STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Proceeding on Motion of the Commission Regarding an Energy Efficiency Portfolio Standard	)))	CASE 07-M-0548

RESPONSES OF THE NATURAL RESOURCES DEFENSE COUNCIL, THE PACE LAW SCHOOL ENERGY PROJECT, THE ASSOCIATION FOR ENERGY AFFORDABILITY, INC. AND THE NEW YORK PUBLIC INTEREST RESEARCH GROUP TO THE DPS STAFF QUESTIONS

The Natural Resources Defense Council (NRDC), the Pace Law School Energy Project (Pace), the Association for Energy Affordability, Inc. (AEA) and the New York Public Interest Research Group (NYPIRG) are pleased to submit the following responses to the series of questions posed by DPS Staff in a document dated June 13, 2007. These responses follow the five categories of inquiry pursued by Staff, namely:

- Goals
- Program Elements
- Implementation
- Costs and Benefits Calculation
- Funding

Pace/NRDC/AEA/NYPIRG are looking forward to working with the DPS Staff and the other parties in fashioning an Energy Efficiency Portfolio Standard (EPS) consistent with Governor Spitzer's "15 by 15" vision and the important contribution that energy efficiency can make in promoting economic development, holding energy costs in check, improving electric system reliability, and addressing the serious threat of global warming pollution.

GOALS:

1. What approaches hold the greatest potential to contribute to New York achieving the overall target of 15% electricity consumption reduction by 2015? Are there any energy consuming sectors and markets that are currently underserved by the existing available portfolio of energy efficiency programs and services in New York State? How should those deficiencies be addressed in implementation initiatives?

We recommend that the Commission Staff and the other parties start by considering the statewide electric and gas efficiency studies completed by Optimal Energy for NYSERDA. These studies reveal the measures, sectors, and markets with the greatest potential for energy savings at the least cost. Efficiency efforts should target all markets and sectors, and be customized to address unique barriers for each market. All energy efficiency that is cost-effective should be procured by utilities.

Beyond that, NYSERDA has commissioned "gap analyses" to identify markets not adequately addressed by the current suite of Energy $mart™ programs. Additionally, there are several existing programs, particularly in the commercial and industrial sector, that quickly exhaust their budgets, and are routinely oversubscribed and are therefore likely to be good candidates for additional cost-effective savings. Ultimately we believe the PSC should establish the broad policy, funding, administrative and regulatory frameworks (including a revenue decoupling mechanism with regular true-ups and performance-based incentives for utilities that achieve aggressive targets) and then encourage those parties tasked with providing efficiency services to develop comprehensive programs that address all markets and strive to capture all cost-effective efficiency, building on the best practices in NY and elsewhere.

On Long Island, the Long Island Power Authority should move forward with the Efficiency Long Island initiative that has been developing and adopt 15 by 15 as its goal. The New York Power Authority should also set the same goal for its governmental and economic development customers. An enhanced Executive Order for public facilities can also make an important contribution in the State achieving the 15 by 15 energy efficiency goal.

2. What is a reasonable goal for natural gas energy efficiency programs?

The 2006 natural gas efficiency potential study completed by Optimal Energy establishes overall potential and estimates likely maximum achievable levels. New York should strive to capture all gas efficiency that is lower cost than alternative supply. We believe striving for 15% reductions from efficiency by 2015 is a reasonable first step and roughly in line with the study's findings.

Note that we support fuel switching conversions to gas that will reduce emissions of greenhouse gases. To the extent significant fuel switching to natural gas occurs, this will need to be taken into account when determining the actual efficiency gains off of a current reference-case forecast.

3. What are the most appropriate methods and processes for establishing program specific goals and for measuring progress towards long term goals (including program monitoring, measurement, and evaluation)?

Development of overall goals, such as 15% by 2015, should be established by the PSC and/or State. However, individual program goals should be developed by those ultimately responsible for delivering the efficiency savings, based on analysis of the opportunities and development of the plans to reach them. The Optimal Energy efficiency potential studies provide a good foundation for this work.

We recommend that the PSC allow program administrators some flexibility in developing programs and shifting resources among programs over time, so long as they focus on reaching the overall targets. This allows for mid-course corrections and allocation of resources most efficiently. However, this flexibility should be bounded by some fundamental policy criteria set by the Commission dealing with things like equity (sectoral, demographic, and geographic), cost-effectiveness, and other major policy issues.

Progress toward meeting goals should be monitored on an on-going basis. All savings estimates should be developed in a transparent and objective fashion, based on clear methods and assumptions. These savings estimates should be verified and refined over time with rigorous independent impact evaluations.

4. What load forecasting models and methodologies should be used in developing and refining the objectives of the EPS Proceeding?

It is important that forecasts be clear about what natural efficiency improvements are embedded in them and what is not. Currently planned NYSERDA SBC, LIPA and NYPA efficiency plans should be separated out of the reference case forecast, and allowed to count toward efficiency goals. However, past efficiency efforts and existing or known future codes, standards and executive orders should be implicit in the forecasts and not count toward meeting new efficiency goals.

