STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

At a session of the Public Service Commission held in the City of Albany on May 16, 2007

COMMISSIONERS PRESENT:

Patricia L. Acampora, Chairwoman
Maureen F. Harris
Robert E. Curry, Jr.
Cheryl A. Buley

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

ORDER INSTITUTING PROCEEDING

(Issued and Effective May 16, 2007)

## INTRODUCTION

The potential to respond to the State's energy needs with economic efficiency and increased awareness of the environmental and climate costs of burning fossil fuels for energy,[1] and of the price of dependence upon imported energy sources, is leading to a renewed emphasis on sustainable economic growth and a more efficient use of electricity and natural gas. When the Commission instituted the Renewable Portfolio Standard (RPS) in 2004, the objective was to generate 25% of the electricity purchased at retail in New York from renewable resources. In that decision, however, we declined to include energy efficiency resources as eligible for participation in the RPS "at this time."[2] Now it is time to

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[1] See Massachusetts v. Environmental Protection Agency, __ U.S. __, 127 S. Ct. 1438 (April 2, 2007).

[2] Case 03-E-0188, Retail Renewable Portfolio Standard, Order Regarding Retail Renewable Portfolio Standard (issued September 24, 2004), p. 12.

revisit our energy efficiency policy. Based upon analysis of the electric energy efficiencies achieved under previous and current programs, studies of New York State's energy efficiency potential, and preliminary cost and benefit data, we find that realizing the State's energy efficiency potential and reducing New York's electricity usage 15% from expected levels by 2015 are in the public interest.

Energy use in New York State is increasing. From 2004 to 2005 alone, New York's electricity sales increased 1.3% and natural gas end-user consumption increased 2.2%; efficiency reductions did not keep pace. Electricity consumption is projected to increase approximately 1.3% per year through 2015.[3] At current trends, by 2015 electric energy usage in New York State is estimated to top 183,000 GWh annually, nearly 13% higher than current levels. Given volatile fossil fuel prices, concerns about greenhouse gas emissions, the vulnerability of the electrical system to supply disruption, and the need for new investment in infrastructure and supply, New York's existing efforts to promote energy efficiency need review, and the most effective methods to increasing energy efficiency[4] need to be determined. To accomplish these objectives an Energy Efficiency Portfolio Standard (EPS) proceeding is hereby instituted.

The benefits of energy efficiency include forestalling the building of new generation, reducing use of finite fossil fuels, reducing customers' energy bills, developing independent energy sources for New York State to reduce energy imports, and mitigating the environmental impacts of burning fossil fuel for

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[3] NYISO 2007 Load and Capacity Data, p. 4.

[4] The efficient use of energy can result in using less energy (for example, through use of energy-saving appliances or housing stock, managing the use of energy, or load management and demand response) to provide the same level of services.

energy, including greenhouse gas emissions.[5] In addition, more efficient use of energy has the potential to foster economic development and job growth by encouraging in-state technology advances to deliver energy efficiency programs to consumers.

New York State possesses sufficient potential energy efficiency resources to meet its forecast electricity needs and to reduce electric usage by 15% of projected levels by the year 2015. In this proceeding, targets should also be established and programs designed to optimize the State's efficient use of natural gas. To attain this goal, changes in appliance and building efficiency standards, Long Island Power Authority (LIPA) and New York Power Authority (NYPA) participation, State facility efficiency measures and the New York City sustainability program will also be essential.

Historically, the State has implemented several different policies over the years to realize the benefits of using the electricity sold in New York State with optimum efficiency, implementing a series of programs, variously termed energy conservation, energy efficiency, or demand side management (DSM).[6]

Among the benefits of an expanded energy efficiency initiative is the reduction of greenhouse gas emissions resulting from electric generation. Studies estimate that the power generation sector contributes approximately 25% of the

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[5] The Summary for Policymakers of Working Group III of the Fourth Assessment Report of the U.N. Intergovernmental Panel on Climate Change, released May 4, 2007, called for immediate mitigation of climate change, using available technology, by the adoption of energy efficiency and other measures to reduce reliance on fossil fuels. See http://arch.rivm.nl/env/int/ipcc/ .

[6] NYSERDA, New York State Energy Fast Facts, http://www.nyserda.org/Energy_Information/energy_facts.asp.

