Appendix D-4

Long Range Forecast of Energy Requirements 2009 – 2028

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1 Executive Summary

This report describes LIPA's energy and peak demand load forecast and the forces influencing it, including various aspects of Long Island's economic outlook. Long Island's economic growth is supported and driven by the availability of energy sources. Long Island Power Authority (LIPA) regularly develops an energy plan for the region to ensure adequate power resources are planned to support continued economic expansion in the area. The load forecast is a critical component in developing the energy plan because the short and long-term power required by the residents and businesses located on Long Island is one of the most significant factors in estimating LIPA's energy resource requirements over the planning horizon.

Producing a load forecast is dependent on estimating a variety of variables, including weather, the level of economic activity, changes in population and consumption patterns. Long Island's residents live in one of the wealthiest areas in the United States with a population of over 2.86 million. Long Island's close proximity to New York City's job market, a diversified local economy, and the availability of skilled labor, are all building blocks for continued growth. The Long Island economy is expected to continue to expand in 2009 (0.5%), slightly slower than in 2008 (0.8%) and much slower than in 2007 (3.0%). Below trend growth (1.0%) is expected over the next four years.

There are two primary projections developed as part of the forecasting process: an energy forecast and a peak demand forecast. The energy forecast is simply the projection of electric energy consumed throughout the year, much the same concept as estimating the number of gallons of gas used to power our automobiles for one year. The peak forecast assesses the annual maximum requirements, on a consolidated basis, that LIPA's customers take from the electric system at any one point in time, which traditionally is during the summer season. For example, a homeowner may normally turn on a few lights in their residence when they get home at night, which draws only a small amount of power. However, on a hot day they may also choose to turn on their air conditioning, which causes more power to be drawn from the electrical system than is the case in cooler weather. On an island-wide basis, if many commercial and residential customers all run their air conditioners simultaneously, then the power requirements ramp up rapidly, which on the very hottest day may create a single peak energy demand for the year. LIPA must be prepared to have sufficient resources available to meet that maximum customer demand.

As described in greater detail in Appendix A, Technical Report, the Electric Resource Plan uses two forecasts:

- The "Comparison of Plans" was based on the November 2007 Load Forecast; and
- The "Assessment of Need" was based on the November 2008 Load Forecast

While the same methodologies were used to develop both forecasts, updated data available in 2008 resulted in a different forecast. This report provides data and information regarding the development of the forecast prepared in November 2008. Attachment 2 provides the results of the November 2007 forecast.

Exhibits 1-1 and 1-2 depict both the historic (2008) and forecasted (2009-2028) growth in energy and peak demand, respectively, before DSM reductions. In the short term LIPA's system energy requirements for 2009 are projected to grow by 0.1% over 2008 energy consumption.

Peak demand growth for the LIPA generating system is projected to be -0.4% in 2009 including a 51 MW reduction for the LIPA Edge program. Exhibit 1-2 depicts historic peaks on both an actual value basis and normalized for weather impacts. Normalization is simply a process used to be able to compare peaks on a consistent (or apples to apples) basis by assuming consistent weather profiles.

To put these projections in historic perspective, normalized energy consumption in the LIPA system has grown by 1.3% on an average annual basis since 2000 and normalized peak demand has grown at an average annual rate of 2.2%, reflecting the economic growth of the area.

Exhibit 1-1 Historic and Forecasted LIPA Energy Requirements (GWh)

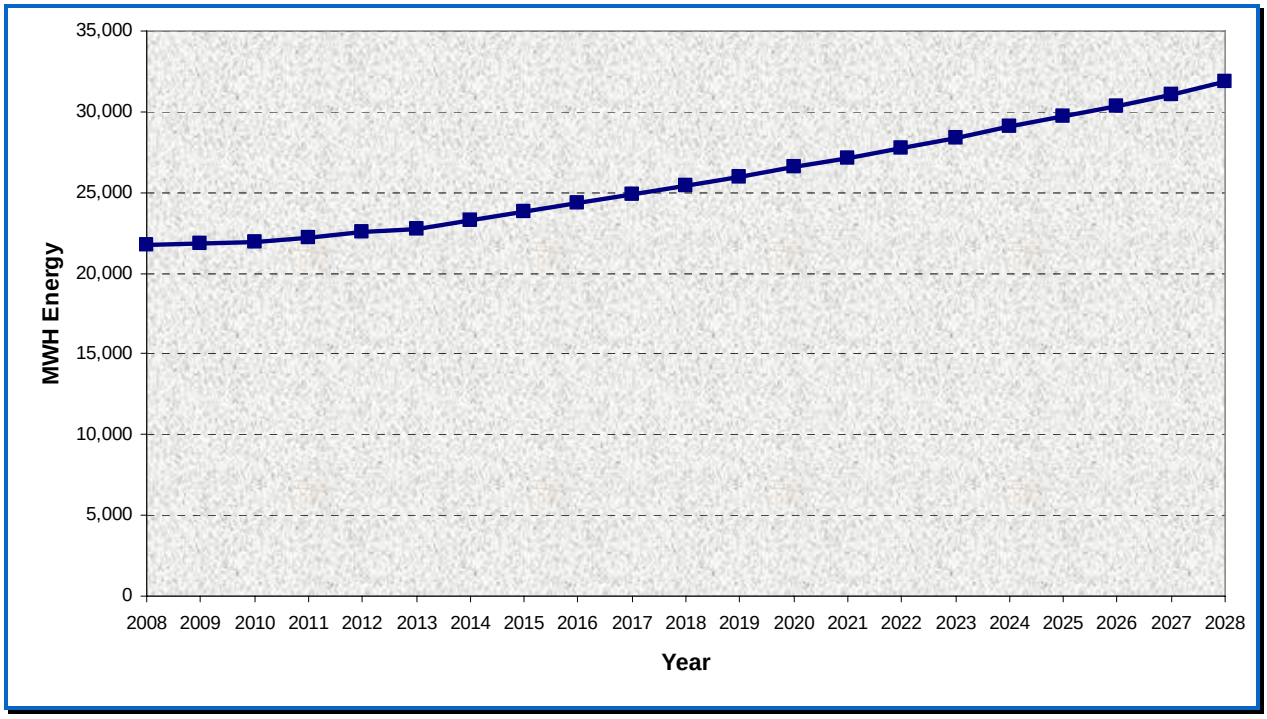
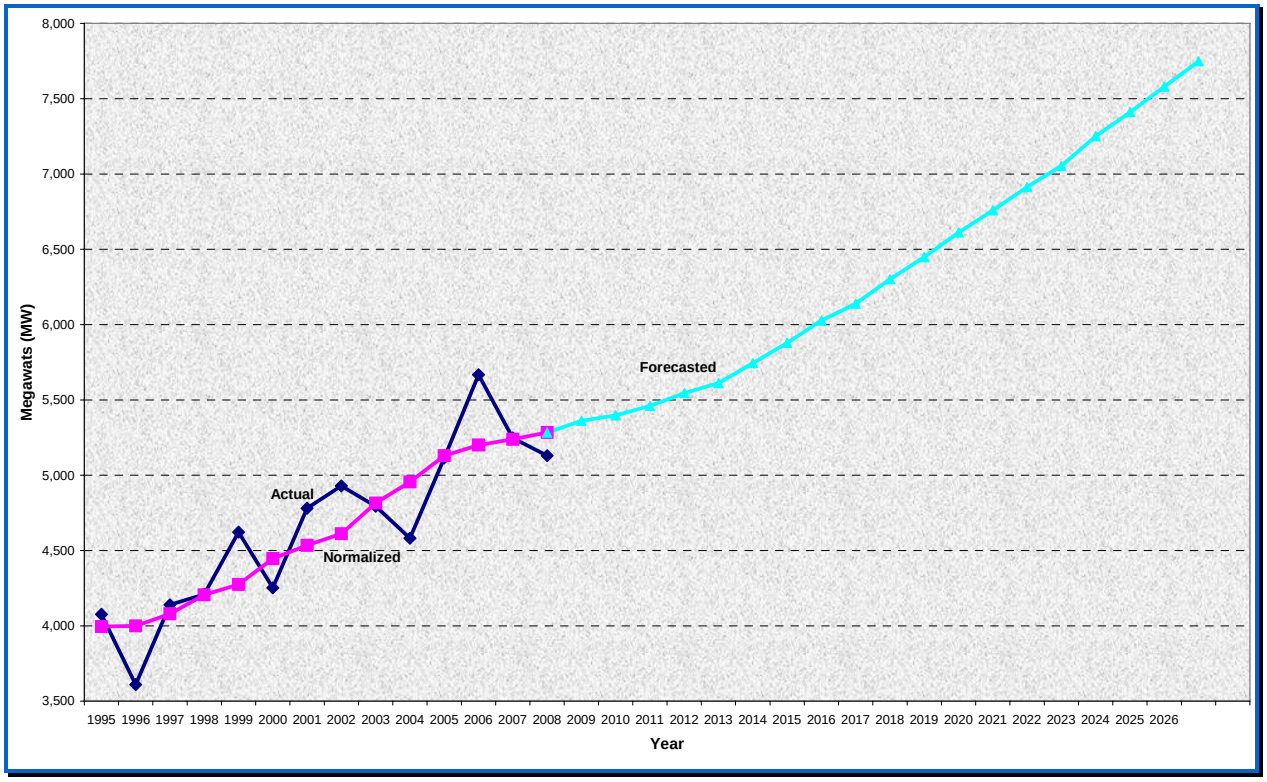


Exhibit 1-2 Historic & Forecasted LIPA System Peak



2 Load Forecasting Process

2.1 Overview

Energy is an important service that supports the needs of people and economies throughout the world, a responsibility that has historically required those who provide electric service to ensure that electricity is available as needed, and in LIPA's case, provided at reasonable cost and with every consideration for our environment. LIPA recognizes the necessity of planning both for its system needs and for Long Island's energy future and initiates its regular planning process with the development of a detailed forecast of our customer's energy requirements. Specifically, the load forecast is used as a basis to evaluate the resource options available to LIPA to reliably meet electric requirements on Long Island. These options include procurement of supply and demand side resources, enhancement to the bulk power transmission system and expansion of localized distribution facilities. To ensure LIPA's compliance with regulatory requirements, the forecasts are submitted to various state agencies and to the New York Independent System Operator (NYISO) for regional planning purposes.

This document discusses the methods used to establish a projection of energy requirements, describes the historic pattern of energy growth, and provides the actual projections upon which LIPA bases many of its business and energy expansion decisions. There are two primary projections developed as part of the electricity forecasting process: an energy forecast and a peak forecast. The energy forecast is simply the projection of electric energy consumed throughout the year, much the same concept as forecasting the number of gallons of gas used to power our automobiles for one year. The energy forecast examines the patterns of consumption (e.g., more in the summer when we drive on vacation and less in the winter when we are less apt to travel, for example) and the impact of our home or facility characteristics on consumption (not unlike comparing the gas consumption of a Toyota Corolla to that of an SUV, or of a single driver household to that of a family of three drivers).

The peak forecast assesses the annual maximum requirements on an island-wide basis that customers take from the electric system at any one point in time, which traditionally is during the summer season. For example, a homeowner may normally turn on a few lights in their residence when they get home at night, which draws only a small amount of power. However, on a hot day they may also choose to turn on their air conditioning, which causes more power to be drawn from the electrical system than is the case in cooler weather. On an island-wide basis, if many commercial and residential customers all run their air conditioners simultaneously, then the power requirements ramp up rapidly, which on the very hottest day may create a single peak energy demand for the year. LIPA must be prepared to have sufficient resources available to meet that maximum customer demand.

The remainder of this document provides:

- A description of the LIPA forecast area
- An explanation of the key drivers upon which the forecast methodology is based
- A description of the method by which energy forecasts are converted to peak forecasts
- Load projections for the region

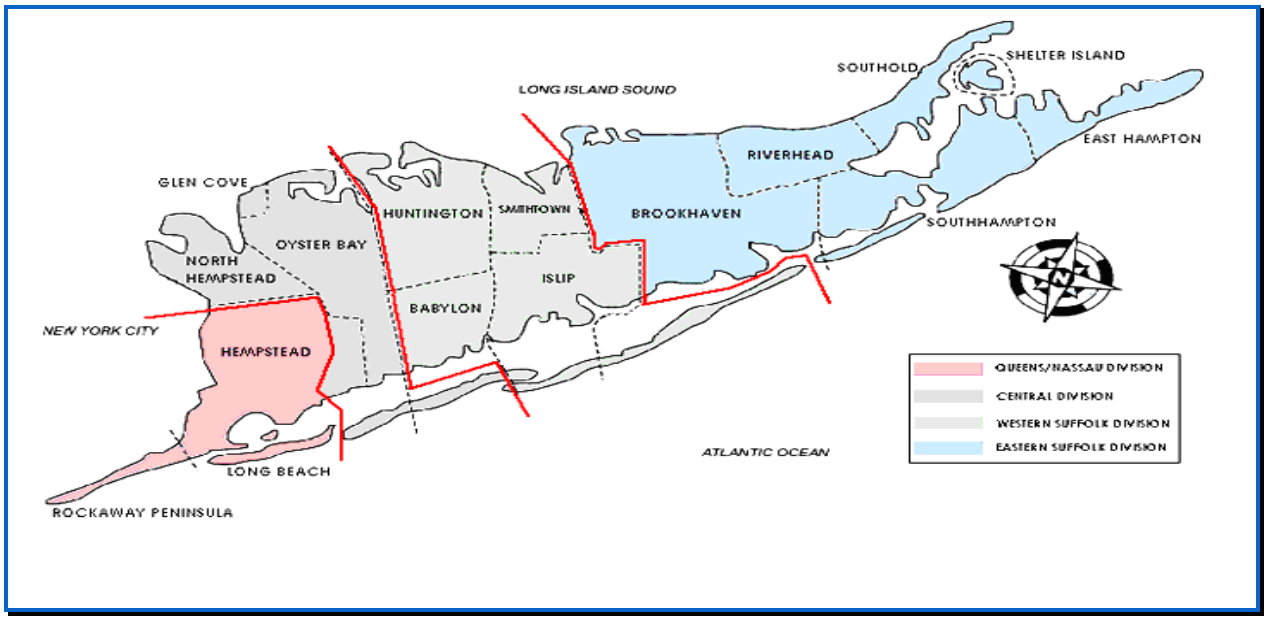
- A discussion of the uncertainty analysis incorporated into the forecasting process

2.2 Description of the LIPA Forecast Area

In 2008, LIPA served 991,761 residential customers (accounting for 48% of energy consumed and 53% of LIPA revenues) and 108,649 commercial/industrial customers (representing 50% of energy consumed and 45% of LIPA revenues). The remaining energy consumption and revenues (2% and 2% respectively) are attributable to other public authorities and street lighting.

