



July 25, 2007

Hon Eleanor Stein Administrative Law Judge Three Empire Plaza Albany, New York 12223

In Re: Case 07-M-0548 – Proceeding on Motion of the Commission Regarding an Energy Efficiency Portfolio Standard

Dear Judge Stein:

Pursuant to your Ruling on Scope and Schedule in the above referenced proceeding issued June 15, 2007, the Long Island Power Authority (LIPA) hereby submits an original and ten (10) copies of its Responses to the ALJ's Questions issued in this proceeding. These answers have been served on the Active Parties List today.

Thank you very much.

Sincere

Roni F. Epstein Assistant General Counsel, Long Island Power Authority

Encl.

cc: All Parties (by electronic filing)

STATE OF NEW YORK

PUBLIC SERVICE COMMISSION

Proceeding on Motion of the Commission Regarding an Energy Efficiency Portfolio Standard

Case 07-M-0548

RESPONSE OF THE LONG ISLAND POWER AUTHORITY TO THE ALJ'S QUESTIONS

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Introduction

Pursuant to the June 15 Ruling on Scope and Schedule in the above-captioned proceeding, the Long Island Power Authority (LIPA) respectfully submits its responses to the questions posed to the parties and separately to LIPA and NYPA by Judge Stein on June 22, 2007.

Questions for LIPA and NYPA:

Q1. Please provide actual annual sales data for 2006 and an annual sales forecast (electric in MWhs, gas in Decatherms) for your service territory for each year 2007 through 2015. The data should be broken down by and include every service class (even the ones you might deem irrelevant) and transportation/sales. Please identify the source of the forecasts.

Response:

LIPA prepares load forecasts on an annual cycle in the fall of each year. The latest available load forecast was prepared in the fall of 2006. That load forecast provides the basis for this response. LIPA's actual energy sales and requirements in 2006, and the forecast of energy sales and requirements for 2007 through 2015, are provided on page 3.

Energy sales are the starting point for the determination of the volumes that serve as the reference point for measuring LIPA's achievement of 15% savings in energy. Also provided are the following three data series which can be used to calculate LIPA's pre-DSM energy requirements:

a. Energy Losses, Unaccounted For Energy and Company Use

Energy savings should be measured at the requirements level, since this better represents all of the resources that will be required to meet customer's demand for electric service. Energy losses, unaccounted for electricity and company use are all necessary components of the provision of electric service, and all consume energy resources and contribute to the environmental impacts associated with electric use. Furthermore, improvements in efficiency regarding lost, unaccounted for or company use of electricity will contribute to reducing the burden on energy resources and the environment.

b. Planned LIPA-sponsored DSM efforts

LIPA's forecast already incorporates a level of future demand side management effort that would, under the assumed EPS paradigm, be counted separately as efforts contributing to the 15% overall reduction in energy reduction. These future efforts relate to energy efficiency measures that have not been installed or implemented yet. Moreover, these future activities haven't been approved by the LIPA Board of Trustees beyond 2008, and are therefore not guaranteed to occur. However, they have been included in LIPA's load forecasts as reasonable assumptions regarding future directions for the Authority. So that LIPA is not penalized for having already included the benefits of such efforts in the load forecast, it is necessary to reflect the level of energy requirements that LIPA would experience in the absence of such efforts. This will create a more realistic and appropriate baseline for measuring LIPA's contribution to the Governor's statewide 15x15 program.

c. Achieved LIPA-sponsored DSM results

Since 1999, LIPA has pursued an aggressive demand side management program known as the Clean Energy Initiative (CEI). These CEI programs have already produced a significant amount of savings in energy use on Long Island, and the effect of these already installed measures are projected to continue into the future, through the end of their useful life.