State's total greenhouse gas emissions. At least since 2002, reduction in greenhouse gas emissions has been a goal of State energy planning.[7] Draft Department of Environmental Conservation (DEC) regulations implementing the Regional Greenhouse Gas Initiative (RGGI) issued for preliminary comment require New York to cap or limit the total carbon dioxide ($CO_2$) emissions from power plants to recent levels beginning in 2009 through 2015;[8] and then to begin to reduce $CO_2$ emissions incrementally over a four-year period to achieve a 10% reduction by 2019. Taking into account expected increases in emissions absent RGGI, a reduction of approximately 35% of $CO_2$ emissions would result by 2020.[9] Attaining the 15% reduction in electricity usage by 2015 using efficiency resources will greatly facilitate reaching RGGI goals.

Many recent studies illustrate the vulnerability of our local and regional climate.[10] New York State's temperate climate and seasonal variety contribute to the State's economy, recreation, agriculture and culture. That seasonal cycle is

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[7] The last New York State Energy Plan adopted greenhouse gas emission reduction goals of 5% reduction from 1990 levels by the year 2010, and by 2020, a 10% reduction from 1990 levels.

[8] RGGI is an initiative led by a consortium of Northeast region states that requires member states, including New York, to cap or limit the total $CO_2$ emissions from power plants to recent levels beginning in 2009 through 2015, and then to reduce them.

[9] See RGGI Model Rule, at http://www.rggi.org/modelrule.htm.

[10] See, for example, Climate Change in the U.S. Northeast, A Report of the Northeast Climate Impacts Assessment (October 2006), http://www.northeastclimateimpacts.org; Climate Change Impacts in the United States, the Potential Consequences of Climate Variability and Change-Overview: Northeast, U.S. Global Change Research Program, http://www.usgcrp.gov/usgcrp/Library/nationalassessment/overviewnortheast.htm.

likely to undergo significant variation as a result of atmospheric changes. Because of the increased levels of $CO_2$ and other greenhouse gases that have accumulated in the Earth's atmosphere since the early days of the Industrial Revolution, the world's climate, scientists predict – and are observing – shorter and milder winters, longer and hotter summers, altered growing seasons and more extreme precipitation patterns. Unchecked greenhouse gas emissions may also lead to a sea level rise sufficient to threaten the State's coastal areas.

The future path of these changes depends in large part on what is done to control the growing upward curve of greenhouse gas emissions globally. New York is currently responsible for approximately .6% of global $CO_2$ emissions, and has the opportunity to play a leading role in realizing energy efficiency as well as expanding energy generation fueled by renewable resources. These initiatives can also enhance economic development and job growth.

An August 2003 study prepared for the record in the RPS proceeding found that the State realized only one out of every seven kWh of cost-effective, achievable energy efficiency savings.[11] The study predicted that realizing even one-third of this potential would yield over $2.9 billion in net benefits to New York in five years, and over $6.2 billion by 2022.

Building on the foundation laid by the Renewable Portfolio Standard, the Northeast Regional Greenhouse Gas Initiative, the System Benefit Fund, investor-owned utility and State efficiency programs, this proceeding is instituted pursuant to Public Service Law §§ 5(2) and 66(2) to establish an

[11] Energy Efficiency and Renewable Energy Resource Development Potential in New York State, Prepared for NYSERDA by Optimal Energy, Inc. et al. (August 2003) (the Optimal Report).

electric and natural gas Energy Efficiency Performance Standard (EPS). This proceeding will involve all stakeholders and ensure transparency and public participation.

The objective of the proceeding is to balance cost impacts, resource diversity, and environmental effects, by decreasing the State's energy use through increased conservation and efficiency. In addition, in order to ensure that the Commission's programs succeed, these objectives will also have to be addressed in Commission efforts to meet the State's needs for comprehensive energy planning.

EPS objectives can be attained in a variety of ways: examples from New York and other jurisdictions include a central program such as the System Benefit Fund administered by NYSERDA; a requirement that all electric and natural gas distribution companies purchase a minimum percentage of their resource needs through energy efficiency resources; by competitive load-serving entities; or creation of a State efficiency utility.[12]

The purpose of the proceeding is to design an EPS to meet the targets for energy efficiency which, along with additional renewable resource development, and other programs, decreases the State's dependence on fossil fuel-based generation and imported fuels, and reduces its greenhouse gas emissions. An EPS should be designed ultimately to reduce customer bills, stimulate State economic development, and create jobs for New Yorkers.

The Administrative Law Judge and the parties to the EPS proceeding should:

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[12] Efficiency Vermont, for example, was created in 2000 by the Vermont legislature and the Vermont Public Service Board as a statewide provider of energy efficiency services.