Long Island is the largest island adjoining the continental United States. Long Island extends approximately 118 miles east-northeast from the mouth of the Hudson River (see Exhibit 2-1). On the north, it is separated from the New York\Connecticut mainland by Long Island Sound. To the south and east, Long Island is bounded by the Atlantic Ocean. The eastern end of Long Island splits into two forks. The north fork is about 28 miles long, terminating at Orient Point. The south fork is approximately 44 miles long, terminating at Montauk Point.

Exhibit 2-1 LIPA Territory Map



Long Island is divided into four counties: Kings, Queens, Nassau and Suffolk, totaling 1,377 square miles. LIPA serves an estimated 2.99 million people in a service territory covering 1,200 square miles, encompassing most of Long Island. Almost all of LIPA's customers live in Nassau and Suffolk Counties (population 2.86 million), which together comprise a Primary Metropolitan Statistical Area (PMSA). The balance of the population in the LIPA service territory resides on the Rockaway Peninsula in Queens County, which is within the New York City limits. Population density within the LIPA service territory decreases as one progresses east: Nassau County has a density of roughly 4,720 persons per square mile while Suffolk County, the larger of the two counties, has a density of about 1,652 persons per square mile.

Within the LIPA service area, there are three small municipal electric systems: Freeport, Rockville Centre, and Greenport. In addition, New York Power Authority (NYPA) provides energy, for economic

development purposes to various customers, that is delivered by LIPA through its transmission and distribution system. Both Nassau and Suffolk counties have Municipal Distribution Agencies (MDAs) that purchase hydropower from NYPA and distribute it to consumers throughout the LIPA system. The Long Island Control Area (LICA) encompasses LIPA's service area in addition to the municipal and NYPA loads located on Long Island. LIPA looks at energy requirements for purposes of resource planning from both the perspective of LIPA's load and total Long Island load because of the unique geographic characteristics of serving a heavily developed island population with limited capabilities of importing power from off-island generation facilities. Therefore, LIPA believes it is prudent to consider total LICA load in the assessment of resource adequacy to ensure customers' energy needs are met throughout the forecast horizon.

LIPA provides only electric service within its service area. National Grid Corporation (formerly KeySpan) provides gas service to Long Island. When LIPA merged with Long Island Lighting in 1998, it entered into several agreements with National Grid subsidiaries. Under this arrangement, National Grid provides the operating personnel and power supply resources necessary for LIPA to continue to provide electric service on Long Island. The energy forecast provided in this document was prepared by National Grid personnel, under LIPA's supervision.

2.3 Energy Forecast Methodology

LIPA develops the energy forecast by class of customer such as: Residential Customers; Business Customers; and Other Classes, which include Street Lighting, Long Island Railroad (LIRR) sales, and electricity supplied through the Power for Jobs initiative. These forecast classifications are tied to the LIPA customer rate classes and are designed to provide a homogeneous basis for forecast model development.

LIPA uses econometric regression models to project future energy consumption (usage throughout the year). These models are based on the relationships between the historical levels of electricity consumption and the variables that are considered to drive consumption including weather (hot summer or cold winter days), changes in the number of customers, changes in the level of employment, income levels, the size of homes and facilities, and the price of electricity. LIPA then uses this energy projection to develop a peak projection (maximum demand) using a load shape model that translates this information into usage by hour.

2.3.1 Residential Forecast

Several interdependent methodologies have been developed to forecast LIPA's monthly and annual energy consumption and use per customer for the major customer sectors. LIPA uses econometric regression models to project future energy consumption. These models are based on the relationships between historical electricity consumption and the variables that are considered to drive changes in energy consumption. These energy consumption drivers include:

- Weather – Normal cooling and heating degree-days are based on the thirty-year (7/1/77 – 6/30/07) average of Central Park temperature and humidity data. Cooling degree-days are based on a base temperature humidity index (THI) of 60, whereas heating degree-days are based on a base dry bulb temperature of 65 degrees F;
- Number of Customers - Historical customer numbers are obtained from LIPA's Customer Accounting System, categorized by residential and commercial/industrial rate classifications;
- Employment - Historic employment levels by North American Industrial Classification System (NAICS) are obtained from the New York State Department of Labor;
- Income - Historic Long Island personal income data is obtained from the U.S. Bureau of Economic Analysis; and
- Electricity Price - The historic average price of electricity is developed from LIPA's historic revenue and energy sales data.

Residential sales for the short- and intermediate-range were developed using a combination of monthly and annual econometric models. Monthly residential sales econometric models were developed for each of the following three rate classes:

(1) General use customers without electric space heat;

(2) Customers with electric water heating; and,

(3) Customers with both electric space and water heating.

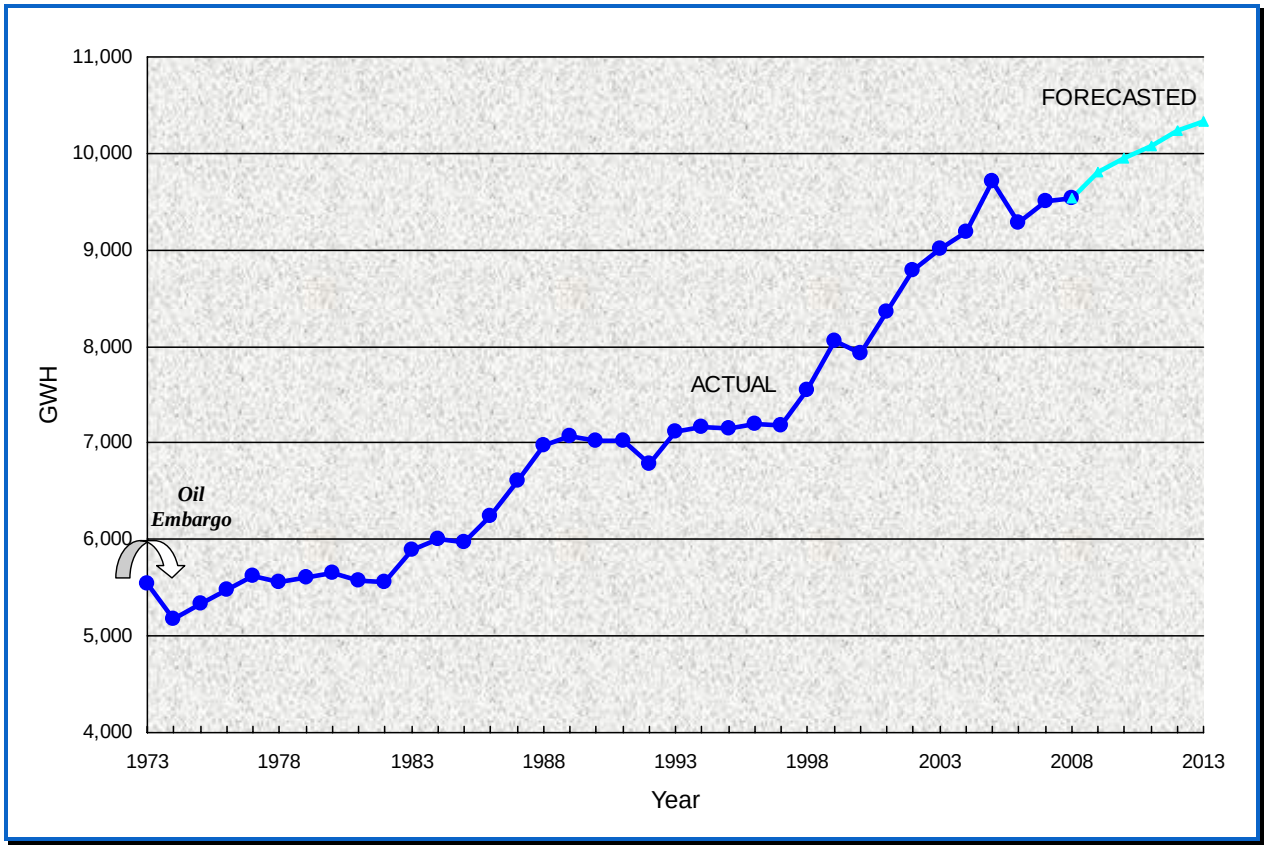
The three monthly residential models were developed by relating monthly energy sales to several driver variables, including inflation-adjusted (real) average electricity price, customers, weather factors such as heating and cooling degree days, and minimum consumption factors such as prior period sales and the number of days in each month. In addition, an annual residential model was developed using annual sales per customer and related driver variables, with sales calculated as the product of predicted sales per customer times forecasted number of residential customers. Predictions from the monthly and annual models represent different approaches to forecasting the same residential energy consumption and their results are compared for consistency. The results from the more flexible annual model are used to produce the final residential sales forecast.

LIPA's statistical models were developed using 10 to 20 years of historical data as a basis. A typical model would look like the following equation.

> General Rate Residential Sales = A + B x Electricity Average Real Price + C x Customers + D x Weather + E x Other Drivers

The equation above is for sample purposes only. LIPA uses the annual residential model for the short- and intermediate term (up to 5 years ahead) and extends that 5 year trend for the long term (up to 20 years). LIPA's residential sector historical and forecasted energy sales through 2013 are graphically depicted in Exhibit 2-2.

Exhibit 2-2 Residential Sales[1] – Historical and Forecast



[1] Forecasted sales do not reflect reductions due to DSM

2.3.2 Business Forecast

The forecast for the business class of customer, termed the commercial and industrial classes, is similarly developed from monthly and annual econometric modeling, as is done with the residential class. The monthly sales models are intended to capture economic fluctuations and trends present in the short- and intermediate-range (i.e., the years from 2009 through 2013), as well as seasonal weather patterns inherent to the Long Island region. Four monthly econometric models were developed, representing approximately 97% of all business sector energy sales. The four monthly models represent sales within the following four business classes which are tied directly to LIPA rate classifications:

(1) General Large

(2) Mandatory Multiple Rate Periods

(3) Electric Space Heating

(4) Non-Demand Metered or "General Small"

Rate classifications are useful since the models are directly tied to the revenue projections and budget process. The four monthly models were developed to relate monthly sales to explanatory variables including inflation-adjusted (real) electricity price, employment, customers, cooling- and heating-degree-days, number of days in the month and prior period sales, using up to 20 years of historical data. Predicted monthly sales are a result of the models using forecasted values of the driving variables particular to each modeled class.

The business sector is disaggregated into eight main groups using the North American Industrial Classification System (NAICS) super sectors as follows:

- Industrial (MFG)
- Trade, Transportation & Utilities (TTU)
- Leisure & Hospitality (LEI)
- Financial Activities (FIN)
- Information (INF)
- Services (SER)
- Education & Health Services (EHS)
- Government (GOV)

Annual econometric models were developed for the eight NAICS super sectors, using up to 36 years of historical data, relating annual electricity use per customer to the explanatory variables of employees per customer, households per customer, real electricity price, real personal income per household, real hourly wages, interest rates and cooling degree-days. A sample equation follows.

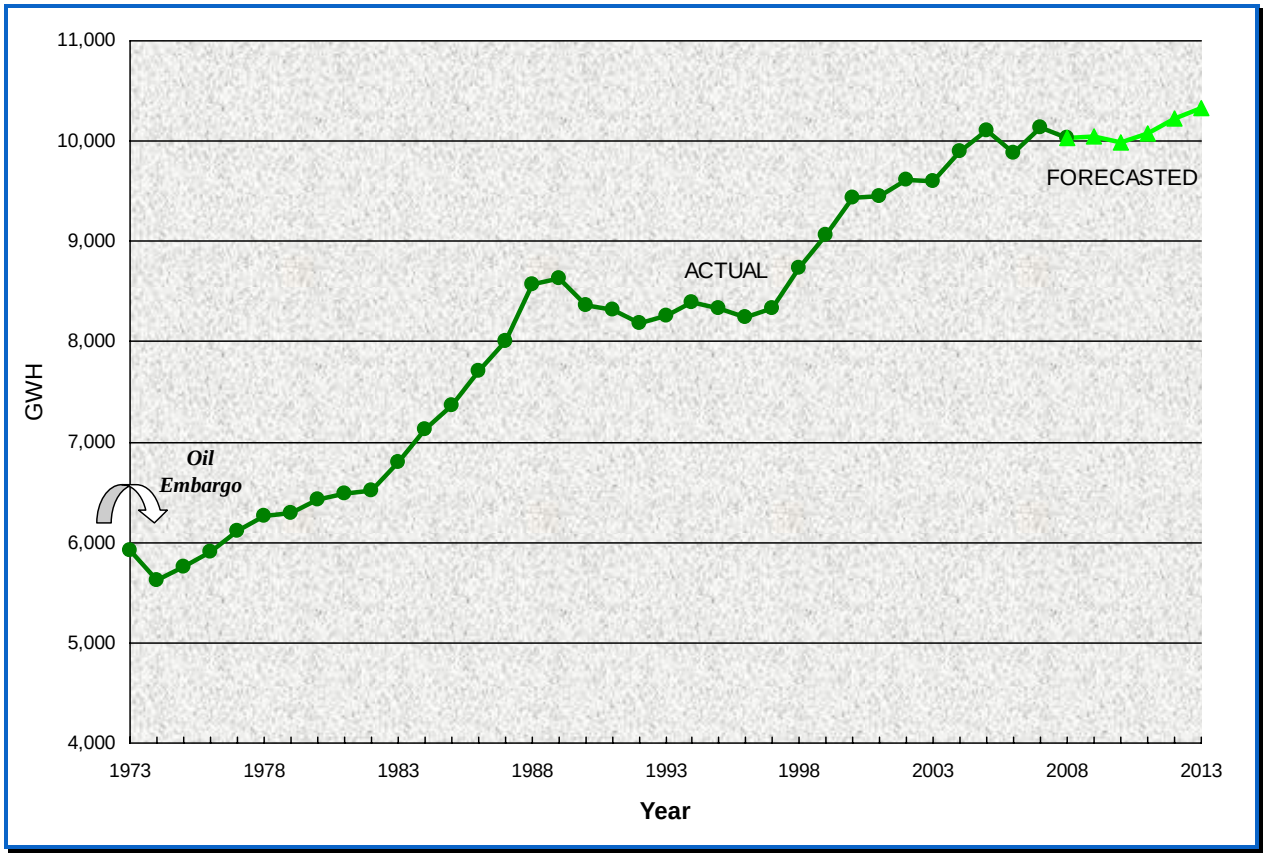
Use per business customer SER = A + B x employees per customer + C x households per customer + D x electricity price + E x Income + F x Weather

Predicted annual business energy sales were obtained from the eight models by multiplying predicted use per customer by forecasted customers for each NAICS super sector. To incorporate the miscellaneous business sector, we increase the forecast projection for each year by 3.6%.

