STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Case No. 07-M-0548 – Proceeding on Motion of the Commission Regarding an Energy Efficiency Portfolio Standard

Responses of the City of New York to Administrative Law Judge Eleanor Stein

July 25, 2007

The City of New York (City) hereby provides its responses to the questions in the above-captioned proceeding that were posed by Administrative Law Judge Eleanor Stein on June 22, 2007. The questions and City responses thereto are set out below.

1. / 2. Can you please identify any inventories in New York State of existing building stock, appliances and fixtures that might be used to identify and target efficiency opportunities? Can you please identify any specific methods used in this or other jurisdictions of creating inventories of existing building stock, appliances and fixtures that might be used to identify and target efficiency opportunities?

The City maintains multiple databases that include building related information. In particular, the New York City Department of City Planning maintains the Primary Land Use Tax Lot Output (PLUTO) database that includes extensive land use and geographic data at the tax lot level. PLUTO contains more than seventy fields derived from data maintained by various City agencies. While this database does not currently include building energy consumption data, the City recommends exploring opportunities to overlay the PLUTO data with energy consumption data from Con Edison and KeySpan, or from other sources, to assist in targeting buildings for efficiency enhancements. There are other databases that may prove to be useful as well. For example, the New York City Department of Buildings maintains a Buildings Information System (BIS) to support numerous departmental functions, and contains property profiles, application data, and inspection results.

In addition to looking at existing databases, many of which may not be ideally configured for the purposes sought in this proceeding, the City is currently in consultation with the Real Estate Board of New York and with universities throughout the City to develop a voluntary building benchmarking database using the Environmental Protection Agency's "Building Portfolio Manager" program. All of this data may be useful in refining budgets, estimates of efficiency potential and the design of some aspects of some programs.

In general, however, programs can be designed and implemented without detailed information about the shape of the relevant building and equipment stock. For example, a multi-family program can be implemented without its designers' knowledge of whether the percentage of apartments with electric water heaters is 10% or 25%. So long as the designers know that there are in place a significant number of such facilities, they can determine what optimal measures should be undertaken for those customers. However, to the extent more particularized information is available, it would undoubtedly facilitate targeting of programs.

Even more useful in program implementation would be data directly bearing on the age of major pieces of energy equipment (such as chillers), planned renovations, new construction and other opportunities for intervening in the market. Various data of this type are collected by utilities and local government. For example, Con Edison reportedly maintains a database of each chiller on its system, by size and vintage, potentially

allowing a comprehensive efficiency program to be targeted to customers likely to be replacing their chilling in the near term. The reduced energy use in the building associated with the most modern equipment may allow the customer to reduce the size of the chiller and peripherals (pumps, fans, etc.), saving both capital and more energy. The City also has considerable information on general building plans, both as a promoter of economic development and a permitting authority.

Before attempting to assemble and merge large amounts of data, it would be most productive to determine the contemplated uses of such information in developing, planning, and quantifying savings from efficiency programs. The City recommends a collaborative process, appropriately structured, to accomplish these ends. For maximum effectiveness and efficiency, the treatment of New York City should be structured with separate focus areas. The following four topic areas are suggested for coverage:

Policy, resource allocation, and oversight: Annual and long-range program and portfolio budget allocation and performance goals; performance incentives; reporting requirements; ratemaking and regulatory treatment of program costs and benefits; direction and oversight of other collaborative working groups. In New York City, these working groups should be composed of the utilities, the City, and NYSERDA.

Residential programs: Program design, development, planning, and implementation oversight; coordination with the measurement, verification, market assessment, and evaluation (MVMAE) analysis and the commercial/industrial programs review.

Commercial/Industrial programs: Program design, development, planning, and implementation oversight; coordination with the MVMAE process, and with residential programs.

Measurement, verification, market assessment, and evaluation: Protocols for measuring energy savings, and verifying installation and performance; regularly assessing baseline market conditions and high-efficiency opportunities; specifies evaluation research agendas, study scopes of work, selection and management of evaluation contractors; works with both program groups. This should be responsible for establishing and fulfilling data requirements.