1. Examine critical design options for the near and longer term, including cost-effectiveness, the role for NYSERDA-based models, and whether certain types of efficiency programs are best administered centrally while others are more suited to delivery by utilities, competitive load-serving entities, or others;

2. Measure and compare the expected benefits and costs of various design options;

3. Integrate generic Commission determinations with existing and new programs developed in individual rate cases;

4. Consider and prioritize end-user efficiency programs, market transformation approaches, research and development, and generation, distribution and transmission efficiencies, including the efficiency potential of distributed generation;

5. Develop target goals and timetables for natural gas usage efficiency;

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

7. Assess best practices to integrate demand response technology and utility rate incentives to encourage customers to shift usage and reduce peak loads;

8. Address coordination of the development of energy efficiency resources with other State initiatives and New York City, other municipal, and local energy efficiency programs;

9. Ensure transparent and technically sound methods for measurement and verification of net energy savings, benefits, and costs, as well as assessments of customer satisfaction and program efficacy.

This list is not intended to be exclusive, but should serve to focus the proceeding on these concerns.

## BACKGROUND

New York has fostered demand side management (DSM) since the mid-1980s, when the Commission ordered major electric utilities to design DSM programs on a limited scale. In 1990, the Commission instituted comprehensive programs for electricity demand side management (DSM) and integrated resource planning that realized considerable savings in electricity usage. Between 1990 and 1996, these programs resulted in estimated savings of 5,744 GWh, reducing concomitant capacity needs by 1,374 MW.[13] Programs emphasized energy efficiency and frequently employed financial incentives (e.g., customer rebates) targeted directly at end-use electricity consumers. At the time, although most of the State enjoyed ample electric generation capacity, DSM was considered an important component of resource planning, necessary to reduce the long term need for new generation.

In the mid-1990s, almost all new generation resources were fossil-fuel based.[14] In 1998, in conjunction with electric industry utility restructuring, New York established the System Benefit Fund, financed through assessment of a System Benefit Charge (SBC) on customer bills. The SBC funds energy efficiency programs administered by the New York State Energy Research and Development Authority (NYSERDA). SBC programs from 1998 to 2006 have saved an estimated 2,362 GWh of energy, resulting in

[13] Expenditures for these DSM programs totaled $1.23 billion.

[14] This remained the case until the Commission adopted the Renewable Portfolio Standard (RPS) in 2004.

concomitant capacity savings of 1,091 MW.[15] In the period 1987 to 2006, NYPA reports it spent more than $1 billion on energy efficiency programs, realizing savings of 9,046 GWh and concomitant capacity savings of 2,164 MWs. LIPA has also implemented energy efficiency programs, with savings between 1995 and 2005 of 5,744 GWh (1,374 MWs) at a cost of about $204 million.

With respect to the pricing of electricity, the Commission requires that the State's largest electricity users be subject to hourly commodity service pricing.[16] Hourly pricing offers customers more accurate price information to encourage usage reduction when demand and cost are high, enabling end-use customers to realize the economic benefit of their own conservation efforts. This program provides energy service companies, meter service providers, and meter data service providers the opportunity to offer customers technologically sophisticated rate and service options to take advantage of hourly prices.

In April 2007, the Commission established its policies on revenue decoupling, which will be examined and implemented in upcoming utility rate cases. Revenue decoupling is designed to remove financial disincentives to pro-active utility participation in energy efficiency initiatives.

The Commission has acted to require efficient and environmentally appropriate generation and use of energy through

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[15] SBC expenditures, as of the end of 2006, have totaled $772 million.

[16] Case 03-E-0641, Proceeding on Motion of the Commission Regarding Expedited Implementation of Mandatory Hourly Pricing for Commodity Service, Order Denying Petition for Rehearing and Clarification in Part and Adopting Mandatory Hourly Pricing Requirements (issued April 24, 2006).

the RPS.[17] The Commission adopted the RPS in 2004, requiring the increase in the amount of renewable energy used to meet electric energy requirements in the State from approximately 19% to 25% by the year 2013, with 1% to be provided by a voluntary green energy market. New York is also a founder of RGGI. The RGGI Model Rule requires New York to cap or limit total $CO_2$ emissions from power plants approximately at current levels beginning in 2009 through 2015, with a mandated 10% reduction below 1990 levels between 2015 and 2019. Improved building codes and more rigorous efficiency standards for appliances are also essential to improve the State's energy efficiency profile.