Predictions from the monthly and annual models represent different approaches to forecasting the same commercial and industrial energy consumption and their results are compared for consistency. The results from the more flexible annual models are used to produce the final commercial and industrial sales forecast.

For the short- and intermediate- term (up to five years), the results of the business class annual econometric models were used for the annual sales forecasts. Forecasted values for the driver variables were developed using forecasts from independent economic consultants, gathering projections through meetings with experts, reviewing publications & periodicals, and tracking actual trends in data. Exhibit 2-3 depicts the historic and projected business sales through 2013.

Exhibit 2-3 Business Sales[2] – Actual and Forecasted



[2] Forecasted sales do not reflect reductions due to DSM.

2.3.3 Other Energy Forecasts

Forecasts are also completed for street lighting energy consumption, Long Island Railroad energy consumption, and consumption associated with the Power for Jobs initiative that is described below. These forecasts are developed using a variety of different techniques including trend analysis, analysis of historical use per customer data, and information from LIPA's internal marketing organizations.

The street lighting sales forecast is based on anticipated increases in the number of households on Long Island. The Long Island Railroad (LIRR) sales projections are based on previous usage modified to reflect expected increases in ridership due to population growth and other factors. Power for Jobs (PFJ) is a New York state program where lower cost power from the New York Power Authority (NYPA) is made available to commercial and industrial customers who meet certain criteria. The forecast for PFJ is based upon NYPA's projections of available peak power.

2.3.4 Economic Assumptions

In this section, we provide projections and sources for the econometric model driver variables used in the energy forecasts described above.

Price

The nominal annual electric price changes used in the forecast are based on LIPA projections. LIPA's price forecasts are developed to ensure that the level of revenue necessary to meet financial requirements while continuing to provide customers with DSM, economic development and retail access programs is maintained. The electric prices used in the

econometric models are adjusted for inflation, using projected values of Gross Domestic Product (GDP) Implicit Price Deflator (IPD) for business prices and the Consumer Price Index (CPI) for residential prices.

Exhibit 2-4 Consumer Price Index – Actual & Forecasted[3]

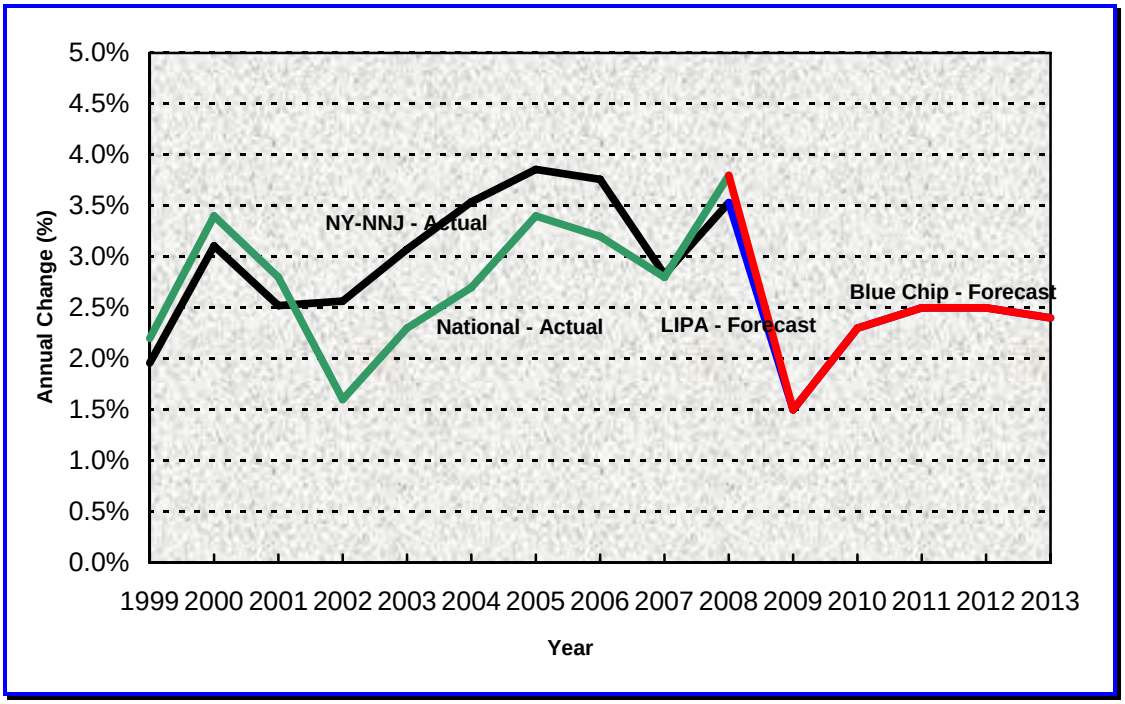
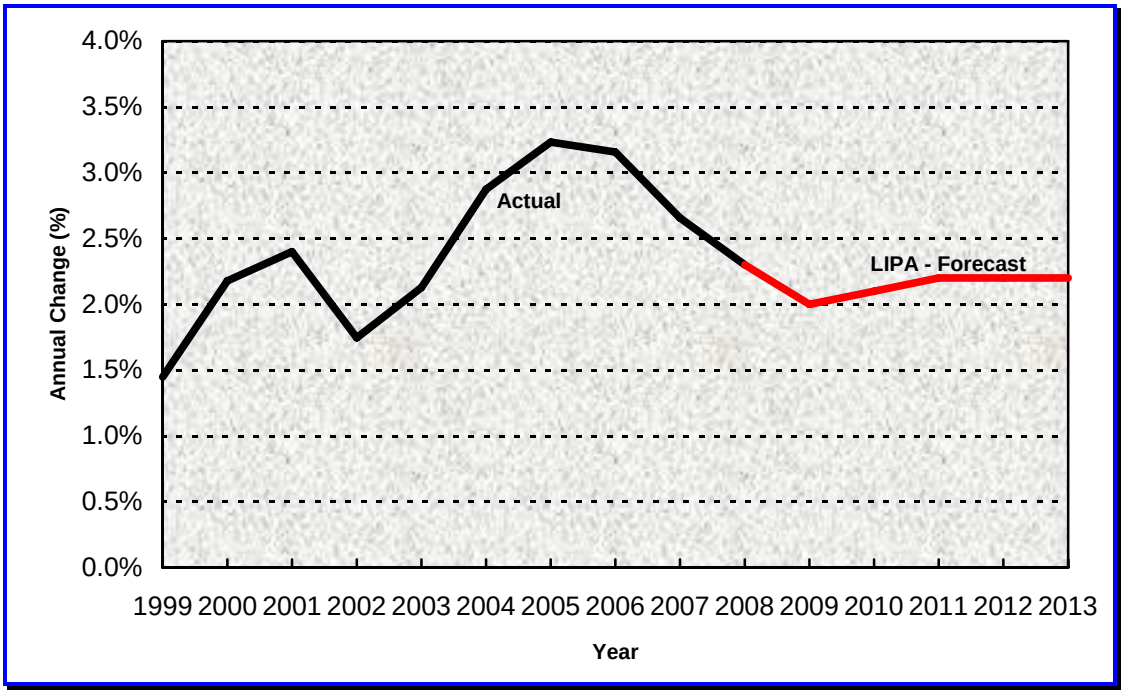


Exhibit 2-5 Gross Domestic Product Deflator – Actual & Forecasted[4]



[3] Source: Bureau of Labor and Statistics
[4] Source: Bureau of Economic Analysis

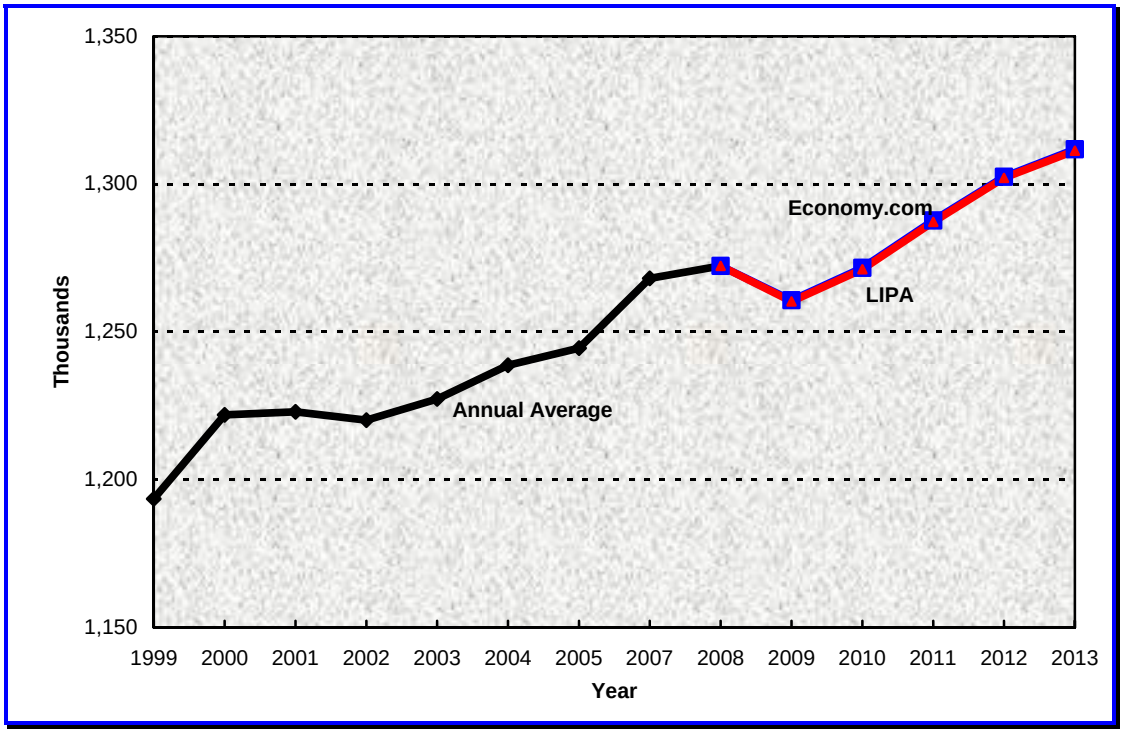
Employment

The employment numbers are based on projections from Moody's Economy.com with adjustments made for current or anticipated changes in local employment levels, trend analysis, regional economic articles and/or discussions with various local economists and regional planners.

Exhibit 2-6 Employment Projection Sources (Thousand of Jobs)

Year	Moody's Economy.com November 2008	LIPA
2008	1,273.9	1,273.4
2009	1,260.7	1,260.3
2010	1,271.7	1,271.2
2011	1,287.7	1,287.2
2012	1,302.5	1,302.1
2013	1,311.8	1,311.3

Exhibit 2-7 Employment – Actual & Forecasted[5]



[5] Source: Bureau of Labor and Statistics

Moody's Economy.com's November 2008 forecast was used as the basis for the current forecast. The forecasted growth in employment was applied to projected 2008 results using actual results through October to yield the employment projection used in the sales forecast, as shown in Exhibit 2-4 above. Total employment on Long Island increased by 15,500 jobs in 2007 but by only 4,200 jobs in 2008.

Jobs are estimated to decrease by 13,100 jobs in 2009 as the local economy weakens. The total employment on Long Island is forecasted to increase by 38,000 jobs over the near term forecast horizon (2009 through 2013). The primary employment gains will be made in education & health services (about 34,000 jobs) followed by business services (8,000 jobs). The long slow decline in manufacturing employment on Long Island is projected to continue, with jobs decreasing by more than 3,000.

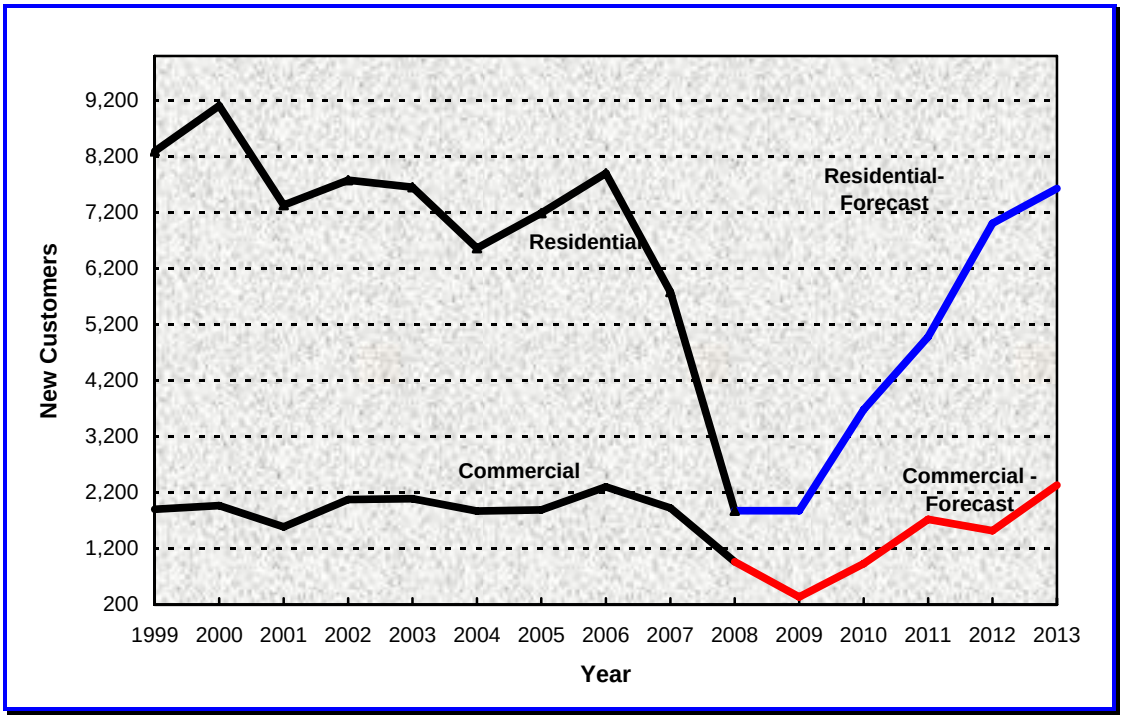
Customers

The annual new residential and business customer forecast for the years 2009 through 2013 was developed by the New Customer Advisory Task Force, which includes expertise from LIPA and National Grid. The new customer forecast is based on population growth and other key factors, such as work order backlogs for new building construction,

building permit applications, housing starts, long term expansion plans of major account customers, economic development incentives, prime interest and mortgage rates, and the like. The new customer forecasts are adjusted for meter locks and unlocks, and transfers between rate classifications to develop the final forecasted customer totals for each modeled rate class and NAICS super sector. Although population and customer growth is restrained by both the physical island nature of our service territory and increasingly stricter zoning and preservation requirements, this sales forecast incorporates moderate customer growth through the end of 2013:

- 25,200 gross new residential customers
- 6,860 gross new commercial and industrial customers.