At a minimum, retrofit programs will require involvement of Con Edison, NYPA, NYSERDA, KeySpan, and the City. Lost opportunity and market transformation programs will require broader involvement to synchronize program design and coordinate implementation. For example, new construction programs serving the metropolitan New York City area should also involve LIPA, Orange and Rockland, and Central Hudson. Several parties possess at least some information on size, ownership, fuel-use and efficiency of buildings—including the utilities, local government entities and NYSERDA from data gathered in its efficiency programs—but those databases were generally developed for other purposes on a variety of platforms. Once the collaboratives or working groups established in this proceeding determine which data would be most useful in program design and implementation, contractors will likely be needed to merge the database information, and thereby make it most suitable for the intended purposes here.

3. Can you please identify any specific energy efficiency programs targeted to existing building stock, appliances and fixtures rather than to new construction? If possible, provide a description, cost per MWh or Dekatherm, and total resource cost test score for each such program.

In general, other parties to this proceeding are better positioned to provide comprehensive information responsive to this question. There are many such programs, including most of the NYSERDA programs and many utility initiatives. These might extend to lighting retrofits and installation of compact fluorescent bulbs or light emitting diode fixtures, high-efficiency appliances, insulation, shading, weatherization measures and a range of low-income programs. The City and State have also been active in promoting the wider designation and use of highly efficient Energy Star™ appliances and equipment, both for residences and for commercial applications. Energy Star criteria are updated and expanded periodically to cover more products and equipment. And increasingly in a number of jurisdictions, these standards constitute minimum qualifications for program incentive eligibility.[1]

More generally, the Federal Energy Management Program (FEMP) within the Department of Energy designates products that meet the federal purchase requirements codified in the Energy Policy Act of 2005,[2] and provides a wide range of services related to efficiency specifications, sustainable design, and new energy technologies.[3] Such a centralized method for developing and adopting programs and products is instructive for New York State as a model.

In parallel to the traditional governmental and quasi-governmental role in fostering efficiency, such entities as Efficiency Vermont have introduced innovative programs in this area. Efficiency Vermont is one model that deserves consideration, as it operates as an independent non-profit organization under Vermont's Public Service Board. While the organizational structure bears some similarity to NYSERDA, and the programs are funded by an energy efficiency charge on utility bills similar to that in New York's SBC charge, Efficiency Vermont is to our understanding run largely as an entrepreneurial enterprise, the brand having been awarded through a competitive request for proposal process. The program awards are time-limited, and embody a number of incentives tied to demonstrable achievement of efficiency targets. And program integration is more pronounced than is typical in New York State.

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[1] To cite one example, the evolving standard for residential air conditioners known as the seasonal energy efficiency ratio (SEER) typifies the efficiency improvement developments seen in recent years. In early 2006, the US Department of Energy promulgated a SEER standard of 13 for all newly manufactured or imported residential central air conditioners, thus reducing energy use per Btu by 31% over the previously prevailing standard of SEER 9. *See* US DOE rulemaking standard, accessible at www.energy.gov/news/3097.htm (effective January 23, 2006)

[2] Pub. L. No. 109-58 § 1291(c), 119 Stat. 594, 984-85. (2005)

[3] See www.eere.energy.gov/femp

In addition, Efficiency Vermont has access to extensive utility data on customers and their energy usage. The Commission should ensure that administrators of future efficiency programs (whether those administrators are NYSERDA, municipal entities,[4] utilities, or some combination thereof) have full access to utility customer data, including individual usage information under appropriate confidentiality protection.

While the scale on which a small, largely homogeneous state entity such as Efficiency Vermont can operate is clearly different from a very large and highly diverse State like New York, the City believes that there may well be a number of elements in the Efficiency Vermont model that can be applied successfully in New York City and State**.**

4. Can you please identify any specific energy efficiency programs targeted to participants lacking available capital to invest in energy efficiency measures? If possible, provide a description, cost per MWh or Dekatherm, and total resource cost test score for each such program.

To meet the State "15 by 15" target and the parallel City initiatives under PlaNYC, program designs in each efficiency market segment will need to be tailored to overcome the market barriers inhibiting investment in cost-effective efficiency technologies and practices. The capital required to fund efficiency investments is one of largest barriers to higher market penetration of energy efficient technologies.