## PRELIMINARY ANALYSIS OF COSTS AND BENEFITS

Staff has conducted a preliminary analysis of the costs and benefits of a sample program that could be expected to result in a 15% reduction in the projected electric energy requirements for the year 2015. The actual costs and benefits of specific program choices and designs, necessary to inform final Commission determinations on these issues, will be studied and analyzed fully in the course of this proceeding.

Staff's analysis assumed that an enhanced energy efficiency program would be initiated in 2008 and would be ramped up over time to achieve the 15% reduction in energy usage by 2015 compared to what it would have been without the program. The estimated annual reduction in energy consumption by 2015 is 27,400 GWh per year. In 2015, the estimated concomitant peak load reduction achieved would be 5,487 MW, which translates to

[17] The RPS excluded energy efficiency resources in establishing its goal of generating 25% of the electricity sold in New York from renewable resource-fueled generation.

approximately 6,390 MW of avoidable installed generation capacity.

Based on preliminary Staff and NYSERDA analyses of scaling up existing programs, the large scale benefits far exceed costs. The current portfolio mix of energy efficiency programs encompasses commercial, industrial, and residential customer programs, programs benefiting low income customers, research and development, and peak load reduction measures. The benefits include: reduced bills reflecting energy conserved; projected lower average market prices for energy resulting from reduced demand; savings in capacity charges resulting from peak load reductions; reduced emission of pollutants, including greenhouse gases, resulting from reduction in fossil fuel combustion; and economic development and job creation.

Costs projected represent only a small fraction of the over $200 billion New Yorkers will spend on energy over the lifetime of the program. A typical residential ratepayer who participated in this program would see substantial bill decreases in the first year; non-participants would see modest bill increases.

These program benefit and cost estimates are based upon current SBC design. These are preliminary estimates and a full benefit and cost analysis will depend upon the future program design, legislative strengthening of standards for appliances and buildings, State facility energy efficiency measures, the role of utility-based efficiency programs, fuel prices, actual load growth, and many other factors.

## ISSUES CONCERNING PROGRAM DESIGN

This proceeding will be based upon assessments of the State's expected growth in energy usage, the untapped potential for energy savings and an estimate of the benefits, costs, and utility and customer impacts, using the Optimal Report as a

starting point. This proceeding will initially address end use efficiency. While end use efficiency can be understood to include performance standards, technology standards, and information provision measures, this proceeding will consider a range of resources which will, collectively, reduce electricity demand by consumers. The proceeding will also investigate the various methods available to obtain and fund the energy efficiency resources. The process will encourage involvement by all interested stakeholders and provide opportunities for public input.

Natural Gas Efficiency

This proceeding will address a comparable resource acquisition program for natural gas. While some utilities have gas efficiency programs in place, the creation of a uniform Statewide platform is essential to establish and meet Statewide goals, and to simplify and streamline utility compliance and/or NYSERDA or other independent provider participation by instituting one set of rules and incentives, while recognizing the unique characteristics and imperatives of each participant's infrastructure, customer base, and service territory.

The Commission has investigated and sought public comment on the commencement of a generic proceeding concerning the extension of the SBC to encompass natural gas, as well as electric, efficiency.[18]

[18] See Case 05-M-0090, System Benefits Charge III, Notice (issued August 31, 2005), referencing Case 05-G-1061, and System Benefit Charge and Program for Gas Utilities.

A New York-Statewide study has also been prepared concerning potential natural gas efficiency resources.[19] The study concluded that the economic efficiency potential, if realized, could reduce New York's annual natural gas requirements by more than 282,000 thousand dekatherms (MDth) by 2016. This represents 28.3% of New York's forecast 2016 natural gas requirements to the residential, commercial, and industrial sectors. Because gas supply is somewhat constrained and expected to remain so, reductions in demand can produce reductions in the market clearing commodity price, resulting in significant overall benefits to all gas consumers beyond those captured through reduced end-use customer usage. In the course of this proceeding, parties should have the opportunity to comment on this study.

In the absence of a generic, industry-wide approach, the Commission has approved or is considering funding natural gas efficiency initiatives in several proceedings. For example, the 2003 Consolidated Edison Company of New York, Inc. (Con Edison) gas rate regime included a $5 million, three-year gas efficiency pilot program, implemented by NYSERDA, to develop the

[19] See Natural Gas Energy Efficiency Resource Development Potential in New York Prepared for NYSERDA by Optimal Energy, Inc. et al., http://www.nyserda.org/Energy_Information/otherdocs.asp (Optimal Natural Gas Report).

potential for savings in natural gas usage.[20] We are also adopting a transitional or bridging one-year gas efficiency program, funded at $14 million, to ensure that natural gas efficiency measures are in place for the coming heating season.[21] Other pending rate cases also include consideration of more aggressive utility-administered natural gas efficiency programs.

