment Standards

In mid-2005, New York amended its Energy law to authorize the development of appliance and equipment energy efficiency standards for 14 products. Subsequently, Congress established federal standards for 10 of the 14 products, preempting state standards in these areas. New York is in the process of establishing standards though the regulatory process for the four remaining products specified in the 2005 law. As part of this effort, New York has participated with other states in developing a multi-state certification system. New York is also considering establishing efficiency standards for a number of additional products, such as furnace fans. In related activities, New York has established energy efficiency purchasing standards applying to equipment for state agencies in 18 product areas to decrease energy usage.

1. Appliance and Equipment Standards and Building Codes

Current Practice in New York: In 2005, the New York State legislature enacted new state appliance and equipment efficiency standards on several products. Some standards were set in the legislation while others are being developed by NYSERDA and the DOS. New York State, represented by NYSERDA, sometimes participates in rulemakings and

negotiations on federal efficiency standards but time for this activity is limited. DOS, with input from NYSERDA and others, is responsible for revisions to the energy sections of the state building code. Further state-specific amendments to this code are now being developed by DOS, with hope of finalizing this amendment in 2008.

Description of Fast Track Program: Appliance and equipment standards can result in large, highly cost-effective savings. New York has used these strategies for many years, but in order to meet the EPS goals, efforts should be redoubled. There are also likely to be increased opportunities for progress on standards and codes in the next few years due to pending federal legislation, opportunities for state legislation, pending federal rulemakings on standards for more than 20 products, a new commercial building standard now being developed by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), and activities on Long Island to adopt residential building codes based on ENERGY STAR® specifications.

To address this opportunity, this initiative will have several components:

1. Providing input to appropriate parties on opportunities for new state efficiency standards, building on standards either adopted or pending in other states.
2. Participating actively in federal rulemakings and federal legislative activities to urge adoption of standards which are in the best interests of New York State.
3. Doing preparatory work and participating in the ASHRAE process, so that New York can be an early adopter of the new ASHRAE standard, when it is completed (ASHRAE's goal is to reduce energy use 30% compared to the current standard, a standard that is likely to be contained in the 2008 version of the New York State Energy Code).
4. Assisting interested municipalities in developing workable codes and procedures based on ENERGY STAR® Home specifications, and efforts to adopt these codes and procedures statewide.
5. Providing training to building code inspectors as updated codes are implemented

Enhancements to Current Practice:

- Staff proposes that additional funding be provided to support training and enforcement efforts related to energy efficiency sections of the New York building code. Funding will also be available to lobby for improved appliance standards both on the state and federal level.

Real World Experience: The California investor-owned utilities helped underwrite codes and standards development efforts in that state and an evaluation of their efforts attributed savings of about 600 GWh/year and 180 MW three years after completion, with savings steadily mounting in the latter years as more equipment is replaced and more new buildings are constructed.

Importance: Preliminary estimates are that these measures can save more than 10,000 GWh in 2015 and more than 2,000 MW of peak demand in New York. These savings

can be achieved at low cost since benefits are typically several thousand times the direct costs of standard and code development and adoption. Even when the higher cost of efficient equipment is included in the calculations, benefits are typically at least around five times costs.

Lead Administrator: NYSERDA. A full-time coordinator should be hired to lead this effort and have a moderate budget to hire consultants to perform technical work to develop and analyze possible new standards and codes for New York. This staff person would probably be a state employee; NYSERDA is already heavily working in this area and could also play a role in coordinating this effort. The Department of State, which has legal authority for code revisions, should also be involved. Utilities can also lend support to these initiatives, as they have done in California. We also recommend a budget for code training since building codes are implemented locally and good implementation can reduce building energy use significantly.

The table on the next page shows the projected savings that are possible through a concentrated effort to improve building codes and energy standards. As the table shows, the potential savings are 10,500 GWH, 2,100 MW of peak capacity, and 19 trillion Btu of natural gas. This is an area that deserves further attention and follow-up.