Exhibit 2-8 New Customers – Actual & Forecasted

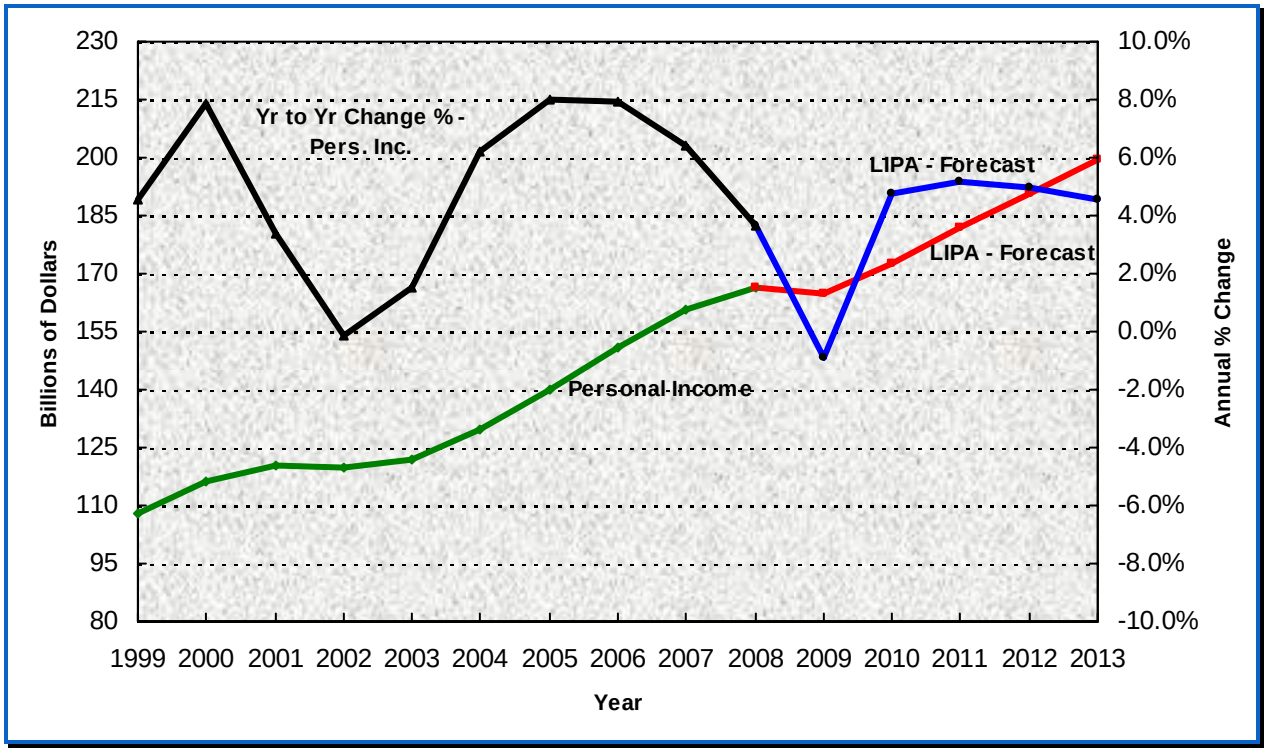


Income

The income variable utilized in the annual business models is real personal income per household. Current dollar income projections are developed based on projections contained in Moody's Economy.com's November 2008 economic forecasts for the Nassau-Suffolk county region and the Blue Chip Economic Indicators.

The Consumer Price Index (CPI) for the region, used to calculate real personal income, is estimated to increase by 2.0% in 2009 and by 2.1% in 2010. Current household estimates used to calculate income per household were developed using LIPA's population survey. The number of Long Island's households increased by 5,858 in 2008, to 953,292. The expected increase for 2009 is 5,905. As shown in Exhibit 2-5, from 2009 through 2013, income per household is forecasted to increase by 3.1% (0.8% on real terms to exclude the affects of inflation) per year.

Exhibit 2-9 Long Island Income – Actual & Forecasted[6]



[6] Source: BEA & Economy

Exhibit 2-10 Income Projections and Households

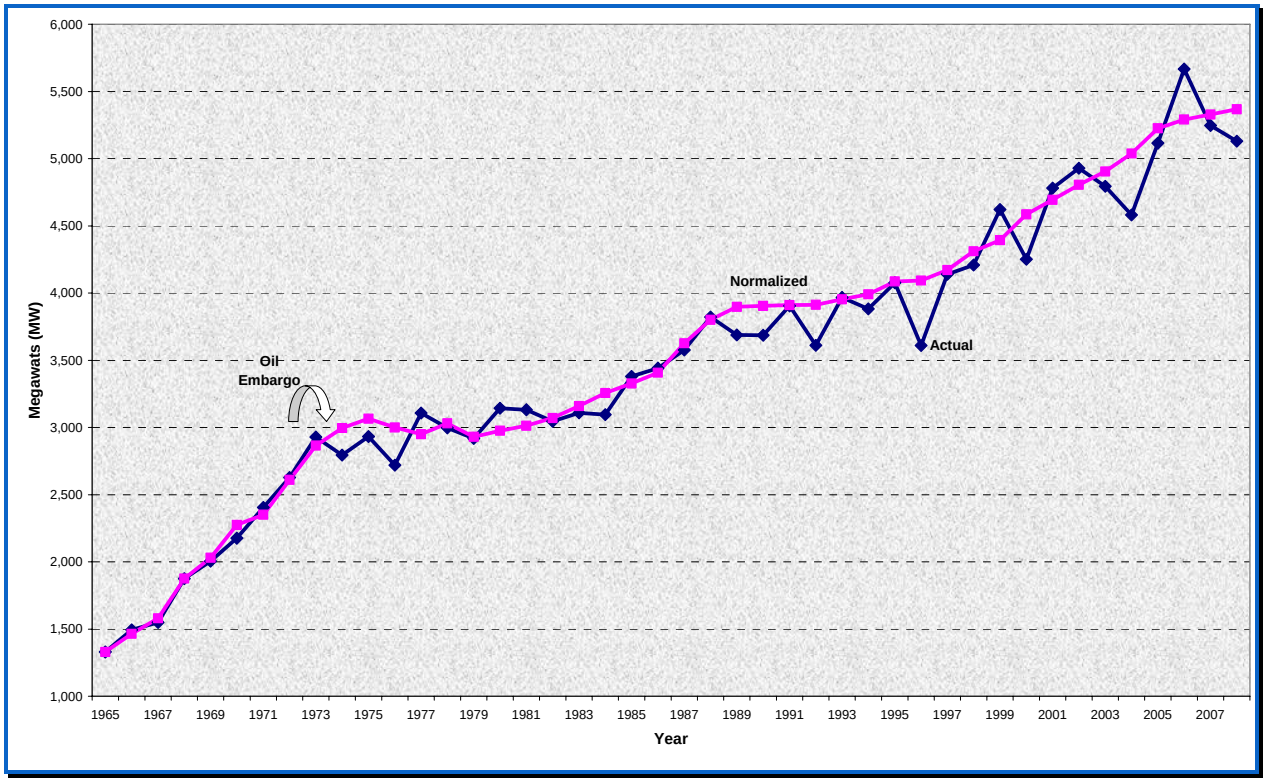
YEAR	Personal Income	CPI	Households	Real Personal Income Per household
2008	$166,427	236.1	953,292	$73,944
2009	$164,980	239.7	959,197	$71,756
2010	$172,796	245.2	965,151	$73,016
2011	$181,771	251.3	971,152	$74,481
2012	$190,819	257.6	977,203	$75,804
2013	$199,527	263.8	983,302	$76,920

2.4 Peak Demand Forecast Methodology

After completion of the energy forecasts, the energy projections are then translated into a peak demand projection. This section describes the techniques used to analyze historic relationships and project peak demand. We start first with a description of the technique used to "normalize" the data, or to put the data on an "apples to apples" basis for analysis. Peak demand is highly sensitive to weather conditions and LIPA, like all utilities, reformulates the data so that historic and forecasted peaks are established assuming similar weather conditions.

Normalization of the summer peak demand is accomplished using a multiple linear regression model to establish the influences due to weather. The model is developed from daily peak loads and the associated weather for the period June 1 through September 30 of each year. Weather data recorded on the day and hour of each prior year's peak demand (going back 33 years with 4 years of data unusable because the hour of highest demand occurred outside normal peak hours) was input into the model to develop the normalized peak that would have occurred under 30 year averaged weather conditions. Exhibit 2-6 presents actual and normalized system summer peaks, from 1965 through 2008. The normalized peaks have been adjusted to add back reductions for sales by NYPA and installation of Cogeneration (COGEN) units to serve load.

Exhibit 2-11 Actual and Weather Normalized Summer Peaks



After weather normalization, the peak forecast is developed using end-use load shapes, then compared to historical trends in load factors, new construction growth, existing building expansion and increased A/C saturation by existing residential customers.

Although LIPA's actual load factor has been varied, the normalized load factor has remained relatively stable over the past ten years, within the range of 46.6% to 50.0%. Load factor represents the ratio of actual energy used divided by the amount that would have been used had customers consumed energy uniformly in all hours at the rate of maximum demand. A higher load factor indicates customers are using electricity at a more constant rate over the time period measured because the amount of actual consumption begins to approach the level of usage had they consumed the maximum demand amount in every hour. Conversely, a low load factor indicates that customers are using electricity more sporadically, which causes the supplying utility to acquire a certain amount of generation capacity that sits idle in all but peak day situations.

As indicated in Exhibit 2-6, weather normalized peak growth during the recession period from 1989 through 1992 averaged 0.7%, while during the 1993 through 1997 post-recession-pre-LIPA creation period, peak growth averaged 1.3%. Since 1998, LIPA has experienced peak load growth of about 2.3% on average, when normalized for weather.

3 Forecast Results

The following write-up summarizes the results of the forecast prepared in November of 2008. Detailed forecast tables are contained in Attachment 1. Attachment 2 contains detailed tables for the forecast prepared in November of 2007. See Appendix A, Technical Report, of the LIPA Draft Electric Resource Plan for a description of how these forecasts were used.

LIPA develops its load forecasts using actual cooling degree day information recorded for the period 1977 through 2007 and the results of the annual residential and Commercial/Industrial sales modeling process described earlier. Three forecasts are produced: a reference case scenario that normalizes historical weather conditions for estimating purposes and uses the most likely economic conditions and two alternative cases that incorporate the probability of lower or higher economic and weather conditions.

As indicated in Exhibit 3-1, LIPA's reference case (after all reductions) peak MW load forecast is expected to grow from 4,931 MW in 2009 to 6,300 MW in 2028. This yields an average growth rate of 1.2% over the 20 year forecast horizon. Also shown in Exhibit 3-1 is the peak load forecast for LICA as whole (after DSM reductions) which is expected to experience a growth rate very similar to that of LIPA.

Exhibit 3-1 Peak MW Load Forecast (Reference Case)

	LICA Peak[7]	LIPA w/o LIC[8]		LICA Peak	LIPA w/o LIC
2009	5,406	4,931	**2019**	5,897	5,247
2010	5,409	4,892	**2020**	6,000	5,348
2011	5,428	4,871	**2021**	6,089	5,436
2012	5,463	4,863	**2022**	6,189	5,535
2013	5,469	4,828	**2023**	6,279	5,623
2014	5,538	4,895	**2024**	6,442	5,784
2015	5,604	4,960	**2025**	6,560	5,901
2016	5,683	5,037	**2026**	6,695	6,035
2017	5,726	5,079	**2027**	6,831	6,169
2018	5,817	5,168	**2028**	6,964	6,300

[7] See Attachment 1: Table A
[8] See Attachment 1: Table B

Exhibit 3-2 Energy MWH Load Forecast (Reference Case)

	LICA Peak[9]	LIPA w/o LIC[10]		LICA Peak	LIPA w/o LIC
2009	22,590	19,644	**2019**	24,980	20,874
2010	22,536	19,312	**2020**	25,548	21,424
2011	22,594	19,089	**2021**	26,044	21,920
2012	22,745	18,958	**2022**	26,599	22,465
2013	22,759	18,693	**2023**	27,179	23,035
2014	23,045	18,974	**2024**	27,888	23,724
2015	23,359	19,282	**2025**	28,427	24,263
2016	23,801	19,708	**2026**	29,081	24,906
2017	24,128	20,037	**2027**	29,732	25,547
2018	24,531	20,434	**2028**	30,488	26,282

As indicated in Exhibit 3-2, LIPA's reference case energy forecast is expected to increase from 19,644 GWH in 2009 to 26,282 GWH in 2028. This yields an energy growth rate on average of 1.4% over the 20 year forecast horizon. Also shown in Exhibit 3-2 is an energy forecast for LICA as whole, which is expected to experience a growth rate very similar to that of LIPA. Tables A and B in the Appendix presents the detailed load forecasts for LICA and LIPA, respectively. Both the LIPA and LICA forecasts of energy and peak demand requirements are grossed up to include system losses and reduced to reflect savings from demand side management programs. Appendix Table C presents the LIPA peak and energy forecast with actual and normalized historical load data, and normalized annual growth is also shown.

