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July 11, 2007

#### VIA HAND DELIVERY

Hon. Jaclyn A. Brilling, Secretary Public Service Commission of the State of New York Three Empire State Plaza, 14<sup>th</sup> Floor Albany, New York 12223-1350

Subject: Case 07-M-0548 - Proceeding on Motion of the Commission Regarding an Energy

Efficiency Portfolio Standard

Dear Ms. Brilling:

Enclosed for filing in the above-entitled proceeding are an original and five copies of the Answers of the New York Independent System Operator, Inc. to Staff's Questions to the Parties. Pursuant to Judge Stein's procedural rulings in this proceeding, the NYISO is serving this document on all parties via electronic mail to the list service established for this matter. Should you have any questions, please contact me by phone at (518) 356-6220 or by e-mail at <a href="mailto:cpatka@nyiso.com">cpatka@nyiso.com</a>.

Very truly yours,

Carl F. Patka Senior Attorney

Hon. Eleanor Stein, Administrative Law Judge Public Service Commission of the State of New York Three Empire State Plaza, 3<sup>rd</sup> Floor Albany, New York 12223-1350

All Parties



## State of New York Public Service Commission

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

# Answers of the New York Independent System Operator, Inc. to Staff's Questions to the Parties

The New York Independent System Operator (NYISO) is pleased to submit these answers to the questions posed by the New York State Department of Public Service Staff ("DPS Staff") in the above-entitled proceeding. As we stated at the June 4, 2007 procedural conference, the NYISO is committed to working with the parties and DPS Staff to establish an Energy Efficiency Portfolio Standard (EEPS) that would assist in reducing electricity consumption by New York consumers by 15 percent from forecasted levels in the year 2015. The NYISO is prepared to provide technical analyses and wholesale market-based proposals to support the goals of this proceeding.

Accordingly, the NYISO's answers to those questions that pertain to its areas of operation and expertise follow, arranged according to the DPS Staff's questions.<sup>1</sup>

#### **GOALS:**

Q1. 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

<sup>&</sup>lt;sup>1</sup> The NYISO has no comment on the questions it has not answered.

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?

A1. Achieving the ambitious 15% reduction by 2015 will require a multifaceted approach that includes market-based solutions, subsidized programs, and retail utility programs as well as rate-design alternatives and the development of an advanced metering infrastructure. It is important that the PSC encourage market-based programs to achieve energy efficiency goals, in addition to centralized "command and control" regulatory programs that mandate installation of certain types of energy efficiency devices by utilities. The NYISO's Installed Capacity (ICAP) market supports demand response: Special Case Resources (SCR) that can reliably reduce their energy consumption or replace their demand with self-generation when the programs are triggered (such as during peak demand periods on hot summer days) receive capacity payments. These programs, with modification, could support the inclusion of energy efficiency initiatives by recognizing the capacity delivery needs they satisfy and providing compensation at the market-determined clearing price for that service.

The NYISO marketplace also provides opportunities for demand response participation in the energy market through its Day Ahead Demand Response Program (DADRP). This program allows resources to indicate thresholds at which they will lower or cease energy consumption. These resources are compensated at the prevailing NYISO market-based energy price for those reductions.

Energy storage or thermal storage devices that allow for the storage of energy during offpeak periods for later consumption during on-peak periods, while not directly effecting
energy efficiency, have the benefit of eliminating emissions by shrinking the need to start
and stop generating resources, and by reducing the dispatch of generating resources. Offpeak energy usage relies more on cleaner, more efficient and lower-priced generation
than the high-cost combustion turbines used during peak periods. The NYISO
marketplace provides the correct economic price signals to allow consumers to evaluate
the costs of utilizing these technologies.

In order for customers to be interested in managing their energy consumption, either independently or through their energy service providers, they must have the financial incentives and timely information to reduce their consumption and to manage the cost of the energy. Parties that do not receive any benefits from the reduction are likely to be uninterested in managing their consumption. Achieving energy consumption reductions will require offering options to energy consumers and competitive energy management companies for managing their energy consumption on a continuous basis in response to constantly changing system conditions and costs, through the use of technologies such as available advanced metering and curtailable appliances.