5. What other national, state, and municipal government and private initiatives would help New York meet the objectives of the EPS Proceeding? In what ways can we leverage the impact of these initiatives to help us meet the objectives of the EPS Proceeding? How should the impact of these initiatives be counted and measured?

There are numerous other initiatives that can help NY reach its goals, and they should be integrated with, and leveraged by, New York's efforts whenever feasible and practicable. These include, but are not limited to: Federal efforts like the U.S. EPA ENERGY STAR® program and FEMP; federal and state tax incentives (such as the green building tax credit); New York City efforts, including PlaNYC and aggressive planned spending on municipal facility upgrades; and, new private initiatives like that of the Clinton Foundation. It is important to look to leadership by the public sector at all levels of government and particularly to recognize the role of NYPA and its customers. Well-implemented state, county and city programs will be helpful and should be pursued and supported. Such programs include measures incorporated in PlaNYC, mentioned above, such as the target of achieving a 30% reduction in municipal and institutional global warming pollution by 2017 from current levels, in addition to an enhanced and aggressive Executive Order 111 and expanding efficiency standards for products such as light bulbs and furnaces on the State level.

However, because the impact and likely activity from federal and private efforts focused on loans are still speculative and likely very dependent on the State's programs, NY should plan for 15% efficiency savings by 2015 through its own initiatives.

Rigorous independent evaluations should be used to break out attribution of savings and estimate incremental benefits of NY programs vs. initiatives outside NY.

6. The Commission instituted a pilot natural gas efficiency program within Consolidated Edison Company of New York, Inc.'s (Con Edison) service territory.[1] As part of that pilot program, the Commission directed the New York State Energy Research and Development Authority (NYSERDA) to prepare a study of the natural gas energy efficiency potential within Con Edison's service territory. NYSERDA filed that study on June 22, 2006, and it was then issued for comment.[2] Subsequently, NYSERDA prepared a study entitled "Natural Gas Efficiency Programs Resource Development Potential in New York," which was issued on October 31, 2006 and is available on both the Commission's and NYSERDA's web sites. In considering issues associated with a Con Edison electric efficiency/demand management program, the Commission specified how the total resource cost test should be applied to measure the cost effectiveness of measures under that program.[3] In the statewide study, NYSERDA used a different benefit/cost approach to measure cost effectiveness.

   a. Please comment on the appropriateness of the approach used in the statewide study.

The statewide study used the same approach to the Total Resource Cost (TRC) test that was used in NYSERDA's prior study for Con Edison. We do not believe that it diverged from the PSC direction in Case 04-E-0572, Consolidated Edison Company of New York, Inc. – Electric Rates, Order on Demand Management Action Plan (issued March 16, 2006). In that Order, the Commission addressed a number of issues related to the TRC:

i) Should T&D avoided capacity costs be included?

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[1] Cases 03-G-1671 and 03-S-1672, Consolidated Edison Company of New York, Inc. – Gas and Steam Rates, Order Adopting the Terms of a Joint Proposal (issued September 27, 2004).

[2] Case 03-G-1671, supra, Notice Soliciting Comments (issued August 14, 2006) (Con Edison Notice).

[3] Case 04-E-0572, Consolidated Edison Company of New York, Inc. – Electric Rates, Order on Demand Management Action Plan (issued March 16, 2006).

ii) Should Market price effects be included?

iii) Should environmental externalities be included?

iv) Should risk impacts be included?

T&D Avoided Costs

The Commission found that it is appropriate to include T&D avoided cost impacts in the TRC (Order at pp. 34-35). The NYSERDA studies did include T&D avoided cost impacts, consistent with Commission direction. We agree that impacts on T&D costs are resource savings and should be included in any TRC analysis. In fact, there have been efforts to specifically deploy energy efficiency programs in geographically targeted areas to avoid T&D upgrades, so clearly efficiency can have an impact on T&D investment needs. When considering state or region-wide efforts, using average T&D avoided costs is appropriate. We recognize that specific savings are highly dependent on the location of energy reductions and local needs for T&D upgrades. However, using average levels should provide a reasonable proxy when addressing large areas with substantially varying T&D avoided costs. For geographically targeted efforts, local T&D avoided costs should be used.

Market Price Effects

The NYSERDA statewide study estimated market price effects. However, it analyzed TRC ***without*** *price effects. It also showed what the overall results would be including price effects. We believe that, to the extent they can be estimated with reasonable accuracy (similar accuracy to that with which energy consumption and avoided cost forecasts are made),* ***price effects should be included in the TRC and are resource savings.*** *We disagree with the Commission's position that price effects represent redistribution of wealth and are not resource impacts (Order at p. 31).*

In a deregulated market, avoided costs for natural gas are based largely on market commodity prices. In a reasonably free market (assuming lack of extreme market power to manipulate prices by a single or small number of suppliers), these market prices reflect the ***societal cost of this resource on the margin****. As demand is reduced, pressure on the supply is relieved, reducing congestion costs and the need to draw on the most costly resources available. As a result, on the margin, the resource value of supply is lowered. If this were not true, then use*

of marginal avoided costs to value electricity and fossil fuel impacts would not be appropriate ways to value resource costs either, as these are heavily dependent on supply costs. Certainly, it is longstanding policy in the efficiency industry to value energy impacts at avoided cost estimates.