For measurement purposes under the Governor's 15x15 program, LIPA's projected baseline energy requirement in 2015 is projected to be 25,261,382 MWhs, which is 15.7% higher than the corresponding baseline usage actually experienced in 2006. In developing the baseline projection, the impact of DSM programs has been measured at the requirements level (including lost and unaccounted for, and company use). DSM-designated programs include the Clean Energy Initiative, Solar Pioneer, RECAP, Peak Load Reduction, and LIPA Edge.

Actual and Projected Energy Requirements (in MWhs)

	2006 Billed	2007 Forecast	2008 Forecast	2009 Forecast	2010 Forecast	2011 Forecast	2012 Forecast	2013 Forecast	2014 Forecast	2015 Forecast
Energy Sales										
Total Sales	19,773,425	20,130,617	20,374,711	20,583,075	20,857,840	21,141,156	21,546,387	21,838,996	22,202,98 7	22,578,419
Loss/Comp. Use	1,659,800	1,522,557	1,540,514	1,555,569	1,575,617	1,596,288	1,626,001	1,647,203	1,673,760	1,701,152
Requirements ¹	21,433,225	21,653,174	21,915,226	22,138,645	22,433,456	22,737,444	23,172,389	23,486,199	23,876,747	24,279,571
Planned DSM	48,438	159,020	267,751	356,630	438,876	507,255	556,225	603,413	646,886	685,976
Achieved DSM	359,421	351,252	344,344	337,618	331,073	324,719	31 8,542	312,519	306,619	295,834
Pre-DSM Load	21,841,084	22,163,447	22,527,321	22 ,8 32, 893	23,203,405	23,569,418	24,047,155	24,402,131	24,830,252	25,261,382
Cum. Growth		1.5%	3.1%	4.5%	6.2%	7.9%	10.1%	11.7%	13.7%	15.7%

¹ These requirements reflect LIPA's official load forecast as of November 17, 2006, which assumes a continuation of current efficiency programs beyond its authorized expenditures through 2008. In March, 2007, LIPA provided NYISO a forecast which includes the effect of a larger efficiency program that had been developed internally by LIPA staff, but has not been presented to the LIPA Board of Trustees. We understand that the NYISO may provide this forecast to the PSC in response to this question. Using either level of assumed DSM results in the same pre-DSM Load forecast. As a result of the 15x15 program, the LIPA Board of Trustees is likely to be presented with a DSM plan that incorporates a modified efficiency program.

Q2. Please provide actual annual achieved end-user energy efficiency data for 2006 and annual end-user energy efficiency forecast (electric in MWhs, gas in Decatherms) for your service territory for your own already-planned end-user energy efficiency programs each year 2007 through 2015. The data should be broken down by program and should not include peak shaving or demand response programs, and should not include NYISO or NYSERDA programs (except Con Edison should include NYSERDA programs provided solely for Con Edison). If possible, provide a description, cost per MWh or Decatherm, and total resource cost test score for each program.

Response:

The table below contains LIPA's annual achieved energy savings in 2006 and the annual incremental energy savings goals in 2007 and 2008. The Clean Energy Initiative is currently authorized through 2008, and any plans to extend the program beyond that date (as well as any plans to expand or modify the program going forward) will require the approval of LIPA's Board of Trustees.

	Annualized Energy Savings (MWH)				
	2006	2007	2008		
	Actual	Goal	Goal		
Residential					
Lighting & Appliances	42,258	39,931	43,000		
Home Performance with Energy Star	9,103	9,775	13,000		
Solar Pioneer	2,000	1,545	1,500		
Residential New Construction	1,015	1,450	3,500		
	54,376	52,701	61,000		
Non-Residential					
Commercial Construction	24,032	25,500	29,500		
Other	7,616	6,618	3,630		
			-		
Energy Efficiency Programs Total	86,024	84,819	94,130		

Descriptions of LIPA's CEI programs:

- Residential Lighting and Appliance Program. Creates increased consumer demand for quality, energy efficiency products such as Energy Star qualified refrigerators, dishwashers and clothes washers. This program also provides rebates for qualified light fixtures and compact fluorescent light bulbs.
- Home Performance with ENERGY STAR. In collaboration with NYSERDA, this residential retrofit program seeks to transform the way energy efficiency services are delivered to existing homes, incorporating an extensive building science component and placing a high priority on quality. This category also includes:

- **Cool Homes Program.** Provides educational efforts, financial incentives, program management and market support for the installation of energy efficient residential air conditioners or heat pumps.
- Residential Energy Affordability Partnership (REAP) Program. Improves energy affordability for LIPA's lower income households through: (1) the free installation of a comprehensive set of cost effective energy efficiency measures such as high efficiency refrigerators, torchieres, faucet aerators, insulation and energy efficient light bulbs; and (2) extensive energy education and counseling.
- Solar Pioneer Program. Promotes the sustained and orderly development of the photovoltaic market on Long Island to reduce overall power system emissions and the need for imported fuels.
- Residential New Construction NY ENERGY STAR Labeled Homes Program. Seeks to improve the energy efficiency of the residential new construction market in a collaborative effort between LIPA and NYSERDA. The program uses the EPA's ENERGY STAR Homes standards but adds additional electrical savings elements and health and safety provisions to participating homes.
- **Commercial Construction Program**. Promotes the application of a broad range of energy-efficient electric technologies and design opportunities comprising three components: Prescriptive, Custom and Whole Building. The Prescriptive component provides financial incentives to customers who purchase and install qualifying energy efficient electric equipment. The Custom component provides financial incentives to customers who install cost-effective, energy-efficient equipment or make design improvements that exceed those found in Prescriptive. The Whole Building initiative seeks to achieve the greatest degree of energy efficiency by encouraging building owners, developers and architects to design and construct the most energy-efficient building from the onset of a construction project.
- Residential Information & Education Program. Provides valuable energysaving information to customers through printed materials, advertising and marketing, a student education component, and Energy Wise info line, the LIPA website and computer-based on-line self-directed energy audit services.
- Customer-Driven Efficiency Programs. Provides assistance to both residential and commercial customers wishing to make energy efficiency improvements not covered in any of LIPA's other CEI programs.

Questions to All Parties:

Q1. 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?

Response:

Inventories of building stock, appliances, and fixtures (also known as saturation or baseline studies) have traditionally been conducted by utilities for their service territories. As a result, state-wide studies are rare and we are unaware of any comprehensive studies that cover New York State. However, some targeted studies do exist, and LIPA has conducted a number of relevant studies for its service territory which include:

- A baseline study of commercial and industrial facilities which was completed in 2002.² This study includes both qualitative aspects of the new construction/renovation and replace/remodel markets and quantitative data on the rate of sales of efficient equipment in lighting; heating, ventilation, and air conditioning ("HVAC"); chillers; and motors end-uses. Also included in the study are the results of research into other sources of baseline, market effects, and market characterization studies. This study was updated in 2004 and will be updated again shortly. The work plan for the latest update (i) notes that no single source is available that provides sufficient information for identifying and targeting efficiency opportunities and (ii) describes the relative strengths and weaknesses of sources such as the Commercial Buildings Energy Consumption Survey ("CBECS"), utility meter data, and commercial construction forecast information from providers such as Reed and McGraw Hill/Dodge.
- A baseline study of residential new construction practices, completed in 2004.³ This study characterized typical residential new construction practices based on a survey of over 70 newly-constructed single- and multi-family structures.
- A baseline study of HVAC equipment in residential and small commercial facilities, completed in 2005.

The following additional studies are in progress:

- Residential Appliance Saturation Survey ("RASS") to update an existing study that is several years old;
- Survey to assess the contribution of various residential end-uses to peak loads;
- Lighting Evaluation survey, focused on the performance of efficiency lighting that also includes relevant inventory information such as the number of sockets per household;

LIPA Commercial and Industrial Baseline Study. Prepared for the Long Island Power Authority by Regional Economic Research, Inc. May, 2002.