In some markets, successful experience with "best practice" program designs indicates that it is necessary to defray the entire efficiency investment cost to achieve maximum market penetration. New construction, new purchases of products, appliances, and equipment are prime examples of "lost opportunity" markets where the most successful efficiency programs have offset the full incremental cost or price premium for high-efficiency building designs and equipment. Experience in Massachusetts, California and Vermont also indicates that defraying the full installed costs of efficiency retrofits will be necessary to achieve high penetration quickly in hard-to-reach markets such as low-income households and small businesses.

Less aggressive financial strategies are suitable for stimulating discretionary retrofit investment on the part of other customers, particularly medium and large commercial and industrial customers. For example, experience has shown that such customers will generally invest their own money if efficiency retrofits pay for themselves within two years; "buying down" the longer payback period of cost effective, high efficiency measures can successfully motivate businesses to undertake more efficiency retrofit investment. Of course, aggressive financial strategies must be coupled with equally aggressive marketing, technical assistance, and delivery.

New Hampshire has since 2001 had a program to avoid initial costs for energy efficiency measures. This initiative, known as the "Pay As You Save" or PAYS program, was

[4] See further discussion in response to Questions 6 & 7, at p. 7 herein

authorized by the New Hampshire Public Utilities Commission.[5] The program is currently offered by the Public Service Company of New Hampshire and the New Hampshire Electric Cooperative, and allows customers to finance the purchase of approved efficiency devices, appliances or services directly on their electric bills. This eliminates the need for initial investments that are beyond the means of utility customers, discouraging the wider use of efficiency measures. As a practical matter, even an attractive pay-back period on efficiency improvement measures may be insufficient to inspire their use for those individuals or businesses lacking sufficient capital. PAYS, or some variant thereof developed in New York State, could be an alternative means to obtain greater public participation.

5. Are you aware of any specific market transformation energy efficiency programs that are not already being pursued in New York? If possible, please provide a description, cost per MWh or Dekatherm, and total resource cost test score for each such program.

There are two potential sources of increased savings from market transformation programs, especially those targeting lost-opportunity markets like new construction and purchases of products, appliances and equipment. One is from broadening the existing programs to cover more efficiency markets than existing programs do; the other is to improve the effectiveness of how existing programs are designed and implemented. The potential for increasing savings by broadening existing efforts to new markets is presently unknown. Market transformation potential changes over time, as more efficient equipment (or design) is introduced, as the price differential between standard and efficient equipment falls, and as the efficient equipment itself becomes standard. Establishing this potential requires ongoing market assessment, which would be one responsibility of a collaborative in looking at MVMAE, in coordination with other issues that may bear on the same subject.

The potential for increasing savings from more effective design and implementation of market transformation efforts is also unknown. However, the City view is that the incremental savings could be large, particularly with better coordination of program design and implementation among gas and electric services over broader areas, as architects, engineers, contractors, wholesalers and distributors deal with both electric and gas end uses across multiple service territories. In New York City, various programs may be most efficient if shared among Con Edison (for electric, gas and even steam service), KeySpan or its successor company, NYPA, NYSERDA, and importantly, the City. The regulated utilities, the City and NYSERDA could thus act as partners to best coordinate market transformation programs.

A critical element in effecting market transformation is that of marketing and enhancing public consciousness of the efficiency opportunities that exist. In June of 2007, the City launched GreeNYC, a public awareness campaign targeted at New York City residents.

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[5] See New Hampshire Public Utility Commission (NH PUC) Order No. 23,574 (issued November 1, 2000); NH PUC Order No. 23, 851 (issued November 29, 2001)

This campaign aims to educate New Yorkers on how they can change their personal behavior and purchasing patterns to reduce their environmental impact and energy usage by listing ten practical steps they can take every day. All of the ten steps are published online collectively,[6] and individual steps are part of an ongoing public awareness campaign that includes advertising on City bus shelters, light-post banners, New York City television and radio stations, and in donated media from corporate sponsors. Additionally, as part of a corporate partnership with Con Edison and GE, New York City Con Edison customers will be receiving a coupon for $1 towards a GE Energy Smart™ compact fluorescent light bulb in their August bill statement. The coupon will also be distributed through affordable housing outlets, and will be available online.