Q3. What are the most appropriate methods and processes for establishing program specific goals and for measuring progress towards long term goals (including program monitoring, measure and evaluation)?

A3. The success of achieving the goals of the Governor's "15 by15" plan depends upon a correct assessment of its feasibility. The programs that should be included in the EEPS are those that can achieve measurable and verifiable savings through some form of direct metering, which may take any of several forms: billing analysis (either pre- & post-installation or participant / non-participant analysis), non-intrusive whole house metering of affected end-uses, or some other form of direct metering or statistical measurement.

The NYISO is currently reviewing the process used by NYSERDA in the development of its 2003 Technical Conservation Potential study for establishing and delivering specific program goals. The NYSERDA process can provide a substantial starting point.

Nevertheless, this study is based primarily on data from the mid-1990s and from studies more relevant to other states and it should be updated with current information specific to New York.

The methodology used by NYSERDA to evaluate the feasibility of the current energy efficiency potential in New York should be strengthened and enhanced as follows:

- (a) it should reflect the current end-use and technology profiles of each major energy sector -- residential, commercial, and industrial;
- (b) it should include the major stakeholders in the state -- public sector staff, transmission owners, other load serving entities, the NYISO, and other retail energy services providers -- who are primarily responsible for carrying out the activities envisioned in the Energy Efficiency Portfolio Standard;

- (c) it should update the avoided levelized costs of the several types of generation that are offset by conservation programs;
- (d) it should include consideration of demand response programs and the impact of new metering technologies;
- (e) it should review and revise the cost of environmental externalities of electric generation, particularly given that a segment of generation in the state is carbon-neutral;
- (f) following the guidelines recently established by the California Energy Commission<sup>2</sup>; it should adopt a more rigorous level of measurement and evaluation of conservation efforts;
- (g) the scope of the feasibility study should be expanded to examine the benefits, costs and trade-offs in the electric energy, gas energy and transportation segments of the State's economy; and
- (h) the evaluation of renewable energy generation technologies should be separated from the study of conservation potential and addressed in the Renewable Portfolio Standard.

Funding for energy efficiency programs should be allocated among the several fuels and economic sectors that are affected by the programs. If a program is only directed at the electric energy sector, the current System Benefits Charge mechanism is appropriate. If the transportation sector is included in the overall plan, however, the EEPS funding mechanism should be restructured to avoid electric energy consumption subsidizing the

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<sup>&</sup>lt;sup>2</sup> California Energy Efficiency Evaluation Protocols: Technical, Methodological, and Reporting Requirements for Evaluation Professionals; April 2006

transportation sector. The use of the System Benefits Charge as a mechanism to fund these activities will allow the PSC to provide necessary regulatory oversight to the programs to balance the issues of cost, reliability and the environment.

- Q4. What load forecasting models and methodologies should be used in developing and refining the objectives of the RPS Proceeding?
- A4. The NYISO's staff has expertise in certain econometric and end-use forecasting techniques, demand-side planning and evaluation, sample design, generation and transmission planning, integrated resource planning and environmental externalities.

  NYISO staff members also have experience in the data collection activities needed to support such planning techniques. We believe that both econometric and end-use forecasting methods are necessary and both should be included in an integrated plan.

  Each has their place in determining the aggregate demand for energy services and making a correct evaluation of the feasibility of energy efficiency opportunities. The NYISO will address this topic in greater detail as the proceeding continues, and has offered to make a presentation to the parties on this topic.
- Q5. 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?

A.5 As a threshold matter, the PSC should establish market-driven energy efficiency programs that put the decision in the hands of electric consumers and marketers to drive economically-efficient energy conservation decisions. Although some market-based programs have been created for industrial and commercial electricity consumption sectors, a variety of new programs should be offered to all consumer sectors, including industrial, commercial and residential, to drive even greater savings.

Constantly changing electric system conditions, and the price signals associated with those conditions, provide the correct economic signals to indicate the most appropriate times for reducing consumption. Neither individuals nor most businesses have the resources to be capable of monitoring these signals and responding to them manually. Centralized monitoring and remote activation of consumption reduction, via the available advanced metering technologies which allow for communication to and from individual metering devices, are necessary.