³ Long Island Residential New Construction Technical Baseline Study. Prepared for the Long Island Power Authority by Vermont Energy Investment Corporation and Optimal Energy, Inc. May 2004.

- "Attitudes and Awareness" baseline study in support of LIPA's Home Performance with ENERGY STAR ("HPWES")/ENERGY STAR("ES") Homes program;
- Study of HVAC, HPWES, and ES Homes that will involve on-site audits.

Q2. 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?

Response:

The most common approach to undertaking a baseline or saturation study is to conduct audits of relevant facilities using accepted statistical sampling procedures. When conducted properly, such studies have a known level of precision and uncertainty. Other approaches to developing baseline data include attitudinal and awareness studies and supply-side baseline studies. Furthermore, market research efforts such as market segmentation studies can also be useful to develop baseline information. As the specific studies discussed in its response to Question 1 above illustrate, LIPA uses a combination of these approaches when conducting its program evaluation studies.

Q3. 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 Decatherm, and total resource cost test score for each such program.

Response:

In existing homes and existing buildings, homeowners and businesses consider two different types of decisions that affect energy use: retrofit decisions and equipment replacement decisions. Retrofit decisions occur when functioning existing equipment that provides needed services (e.g., lighting, cooling, heating) is chosen to be replaced with similar, more energy-efficient equipment. When such decisions are made, the entity is required to pay for the full cost of the new, energy-efficient option. On the other hand, equipment replacement decisions occur at the time of equipment failure or a home or business renovation. In this case, the energy-efficient option only requires payment of the added cost of the option. While a single homeowner or business might make both kinds of decisions, the decision-making process for retrofit and equipment replacement (i.e., who drives the process and makes decisions, and the available time for decision-making) are quite different.

Since 1999, LIPA has been implementing strategies to target both retrofit and equipment replacement decision-makers and is currently developing an even more aggressive strategy to greatly increase and accelerate the energy savings resulting from these decisions. These strategies, which are part of a new, comprehensive energy efficiency program that LIPA is in the process of developing currently called Efficiency Long Island ("ELI Base Program") include:

- Efficient Products Program: LIPA buys down the price for energy-efficient lighting products, such as compact fluorescent lamps ("CFLs"), or provides coupons to offset additional product costs for energy efficient refrigerators, room air conditioners, or other products. LIPA would significantly expand its efforts to work with retailers to provide greater shelf space for energy efficient products, and to stock a greater range of such products. LIPA would also expand its marketing efforts to promote the benefits of these energy efficient products.
- Existing Homes: LIPA currently offers services to significantly improve the efficiency and installation quality of new or replacement central air conditioning ("CAC") systems. LIPA plans to build on this success by also offering tune-ups of existing CAC systems and installing other cost-effective, electric efficiency products (e.g., CFLs, refrigerators) as part of this service. LIPA already provides (i) extensive outreach and training to HVAC contractors on "quality installation" practices (e.g., sizing, refrigerant charge) as well as (ii) incentives for high-efficiency air conditioning systems. LIPA also promotes the Home Performance with ENERGY STAR model of air conditioners.
- <u>Business Existing Facilities</u>: LIPA offers a wide range of services to address energy efficiency opportunities in the C&I sector, including: incentives, technical assistance, and turnkey installation for certain retrofit projects. Moving forward, LIPA plans to increase its spending in the existing buildings sector by increasing its staff and the capacity of its subcontractors and by promoting market-based retrofit incentives to trained contractors. As part of this effort, LIPA staff or contractors would manage individual larger customers to comprehensively develop and quantify the energy efficiency opportunities that are present in almost all facilities. LIPA would also expand its equipment replacement program by increasing outreach, training, and contractor support for eligible technologies. Further, LIPA would pursue and expand upstream incentives for commercial lighting and HVAC products targeted by other state and regional efforts.