Environmental Externalities

Strictly speaking, the TRC test does not include monetized values of externalities. However, the Societal Cost Test (SCT) does. We support inclusion of monetized values for environmental externalities for the major emissions from electricity generation and fossil fuel use; in particular, CO_2, SO_2, NO_X and mercury. We suggest the Commission adopt the SCT as the appropriate test for New York, as it did during the early 1990s.

Given the current environment and the certainty that air emissions from power plants and fossil fuel burning create long-term economic impacts, some reasonable estimate of these costs should be made. A reasonable proxy value for CO_2 may be derived from observation of various emissions trading schemes. We agree with the Commission that current trading systems for SO_2 and NO_x internalize some of these costs in electric avoided costs (Order at p. 37). However, these cap and trade systems still allow significant emissions, and the trading values likely represent a significant undervaluation of the true resource impacts on health and safety, the ecosystem, etc. We support an approach similar to what NY used in the early 1990s, namely the use of an adder to avoided costs to reflect a reasonable estimate of the societal benefits from emissions reductions.

Risk Impacts

Energy efficiency offers some significant risk reduction benefits. These derive from: 1) the load-following nature of efficiency measures, which reduce forecast and reliability risk; 2) the diversified nature of energy efficiency resources coming from many small measures rather than a single source that may be vulnerable to shut-down or catastrophic failure; and 3) the ability of energy efficiency resources to be captured quickly without the long lead time associated with siting, permitting and constructing supply-side options.

However, while at least one jurisdiction explicitly includes a risk benefit in TRC tests (VT, see Order in Docket No. 5270), we agree with the Commission that monetization of this risk

benefit is exceedingly difficult and that, while it should be considered at the program portfolio level, should not be directly included in TRC.

b. If a different test of cost effectiveness should be used (i.e., other than the total resource cost test), what test should be adopted and why?

The Societal Cost Test (SCT) should be adopted, as explained above. The only difference between this and the TRC is the inclusion of monetized externality values.

If you have not already commented on this previously, please provide your observations, critiques, and other comments on the data, assumptions, methodologies, and analyses used to develop the estimated potential savings and benefits in the statewide study.

PROGRAM ELEMENTS:

7. What role should building codes and appliance standards play in reaching New York's energy efficiency goals and should such standards vary by geographical area (i.e., metropolitan New York City versus upstate)?

Building codes and appliance standards are important ways to "lock in" efficiency savings and transform markets, though they generally serve to raise the efficiency at the bottom end of the spectrum and rarely push the envelope of what can be accomplished. As a result, they are important in attaining energy efficiency goals and efficiency programs should be coordinated with them and designed to promote enhancements to codes and standards over time.

The PSC should consider as "baseline" any codes or standards, or the legal requirement to develop new standards that pre-exist this process (which should be implicitly reflected in current forecasts). However, new codes or standards that could be developed and implemented during this timeframe, and their associated energy savings, could be counted toward these new efficiency goals. Given the timeline usually required to put in place new codes and standards, significant energy savings from these measures may be challenging before 2015, but because they can provide very large savings over the longer term they are very important to pursue in tandem with other efficiency initiatives.

Product and appliance standards should be statewide. In fact, alignment with other states, particularly in the Northeast region and California, is also beneficial as product and appliance markets are national. Building codes typically vary by climate zone, as does New York's, and this should be continued.

New York is expecting to implement its new commercial energy code in August of this year. This new code is based upon the 2003 International Energy Conservation Code (IECC) with New York amendments. New York is also committing to quickly consider the 2006 IECC standards and to revise the code again within two years. Following through on this effort is critical. Recent changes in other codes – particularly the ASHRAE 90.1-2004 standard – establish far higher levels of energy efficiency in new construction for commercial buildings, particularly with regard to lighting efficiency.

For residential buildings, New York could follow the lead of a number of communities on Long Island in adopting the Federal ENERGY STAR® label as a requirement for residential new construction. The ENERGY STAR® label would be more stringent than the 2004 IECC with New York amendments, New York's current baseline for residential new construction.

Additionally, New York's promotion of higher energy efficiency requirements for several appliances has resulted in higher Federal standards, to be phased in within the next five years. The State of New York should monitor the U.S. Department of Energy's (DOE) progress in meeting their required timeframes. There are a number of appliances over which the DOE does not have jurisdiction, for which the State of New York could establish new efficiency standards. While some of these have been adopted, there are others that could be. California currently has the most comprehensive set of appliance efficiency standards, and can be looked to as a model. Other states and nations and members of Congress are also examining modern efficiency standards for light bulbs, which could be implemented quickly with more immediate return in energy savings.

Finally, the establishment of more rigorous building codes must be complemented by state policies and resource commitment to support local enforcement. Appropriate training,

tools, and staffing at the local level will be essential to secure the benefits inherent in the adoption of modern codes.

8. What role should outreach and education play in an enhanced energy efficiency effort and what changes in approach should be made in various demographic or market segments from the methods now being used?

