

Appendix A: Commission approved electricity consumption forecast for the period of June 1, 2019 – May 31, 2010

**PPL Electric Utilities Corporation
Consumption Forecast and Peak Load Data
For the period June 1, 2009 through May 31, 2010
Docket Nos. M-2012-2289411 and M-2008-2069887**

Introduction

In its order entered on January 16, 2009 at Docket No. M-2008-2069887, the Public Utility Commission (“PUC” or the “Commission”) established procedures for the implementation of Act 129 of 2008 (“Act 129” of the “Act”). In that order, the PUC directed each Electric Distribution Company (“EDC”) subject to Act 129 to submit a consumption forecast for the period June 1, 2009 through May 31, 2010. In its August 3, 2012 Order Implementation Order at Docket No. M-2012-2289411, the Commission again adopted the June 1, 2009 through May 31, 2010 expected load forecast as the baseline from which to measure incremental savings in Phase II of the Act 129 Energy Efficiency and Conservation Plans.

In this filing, PPL Electric Utilities Corporation (“PPL Electric” or the “Company”) is submitting the required data.

Consumption Forecast

Set forth below are PPL Electric’s consumption forecast for the period June 1, 2009 through May 31, 2010, as well as a full description of its forecasting methodology, weather normalization methodology, supporting data and the major assumptions reflected in the forecast. The result of the forecast is summarized in Table 1:

**Table 1
June 1, 2009 to May 31, 2010 Forecasted
Billed Sales (MWh)**

Residential	14,560,303
Commercial	14,093,904
Industrial	9,275,530
Other	172,435
Company Use	36,762
GenCo	75,434
Total	38,214,368

Consumption Forecast Methodology

PPL Electric uses an econometric model to forecast monthly sales by customer class (residential, commercial, industrial, and other). Each customer class model is comprised of linear regression or trend

Appendix A

models. Historical and forecast economic data used in the models are obtained from Moody's Economy.com. Energy efficiency and end-use data is obtained from the Energy Forecaster's Group of Itron (the forecasting software vendor). These data are based on Energy Information Administration (EIA) historical and forecasted end-use and efficiency data. The methodology is identical to the methodology used by the Company and accepted by the Commission in PPL Electric's previous distribution service base rate proceedings. A summary of each model and methodology are as follows:

Residential – The residential forecast is comprised of four models.

Average monthly usage for premises coded as General Residential Service (GRS) customers is modeled using a linear regression model. Historical monthly average use per customer is regressed against variables for cooling, heating, and other use (lighting, cooking, water heating, etc). Forecast drivers include weather, billing days, household size, household income, price, and energy efficiency indexes.

Average monthly usage for premises coded as Electrically Heated Homes (EHH) customers also is modeled using a linear regression model. Historical monthly average use per customer is regressed against variables for cooling, heating, and other use. Forecast drivers include weather, billing days, household size, household income, price, and energy efficiency indexes.

The Residential Customer Forecast is a regression model of PPL Electric's customer counts as a function of the population in its service territory.

Electrically Heated Homes Share is a trend model used to allocate the forecast of residential customers to GRS and EHH.

Commercial – The commercial customer class is forecasted as a whole using a linear regression model. Historical commercial usage is regressed against variables for heating, cooling, and a base usage. Forecast drivers include weather, billing days, population, non-manufacturing output, and energy efficiency indexes.

Industrial – The industrial forecast is segmented into four major sub-categories: food, steel, chemical, and other. All four sub-categories are modeled using a linear regression model.

Historical Industrial-Food usage is regressed against variables for weather, price, and GDP-Manufacturing-Food.

Historical Industrial-Steel usage is regressed against variables for price and GDP-Manufacturing-Primary Metal Industries.

Historical Industrial-Chemical usage is regressed against variables for weather, price, and GDP-Manufacturing-Chemical & Allied Products.

Historical Industrial-Other usage is regressed against variables for weather, price, billing days, and GDP-Manufacturing.