Threshold Studies

The first threshold imperative is to compile and develop an updated and reliable base of data. This process will entail an evaluation of past and present energy efficiency initiatives in New York. It will also require the establishment of a baseline and future energy use projections. The second imperative is to update the 2003 Optimal Report with a reassessment of New York State's energy efficiency potential and resources, in sufficient detail to serve as a blueprint for managing those resources, beginning with an identification of New York's greatest untapped energy efficiency reserves.

An examination is also needed of the necessary investment, the costs and benefits, and the rate and bill impacts for customers. These efforts should be undertaken immediately. For both of these steps, existing analyses

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[20] Case 03-G-1671, Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. for Gas Service. In the course of that proceeding, a study was prepared by Optimal Energy, entitled Natural Gas Energy Efficiency Resource Development Potential in Con Edison Service Area (Optimal Con Edison Gas Study). This study found a sufficiently high "economic efficiency potential" to meet all load growth with efficiency, but cautioned that economic potential does not necessarily translate into actual market potential.

[21] Case 03-G-1371, Order Establishing Gas Efficiency Program for 2007-08 Heating Season (issued May 16, 2007).

prepared for the Renewable Portfolio Standard (RPS), including the 2003 Optimal Report; the Regional Greenhouse Gas Initiative; the Optimal study of natural gas efficiency in the Con Edison service territory, and the New York City PlanNY 2030 should be incorporated as appropriate.

Allowable Efficiency Resources

A further design issue concerns what are the most effective methods for realizing efficiency gains. Available approaches include micro-loans for efficiency-enhancing purchases; customer rebates; grants; and direct installation of energy efficient appliances, weatherization, and other energy saving devices. In order to attain these objectives, the following are also among the approaches or methods available: net metering, distributed generation, and intelligent network upgrades.

Another program design task requires assessing the available conservation resources that can be realized through peak load reduction measures such as time-of-day or other consumer pricing approaches, load shifting or interruptible programs.

Resource Costs and Benefits, Utility Revenues, Rates and Customer Bills

At issue is an assessment of the costs and benefits associated with resource acquisition, and the design of rates and revenue decoupling mechanisms that may be necessary to ensure utility financial health and contain customer costs. These design issues encompass incentives, particularly if these resources are provided by the utilities in whole or in part. In addition, among other issues, this design area concerns issues of cross-class subsidy; equitable rate structures; and expansion

of existing low income weatherization programs to create a more comprehensive low income program.

Measuring Success: Verification and Validation

Analysis of existing methods for verification and validation of results is critical. To expand the State's energy efficiency programs significantly, evaluation and verification must be reliable, timely, and transparent.

## CONCLUSION

In order to reduce consumer bills, mitigate increasingly volatile fuel prices, lower wholesale electricity prices, prevent stress on the State's delivery system and reduce fossil fuel-related emissions, a proceeding to design an Energy Efficiency Performance Standard (EPS), in addition to the existing System Benefits Charge programs, is established. The Administrative Law Judge is instructed to convene the parties and establish the procedures necessary to accomplish these goals. These processes may include surveys of the available efficiency resources, costs and benefits, practices in other jurisdictions, and tapping into the Statewide – and beyond - network of expertise on these issues. Staff is directed immediately to prepare its energy efficiency program and design proposals, including benefit and cost analysis, to focus the proceeding and move it forward expeditiously. This proceeding should be coordinated with appropriate State, New York City and other agencies and organizations promoting energy conservation.

Renewing an aggressive energy efficiency program is of critical importance for future State energy policy. It is likely to be the most cost effective, and most immediate, means to reduce the burden of rising energy and environmental costs for low-income customers, residences, businesses, and others. It should promote job growth in the State and lessen New York's

dependence upon imported fuels and power. Energy efficiency and conservation should also reduce the likelihood of network failures and improve reliability for both the electric and natural gas delivery infrastructure. And developing efficiency resources will contribute significantly to the State's priority of reducing New York's greenhouse gas emissions.

The Commission orders:

1. A proceeding is instituted under the guidance of an Administrative Law Judge to facilitate the design of an energy efficiency portfolio standard in New York.

2. The Administrative Law Judge shall periodically report to the Chairwoman on the scope and progress of the proceeding. The first such report shall be provided by June 29, 2007.

3. This proceeding is continued.

By the Commission,

JACLYN A. BRILLING
Secretary