Outreach and education efforts should be undertaken much more aggressively, and should be organized according to market channels. A single overarching approach and strategy should be developed. Current methods tend to follow individual program channels. We believe NY is best served by having a unified campaign to engage as many market actors as possible without creating administrative barriers. Administrative barriers are those created by well meaning efficiency program administrators that create multiple, often conflicting pathways for participants to work with them.

The single outreach strategy would incorporate the reality that energy efficiency results from decisions made by a range of different individuals. Recent developments in energy efficiency programs have begun to target outreach and education efforts toward "market channels", such as builders, contractors, architects, engineers, distributors, retailers and manufacturers, but far more could be accomplished. Generally, all individual energy efficiency programs – or statewide efforts coordinated across these programs – should:

- *recruit and train builders and contractors on energy-efficient design practices and technologies, reward high-quality installations, and assist their efforts in marketing energy efficiency projects*
- *build direct relationships with architecture and engineering firms to promote energy-efficient design practices and technologies, reward high-performance buildings, and assist their efforts in marketing high-performance design*
- *build direct relationships with retailers and distributors to stock and promote energy-efficient technologies, particularly where those entities operate across the jurisdictions of individual efficiency programs*

This would not involve separate relationships or efforts by individual programs; the relationships become conduits to promote energy efficiency in all sectors and through all approaches (e.g., new or existing homes, new or existing commercial buildings, and energy-efficient products and appliances).

Finally, New York should continue an education campaign for end-use customers, both homeowners and businesses, and both tenants and owners, to tout the non-energy benefits of these products and services: greater quality, greater comfort, improved productivity, and lower carbon footprints. These materials should be available for non-English speaking members of New York's population.

9. What role could innovative rate design play in enabling greater penetration of energy efficiency and how might this vary by market segment? Should energy tariffs recognize and differentiate between the relative level of energy efficiency designed into new buildings?

Rate design can help to encourage efficiency, although it is not a panacea, since it does not directly address the market barriers that inhibit the purchase of energy-efficient products and measures by residences and businesses. To be effective, rate redesign needs to be complemented by other proven efficiency services including grants, technical assistance, marketing, etc. Energy tariffs that recognize and differentiate between the relative level of efficiency in buildings are complex, but potentially offer significant promise as a method to send appropriate market signals to end users.

10. What programmatic and outreach efforts, within and beyond the current scope of the Commission's jurisdiction, that have not been generally considered as energy efficiency programs, should be integrated into overall strategies and plans to reach energy usage reduction targets?

Programs delivered by utilities that are not regulated by the Commission should be integrated and coordinated, as much as possible, with other programs and statewide initiatives. These include: NYPA, LIPA, and municipal utilities. For the latter, the Commission should work

with the appropriate parties to ensure that customers of small municipal utilities have the same access to efficiency program opportunities as those of the larger utilities.

In addition, state-level efforts outside the Commission's jurisdiction are also important to integrate with other initiatives to achieve New York's efficiency goals. These include, but are not limited to: an enhanced and aggressive Executive Order 111 and the adoption of aggressive codes and standards, such as those containing efficient lighting requirements. Similarly, the Dormitory of the State of New York's (DASNY) role in providing financing and construction services to hospitals, universities and other institutions can be a critical means of leveraging efficiency improvements statewide.

Finally, regional, local and private initiatives should also be integrated and coordinated with Commission initiatives. Examples of these include: those of the NY ISO, NEEP, New York City's PlaNYC, and other municipal or private initiatives.

11. Should customers of natural gas utilities served under value of service or market-based rates, such as interruptible customers, be included in the overall efficiency program? If so, what types of programs are appropriate for these customers? In what ways would a natural gas efficiency program affect the oil and propane competitive markets and what steps could be taken to eliminate or minimize such impacts (e.g., limiting the program to non-dual fuel customers)?

Interruptible customers have many of the same cost-effective efficiency opportunities as firm customers. Therefore, they should contribute to, and be eligible to participate in, gas efficiency programs. Because their patterns of gas use vary, and because they are generally large commercial and industrial customers, but also include multifamily apartment buildings, programs that address them on a customized basis are most appropriate. Such programs would include providing technical assistance and site-specific analyses and grants and financing as necessary to promote cost-effective efficiency measures, recognizing their historic load patterns and level of gas use.

All else equal, attaching a surcharge on interruptible rates to pay for efficiency programs can result in shifting the customer economics more favorably to oil or propane. We believe any

shift would be small, and not materially change current customer decisions, especially given many new concerns among private firms about their carbon footprint. The best approach to "level the playing field" would be for New York, through legislation or executive order, to also collect funds from the sale of unregulated fossil fuels, and offer programs to all customers that are fuel-neutral and capture cost-effective efficiency from electricity, natural gas, oil and propane. This could be done through directing a small portion of the gross receipts tax on oil and propane sales, or via some other mechanism. CT just passed legislation authorizing the extension of public benefit efficiency programs to unregulated fuels markets and VT is considering similar legislation.

Absent efficiency funding from unregulated fossil fuels, mechanisms to collect a contribution from interruptible gas customers that will not significantly impact their fuel choices should be pursued. One possibility is to attach a surcharge to the fixed customer fees rather than the marginal commodity fee.