[9] See Attachment 1: Table A
[10] See Attachment 1: Table B

Exhibit 3-3 Forecasted Average LIPA Load Growth

Year	Energy	Peak Demand
2009	0.14%	-0.42%
2009-2013	0.18%	0.15%
2009-2028	1.54%	1.27%

The LIPA reference case forecast is projecting an average annual growth in both electricity sales and peaks, compared to weather adjusted 2008 levels, as shown in Exhibit 3-3. These forecasts include load reductions for demand-side management (DSM) including the Peak Load Reduction and Direct Load Control programs as well as Conservation, Cogeneration and NYPA supplied power. Growth in electricity sales will also be affected by a variety of factors which will decrease the level of energy LIPA needs to procure, such as DSM, retail access, cogeneration and NYPA deliveries as described below.

3.1 Demand-Side Management Program (DSM)

DSM programs have been implemented on a continuous basis since 1988. At its peak in 1992, nearly $40 million was allocated to a variety of residential and commercial/industrial peak and energy programs. LIPA has renewed its commitment to DSM, implementing the Clean Energy Initiative, an aggressive 5-year program, investing $32 million annually through mid-2004. The Clean Energy Initiative program was continued for the next 5-year period ending in 2008. LIPA plans to expand on the Clean Energy Initiative with the 10-year, $924 million Efficiency Long Island program beginning in 2009. The DSM implemented each year, referred to here as the incremental DSM, becomes embedded and therefore continues to benefit customers for many years into the future. For example, DSM implemented during 1999 through 2007 will provide 406 gigawatt-hours (GWH) of load reductions in 2009 and 213 GWh in 2013. The forecast assumes the DSM program will continue after 2018 with somewhat reduced impacts.

LIPA's load relief measures, which are implemented during critical days when the system is peaking and stressed, include LIPA Edge for both residential and commercial customers as well as special case resources (the Peak Load Reduction Program (PLRP) for commercial/industrial customers is no longer active). The forecast assumes the continuation of LIPA's load relief measures through 2028. Cumulative reductions for planned DSM savings are presented in Tables D (energy) & E (demand) in the appendix.

3.2 Retail Access (Long Island Choice Program)

Beginning August 1, 1999, LIPA became the only municipal utility in the country to provide retail choice to its commercial and residential customers in the form of the Long Island Choice (LIC) program. This program offers electric customers the opportunity to choose their supplier of electricity as part of the State and LIPA's plan to foster competition for electric supply on Long Island. In addition to encouraging a competitive power market and customer choice, the program provides participants with an opportunity for additional power supply cost savings. The impact of this program on the electric sales forecast is similar to that of cogeneration and NYPA supplied power, in that it reduces the level of electricity LIPA will have to supply.

3.3 Incorporation of Uncertainty

3.3.1 Overview

Long-term peak demand forecasting is one of the fundamental tools used for resource planning. However, in developing the Energy Plan, it is not reasonable to expect that the reference case forecast will exactly predict the future peak demand level. That is, the actual demand level ultimately experienced has a 50% chance of being higher or lower than the (highly stochastic) mean reference forecast. LIPA addresses this uncertainty by looking at a range of future demand forecasts so that the reference case represents the midpoint of a range of possible outcomes. Probabilities are assigned to these outcomes by specifying a confidence band around the reference forecast. This approach adds another dimension to the forecasting process by including the concept of uncertainty in the estimation of the true mean, i.e., peak demand. The wider the range in the confidence interval, the greater the uncertainty in the forecasting process and the more imprecise the forecasting result.

3.3.2 Methodology

This section provides a brief description of the methodology used to construct the conditional forecast bands for peak loads and the results covering 2009 through 2028. Uncertainty was accounted for in the estimating process by first identifying key variables that drive forecasted peak demand growth. These load forecast drivers are:

- weather uncertainty,
- forecast uncertainty and
- economic uncertainty.

For each variable, high and low scenarios were developed. These forecast drivers are discussed in detail below.

Weather Uncertainty

Historic weather experienced during the past thirty years was used to develop energy and peak-load probability tables. Using this information, peaks were predicted for a cool summer season, normal summer season, hot summer season, and extreme heat summer season. Appendix Tables F and G present weather probability data for the energy and peak load forecasts, respectively.

Peak Load Forecast Uncertainty

By comparing forecasted peak loads with the corresponding experienced peak loads, adjusted for weather, over the last 9 years, typically occurring inaccuracies (or forecast errors) were analyzed to develop confidence intervals around the forecast, independent of weather.

Peak demand forecasts cover a twenty-year period, i.e., the peak load forecast completed in 1998 covered the period 1999 through 2018. Nine such twenty-year peak load forecasts were used starting with the one completed in 1998 through the forecast completed in 2006. Weather normalized experienced peak loads from 1999 through 2007 were used for this analysis.

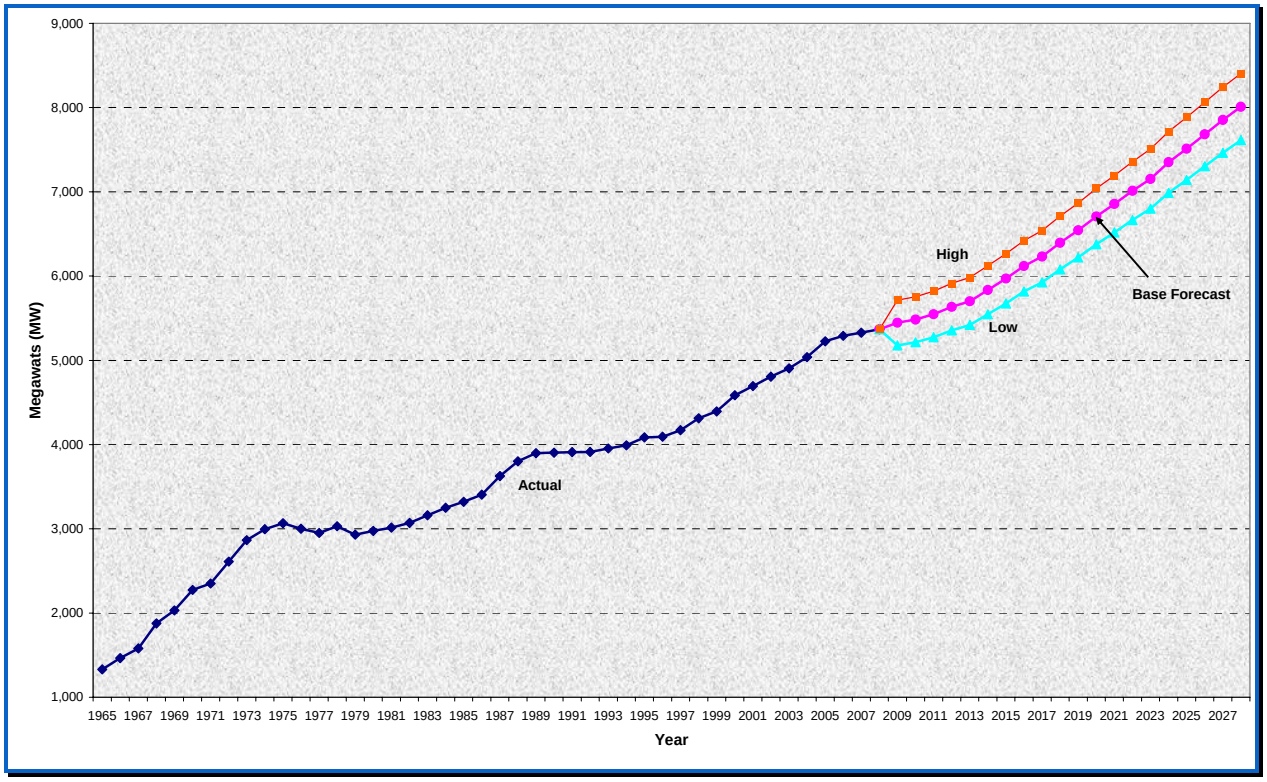
The forecasted and weather adjusted peak loads represented LIPA load with the addition of load lost to cogeneration, NYPA supplied energy (for EDP/MDA and BNL) and the municipalities of Freeport, Rockville Centre and Greenport.

Overall there were 45 comparisons made between the forecasted peak loads and the weather adjusted experienced peak loads. Percent errors were calculated using the comparisons. The 45 percent errors calculated ranged from a maximum of 0.8% to a minimum of -8.2%, with an average of -2.7% and a median of -2.5%. Since the data showed a tendency for a peak load forecast to be lower than the corresponding experienced peak, Therefore, the absolute values of the 45 percent were analyzed

Analysis of historical peak load forecast error results was used to establish confidence bands around the peak demand forecast (more precisely, conditional probability bands for the peak demand forecast under typical weather conditions). The absolute percent errors ranged from 0.0% up to 8.2%with 2.8% average and 2.5% median. The interpretation is that the forecast bands will contain the experienced weather adjusted peak loads with a fixed probability. It is important to note that the forecast bands represent the conditional probability of containing peak loads under given weather, not the total probability of containing experienced peak loads.

The forecast confidence was constructed as the peak load forecast plus and minus the median absolute percent error of 2.5%, , representing a 50% probability that the band will contain the weather adjusted peak load. Therefore, in 2009, there is a 50% probability that the LICA actual peak demand (before DSM) will occur between 5,778 MW and 5,231 MW. There is a 25% chance the actual demand will be above 5,778 MW and a 25% chance that the demand will be below 5,231 MW.

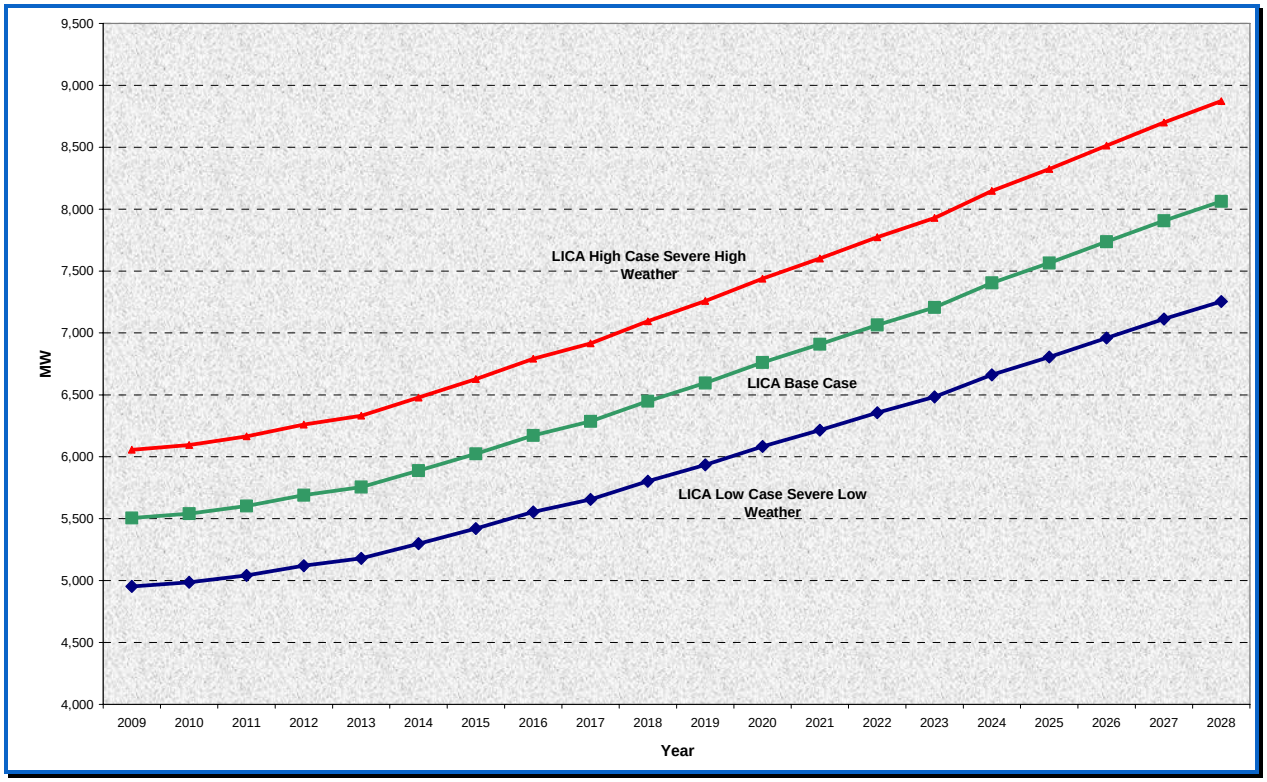
Exhibit 3-4 Historic and Projected Normalized Peak Loads with Confidence Bands



Following a similar approach, analysis of historical forecast versus achieved DSM was used to establish confidence bands around the base conservation and interruptible load relief measure forecasts.

The extreme weather cases together with the forecast confidence bands were used by LIPA to incorporate operational contingency planning into the assessment of its resource adequacy, which aside from unusual weather conditions include accounting for the loss of first and second contingency generation and transmission facilities. Exhibit 3-5 pictorially displays the resulting high and low case weather driven LIPA peak demand forecasts, with the reference case also included for comparison purposes.

Exhibit 3-5 Weather Driven Peak Demand Forecast Scenarios



Economic Uncertainty

Economic uncertainty accounts for changes in load consumption associated with varying assumptions in economic growth. Two energy forecast scenarios, one a high scenario representing an economic upswing and one a low scenario representing a more pronounced economic downturn, were developed for the years 2009 – 2028. The scenarios were developed using the high and low forecasts of economic and demographic variables provided by the economic consultant to the New York Independent System Operator. The results are presented in Table H in the appendix.

3.3.3 Results

In order to incorporate forecast and economic uncertainty into the load forecasting process, probabilities were assigned to each of the high, reference and low case scenarios. High and low cases were each

assigned a 25% probability of occurring, and reference cases were set at a 50% probability. Then a probabilistic assessment was created by running simulations through a decision model that combined the key variables with the various outcomes to produce a confidence banded load forecast that displayed a range of possible results with an expected value case that lay between the ranges of extreme outcomes.