Energy efficiency would be achieved if real power losses were reduced on local distribution systems. Real power losses on local distribution systems run about five or six percent of the total power produced. Diminishing such losses would reduce the amount of power that has to be produced and transported over the bulk power system and local distribution systems to reach customers. Each utility would need to analyze the potential for improved distribution system losses, which may be significant.

Real power flows could be improved at relatively low costs by upgrading voltages on local distribution systems through existing technologies, such as additional or replacement capacitors installed along local distribution paths. The PSC has jurisdiction over the local distribution of electricity, and may wish to design and establish rates that include goals and incentives to reduce local distribution system power losses as a direct and measurable way of improving energy efficiency.<sup>3</sup>

The State has commenced a number of energy and environmental initiatives which affect each other. Within the PSC alone, these include the long-term contracting and integrated resource planning proceeding, the proceeding to examine electric retail competition incentives, the case to examine revenue decoupling mechanisms to encourage energy efficiency, the proceeding on advanced metering, and the ongoing proceedings on the Renewable Portfolio Standard. The PSC also has multiple rate and siting proceedings that are examining the mechanisms for implementing energy efficiency programs as well as what facilities to build (and where and how) in New York. The Department of Environmental Conservation (DEC) is also undertaking a number of programs that will directly affect the electricity sector, including the Regional Greenhouse Gas Initiative, the High Electric Demand Day initiative aimed at curbing ground level ozone levels, implementation of new emission limitations on mercury, and ongoing implementation of state-level acid rain control programs.

<sup>&</sup>lt;sup>3</sup> Adding voltage support capability to local distribution systems would have the additional benefit of supporting the reliability of the bulk power system.

The effect of all these activities on energy markets and the economic activity in the state cannot be evaluated piecemeal. The PSC should undertake an integrated planning process with other agencies to ensure that state energy policy is coherent, consistent, and effective. The absence of a cohesive state energy and environmental policy framework, at best, creates regulatory uncertainty that could disrupt the NYISO markets and existing reliability planning processes and, at worst, creates potential electric system reliability problems. The NYISO understands that the PSC Staff is examining creation of a Dynamic Energy Planning Process (DEPP) which, building on the NYISO's planning processes, could positively serve the role of coordinating and implementing state energy and environmental policies to adopt resource procurement policies consistent with the NYISO's competitive wholesale electricity markets.

#### **PROGRAM ELEMENTS:**

- Q8. 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?
- A8. Outreach and education are vital components if New York is to reach its energy efficiency targets. The NYISO provides education and outreach to its wholesale customers concerning its demand reduction programs, including the Installed Capacity Special Case Resources (ICAP/SCR), Emergency Demand Response (EDRP) and

DADRP. These programs are described in detail in response to Question 12. The NYISO's energy markets are designed to drive economically efficient energy consumption decisions. These programs and the potential for the energy markets themselves to drive market-based energy efficiency programs could be publicized more widely by the NYISO in cooperation with the State agencies implementing the Energy Efficiency Portfolio Standard.

The NYISO is also currently reviewing NYSERDA reports on market transformation.

More time is needed to determine whether the efforts of this approach will yield quantifiable energy savings.

- Q9. What role could innovative rate design play in enabling greater penetration of energy efficiency and how might this vary by market segment?
- A9. The PSC's design of retail rates in upcoming rate proceedings can play a crucial role in encouraging the Transmission Owners, as Load Serving Entities, to undertake aggressive energy efficiency program implementation. To the extent that the PSC's rate design for the utilities requires a direct pass through of costs and benefits of energy efficiency programs to consumers, there is no added benefit for utilities to engage in load reduction efforts. That is, energy efficiency provides no profit opportunity in the absence of performance-based rate incentives. Indeed, retail rate cost and benefit pass throughs tend to negate existing economic energy and capacity market signals for a large segment of the loads that continue to be served by Transmission Owners as load serving entities.

As a not-for-profit corporation, the NYISO has no incentive to seek greater profits for any sector of the electricity marketplace, and is not advocating such. Nevertheless, the NYISO does perceive a benefit to the economic efficiency of its markets and to electric system planning if the incentives established by the PSC in its retail rate design align with energy efficiency initiatives and the NYISO's energy and capacity markets.