12. What role should a) distributed generation, b) demand response, and c) combined heat and power play in reaching New York's energy efficiency goals?

Consistent with the Governor's most recent major policy speech on energy, wherein he announced the 15 by 15 Initiative, and in keeping with the Commission's Order instituting this proceeding, primary emphasis should be placed on those strategies that maximize: 1) kWh savings; and 2) contribute to meeting the state's greenhouse gas reduction goals.

In our view, energy efficiency measures (i.e., those measures aimed at providing a comparable level of energy service with less energy input but without loss of amenity) should be given the highest priority and resource commitment. Energy efficiency has certain intrinsic advantages over other distributed energy resources, such as:

- *Energy Efficiency (EE) can reduce load significantly and over many hours of the daily load shape and for many days of the year;*
- *EE does not need to be re-enrolled, as with demand response programs;*
- *EE reduces load over the life of the efficiency measure;*

- *EE does not reduce the level of service or amenity;*
- *EE resource is always "on"; and*
- *EE captures lost opportunities and avoids addition of inefficient load.*

[See Jeff Schlegel, "Energy Efficiency Options for the New England Demand Response Initiative (NEDRI) – Framing Paper #4", May 2002, at http://eetd.lbl.gov/EA/EMP/reports/PUB5482.pdf.]

While curtailment might be included as an EPS-eligible resource, it should be included only to the extent it results in lower energy consumption overall and does not merely shift load from peak- to off-peak periods. To the extent demand response resources provide kWh savings, these should be counted towards the energy efficiency goal.

In general, we do not support the inclusion of distributed generation (DG) as an EPS-eligible resource because they do not contribute to the overriding purpose of the 15 by 15 Initiative, which is efficient use of energy. Furthermore, clean DG technologies, such as photovoltaics and fuel cells, which contribute to GHG reduction, are already included in the Renewable Portfolio Standard, and thus do not need to be included in an EPS. Solar thermal might be considered as part of the natural gas efficiency requirement because it is not included in the RPS and could provide important environmental benefits.

Combined Heat and Power (CHP), however, has important environmental and efficiency benefits that should be captured. By recapturing waste heat from the on-site generator, and putting it to productive use in meeting on-site thermal needs, CHP systems typically attain overall efficiency levels of 60% or more with a single fuel source. By displacing the fuel that would otherwise be burned for heating requirements, CHP contributes to regional GHG reduction goals. Thus, we support the inclusion of CHP in a separate tier within an EPS, above and beyond the 15% target.

13. How can gas efficiency programs best compliment electric efficiency programs? Similarly, how can electric efficiency programs be adapted to serve the needs of gas customers?

*Fuel blind programs are essential in meeting the governor's targets for **electric** energy reduction. Electricity is only one source of energy in typical New York homes and businesses – efficiency savings are available among all energy sources, and often closely tied to each other. Many of the efficiency measures already included in New York electric programs save fossil fuels at end use. For example, upgraded insulation affects electricity consumption for air conditioning but the majority of its energy savings are in the form of fossil fuels otherwise used for heating. Often, efficiency measures, while cost-effective from a societal standpoint, are not necessarily cost-effective when considering benefits from only one fuel. Thus, when screening programs for potential implementation, it is critical to take account of the savings that accrue for all fuels, otherwise important cross-cutting opportunities will be missed. Programs should be integrated and delivered in a cost-effective way – particularly any program that involves a building's "envelope".*

Since gas customers are a subset of electric customers, we see no need for free-standing programs for natural gas or unregulated fossil fuels. Single, fuel-neutral programs are best able to fully serve customers in all their energy needs. Gas efficiency should be jointly delivered with electric — and ideally unregulated fuels — and could be paid for in proportion to the benefits accrued to the different energy systems. This will minimize administrative cost and provide seamless and comprehensive services to all energy end-users.

IMPLEMENTATION:

14. What could be an appropriate role for utilities with respect to the delivery of energy efficiency programs within their service territories? How might that role vary by market segment?

Utilities can play an important role in the integrated delivery of efficiency programs. Utilities enjoy certain inherent advantages viz. their customer base, and these advantages ought

to be exploited in program design and delivery. These advantages include, but are not limited to, the following:

- *They have a local presence and relationships with their customers, and can use these relationships to leverage efficiency adoption. However, care must be taken to develop an administrative framework in NY that does not divide responsibilities in ways that create inefficiencies and market confusion. From a customer perspective (including upstream customers like contractors, distributors and design professionals), participation should be seamless through a single entry point, and communications consistent and all working toward the same goals.*

- *Utilities maintain customer usage data which can be mined for potential energy savings opportunities.*

- *Utilities can potentially play a role in facilitating customer access to attractive financing for efficiency improvements, and conceivably providing a means for the customer to repay any debt service or other obligation through the utility billing mechanism (i.e., "on-the-bill financing").*

- *Utilities can encourage efficiency through the greater deployment of advanced meters.*