Attachment 1 – November 2008 Forecast

November 2008 Forecast

Table A

FORECAST OF ELECTRIC REQUIREMENTS, SALES, AND PEAK LOADS: 2009 - 2028

LONG ISLAND CONTROL AREA LOAD FORECAST

	FORECAST OF TRANSMISSION SYSTEM LOAD BEFORE DSM REDUCTIONS			REDUCTIONS FOR DSM PROGRAMS			FORECAST OF TRANSMISSION SYSTEM LOAD AFTER DSM REDUCTIONS		
	REQS.	SALES	PEAKS	REQS.	SALES	PEAKS	REQS.	SALES	PEAKS
YEAR	(GWH)	(GWH)	(MW)	(GWH)	(GWH)	(MW)	(GWH)	(GWH)	(MW)
2007	22,608	21,023	5,377			29	22,608	21,023	5,348
2008	22,690	21,100	5,445	72	67	18	22,619	21,033	5,427
2009	22,808	21,208	5,505	217	203	99	22,590	21,005	5,406
2010	22,910	21,303	5,542	373	348	133	22,536	20,955	5,409
2011	23,145	21,523	5,604	552	514	176	22,594	21,008	5,428
2012	23,500	21,853	5,691	755	703	228	22,745	21,149	5,463
2013	23,732	22,070	5,758	973	907	289	22,759	21,163	5,469
2014	24,231	22,535	5,892	1,186	1,105	354	23,045	21,429	5,538
2015	24,750	23,019	6,028	1,391	1,297	424	23,359	21,722	5,604
2016	25,352	23,579	6,177	1,551	1,445	495	23,801	22,134	5,683
2017	25,834	24,029	6,291	1,706	1,590	565	24,128	22,438	5,726
2018	26,395	24,551	6,455	1,863	1,737	638	24,531	22,815	5,817
2019	26,972	25,089	6,603	1,993	1,857	706	24,980	23,232	5,897
2020	27,639	25,711	6,768	2,091	1,949	769	25,548	23,762	6,000
2021	28,176	26,211	6,916	2,132	1,987	827	26,044	24,224	6,089
2022	28,798	26,791	7,073	2,199	2,050	884	26,599	24,741	6,189
2023	29,438	27,388	7,215	2,260	2,106	936	27,179	25,282	6,279
2024	30,176	28,075	7,414	2,288	2,132	972	27,888	25,943	6,442
2025	30,770	28,629	7,575	2,343	2,183	1,015	28,427	26,445	6,560
2026	31,455	29,267	7,746	2,374	2,213	1,050	29,081	27,054	6,695
2027	32,157	29,921	7,916	2,425	2,260	1,085	29,732	27,661	6,831
2028	32,962	30,671	8,073	2,474	2,306	1,109	30,488	28,366	6,964

Base Case Notes:
(1) LICA includes LIPA, LIC, PFJ, municipalities, NYPA BNL, EDP & MDA
(2) Normalized experienced results for 2007 & 2008
(3) Budget Sales approved December 11, 2008.
(4) Peak load forecast approved December 4, 2008
(5) LI Choice forecast issued August 2008.

November 2008 Forecast

Table B

FORECAST OF ELECTRIC REQUIREMENTS, SALES, AND PEAK LOADS: 2009 - 2028

LIPA LOAD FORECAST

	DISTRIBUTION SYSTEM LOAD FORECAST BEFORE DSM REDUCTIONS			REDUCTIONS FOR DSM PROGRAMS			DISTRIBUTION SYSTEM LOAD FORECAST AFTER DSM REDUCTIONS			LONG ISLAND CHOICE REDUCTIONS			LIPA BUNDLED CUSTO FORECAST	
YEAR	REQS. (GWH)	SALES (GWH)	PEAKS (MW)	REQS. (GWH)	SALES (GWH)	PEAKS (MW)	REQS. (GWH)	SALES (GWH)	PEAKS (MW)	REQS. (GWH)	SALES (GWH)	PEAKS (MW)	REQS. (GWH)	SALES (GWH)
2007	21,705	20,182	5,239			29	21,705	20,182	5,210	1,432	1,335	289	20,273	18,847
2008	21,726	20,202	5,302	72	67	18	21,655	20,135	5,284	1,647	1,535	332	20,008	18,600
2009	21,844	20,310	5,361	217	203	99	21,626	20,107	5,262	1,983	1,848	331	19,644	18,259
2010	21,947	20,406	5,398	373	348	133	21,574	20,058	5,265	2,262	2,108	372	19,312	17,950
2011	22,181	20,624	5,460	552	514	176	21,630	20,110	5,284	2,541	2,368	413	19,089	17,742
2012	22,533	20,952	5,546	755	703	228	21,778	20,249	5,317	2,820	2,628	454	18,958	17,620
2013	22,765	21,169	5,612	973	907	289	21,792	20,262	5,323	3,099	2,888	495	18,693	17,373
2014	23,259	21,629	5,744	1,186	1,105	354	22,073	20,523	5,390	3,099	2,888	495	18,974	17,635
2015	23,773	22,107	5,879	1,391	1,297	424	22,381	20,811	5,455	3,099	2,888	495	19,282	17,922
2016	24,366	22,661	6,027	1,551	1,445	495	22,816	21,215	5,532	3,108	2,896	495	19,708	18,319
2017	24,843	23,104	6,139	1,706	1,590	565	23,136	21,514	5,574	3,099	2,888	495	20,037	18,626
2018	25,396	23,620	6,301	1,863	1,737	638	23,533	21,884	5,663	3,099	2,888	495	20,434	18,995
2019	25,966	24,151	6,448	1,993	1,857	706	23,973	22,294	5,743	3,099	2,888	495	20,874	19,406
2020	26,623	24,763	6,612	2,091	1,949	769	24,532	22,815	5,843	3,108	2,896	495	21,424	19,918
2021	27,151	25,256	6,759	2,132	1,987	827	25,019	23,269	5,931	3,099	2,888	495	21,920	20,380
2022	27,764	25,827	6,913	2,199	2,050	884	25,565	23,777	6,030	3,099	2,888	495	22,465	20,889
2023	28,394	26,414	7,054	2,260	2,106	936	26,134	24,308	6,118	3,099	2,888	495	23,035	21,420
2024	29,119	27,090	7,251	2,288	2,132	972	26,832	24,958	6,279	3,108	2,896	495	23,724	22,062
2025	29,705	27,636	7,411	2,343	2,183	1,015	27,362	25,453	6,396	3,099	2,888	495	24,263	22,564
2026	30,379	28,265	7,580	2,374	2,213	1,050	28,005	26,052	6,530	3,099	2,888	495	24,906	23,163
2027	31,071	28,909	7,749	2,425	2,260	1,085	28,646	26,649	6,664	3,099	2,888	495	25,547	23,761
2028	31,863	29,648	7,904	2,474	2,306	1,109	29,389	27,342	6,795	3,108	2,896	495	26,282	24,446

Base Case Notes:
(1) LIPA includes LIC & PFJ and excludes municipalities, NYPA BNL, EDP & MDA
(2) Normalized experienced results for 2007 & 2008
(3) Budget Sales approved December 11, 2008.
(4) Peak load forecast approved December 4, 2008
(5) LI Choice forecast issued August 2008.

November 2008 Forecast

Table C

LIPA Load Forecast Before DSM Reductions

Weather Normalization

	Peaks (MW's)			Requirements (GWh's)		
Year	Actual	Normalized	Normalized Growth	Actual	Normalized	Normalized Growth
2000	4,252	4,446	4.00%	19,150	19,517	3.86%
2001	4,781	4,535	2.00%	19,611	19,621	0.81%
2002	4,929	4,611	1.68%	20,238	20,090	2.39%
2003	4,794	4,815	4.42%	20,479	20,440	1.74%
2004	4,581	4,955	2.91%	20,993	20,931	2.12%
2005	5,115	5,130	3.53%	21,779	21,337	2.22%
2006	5,667	5,200	1.36%	21,077	21,330	-0.03%
2007	5,247	5,239	0.75%	21,609	21,705	1.76%
2008	5,130	5,284	0.86%	21,411	21,620	-0.66%
2009		5,361	1.46%		21,844	1.31%
2010		5,398	0.69%		21,947	0.47%
2011		5,460	1.15%		22,181	1.07%
2012		5,546	1.57%		22,533	1.31%
2013		5,612	1.19%		22,765	1.31%
2014		5,744	2.35%		23,259	2.17%
2015		5,879	2.35%		23,773	2.21%
2016		6,027	2.52%		24,366	2.22%
2017		6,139	1.87%		24,843	2.23%
2018		6,301	2.64%		25,396	2.23%
2019		6,448	2.33%		25,966	2.24%
2020		6,612	2.54%		26,623	2.25%
2021		6,759	2.22%		27,151	2.26%
2022		6,913	2.29%		27,764	2.26%
2023		7,054	2.04%		28,394	2.27%
2024		7,251	2.79%		29,119	2.27%
2025		7,411	2.20%		29,705	2.29%
2026		7,580	2.29%		30,379	2.27%
2027		7,749	2.22%		31,071	2.28%
2028		7,904	2.01%		31,863	2.27%

November 2008 Forecast

Table D

DSM Breakdown (MWh) (1)

	Embedded DSM (2)	Incremental (3)			
		Conservation	Peak Demand Reduction	LIPA Edge	Total Incremental DSM Achieved
2009	530,544	216,660	0	811	217,471
2010	493,355	372,581	0	811	373,392
2011	447,712	550,916	0	811	551,727
2012	380,540	753,904	0	811	754,715
2013	338,674	972,249	0	811	973,060
2014	336,709	1,185,283	0	811	1,186,094
2015	327,329	1,390,338	0	811	1,391,149
2016	309,913	1,549,928	0	811	1,550,739
2017	287,793	1,705,656	0	811	1,706,467
2018	267,330	1,862,535	0	811	1,863,346
2019	245,106	1,991,754	0	811	1,992,565
2020	214,330	2,090,052	0	811	2,090,863
2021	177,801	2,131,408	0	811	2,132,219
2022	141,913	2,198,563	0	811	2,199,374
2023	116,985	2,259,002	0	811	2,259,813
2024	102,600	2,286,699	0	811	2,287,510
2025	88,960	2,341,966	0	811	2,342,777
2026	69,674	2,373,531	0	811	2,374,342
2027	30,473	2,424,068	0	811	2,424,879
2028	0	2,473,209	0	811	2,474,020

Notes:

1- DSM as measured at the generator.

2- Embedded DSM due to actual 1999 through 2007 programs; considered embedded in 2008 - 2028 forecast before incremental DSM.

3- DSM due to forecasted 2008 through 2028 programs.

November 2008 Forecast

Table E

DSM Breakdown (MW) (1)

	Embedded DSM (2)	Incremental (3)			
		Conservation	Peak Demand Reduction	LIPA Edge Program	Total Incremental DSM
2009	145	48	0	51	99
2010	140	83	0	51	133
2011	135	125	0	51	176
2012	129	178	0	51	228
2013	125	239	0	51	289
2014	123	303	0	51	354
2015	112	374	0	51	424
2016	100	444	0	51	495
2017	95	515	0	51	565
2018	93	588	0	51	638
2019	89	655	0	51	706
2020	81	718	0	51	769
2021	71	777	0	51	827
2022	60	833	0	51	884
2023	49	885	0	51	936
2024	41	921	0	51	972
2025	31	964	0	51	1,015
2026	21	1,000	0	51	1,050
2027	7	1,034	0	51	1,085
2028	0	1,058	0	51	1,109

Notes:
1- DSM as measured at the generator.
2- DSM due to actual 1999 through 2002 programs; considered embedded in 2003- 2023 forecast before incremental DSM.
3- DSM due to forecasted 2003 through 2023 programs.

November 2008 Forecast

Table F		
2009 LIPA Sales Probabilities		
Distribution System Forecast Before DSM (MWH)		
	Sales Predicted At Actual Weather	**Probability Of Achieving Sales At Or Below Predicted Sales**
1997	19,957,838	1.1%
1992	19,985,205	1.7%
2000	20,010,962	2.5%
1982	20,088,234	7.4%
1996	20,128,479	11.8%
2008	20,152,627	15.2%
2007	20,167,116	17.5%
2003	20,176,774	19.2%
2006	20,196,093	22.9%
1990	20,199,312	23.5%
1986	20,220,240	27.9%
1984	20,236,339	31.6%
1989	20,262,096	37.8%
2001	20,274,974	41.0%
1995	20,300,731	47.7%
1979	20,305,560	48.9%
1998	20,308,780	49.8%
1985	20,355,465	61.8%
2004	20,363,514	63.8%
1987	20,365,125	64.2%
1994	20,365,125	64.2%
1981	20,371,563	65.8%
1988	20,386,052	69.2%
2002	20,405,371	73.5%
1999	20,424,688	77.4%
1983	20,447,226	81.6%
1993	20,460,105	83.8%
1980	20,463,324	84.3%
2005	20,487,471	87.8%
1991	20,548,645	94.1%
Normal	20,309,586	50.0%

Notes:

Year 2009 sales & probabilities forecasted under actual weather conditions that occurred over the previous 30 years.

November 2008 Forecast

Table G

LIPA Peak Probabilities

Weather Conditions At System Peak Day & Hour

Forecast Before DSM (MW)

	2008	2009	
Peak Day	MW Predicted at Existing Weather	MW Predicted at Existing Weather	Probability Predicted Will Exceed Experienced Peak
23-Aug-76	4,723	4,775	3.6%
20-Aug-04	4,769	4,822	4.8%
14-Jul-92	4,788	4,841	5.5%
18-Jul-96	4,849	4,902	7.9%
7-Aug-00	4,905	4,959	10.8%
17-Aug-87	5,016	5,072	18.6%
15-Aug-88	5,086	5,142	25.0%
11-Jun-84	5,097	5,154	26.2%
8-Jul-94	5,141	5,198	30.8%
4-Aug-89	5,183	5,240	35.5%
10-Jun-08	5,223	5,281	40.3%
15-Aug-85	5,233	5,291	41.5%
7-Jul-86	5,255	5,313	44.1%
5-Aug-05	5,273	5,332	46.4%
17-Aug-78	5,278	5,336	46.9%
4-Aug-95	5,305	5,363	50.3%
26-Jun-03	5,313	5,372	51.4%
8-Aug-07	5,316	5,375	51.7%
21-Jul-77	5,385	5,445	60.2%
1-Aug-75	5,412	5,472	63.4%
21-Jul-80	5,460	5,521	68.9%
5-Jul-90	5,481	5,542	71.1%
23-Jul-91	5,492	5,553	72.3%
9-Jul-93	5,515	5,576	74.6%
15-Jul-97	5,551	5,612	78.1%
22-Jul-98	5,557	5,619	78.7%
29-Jul-02	5,596	5,657	82.0%
8-Aug-01	5,611	5,674	83.2%
3-Aug-06	5,908	5,973	97.0%
6-Jul-99	6,086	6,154	99.3%
Normal	5,302	5,361	50.0%

Notes:

1. Peak loads & probabilities forecast under actual historical weather conditions.
2. Peaks are before reductions due to DSM.