A primary focus of the campaign is the collective impact that City residents and businesses can have working together to improve the environment, which is embodied in the campaign's tag line, "Small Steps, Big Strides." The campaign is specifically designed to overcome the free rider problem and engage individuals with easy steps that they can take to change their personal behavior and benefit the environment. Ensuring the participation of individuals and the alteration of their personal behavior patterns is an essential component of market transformation, and must not be overlooked.

The City believes that to the extent that it is available, the data discussed in this question may be useful in refining budgets, estimates of efficiency potential and the design of some programs. For the most part, programs can be designed and implemented without extensive or detailed information about the building and equipment stock. For example, a multi-family energy efficiency program can be implemented without the designers knowing whether the percentage of apartments with electric water heaters is 10% or 25%, as long as the designers know that there is some significant number in the target population, and can determine the optimal measures should be installed for those customers.

6. / 7. What entities would be most or least appropriate and effective in delivering:

- **(a) market transformation type programs**
- **(b) peak shaving/demand response type programs**
- **(c) end-user rebate type programs**
- **(d) energy audit type programs**
- **(e) weatherization type programs**
- **(f) programs for participants lacking capital**
- **(g) programs targeted to new construction**
- **(h) programs targeted to existing building stock, appliances and fixtures**

Across the spectrum of the foregoing programs, there are a number of appropriate providers, including NYSERDA and numerous private entities. As was discussed in the City's responses to the recent Staff questions in this matter,[7] PlaNYC urges the creation

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[6] Accessible at: http://www.nyc.gov/html/planyc2030/html/greenyc/greenyc.shtml

[7] Responses of City of New York to DPS Staff Questions of June 13, 2007 at p. 9 (filed July 11, 2007)

of a New York City Energy Efficiency Authority (NYCEEA), which would assume the principal responsibility for achieving the City's demand reduction targets. Existing programs are in the City's view not fully coordinated, and the City has not had a sufficient opportunity to assume responsibility as more than an advocate before the Public Service Commission and at NYSERDA. The full NYCEEA proposal would involve specific funding through ratepayer surcharges, allowing development of initiatives that would take into account the full range of efficiency program factors unique to New York City, while working in cooperation with existing institutions and programs, as well as such planned entities as the New York City Energy Planning Board.[8]

While the NYCEEA plan remains to date a concept that has not as yet been translated into reality, the principles underlying its creation have compelling force today. In essence, what is needed now is a full partnership among the following entities: the City, NYSERDA, Con Edison and KeySpan (and of course the latter's corporate successor if the proposed KeySpan merger is approved by the Commission). In addition, if an energy efficiency program is to span the full Con Edison electric service territory, Westchester County should be included as well. Such a coalition will permit the greatest degree of coordination and program integration, and will fully reflect the public policy choices and priorities of those local government entities that are most directly involved, and best positioned to address the needs of the communities they serve.

8. Is your entity or organization interested in being a provider of energy efficiency programs? If so, what types?

As reflected in the foregoing discussion in response to Question 7, NYCEEA would be ideally positioned to serve in the role of program provider as well as coordinator for private and public programs intended to serve the City. For the present, the City itself, acting through the Mayor's Office of Long Term Planning and Sustainability, and the Department of Citywide Administrative Services (DCAS) will have a key role in efficiency program development and implementation. DCAS' Office of Energy Conservation (OEC) currently manages the purchase of electricity and other forms of energy for the government of the City of New York. OEC is the City government's primary energy cost control and energy efficiency entity. OEC works cooperatively with NYPA to implement its energy cost reduction (ENCORE) program, and has overseen over 200 energy efficiency and clean energy technology projects in the past decade, reducing City government energy demand by some 20 MW.

In addition, the Energy and Telecommunications Department of the New York City Economic Development Corporation (NYCEDC) serves as the Mayor's principal energy policy adviser, and is currently in the process of developing a separate energy efficiency

[8] See more complete discussion of this concept in PlaNYC Energy Initiative No. 4, "Create an Energy Efficiency Authority for New York City" in PlaNYC at p.107

coordination program to carry out the vision of PlaNYC, and to be administered within the NYCEDC Energy Department.

9. Is your entity or organization opposed to being a provider of energy efficiency programs? If so, what types?

No, except to the extent that many direct programs are more appropriately carried out by private sector entities and personnel, such as NYSERDA contractors and ESCOs.

Date: July 25, 2007

Respectfully submitted,

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