We recommend that the existing SBC funding to NYSERDA be maintained ***as a minimum*** *level of statewide funding. NYSERDA should play the role of developing a platform of core programs that can be delivered consistently throughout the state, either by a single entity, one or more independent administrators, or by the utilities, as appropriate. NYSERDA should also serve as a facilitator to ensure good coordination between program administrators, and provide services that require a regional approach. This would include upstream marketing and outreach to distributors, manufacturers, the design community and others. NYSERDA should also focus on those efficiency initiatives that rely primarily on upstream, market transformation strategies and/or mass marketing (e.g., retail light bulb programs with manufacturer buy downs). Finally, NYSERDA or another default provider should be available to deliver services in utility territories where utilities are not willing or able to field effective programs on their own. For*

example, NYSERDA might deliver programs for small municipal utility customers. An alternative for the latter is NYPA, who often provide wholesale power to the municipalities.

Where utilities are capable and willing to aggressively deliver efficiency programs, this should be done. However, they should be well coordinated, and based on the platform of initiatives developed for consistent delivery throughout the state. Utilities may be most able to focus on scaling up resource acquisition (retrofit) programs where regional approaches are not as critical, but customer relationships are. In addition, utilities should be directed to field geographically targeted efforts in addition to the core statewide programs when these are identified as cost-effective alternatives to local T&D upgrades. T&D planning by utilities must be done with a sufficient lead time to allow for a full analysis of alternatives and the ability to ramp up to meet reliability criteria.

- *To the extent utilities are pursuing advanced metering, this can also reduce peak demand and provide ancillary efficiency benefits. The costs associated with the deployment of advanced meters should not be charged against dedicated efficiency budgets, but rather should be ratebased by the utility as a capital expenditure or recovered through some other mechanism.*

For a more in-depth discussion of efficiency program administration options and issues, see Martin Kushler, Ph.D., Dan York, Ph.D., and Patti Witte, M.A., "Five Years In: An Examination of the First Half-Decade of Public Benefits Energy Efficiency Policies", April 2004 and Cheryl Harrington and Catherine Murray, Regulatory Assistance Project, "Who Should Deliver Ratepayer Funded Energy Efficiency? A Survey and Discussion Paper", May 2003.

15. What role should key stakeholders play in an enhanced energy efficiency effort (e.g., Staff, Departments of State and Environmental Conservation, utilities, NYSERDA, Division of Housing and Community Renewal, NYPA, LIPA, NYISO and energy service companies), and how should they coordinate their efforts? What factors should be taken into account in determining how the implementation of various program elements should be managed and monitored.

All of these stakeholders and others (including municipalities, housing authorities, OGS) can provide valuable assistance in ensuring the success of efficiency efforts. We support the notion of coordination at all levels. We reiterate, however, that unified program offerings including consistent products and services and single points of entry and communication are critical for success. Program offerings should be seamless from a customer point of view. We see a strong role for utilities in delivering the energy efficiency resource, interfacing with customers and implementing the program. We believe NYSERDA may be best positioned to engage many of these stakeholders as part of their overall role in program development and coordination among administrators. Some stakeholders may more appropriately develop relationships with individual program administrators. For example, the City of New York would likely play an important role with NYPA and Con Edison programs, ensuring aggressive participation of NYC facilities, and perhaps assisting with outreach to non-municipal customers. Similarly, ESCOs will be able to take advantage of programs in any service territories to boost their market penetration and deliver cost-effective savings to the program administrators.

The New York goal of 15% savings by 2015 should apply to all load-serving entities in the state: regulated utilities, power authorities, and municipal utilities.

16. What role should the private sector (e.g., financing and educational institutions) play in program development and implementation? How should these efforts be coordinated with utility and government entities' programs? Are there additional incentives (or tax relief) that could be provided by Federal, State and Local governments which would enable greater penetration of energy efficiency initiatives?

The private sector has a vital role in successful energy efficiency program implementation. Ultimately, efficiency programs are intended to intervene in markets, not displace them. Success of these programs is dependent on the private sector providing the necessary efficiency services, capital, and expertise. The state and utility parties should closely coordinate with the private sector, and leverage whatever services or initiatives they offer in a coordinated fashion.

Tax incentives can also play a role in enhancing efficiency. Any programs should coordinate with them and leverage this funding to offer customers a seamless and attractive financial package.

17. Should utilities (or other entities) receive incentives for implementing successful energy efficiency programs? If so, what is the appropriate level and form that these incentives should take and should such incentives be performance based?

If investor-owned utilities (IOU) are to deliver efficiency programs, they should have the opportunities to earn performance incentives to encourage aggressive achievement. While decoupling, with regular true-up mechanisms, will remove one of the biggest disincentives to utility investment in DSM (lost revenue), it is not sufficient to provide an adequate incentive for exemplary performance.