Appliance and Equipment Standard Savings in New York State in 2015

Category and Product	Effective Year	New York State Savings GWh	MW	Billion Btu
Federal legislation – 2007				
BR and R20 reflector lamps	2008	389	96	
External power supplies	mid 2008	333	46	
Metal halide lighting fixtures	2009	354	116	
Walk-in coolers and freezers	2009	162	38	
Residential dishwashers	2010	9	3	134
Electric motors	2011	72	20	
Residential dehumidifiers	2013	33	11	
Residential boilers	2013			736
General service incandescent lamps	2012-2015	3537	435	
Subtotal		4890	764	870
Federal rulemakings				
Distribution transformers	2011	101	12	
Fluorescent lamps	2012	646	175	
Incand. reflector lamps	2012	502	136	
Ranges & ovens	2012			431
Clothes washers (commercial)	2012			134
Supermarket refrigeration	2012	129	25	
Commercial boilers	2012			192
Water heaters (res)	2013	31	6	
Water heaters (res)	2013			1,019
Pool heaters	2013			178
Beverage vending machines	2013	24	5	
Direct heaters	2013			100
PTACs/PTHPs	2013	26	21	
Refrigerators	2014	128	16	
Fluorescent ballasts	2014	176	48	
Clothes dryers (residential)	2014	27	7	
Clothes dryers (residential)	2014			67
Room AC	2014	23	27	
Battery chargers	2014	57	6	
Furnaces	2015			699
Subtotal		1,870	483	2,820
NY Standards the State could elect to establish				
Furnace fans	2011	480	31	
Fluorescent fixtures	2011	449	135	
HID ballasts	2011	314	47	
Nightlights	2011	163	12	
Neon sign power supplies	2011	153	10	
Microwave ovens	2011	146	7	
Subtotal		1,224	211	

Note: Items in the two categories above can potentially be included in state standards. There are also other opportunities for state standards.

D. Expenditures to Support the Energy Efficiency Effort

In order to support the Fast Track programs described above, additional funding will be needed for marketing and market development. Market development involves supporting the infrastructure needed for delivery of energy efficiency solutions that will more quickly move markets and products to higher efficiency levels. Activities in this sector target manufacturers, distributors, vendors, contractors, energy eservice providers, and others who routinely interact with the customers in each market segment. Sector-focused strategies should be used to address particular needs and opportunities of various customer types to accomplish efficiency projects and increase participation in NYSERDA programs. Examples of projects that might be included are programs with community colleges to train employees to deliver energy efficiency services to customers.

Staff recommends that incremental funding levels during the fast track period (mid 2007 through 2008) be set at an annual level of $6 million (half to NYSERDA and half to the Department of Public Service) for increased marketing and $20 million for market development. We recommend that NYSERDA develop a proposed budget for these activities and submit it to the Commission within 30 days of a Commission fast-track order.

Attachment 6

New York State
Division of Housing and Community Renewal
Office of Legal Affairs
MEMORANDUM

To: Saul Rigberg, Associate Counsel

From: Brian McCartney, Supervising Attorney

Date: March 19, 2007

Subject: PSC Energy Efficiency Portfolio Standard

The issue raised is whether the Division of Housing and Community Renewal ("DHCR") has the authority to administer funds in the form of service charges received directly from utility companies ("PSC funds") for the dedicated purpose of providing weatherization assistance to eligible households throughout the State of New York.

DHCR, a state agency falling under the Executive Department, currently administers the state's Weatherization Assistance Program ("WAP"), which receives funding from the U.S. Departments of Energy and Health and Human Services, through a statewide network of service providers. There are two scenarios under which DHCR, or its proxy, could administer PSC funds in conjunction with the WAP.

One option would entail DHCR submitting a request to the Division of Budget ("DOB") for a new appropriation line within the Executive Budget, and establishing a corresponding special revenue account. The appropriation language drafted by DHCR would specifically limit the use of PSC funds for weatherization activities only. The restrictive language of the appropriation, buttressed by the terms of the Memorandums of Understanding entered into with the individual utilities, would prevent DOB from sweeping such monies into the state's general fund.

Alternatively, DHCR could channel PSC funds through the closely allied New York State Housing Trust Fund Corporation ("HTFC"). HTFC is a public benefit corporation established under Section 45-a of the Private Housing Finance Law ("PHFL"), and is chaired by DHCR's Commissioner. As a public benefit corporation, it is not subject to the same constraints imposed upon state agencies by DOB or the Office of State Comptroller ("OSC"), nor are its funds subject to being redirected to the state's general fund. Moreover, as previously noted, Memorandums of Understanding between

HTFC and the various utilities would restrict the use of such monies.

HTFC has been utilized in the past by DHCR to administer various state and federal low-income housing programs, such as the Access to Home, New York Main Street, and Community Development Block Grant programs. HTFC is authorized under PHFL § 45-a (9) to "...facilitate the coordination of local housing partnerships and existing state, federal and local programs which promote the development of low income housing." In this regard, HTFC has been specifically granted the authority under Articles XVI-A and XVII of the PHFL to fund the rehabilitation (which would include weatherization), among other activities, of low-income housing units throughout the state.

Having carefully analyzed both options described above, DHCR is proposing to run PSC funds through HTFC in order to take advantage of certain efficiencies inherent in the operation of public benefit corporations.