The NYISO's DADRP may offer a way for more customers to participate in real-time markets. One of the barriers to higher penetration of energy efficiency is the lack of clear market signals on the variable price of power throughout the day and the year. New technologies and innovative rate design can together help achieve significant reductions in peak demand and harmful environmental emissions by shifting energy use to those times of the day that avoid generation units with higher costs of production and greater adverse environmental impacts due to air emissions and cooling water withdrawals.

Q10. 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 plan to reach energy usage reduction targets?

A10. The current NYISO Installed Capacity (ICAP) market programs support the inclusion of demand response initiatives in the satisfaction of New York reliability requirements. These programs, with modification, could also support the inclusion of

energy efficiency initiatives in a similar manner by recognizing the capacity delivery needs they satisfy and provide compensation at the market clearing price for that service.

Energy storage or thermal storage devices which allow for the storage of energy during off-peak periods for later consumption during on-peak periods, while not directly effecting energy efficiency, have the benefit of reducing emissions by lessening reducing the need to start and stop generating resources and by decreasing the dispatch of generating resources. The NYISO marketplace provides the necessary price signals to allow consumers to evaluate the costs of utilizing these technologies.

The NYISO marketplace provides a centralized location for the evaluation and valuation of electric energy production through the bidding and scheduling in our day-ahead and real-time markets and the establishment of locational-based market prices (LBMP).

These prices could allow consumers and load serving entities to make decisions on when, or whether, to consume energy if those customers were exposed to real time prices and could realize a benefit in adjusting consumption. Retail rate-designs need to reflect the positive benefit to those consumers who can adjust their consumption in response to prices. The NYISO understands that the PSC is undertaking efforts to expose additional customers to real time energy prices. The NYISO supports these initiatives, which will also be enhanced by advanced metering initiatives.

Q12. What role should a) distributed generation, b) demand response, and c) combined heat and power play in reaching New York's energy efficiency goals?

- (A) The NYISO does not see an expanded role for distributed generation in energy efficiency program development and design. Existing demand response programs already include distributed generation. Some of these resources run for extended periods of time outside of the program activation hours, and have emissions profiles that are not necessarily compatible with the goals of this proceeding. Moreover, running different generators is not energy efficiency, it is replacement generation.
- (B) The NYISO offers two demand response programs to support the reliability of the bulk power system: the Emergency Demand Response Program (EDRP) and the Installed Capacity-Special Case Resource Program (ICAP/SCR). In addition, the NYISO offers the Day-Ahead Demand Response Program (DADRP), an economic program that permits interruptible load resources to schedule load reductions in the day-ahead energy market.

EDRP provides resources an opportunity to earn the greater of \$500/MWh or the prevailing LBMP for curtailments provided when the NYISO calls on them. There are no consequences for enrolled participants that fail to curtail. The ICAP/SCR program allows customers that can meet certification requirements to offer unforced capacity (UCAP) to Load Serving Entities (LSEs). Special Case Resources can participate in the ICAP Market just like any other ICAP Resource. Resources are obligated to curtail when called upon to do so with two or more hours' notice, provided that they were notified in

the day ahead of the possibility of such a call. ICAP/SCR resources are compensated in the ICAP program at the auction clearing prices and in the energy markets at the greater of their strike price or the prevailing LBMP. Resources that fail to curtail are subject to financial penalties in the ICAP Program. Both of these programs provide valuable service in managing the critical peak load periods. These high load periods of time also correspond to high emission periods as all available generating resources are called upon. Further development of these programs will allow more frequent management of high load conditions.

The DADRP provides retail customers with an opportunity to bid their load curtailment capability into the day-ahead market as energy resources. Customers submit bids by 5:00 a.m. the day before the operating day specifying the hours and amount of load curtailment they are offering for the next day, and the price at which they are willing to curtail. Bids are structured like those of generation resources. Accepted resources receive the greater of the prevailing LBMP for the curtailments provided or the production costs represented in their bids for the scheduled periods. Resources that fail to curtail are subjected to financial penalties.