The key components of a good performance incentive mechanism should be:

- *Award of incentives based on actual verified performance (e.g., not for spending money on efficiency, but for getting results)*
- *Incentives should be scaled, with higher incentives for higher achievement. The target award level should be based on aggressive but achievable goals, with the opportunity to earn greater incentives for exemplary performance beyond these base goals. This avoids the situation where utilities stop pursuing more cost-effective efficiency once they reach the base target.*
- *Threshold levels that are less than the base goals should be established where utilities can earn a portion of the target incentive for reaching the threshold level (say 75% of the base goal and incentive level), with additional earnings scaled up to the exemplary level. This is important because if it is clear prior to the end of the period that a utility will not reach the target, they should still have incentive for pursuing as much efficiency as possible.*
- *The largest portion of incentives should be based on achieving actual benefits, ideally based on total resource net benefits, but could be based on kWh and peak kW savings as well, or a combination of the three. However, additional goals tied to other criteria should exist. These goals can be used as countervailing influences, to avoid utilities simply focusing on savings at the potential detriment of things like equity, comprehensiveness, etc. Examples could include: targets for low income participation; geographic or demographic equity goals; comprehensive treatment goals (e.g., at least X% savings among new construction participants), etc.*

- *Incentives can be annual or multi-year. Multi-year goals have the advantage of allowing utilities more flexibility to modify designs over time to make most efficient and effective use of resources. It also allows for goals focused on things like market transformation that may take multiple years to show results.*

All incentive earnings should be subject to independent verification of achievements, and not pre-specified based on simply completing certain milestones.[4]

18. What are the best methods for ensuring that low income customers have access to efficiency programs?

Having dedicated funding and saving targets for the low income sector is an important policy criterion to ensure adequate services to this sector. Dedicated programs are also important, because strategies that often work for non-low income customers may not be effective for low income customers. For example, rebates may not be a particularly effective means for encouraging energy efficiency in the low-income sector, since the homeowner or tenant may not have the financial wherewithal to assume the remaining cost of the measure; direct installs (i.e., where the program picks up 100% of the measure cost or piggy backs with low-income weatherization to create a more comprehensive scope of work) may be the more appropriate strategy. Finally, any utility or state run programs should coordinate with other low income services, particularly with the weatherization agencies, but also non-energy related services and advocate agencies. For example, various low income advocacy agencies may be able to play an important role in outreach to these difficult to reach customers.

19. How should environmental justice be considered in program design?

It should be considered in terms of equity — demographic, sectoral, geographic. The goals of equity and environmental justice should inform how strategies are prioritized, how programs are implemented, and how successes are measured. The Commission can set goals that ensure a certain level of equity for those areas. However, the Commission should also consider diverging from strict equity rules (e.g., every segment should get benefits exactly in

[4] In general, incentives in the range of 5-10% of program spending have proved sufficient in other jurisdictions (e.g., VT, MA, CT). Note that while incentives should be based on performance, not spending, considering the level of base incentives as a fraction of utility investment is a convenient way to consider appropriate levels.

proportion to funding contributions) to address important social issues (e.g., low income), as well as to increase the overall benefits for the state (e.g., geographic targeting to those areas with T&D constraints that offer the greatest overall benefits and targeting efficiency in communities that are located close to power plants). There are also programs that can achieve efficiency and other benefits, such as programs that work with landlords and home owners in environmental justice communities to improve the housing stock, making them more efficient, providing improved air quality and better living conditions in general.

20. How should existing gas utility efficiency programs, and those under development in rate proceedings, be integrated into an overall energy efficiency effort?

See answers 13 and 15 for more information.

As the natural gas efficiency programs are scaled up, there should be a seamless integrated program between utilities and NYSEDRA in capturing all cost-effective electric and natural gas efficiency. Gas and electric efficiency programs should be integrated as much as possible from a delivery standpoint. From a customer standpoint, there should be a single efficiency service that addresses all their energy needs, and offers financial and technical services that address buildings comprehensively. This will provide the best level of customer service, and as a result will capture the highest penetration rates and most comprehensive treatment within each facility. In addition, single programs will eliminate redundant administrative efforts such as: data tracking, M&E, planning, staffing, management, etc. Single initiatives will also reduce confusion in the market by avoiding multiple parties talking to the same upstream market actors about competing programs. Finally, fuel-neutral programs ensure that measures that save both electricity and gas will be promoted with appropriate financial and technical services, where they not be with balkanized programs.

Funding should come from the respective customers and pooled to deliver a single set of full-service, comprehensive, fuel-neutral programs. Costs should be allocated to the different funding streams in proportion to the benefits accrued by each system, at the overall program level. In other words, if a program derives 40% of its benefits from avoided gas costs and 60% from avoided electric costs, then electric funds would cover 60% of the costs and gas the other

40%. If NY determines a funding mechanism to address unregulated fuel efficiency, this should also be combined into this single portfolio of programs.

21. Are there any modifications or adjustments that could be made in the current Systems Benefit Charge portfolio that would achieve higher levels of energy efficiency market penetration and saturation?

Certainly. First of all, increasing funding dramatically could result in much higher levels of savings and penetration. The Optimal Energy electric and gas potential studies done for NYSERDA can be looked to for guidance on the magnitude of these opportunities and program strategies. Additional funding would allow programs to more aggressively target existing markets, reach out to additional markets that are under served, and offer more generous financial incentives. Administrators and planners should look to best practices throughout the country for strategies to increase savings.