Attaining a 15 percent reduction by 2015 will require working with a greater number of homeowners and businesses and completing a higher percentage of available efficiency improvements than have occurred in the past. Both of these changes will result in a higher cost per unit of energy saved than has occurred in the past. To increase the breadth and depth of penetration, customers that are more reluctant to participate will require higher incentives to overcome their barriers to undertaking projects and each successive increment of the market that is approached will impose higher costs per unit of energy saved. Additionally, attaining greater energy savings will require installing some technologies having poorer rates of return than technologies being installed today. Again, this will result in higher costs per unit of energy savings. One way to facilitate installation of many of these measures is for New York State to increase the efficiency levels in its building and appliance codes. LIPA believes that such action by the State would make a significant contribution to the 15×15 goal in its service territory and LIPA is including such contemplated savings in its own 15×15 program. As these building and appliance code levels rise, cost effective energy efficiency opportunities will

decrease even further. LIPA's new ELI Base Program takes these factors into account.

Costs on a per MWh saved basis can be reported; however, before providing such information, LIPA recommends that a standard set of assumptions and reporting conventions be established so that all such costs across utility programs are presented on a comparable basis. For instance, in prescriptive incentive programs, each measure or set of bundled measures has engineering algorithms associated with the program. These algorithms take into account a variety of factors including: baseline estimates for savings claims, free ridership and spillover rates, hours of operation, measure life, percent of cost provided in the incentive, inclusion and allocation of administrative costs, non-incentive solutions, and building types addressed. Once the assumptions and reporting conventions are so established, LIPA would be happy to provide the data.

Q4. 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 Decatherm, and total resource cost test score for each such program.

Response:

Homeowners and businesses face a wide range of barriers when considering opportunities to improve their energy efficiency. These barriers include the availability of information and an entity's ability to use the information that is available, concerns about equipment performance, a range of non-purchase costs including "hassle" or "hidden" costs, organizational policies, split incentives, product availability, and purchase costs. Well-designed energy efficiency programs address each of these barriers through program elements such as: technical assistance, outreach, education, training, marketing support, financial incentives, and financing. Thus, while financing can be an important component of a well-designed energy efficiency program to remove barriers to participation, it is important to note that it is only one of several components that should be considered.

There is a wide range of existing energy efficiency programs that have included financing as one of their program elements. For example, LIPA's Home Performance with ENERGY STAR Program offers a subsidized loan product to help amortize the costs of home retrofits utilizing such appliances. Financing is a component of this program that offers a range of services, including analysis, presentation of cash flow benefits to customers, training and certification, and financial incentives.

Generally, financing is offered as part of:

- A program-funded assessment or audit estimating the costs and savings of a particular energy efficiency improvement. The resulting improvement may need no other incentive other than amortization;
- An overall incentive package aimed at amortizing remaining purchase costs to the point where the energy savings are equal to or greater than the annual financing payments.

As it expands its energy efficiency programs, LIPA is exploring ways to more fully utilize financing partners to address some of the barriers faced by its customers.

With regard to the costs per MWh of LIPA's programs, please see the discussion in the last paragraph of LIPA's response to Question 4 above.

Q5. 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 Decatherm, and total resource cost test score for each such program.

Response:

To LIPA's knowledge, all market transformation programs available nationally are currently being implemented in New York and LIPA is an active participant in them; however, these market transformation programs need to be greatly expanded to encompass larger segments of the utility's customer base if utilities are going to meet the 15 x 15 goal. Examples of existing, successful programs that LIPA plans to expand are:

- Long Island has several Towns, including Babylon and Brookhaven, which have adopted the ENERGY STAR-Labeled Homes rating in their building codes for residential new construction, supporting the development of home energy raters and builders with energy efficiency experience.
- LIPA actively promotes ENERGY STAR-labeled residential products and appliances and has also supported the Home Performance with ENERGY STAR approach to training contractors.
- LIPA supports and participates in regional efforts by the Northeast Energy Efficiency Partnership ("NEEP") and the Consortium on Energy Efficiency to promote high-efficiency commercial lighting and HVAC equipment, and training for facilities managers and building operators.
- LIPA continues to offer the Building Operator Certification training course to enhance facility manager and building operator knowledge of energy use and opportunities to reduce energy-related costs.
- LIPA promotes upstream incentives for stocking high-efficiency lighting and HVAC equipment, and training contractors for C&I installations.