November 2008 Forecast

Table H

Economic Sensitivity Forecasts (GWh)

Forecast of Energy Sales Before DSM

	Low Growth Forecast		Reference Forecast		High Growth Forecast	
	Long Island Transmission System*	LIPA Distribution System**	Long Island*	LIPA**	Long Island*	LIPA**
2009	21,076	20,181	21,208	20,310	21,485	20,580
2010	21,004	20,114	21,303	20,406	21,911	20,998
2011	21,040	20,154	21,523	20,624	22,515	21,592
2012	21,243	20,357	21,853	20,952	23,217	22,282
2013	21,335	20,452	22,070	21,169	23,833	22,889
2014	21,784	20,896	22,535	21,629	24,336	23,387
2015	22,252	21,358	23,019	22,107	24,858	23,903
2016	22,794	21,893	23,579	22,661	25,463	24,501
2017	23,228	22,322	24,029	23,104	25,948	24,979
2018	23,733	22,821	24,551	23,620	26,511	25,536
2019	24,254	23,334	25,089	24,151	27,092	26,108
2020	24,855	23,926	25,711	24,763	27,761	26,769
2021	25,339	24,403	26,211	25,256	28,300	27,299
2022	25,900	24,955	26,791	25,827	28,925	27,915
2023	26,477	25,524	27,388	26,414	29,567	28,547
2024	27,142	26,177	28,075	27,090	30,307	29,275
2025	27,678	26,706	28,629	27,636	30,903	29,862
2026	28,296	27,314	29,267	28,265	31,590	30,539
2027	28,929	27,937	29,921	28,909	32,294	31,233
2028	29,655	28,652	30,671	29,648	33,102	32,029

Notes:

* Includes LIPA (with Power for Jobs and LI Choice), Municipalities, Brookhaven National Labs and NYPA EDP and MDA customer use before DSM impacts. (Table A)

** Includes LIPA (with Power for Jobs and LI Choice) customer use before DSM impacts. (Table B)

Attachment 2 – November 2007 Forecast

November 2007 Forecast

Table A

FORECAST OF ELECTRIC REQUIREMENTS, SALES, AND PEAK LOADS: 2008 - 2027

LONG ISLAND CONTROL AREA LOAD FORECAST

	FORECAST OF TRANSMISSION SYSTEM LOAD BEFORE DSM REDUCTIONS			REDUCTIONS FOR DSM PROGRAMS			FORECAST OF TRANSMISSION SYSTEM LOAD AFTER DSM REDUCTIONS		
	REQS.	SALES	PEAKS	REQS.	SALES	PEAKS	REQS.	SALES	PEAKS
YEAR	(GWH)	(GWH)	(MW)	(GWH)	(GWH)	(MW)	(GWH)	(GWH)	(MW)
2006	22,233	20,672	5,332			112	22,233	20,672	5,220
2007	22,665	21,076	5,422	57	53	74	22,608	21,023	5,348
2008	23,057	21,441	5,476	166	155	88	22,891	21,286	5,388
2009	23,339	21,703	5,560	262	244	117	23,077	21,459	5,443
2010	23,700	22,040	5,654	363	339	149	23,337	21,701	5,505
2011	24,126	22,436	5,760	485	452	189	23,641	21,985	5,571
2012	24,596	22,875	5,884	623	580	237	23,973	22,294	5,647
2013	25,028	23,277	5,991	784	731	294	24,244	22,546	5,696
2014	25,530	23,745	6,120	950	885	353	24,581	22,860	5,767
2015	26,045	24,225	6,252	1,074	1,001	414	24,971	23,224	5,838
2016	26,644	24,783	6,396	1,174	1,094	473	25,470	23,689	5,923
2017	27,115	25,222	6,505	1,320	1,231	536	25,794	23,991	5,969
2018	27,669	25,739	6,664	1,471	1,371	602	26,198	24,368	6,062
2019	28,237	26,268	6,806	1,613	1,503	642	26,624	24,765	6,164
2020	28,896	26,883	6,965	1,772	1,652	709	27,124	25,231	6,256
2021	29,416	27,367	7,107	1,941	1,809	780	27,475	25,558	6,328
2022	30,026	27,936	7,257	2,115	1,971	846	27,912	25,965	6,411
2023	30,652	28,519	7,392	2,279	2,124	906	28,373	26,395	6,487
2024	31,376	29,193	7,583	2,371	2,210	925	29,005	26,983	6,658
2025	31,945	29,724	7,737	2,490	2,321	959	29,455	27,403	6,777
2026	32,612	30,346	7,900	2,600	2,423	989	30,012	27,922	6,911
2027	33,292	30,979	8,061	2,696	2,513	1,013	30,596	28,467	7,048

Base Case Notes:
(1) LICA includes LIPA, LIC, PFJ, municipalities, NYPA BNL, EDP & MDA
(2) Normalized experienced results for 2006 & 2007
(3) Budget Sales approved September 11, 2007.
(4) Peak load forecast approved October 17, 2007
(5) LI Choice forecast issued August 2007.

November 2007 Forecast

Table B

FORECAST OF ELECTRIC REQUIREMENTS, SALES, AND PEAK LOADS: 2008 - 2027

LIPA LOAD FORECAST

	DISTRIBUTION SYSTEM LOAD FORECAST BEFORE DSM REDUCTIONS			REDUCTIONS FOR DSM PROGRAMS			DISTRIBUTION SYSTEM LOAD FORECAST AFTER DSM REDUCTIONS			LONG ISLAND CHOICE REDUCTIONS			LIPA BUNDLED CUSTO FORECAST	
YEAR	REQS. (GWH)	SALES (GWH)	PEAKS (MW)	REQS. (GWH)	SALES (GWH)	PEAKS (MW)	REQS. (GWH)	SALES (GWH)	PEAKS (MW)	REQS. (GWH)	SALES (GWH)	PEAKS (MW)	REQS. (GWH)	SALES (GWH)
2006	21,330	19,831	5,207			112	21,330	19,831	5,095	1,428	1,331	304	19,902	18,500
2007	21,762	20,235	5,284	57	53	74	21,705	20,182	5,210	1,432	1,335	289	20,273	18,847
2008	22,155	20,599	5,336	166	155	88	21,988	20,444	5,248	1,563	1,457	258	20,425	18,987
2009	22,436	20,862	5,420	262	244	117	22,174	20,617	5,303	1,660	1,548	273	20,514	19,070
2010	22,798	21,199	5,514	363	339	149	22,434	20,860	5,365	1,758	1,638	289	20,677	19,222
2011	23,223	21,595	5,620	485	452	189	22,738	21,143	5,431	1,855	1,729	305	20,883	19,414
2012	23,693	22,033	5,744	623	580	237	23,071	21,453	5,507	1,952	1,820	320	21,119	19,634
2013	24,125	22,436	5,851	784	731	294	23,341	21,705	5,556	1,947	1,815	320	21,394	19,890
2014	24,628	22,904	5,980	950	885	353	23,678	22,019	5,627	1,947	1,815	320	21,731	20,205
2015	25,143	23,384	6,112	1,074	1,001	414	24,069	22,383	5,698	1,947	1,815	320	22,122	20,569
2016	25,741	23,942	6,256	1,174	1,094	473	24,568	22,848	5,783	1,952	1,820	320	22,615	21,029
2017	26,212	24,381	6,365	1,320	1,231	536	24,892	23,150	5,829	1,947	1,815	320	22,945	21,336
2018	26,767	24,898	6,524	1,471	1,371	602	25,296	23,527	5,922	1,947	1,815	320	23,349	21,712
2019	27,335	25,427	6,666	1,613	1,503	642	25,722	23,924	6,024	1,947	1,815	320	23,775	22,109
2020	27,994	26,041	6,825	1,772	1,652	709	26,222	24,390	6,116	1,952	1,820	320	24,269	22,570
2021	28,513	26,525	6,967	1,941	1,809	780	26,573	24,717	6,188	1,947	1,815	320	24,626	22,902
2022	29,124	27,095	7,117	2,115	1,971	846	27,009	25,124	6,271	1,947	1,815	320	25,062	23,309
2023	29,749	27,677	7,252	2,279	2,124	906	27,470	25,553	6,347	1,947	1,815	320	25,523	23,739
2024	30,473	28,352	7,443	2,371	2,210	925	28,102	26,142	6,518	1,952	1,820	320	26,150	24,323
2025	31,043	28,883	7,597	2,490	2,321	959	28,553	26,562	6,637	1,947	1,815	320	26,606	24,748
2026	31,709	29,504	7,760	2,600	2,423	989	29,109	27,081	6,771	1,947	1,815	320	27,162	25,266
2027	32,390	30,138	7,921	2,696	2,513	1,013	29,693	27,625	6,908	1,947	1,815	320	27,746	25,811

Base Case Notes:
(1) LIPA includes LIC & PFJ and excludes municipalities, NYPA BNL, EDP & MDA
(2) Normalized experienced results for 2006 & 2007
(3) Budget Sales approved September 11, 2007.
(4) Peak load forecast approved October 17, 2007
(5) LI Choice forecast issued August 2007.

November 2007 Forecast

Table C

LIPA Load Forecast Before DSM Reductions

Weather Normalization

	Peaks (MW's)			Requirements (GWh's)		
Year	Actual	Normalized	Normalized Growth	Actual	Normalized	Normalized Growth
1999	4,622	4,275	1.66%	18,863	18,740	4.19%
2000	4,252	4,446	4.00%	19,150	19,517	4.43%
2001	4,781	4,535	2.00%	19,611	19,621	0.53%
2002	4,929	4,611	1.68%	20,238	20,090	2.39%
2003	4,794	4,815	4.42%	20,479	20,440	1.46%
2004	4,581	4,955	2.91%	20,993	20,931	2.68%
2005	5,115	5,130	3.53%	21,779	21,337	1.94%
2006	5,667	5,200	1.36%	21,077	21,330	-0.03%
2007	5,247	5,239	0.75%	21,609	21,705	1.48%
2008		5,336	1.86%		22,155	2.35%
2009		5,420	1.57%		22,436	1.27%
2010		5,514	1.72%		22,798	1.61%
2011		5,620	1.93%		23,223	1.59%
2012		5,744	2.22%		23,693	2.30%
2013		5,851	1.85%		24,125	1.82%
2014		5,980	2.21%		24,628	2.08%
2015		6,112	2.20%		25,143	1.81%
2016		6,256	2.37%		25,741	2.66%
2017		6,365	1.74%		26,212	1.83%
2018		6,524	2.49%		26,767	2.12%
2019		6,666	2.19%		27,335	1.84%
2020		6,825	2.38%		27,994	2.69%
2021		6,967	2.08%		28,513	1.86%
2022		7,117	2.15%		29,124	2.14%
2023		7,252	1.90%		29,749	1.87%
2024		7,443	2.63%		30,473	2.71%
2025		7,597	2.06%		31,043	1.87%
2026		7,760	2.15%		31,709	2.15%
2027		7,921	2.08%		32,390	1.87%

November 2007 Forecast

Table D

DSM Breakdown (MWh) (1)

	Embedded DSM (2)	Incremental (3)			
		Conservation	Peak Demand Reduction	LIPA Edge	Total Incremental DSM Achieved
2008	413,612	165,780	270	328	166,378
2009	375,049	261,514	440	328	262,281
2010	337,860	362,734	384	328	363,446
2011	292,216	484,008	328	328	484,664
2012	266,910	621,910	270	328	622,508
2013	266,910	783,607	270	328	784,205
2014	264,945	948,942	270	328	949,540
2015	255,565	1,073,521	270	328	1,074,120
2016	238,148	1,173,173	270	328	1,173,771
2017	216,029	1,319,693	270	328	1,320,291
2018	195,565	1,470,384	270	328	1,470,983
2019	173,342	1,612,364	270	328	1,612,963
2020	142,566	1,771,474	270	328	1,772,073
2021	107,206	1,940,061	270	328	1,940,659
2022	81,371	2,113,974	270	328	2,114,572
2023	65,325	2,278,461	270	328	2,279,059
2024	50,940	2,370,475	270	328	2,371,073
2025	37,300	2,489,508	270	328	2,490,106
2026	18,015	2,599,513	270	328	2,600,112
2027	983	2,695,538	270	328	2,696,137

Notes:

1- DSM as measured at the generator.

2- Embedded DSM due to actual 1999 through 2007 programs; considered embedded in 2008 - 2028 forecast before incremental DSM.

3- DSM due to forecasted 2008 through 2028 programs.

November 2007 Forecast

Table E

DSM Breakdown (MW) (1)

	Embedded DSM (2)	Incremental (3)			
		Conservation	Peak Demand Reduction	LIPA Edge Program	Total Incremental DSM
2008	125	45	0	44	88
2009	121	72	0	45	117
2010	116	103	0	46	149
2011	112	142	0	47	189
2012	109	189	0	48	237
2013	109	246	0	49	294
2014	106	303	0	50	353
2015	96	363	0	51	414
2016	84	421	0	52	473
2017	79	483	0	53	536
2018	76	548	0	54	602
2019	72	588	0	55	642
2020	64	653	0	56	709
2021	54	723	0	57	780
2022	45	788	0	58	846
2023	36	847	0	59	906
2024	28	865	0	60	925
2025	18	898	0	61	959
2026	8	927	0	62	989
2027	0	950	0	63	1,013

Notes:
1- DSM as measured at the generator.
2- DSM due to actual 1999 through 2002 programs; considered embedded in 2003- 2023 forecast before incremental DSM.
3- DSM due to forecasted 2003 through 2023 programs.