Secondly, SBC programs could potentially benefit from a more holistic approach. Currently there are a large number of distinct programs, which can create "silos" that cause confusion and barriers to good customer service. NYSERDA has been consolidating programs into fewer initiatives targeted to specific markets, rather than services, and it should continue to look for opportunities to streamline program delivery from a consumer perspective. For example, offering a single source for services to existing commercial buildings, rather than say an audit program that is separate from programs with financial services. That said, what is important is how offerings are perceived by customers, contractors, distributors and design professionals. NYSERDA may find it is appropriate to internally manage and track programs the way they do, so long as the process for involvement by customers is seamless.

Finally, NYSERDA's Energy $mart™ program is driven by a number of objectives beyond kW and kWh savings. For example, some programs have an emphasis on longer-term research and development. It may be worthwhile to reexamine whether the NYSERDA portfolio is appropriately balanced between exploiting near-term savings opportunities and longer term research and development objectives in light of the 15 X 15 directive.

COSTS AND BENEFITS CALCULATION:

22. How should the expected benefits and costs of various design options be measured and compared? What externalities should be included and why? What expenditures or benefits should be characterized as transfer payments and perhaps excluded from the analysis? Why?

See answer #6 for more information.

Current NY regulatory policy adopts the total resource cost test (TRC) as the appropriate comparison of costs and benefits. This test provides an overall measure, from a societal perspective, of the wealth impacts on the economy. We support adopting the societal cost test (SCT), which is identical to the TRC except that it includes monetized values for externalities.

Both the TRC and SCT define benefits as all reductions in total resource cost to the economy. This would include electric and fossil fuel avoided costs, water avoided costs, reductions in operating and maintenance costs, or any other resource savings that can be estimated with reasonable precision.

Costs are any quantifiable reductions in the overall wealth of society, and would include: 1) incremental cost of adopting efficiency measures (incremental may be the difference between an efficient and standard efficiency measure for a planned investment in equipment (lost opportunity), or it may be the full equipment and labor cost of a measure when there were no other plans to make any equipment or system investment (retrofit)); 2) any increases in fossil fuel or water avoided costs; 3) the costs of planning, implementing and evaluating efficiency programs; and 4) any other quantifiable cost to the economy.

23. What are the best methods for ensuring transparent and technically sound methods for evaluation of program energy savings (gross and net), non-energy benefits (e.g., economic, environmental) and program performance and administration?

The evaluation discipline is reasonably mature and has developed various methods to estimate impacts and effectiveness. It is not appropriate to specify these at this point, because developing monitoring and evaluation (M&E) plans is an extensive undertaking and should be developed as the parameters of administration and program plans are developed.

NY should adopt a single set of transparent methods and parameters for on-going estimation of impacts based on the best engineering, verification and evaluation knowledge. A good model for this is the Efficiency Vermont Technical Resource Manual. Similarly, NYSERDA's regular evaluation of the Energy $mart™ program has advanced the state-of-the-art in efficiency program evaluation. In addition NY should use experts in the M&E field to develop, plan and implement independent assessments of program impacts (energy and non-energy), and administrative performance. These evaluations should be done by a separate party from the program administrator(s) to allow for an objective assessment and avoid any conflicts of interest. One possible model would be for the PSC to contract for evaluations.

24. How should customer satisfaction and program design efficacy be assessed?

See answer #23. These assessments would typically be done through process evaluations. Typical techniques include, but are not limited to: phone and mail surveys, in person interviews, and reviews of internal procedures, tracking data and documents.

FUNDING:

25. What constitutes a reasonable level of funding for the electric and gas energy efficiency programs? How, and from whom, should the various program costs be funded, allocated and recovered?

*The Commission should direct program planners and administrators to pursue all energy efficiency that is lower societal cost than alternative supply (**all cost-effective efficiency**). A goal of 15% savings by 2015 is a reasonable starting point. Funding should be sufficient to accomplish this. The Optimal Energy electric and gas potential studies done for NYSERDA should be updated to more accurately estimate the appropriate funding targets to achieve this goal.*

Electric and gas customers (and unregulated fossil fuel users if possible) should fund efficiency efforts, as they currently do, in proportion to the benefits accruing to the respective energy systems.. In addition, available funds outside of this traditional funding stream should be

captured and aggregated for use for efficiency programs whenever possible. This would include, for example, RGGI funds. It could also include DOE grants and private sector financing.

While all customers should pay for energy efficiency, there are a number of options for recovering these costs. Utility cost recovery — amortized with reasonable interest — over the life of the efficiency resources would smooth out any rate impacts, and put efficiency resources on a more equal footing with supply-side options. The Commission should direct administrators to pursue all cost-effective efficiency, and allow utilities the flexibility to increase or decrease funding, with recovery assurances, as necessary to achieve this based on least cost planning analyses. Dedicated funding streams should be established to cover all regulated fuel end-users, including customers of NYPA, LIPA, IOUs, and Municipal utilities.

Some utilities have discussed the concept of ratebasing efficiency costs. While that could put efficiency resources on an equal footing with supply, under this scenario a mechanism would need to exist to ensure that any rate of return earned by the utility on efficiency investments was tied to performance.