With regard to the costs per MWh of LIPA's programs, please see the discussion in the last paragraph of LIPA's response to Question 4 above.

Q6. What entities would be most 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

Response:

In its response to Question 15 posed by the PSC staff, LIPA's answer included the following:

"Ultimately, energy efficiency implementation is successful because it recognizes the diversity in the market, makes economic sense to the customer, and removes the majority of administrative barriers to participation. The customer must find the resulting offerings as easy to use as possible. For this reason, we believe the local utility is best positioned to provide the customized and comprehensive solutions to customers within their service territories."

In its response to Question 14 posed by the PSC staff, LIPA's answer included the following:

"Since Long Island is a discrete territory, LIPA is the proper entity to deliver all efficiency programs, including both market transformation and resource acquisition strategies."

LIPA believes it is the proper entity to deliver each component of energy efficiency programs listed in the question above. However, LIPA does not believe it should perform all these activities without assistance from other relevant entities. Where competent providers of outreach services exist, LIPA believes they are the perfect partners through which to advance energy efficiency ideas and services. For instance, LIPA plans to continue to work with the Community Development Corporation that implements the Department of Energy Low Income Weatherization Assistance Program to combine its thermal efficiency work for our customers with outreach services for electric energy saving measures.

Some of LIPA's present and future strategies require the cooperation of other state and regional entities and LIPA plans to continue its work with them. LIPA also plans to continue its work with ENERGY STAR, Northeast Energy Efficiency Partnerships, Consortium for Energy Efficiency, NYSERDA, NYPA and other regional and national initiatives. We further plan to continue to work with educational institutions and finance partners to supply our customers with additional services.

Since different markets may require different strategies, it is important that LIPA have responsibility for program implementation and delivery in its service territory.

LIPA is currently delivering and plans to continue delivering effective programs in all of the categories listed above. In each case, LIPA provides a current offering aimed at overcoming the barriers to energy efficiency investment that exist in the residential and commercial markets with a combination of market transformation and resource acquisition strategies. LIPA sees the list offered above not as stand alone programs, but as tools within an overall portfolio of strategies used to supply the solutions its customers seek when presented with energy saving investment decisions.

Since LIPA's current efficiency offering, the Clean Energy Initiative ("CEI"), is expiring at the end of 2008, LIPA has been working for the past 18 months on designing a comprehensive energy efficiency program currently called Efficiency Long Island ("ELI Base Program") that is intended to succeed and expand CEI.⁴ As designed, the ELI Base Program is a highly cost effective program with the largest benefit of any resource option LIPA has studied to date as part of its Energy Plan. The highly cost effective nature of ELI in part depends on LIPA's ability to coordinate and administer the initiatives for its customers.

Q7. What entities would be 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

Response:

LIPA refrains from answering this question.

Q8. Is your entity or organization interested in being a provider of energy efficiency programs? If so, what types?

Response:

Yes, LIPA plans on continuing to be the provider of all components of energy efficiency programs listed in Question #6 within its service territory.

Q9. Is your entity or organization opposed to being a provider of energy efficiency programs? If so, what types?

Response:

No. Please see LIPA's answer to Question 9 above.

⁴ This new energy efficiency program is still in the development phase and has not been approved by LIPA's Board of Trustees. Some of the programs currently included in this new energy efficiency program are listed in the response to Question 3 above.