(C) Combined heat and power can provide a beneficial outcome assuming that the emissions from these devices are understood and measured against corresponding levels from grid-based resources.

Q15. What role should key stakeholders play in enhance energy efficiency effort (sic) (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?

A15. With respect to its own roles, the NYISO views its participation in the PSC's proceeding as four-fold. First, the NYISO can lend its technical expertise in conducting load forecasting analyses and in measuring the effectiveness of demand response and energy efficiency programs. Second, the NYISO's planning processes can be used in harmony with the PSC's, NYSERDA's and federal energy planning and policy initiatives to harmonize existing electricity markets with New York's energy efficiency goals.

Third, the NYISO will continue to implement its existing SCR, EDRP and DADRP programs to help the State meet its energy reduction goals. Fourth, the NYISO can work with the PSC, NYSERDA and its Market Participants to examine the creation of additional energy efficiency market mechanisms that would be implemented in its federal tariffs with the approval of the Federal Energy Regulatory Commission.

With respect to the roles of the PSC, NYSERDA, the DEC, NYPA and LIPA, it bears repeating that a comprehensive and cohesive state energy and environmental policy plan is needed. As stated above in Question 5, the State has commenced a number of energy and environmental initiatives, each of which affects the other. Within the PSC alone, these include the long-term contracting and integrated resource planning proceeding, the proceeding to examine electric retail competition incentives, the case to examine revenue decoupling mechanisms to encourage energy efficiency, the proceeding on advanced

metering, and the ongoing proceedings on the Renewable Portfolio Standard. The PSC also has individual rate and siting proceedings that are examining the mechanisms for implementing energy efficiency programs and what facilities to build, where and how, in New York. The Department of Environmental Conservation (DEC) is also undertaking a number of programs that will directly affect the electricity sector, including the Regional Greenhouse Gas Initiative, the High Electric Demand Day initiative aimed at curbing ground level ozone levels, implementation of new emission limitations on mercury, and ongoing implementation of state-level acid rain control programs. The effect of all these activities on energy markets and the economic activity in the state cannot be evaluated piecemeal. The State should undertake an integrated planning process with other agencies to ensure that state energy policy is coherent, consistent, and effective. The absence of a cohesive state energy and environmental policy framework, at best, creates regulatory uncertainty that could disrupt the NYISO markets and existing reliability planning processes and, at worst, creates potential electric system reliability problems. The NYISO understands that the PSC Staff is examining creation of a Dynamic Energy Planning Process (DEPP) which, building on the NYISO's planning process, could positively serve the role of coordinating and implementing state energy and environmental policies to direct resource procurement policies consistent with the NYISO's competitive wholesale electricity markets.

Q16. 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 utilities 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?

A16. The role of the private sector will be instrumental in developing and implementing an effective market-based energy efficiency program. The NYISO's ICAP/SCR program has demonstrated the value of private sector intermediaries bridging the gap between wholesale markets and end use customers. Energy efficiency opportunities are widely distributed and relatively small in size. Direct participation in wholesale energy markets is often not a cost effective option for all but the largest electricity consumers.

Intermediaries, or aggregators, play a critical role in identifying and enrolling resources in our market based programs by handling the otherwise prohibitive administrative and compliance aspects of participation in wholesale markets. The NYISO has an effective, well-structured governance process that develops and enhances our market-based programs. This process brings together all stakeholders to collectively develop workable solutions to electric system needs.

Although individual energy efficiency programs can achieve positive results, coordination between the wholesale market, traditional utility, and government energy efficiency programs will help to maximize synergies among them. This coordination will also help to ensure that efficiency gains are not double counted for resources participating in multiple programs. More often than not, there are interdependencies between the governmental, utility, and NYISO initiatives, for example, in the role of advanced metering in NYISO demand response programs. The NYISO operates a demand

response market that could see greater participation through the wide scale deployment of smart meters. These smart meters are installed and owned by utilities seeking to recover the cost of these meters in their regulated rates. In addition to cost recovery for meter installation, the utilities also face a rate structure that ties profits to revenue, ultimately consumption. Additional incentives to encourage TO participation, such as performance based ratemaking mechanisms that would allow increased earnings for better program results, should be considered by the PSC. Moreover, the PSC should continue to expose more and more customers to real-time energy prices through available advanced metering technologies to assist end users in making economically efficient energy consumption choices.