November 2007 Forecast

Table F

2008 LIPA Sales Probabilities

Distribution System Forecast Before DSM (MWH)

	Sales Predicted At Actual Weather	Probability Of Achieving Sales At Or Below Predicted Sales
1997	20,265,660	1.3%
1992	20,292,047	2.1%
2000	20,316,882	3.0%
1978	20,364,999	6.0%
1982	20,391,385	8.4%
1996	20,430,189	13.1%
2007	20,467,441	19.1%
2003	20,476,754	20.8%
2006	20,495,380	24.5%
1990	20,498,484	25.2%
1986	20,518,663	29.6%
1984	20,534,184	33.3%
1989	20,559,018	39.4%
2001	20,571,435	42.6%
1995	20,596,270	49.2%
1979	20,600,927	50.4%
1998	20,604,031	51.2%
1985	20,649,043	62.9%
2004	20,656,804	64.8%
1987	20,658,357	65.2%
1994	20,658,357	65.2%
1981	20,664,566	66.7%
1988	20,678,535	70.0%
2002	20,697,160	74.2%
1999	20,715,786	78.0%
1983	20,737,517	82.0%
1993	20,749,934	84.1%
1980	20,753,038	84.6%
2005	20,776,320	88.0%
1991	20,835,303	94.1%
Normal	20,599,375	50.0%

Notes:

Year 2009 sales & probabilities forecasted under actual weather conditions that occurred over the previous 30 years.

November 2007 Forecast

Table G

LIPA Peak Probabilities

Weather Conditions At System Peak Day & Hour

Forecast Before DSM (MW)

	2007	2008	
Peak Day	MW Predicted at Existing Weather	MW Predicted at Existing Weather	Probability Predicted Will Exceed Experienced Peak
23-Aug-76	4,633	4,715	3.5%
20-Aug-04	4,690	4,771	4.9%
14-Jul-92	4,723	4,804	6.0%
18-Jul-96	4,766	4,848	7.7%
7-Aug-00	4,849	4,930	11.8%
17-Aug-87	4,931	5,012	17.2%
15-Aug-88	5,024	5,106	25.1%
11-Jun-84	5,051	5,133	27.6%
8-Jul-94	5,070	5,152	29.5%
4-Aug-89	5,141	5,222	37.0%
15-Aug-85	5,165	5,246	39.6%
17-Aug-78	5,212	5,294	45.1%
5-Aug-05	5,216	5,297	45.5%
4-Aug-95	5,235	5,317	47.7%
8-Aug-07	5,269	5,351	51.8%
7-Jul-86	5,271	5,352	51.9%
26-Jun-03	5,278	5,359	52.7%
21-Jul-77	5,347	5,429	60.7%
1-Aug-75	5,386	5,467	64.9%
21-Jul-80	5,418	5,499	68.4%
5-Jul-90	5,442	5,524	70.9%
23-Jul-91	5,469	5,551	73.5%
9-Jul-93	5,470	5,552	73.6%
22-Jul-98	5,534	5,615	79.3%
15-Jul-97	5,536	5,617	79.5%
8-Aug-01	5,579	5,661	82.9%
29-Jul-02	5,583	5,665	83.2%
3-Aug-06	5,868	5,950	96.4%
6-Jul-99	6,035	6,117	98.9%
Normal	5,255	5,336	50.0%

Notes:

1. Peak loads & probabilities forecast under actual historical weather conditions.
2. Peaks are before reductions due to DSM.

November 2007 Forecast

Table H

Economic Sensitivity Forecasts (GWh)

Forecast of Energy Sales Before DSM

	Low Growth Forecast		Reference Forecast		High Growth Forecast	
	Long Island Transmission System*	LIPA Distribution System**	Long Island*	LIPA**	Long Island*	LIPA**
2008	21,237	20,401	21,441	20,599	21,605	20,760
2009	21,462	20,627	21,703	20,862	21,985	21,136
2010	21,737	20,903	22,040	21,199	22,383	21,534
2011	22,038	21,207	22,436	21,595	22,795	21,945
2012	22,409	21,579	22,875	22,033	23,271	22,420
2013	22,803	21,973	23,277	22,436	23,681	22,830
2014	23,262	22,432	23,745	22,904	24,157	23,306
2015	23,732	22,903	24,225	23,384	24,646	23,795
2016	24,279	23,449	24,783	23,942	25,213	24,362
2017	24,709	23,879	25,222	24,381	25,659	24,808
2018	25,215	24,386	25,739	24,898	26,185	25,334
2019	25,734	24,905	26,268	25,427	26,724	25,872
2020	26,336	25,507	26,883	26,041	27,348	26,497
2021	26,811	25,982	27,367	26,525	27,841	26,989
2022	27,369	26,540	27,936	27,095	28,420	27,568
2023	27,940	27,111	28,519	27,677	29,012	28,161
2024	28,602	27,773	29,193	28,352	29,698	28,847
2025	29,122	28,294	29,724	28,883	30,238	29,386
2026	29,732	28,903	30,346	29,504	30,870	30,018
2027	30,353	29,525	30,979	30,138	31,515	30,663

Notes:

* Includes LIPA (with Power for Jobs and LI Choice), Municipalities, Brookhaven National Labs and NYPA EDP and MDA customer use before DSM impacts. (Table A)

** Includes LIPA (with Power for Jobs and LI Choice) customer use before DSM impacts. (Table B)

Attachment 3 – Glossary

Ancillary Services -- Services necessary to support the transmission of Energy from Generators to Loads, while maintaining reliable operation of the New York State Power; Operating Reserve Service (including Spinning Reserve, 10-Minute Non- Synchronized Reserves and 30-Minute Reserves); and Black Start Capability.

Congestion -- Conditions in which the free flow of power through the transmission system is constrained by thermal or other technical limits associated with the design or operation of the system.

Distribution System -- Facilities that deliver power from the transmission system to the ultimate customer. Operating voltage is typically below 34.5 kV.

Efficiency -- The ratio of useful energy provided by a process to the total energy put in. The efficiency of a power plant is the ratio of the electric power output to the thermal value of the fuel input.

EMA or "Energy Management Agreement" -- The Energy Management Agreement, dated as of June 26, 1997, between the Energy Manager and LIPA, as amended and supplemented, pursuant to which the Energy Manager, among other things, procures and manages fuel supplies for the GENCO Generating Facilities.

Energy Service Company, (ESCO) -- Any of a variety of companies that provide energy related services. These services may involve power management, power purchasing, fuel procurement services, etc.

GENCO -- The KeySpan Subsidiary that owns the generating assets used to supply energy to LIPA under the Power Supply Agreement.

GENCO Generating Facilities or "Generating Facilities" -- The electric generating facilities owned by GENCO and under contract with LIPA under the Power Supply Agreement.

Generation Purchase Option -- LIPA's contractual right to acquire the GENCO Generating Facilities at fair market value under the Generation Purchase Right Agreement.

Generation Purchase Right Agreement -- The Generation Purchase Right Agreement, dated as of June 26, 1997, by and between GENCO, as seller, and LIPA, as buyer (if the Generation Purchase Option is exercised), and their respective successors and assigns; On March 11, 2002, LIPA and KeySpan signed an Agreement in Principle relating to extension of the GPRA. This Agreement in Principle provides that LIPA's Right under the GPRA to purchase KeySpan Generation will be exercisable during a period beginning on November 29, 2004 and ending on May 28, 2005.

Installed capacity (ICAP) -- A generator or load facility that complies with the requirements in the reliability rules and is capable of supplying and/or reducing the demand for energy in the NYCA for the purpose of ensuring that sufficient energy and capacity are available to meet the reliability rules. The Installed Capacity requirement, established by the NYSRC, includes a margin of reserve in accordance with the reliability rules. (Source: NYISO)

Investor-owned utility, (IOU) -- A publicly traded company that provides utility service. This may include traditional vertically integrated utilities (i.e. those that provide generation, transmission, and distribution) or companies that provide a subset of these services, but who remain subject to utility regulation under the PSC. Investor-owned utilities do not include public agencies such as NYPA or municipalities.

KeySpan -- KeySpan Corporation, doing business as KeySpan Energy, and its successors and assigns.

LILCO -- The Long Island Lighting Company, the publicly-owned gas and electric utility company as it existed prior to the LIPA/LILCO Merger.

LIPA -- The Long Island Lighting Company as it exists after the LIPA/LILCO Merger as a wholly-owned electric utility subsidiary company of the Authority, and which is conducting its business under the name "LIPA," and any successor thereto.

Load -- The electric power consumed by customers.

Load-serving entity, (LSE) -- An entity, including a municipal electric system and an electric cooperative, authorized or required by law, regulatory authorization or requirement, agreement, or contractual obligation to supply energy, capacity and/or ancillary services to retail customers located within the NYCA, including an entity that takes service directly from the NYISO to supply its own load in the NYCA. (Source: NYISO)

Market Participants -- An entity, excluding the NYISO, that produces, transmits, sells, and/or purchases for resale capacity, energy and ancillary services in the wholesale market. Market participants include: transmission customers under the ISO OATT, customers under the ISO Services Tariff, power exchanges, transmission owners, primary holders, LSEs, suppliers and their designated agents. Market participants also include entities buying or selling TCCs.

MSA or "Management Services Agreement" -- The Management Services Agreement, dated as of June 26, 1997, between the Manager and LIPA, as amended and supplemented, pursuant to which the Manager operates and maintains the T&D System

NERC North American Electric Reliability Council -- Formed in 1968 to promote there liability of the electricity supply for North America following major blackouts in the northeast US in 1965 and 1967. Consisting of 10 regional reliability councils, NERC is operated as a voluntary organization – one dependent on reciprocity and mutual self-interest of all those involved.

New York Control Area (NYCA) -- The portion of the New York State Power System that is under the control of the NYISO. It includes transmission facilities listed in the ISO/TO Agreement and generation located outside the New York State Power System that is subject to protocols (e.g., telemetry signal biasing) that allow the NYISO and other control area operator(s) to treat some or all of that generation as though it were part of the New York State Power System.

New York Mercantile Exchange (NYMEX) -- an exchange offering energy futures and options contracts for the U.S. market.

New York State Power System -- All facilities of the New York State Transmission System, and all those generators located within the NYCA or outside the NYCA, some of which may from time-to-time be subject to operational control by the NYISO.

New York State Transmission System -- The entire New York State electric transmission system, which includes (1) the transmission facilities under ISO operational control; (2) the transmission facilities requiring ISO notification; and (3) all remaining transmission facilities within the NYCA.

NPCC -- Northeast Power Coordinating Council is one of 10 regional reliability councils in NERC. The NPCC region consists of New York State, New England, and the Canadian provinces of Ontario and Quebec.

NYISO -- New York Independent System Operator, a not-for-profit organization established in 1999 to operate an open access transmission system and a power exchange in New York State. The NYISO replaced the NYPP. **NYPA**--The New York Power Authority.

NYPP -- New York Power Pool, predecessor to the NYISO, was formed in 1966 to coordinate the economic operation of the facilities owned by the seven investor-owned utilities in the State and the Power Authority of the State of New York.

NYSRC -- New York State Reliability Council, an organization established by agreement among the member systems of the NYPP to develop and maintain the reliability rules by which the NYPP would operate the New York State Power System

OASIS -- An electronic "Open Access Same-time Information System," which is a system to share transmission-related information (including information about available capacity) on a real-time basis.

OATT -- An "Open Access Transmission Tariff' under which one party may use another party's transmission facilities upon payment of the charges and tariffs provided for by the OATT. "Off- System Sales" means the sale of electric capacity and/or energy to wholesale or retail customers located outside the Service Area.

Operating Agreements -- Collectively, the EMA, the MSA and the PSA.

Operating Reserve -- Generating capacity in excess of that required to meet load requirements.

Peaking unit -- A generating unit that is used to provide power at or near the peak system load. Peaking units typically run only on a limited basis during the year.

PSA or "Power Supply Agreement" -- The Power Supply Agreement, dated as of June 26, 1997, between GENCO and LIPA, as amended and supplemented, pursuant to which LIPA purchases all the capacity from the GENCO Generating Facilities and, to the extent requested by LIPA, the associated energy.

PSC -- Public Service Commission.

Regional Transmission Organization, (RTO) -- The entity that is responsible for operation of a regional transmission system.

Reliability -- Reliability, in a bulk electric system, is the degree to which the performance of the elements of that system results in electricity being delivered to customers within accepted standards and in the amount desired. The degree of reliability may be measured by the frequency, duration, and magnitude of adverse effects on the electric supply (or service to customers.) Bulk electric system reliability can be addressed by considering two basic and functional aspects of the bulk electric system - adequacy and security. (Source: NERC)

Reserve margin -- Installed generation capacity in excess of load, typically expressed as a percent of load. % Reserve = 100 * (Installed Capacity – Peak Load) /Peak Load.

Residual oil (1%) -- is used as a proxy fuel for the various sulfur grades (1%, .7% or .37%) used in the Genco system. This is done because of the high correlation in pricing paths and the fact that there is very little liquidity in the lower sulfur products.

Short circuit -- An event in which an abnormal connection is created between conductors in the power system. Short circuits are the most destructive events that can affect a power system because they result in flow of extremely high magnitude currents and because they depress system voltage.

Stability -- The ability of a power system to maintain a state of equilibrium between generators during normal and abnormal system conditions or disturbances.

System benefits charge, (SBC) -- The SBC is designed to fund, during the transition to full retail electric access and possibly thereafter, the following public policy initiatives not expected to be adequately

addressed by competitive electric retail markets: • energy efficiency programs, • research and development (R&D) projects, • environmental protection efforts, and • efforts on behalf of lower-income utility customers.

System Power Supply -- The electrical capacity and energy from all power supply sources owned by or under contract to LIPA, including, but not limited to, the Existing Power Supply Agreements, the Power Supply Agreement, LIPA's rights and interests with respect to the NMP2 power plant, LIPA's interest in any future generating facilities, spot market capacity and energy purchases made by the Energy Manager on behalf of LIPA, and any load control programs or energy efficiency measure adopted by LIPA.

T&D System -- The electric transmission and distribution system located in the Service Area which provides the means for transmitting and distributing electricity.

Transmission Owner (TO) -- The public utility or authority (or its designated agent) that owns facilities used for the transmission of energy in interstate commerce and provides transmission service under the Open Access Transmission Tariff.

Voltage reduction -- The deliberate lowering of voltage on the distribution system for the purpose of achieving load relief. A technique employed under conditions of unusually heavy load and high system stress.