Other – The other forecast is comprised of three models: Public Authority, Railroad, and Borderline.

Appendix A

Public Authority is modeled using a linear regression model. Historical usage is regressed against a variable for population.

Railroad and Borderline are modeled using exponential smoothing models.

GENCO/Company Use – The GENCO and Company Use forecasts are both modeled using seasonal exponential smoothing models. The GENCO forecast is for station net-metered usage at affiliated generating stations owned by PPL Generation. The Company Use forecast is for PPL Electric’s facilities, such as service centers.

Institutional Consumption

Act 129 specifies that a minimum of 10% of the required reductions in consumption shall be obtained from units of federal, state and local government, including municipalities, school districts, institutions of higher education and non-profit entities. For PPL Electric, the 2008 consumption for customers in this group totaled 3.4 million kWhs, which is just under 9% of total consumption.

Major Assumptions

Economic Conditions – The forecast is based on a continuation of the recession through the middle of 2009, with a slow recovery beginning during the second half of the year. More normal GDP growth is expected to return in the second half of 2010.

Weather – Normal weather is assumed for the forecast period. PPL Electric uses a 10-year normal Heating Degree Days (HDDs) and Cooling Degree Days (CDDs) to reflect the trend toward warmer winter weather over the past decade. Prior to 2008, PPL Electric used a 20-year normal, but was consistently over-forecasting sales during the winter months and under-forecasting during the summer months. In order to provide the most accurate monthly forecast, PPL Electric changed to a 10-year normal for the 2008-2012 planning period. A rolling normal is used, and there currently is little difference between the 10- and 20-year rolling normal HDDs, as high HDD years in the 1980s fall out of the rolling 20-year period. However, the rolling normal for CDDs continues to climb. The differences between the 10-year, 20-year, and 30-year normals are shown in Table 2.

Table 2
10-year, 20-year, and 30-year normal Degree Days

	10-year Normal	20-year Normal	% Change 10-yr vs. 20-yr	30-year Normal	% Change 10-yr vs. 30-yr
HDD	5,603	5,596	+0.1%	5,700	-1.7%
CDD	828	813	+1.8%	798	+3.8%

The use of a 10-year normal reduces monthly forecast variances and, on an annual basis, reduces the consumption forecast by less than 0.2% compared to the 30-year normal.

Rate Cap Expiration – The forecast assumes that rate caps for PPL Electric’s retail customers expire at the end of 2009, which will result in decreased consumption in 2010.

Energy Efficiency and Conservation (EE&C) Measures – EE&C measures as a result of Act 129 are not included in the forecast.

Appendix A

Consumption Forecast Accuracy

Since 2000, PPL Electric's billed sales forecast accuracy has had a Mean Average Percentage Error (MAPE) of 0.9% on a weather-normalized basis. Table 3 shows the actual and weather adjusted billed sales variance vs. forecast over this time period.

**Table 3
Actual Billed Sales and Weather-Adjusted Billed Sales
Variance vs. Forecast**

Year	Forecasted Billed Sales (MWh)	Actual Billed Sales (MWh)	Actual Billed Sales vs. Forecast	Weather-Adjusted Billed Sales (MWh)	Weather Adjusted Billed Sales vs. Forecast
2000	33,806,574	33,844,469	0.1%	34,123,298	0.9%
2001	33,817,831	34,576,695	2.2%	34,749,744	2.8%
2002	35,241,722	34,779,292	-1.3%	34,397,979	-2.4%
2003	35,598,244	35,291,594	-0.9%	35,215,173	-1.1%
2004	36,689,129	35,791,611	-2.4%	36,056,721	-1.7%
2005	36,835,033	37,262,218	1.2%	36,458,105	-1.0%
2006	37,295,451	36,715,684	-1.6%	37,192,547	-0.3%
2007	37,497,311	37,839,168	0.9%	37,665,070	0.4%
2008	38,029,900	38,135,600	0.3%	38,328,200	0.8%