Government programs and tax incentives can play a role in encouraging energy efficiency investments. Incentives targeting specific technologies and industries may contribute to the resource composition of an energy efficiency portfolio. Any incentive-based program that targets specific industries should be studied to assess its potential impact on electric system reliability and wholesale energy market efficiency.

Q17. 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?

A17. Yes. See the NYISO's answer to Question 9, above, with respect to retail rate design and performance-based ratemaking mechanisms for energy efficiency programs.

Q21. Are there any modifications or adjustments that could be made in the current Systems Benefit Charge portfolio that would achieve higher level of energy efficiency market penetration and saturation?

A21. The NYISO is currently reviewing NYSERDA's Measurement & Verification reports from 2004-2007 and the multi-volume report from August 2003 on the technical and economic potential of energy efficiency programs. We have initiated discussions with NYSERDA staff on these reports and need additional time before we can make substantive comments.

### **COSTS AND BENEFITS CALCULATION:**

- Q22. How should the expected benefits and costs of various design options be measured and compared? What externalities should be included and why? What expenditures and benefits should be characterized as transfer payments and perhaps excluded from the analysis? Why?
- A22. There is an established body of literature on this topic. A consensus exists among the energy efficiency community that the Total Resource Cost (TRC) test is the most appropriate test to use for efforts as ambitious as the current EEPS. The TRC is often extended to include the cost of environmental externalities, and is then referred to as the Total Societal Cost test (TSC). Both the TRC and the TSC are appropriate tests to use in this proceeding.

The TRC test is an 'all-in' test, which sums the benefits and costs of the participants, the non-participants, and the utility. The TRC accounts for and cancels out any transfer payments. Other tests may not be neutral regarding transfer payments.

The TRC can examine avoided generation and capacity costs as well as avoided transmission and distribution costs. It is applicable to energy efficiency programs, fuel switching programs, and demand response programs.

It is important to take into account the time-variation of market-clearing prices for energy and capacity in these tests. It would be inaccurate to select a single avoided levelized cost of generation and apply it to all conservation programs to arrive at the economic potential of energy efficiency programs. The benefits and costs of lighting measures and air conditioning measures will vary due to the available resources during which these energy services are required. Each individual program must stand or fall on its own merits.

The TRC can be extended to include the costs of environmental externalities. These may include CO2, SO2, NOx and ozone. Sufficient data is available on the magnitude of these emissions for generating technologies. The avoided costs of such technologies, however, are not clear. In any event, it would not be economic to internalize the environmental costs of one segment of the economy (power generation) and not internalize those costs in another (transportation).

Further details about these tests can be found by reference to the California Standard Practice Manual.

Q23. 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?

A23. The NYISO has been reviewing the California Energy Efficiency Evaluation Protocols, published in April 2006, and believe they should be considered for adoption by the State of New York. Our initial review of these protocols reveals that they place an emphasis on billing analysis or direct metering to determine whether energy efficiency programs are achieving their goal. They also specify measurement and verification standards that are more rigorous that those used elsewhere. This additional strength in these measurement and verification protocols will help ensure that the energy efficiency measures are real and long-lasting.

Less emphasis should be placed upon non-energy benefits during program design and when evaluating program performance. Quantifying direct energy savings due to market transformation programs is difficult. The ancillary benefits of job creation will occur in other industries that receive significant investment, and are probably of equal magnitude. Environmental costs and benefits should be properly examined in the course of program design and evaluation, as discussed above.

Programs implemented through the marketplaces established by the NYISO carry the benefit of corresponding prices of energy at a nominally five-minute resolution. These prices, when coupled with the program triggering times, can demonstrate the customer benefits associated with not consuming or deferring consumption of energy. The terms for measuring performance and compliance need to be established and understood as part of program development so that programs are designed to capture the desired benefits and include the necessary information to support evaluation.

Respectfully Submitted,

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