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**FEDERAL EXPRESS**

June 11, 2013

Rosemary Chiavetta, Secretary  
Pennsylvania Public Utility Commission  
Commonwealth Keystone Building  
400 North Street  
Harrisburg, Pennsylvania 17120

**RECEIVED**

JUN 11 2013

PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

M-2009-2093216

**Re: PPL Electric Utilities Corporation  
2012 Time of Use Annual Report**

Dear Secretary Chiavetta:

Enclosed for filing on behalf of PPL Electric Utilities Corporation ("PPL Electric") is a copy of PPL Electric's Time of Use Annual Report for calendar year 2012. This report is being filed pursuant to the provisions of 66 Pa.C.S. § 2807(f)(5).

Pursuant to 52 Pa. Code § 1.11, the enclosed document is to be deemed filed on June 11, 2013, which is the date it was deposited with an overnight express delivery service as shown on the delivery receipt attached to the mailing envelope.

In addition, please date and time-stamp the enclosed extra copy of this letter and return it to me in the envelope provided.

If you have any questions regarding the enclosed report, please call me or Kimberly A. Golden, PPL Electric's Manager - Load/Data Analytics & Forecasting at (610) 774-5910.

Very truly yours,

Paul E. Russell

Enclosures

cc: Tanya J. McCloskey, Esquire  
Mr. John R. Evans  
J. Edward Simms, Esquire

**PPL Electric Utilities Corporation  
Time-of-Use Program  
Annual Report**

**Period of Study: Year 2012**

**Overview**

Pursuant to 66 Pa.C.S. § 2807(f)(5), PPL Electric Utilities Corporation ("PPL Electric" or the "Company") hereby files this Annual Report regarding its Time-of-Use ("TOU") program. This Annual Report assesses the impact of PPL Electric's TOU program offered to its residential and small commercial and industrial (Small C&I) customer classes on load shifting, energy prices and consumption.

The objective of the TOU program is to encourage customers to shift their electricity usage from the on-peak to the off-peak periods. The expectation is that lower on-peak usage will ultimately lower energy and capacity prices, not just for the participants in the TOU program, but for all customers. For the purpose of this report, a range of components including, but not limited to, load, customer participation, shopping, pricing and change in capacity were evaluated across different rate schedules for the year 2012.

The TOU program offered by PPL Electric is available to all residential and small C&I customers served under rate schedules RS, RTS(R), GS-1, GH-1, GH-2 and IS-1. The program is also available to GS-3 customers with a demand of less than 500 kW and RTD(R) customers that accept service under rate schedule RS. However, only customers who have PPL Electric as their default supplier are eligible to participate in PPL Electric's TOU Program. Customers who choose to have competitive generation supply are ineligible to participate but may participate in time-varying rate programs offered by competitive suppliers.

PPL Electric notes that it is currently participating in a collaborative proceeding with parties regarding its TOU program and will propose a new TOU rate program, pursuant to the Commission's Order in PPL Electric's default service proceeding. *Petition of PPL Electric Utilities Corporation For Approval of a Default Service Program and Procurement Plan*, Docket No. P-2012-2302074, Order entered May 23, 2013.

**Summary**

During the year, participation in the TOU program was minimal. As shown in Table 1 below, a total of 2,275 (0.16%) customers were enrolled in the program at the end of year 2012. These were existing customers from prior years as there was no new enrollment in any of the TOU rates offered during 2012. In addition, the existing customer enrollment continued to drop throughout the year. The table below shows TOU participation as of December 2012.

**Table 1: TOU Participation as of December 2012**

Rate Schedule	Bill Count	kWh
TR1	2,036	2,475,174
TR3	130	310,880
TH2	1	829
TG1	107	62,082
TG3	1	2
TOTAL	2,275	2,848,967
Percentage Share	0.16%	0.13%

During 2012, TOU rates have been higher than the fixed price default service rates for both Residential and Small C&I rate schedules. An average residential TOU customer using 1000 kWh per month spent \$33 more on energy only when compared to December 2012 non-TOU default service rates. As explained below, there was a negligible difference between TOU and non-TOU customer consumption in peak periods for 2012.

## Methodology

The primary focus of this study is to measure the percentage of load shift from the on-peak to the off-peak period under the TOU program. However, customer participation and load shift based on TOU pricing relative to the price-to-compare (PTC) was also measured in this study. For the scope of this study, only summer months' load shapes for customers served under rate schedules RS, RTS(R) and GS-1 were analyzed to compare usage during on-peak and off-peak periods for each rate schedule. Peak load hours in the summer months determine the need for capacity within PJM. Reductions in on-peak usage during the summer months would reduce the capacity Peak Load Contribution (PLC) for customers on the TOU programs, which will reduce the capacity needs for all of PJM, thus reducing the cost of capacity for all customers. Summer is defined as June 1 through September 30. The on-peak and off-peak definitions are shown in Figure 1.

Figure 1

Rate schedule	Summer peak hours (June – September)
RS, RTS(R), Volunteer Fire Company served under rate schedules GS-1 and GS-3	1:00 PM to 6:00 PM
GS-1, GS-3, GH-1, GH-2 and IS-1	7:00 AM to 7:00 PM

*Note: On-peak hours occur only during weekdays with the exception of holidays which are considered to be off-peak.*

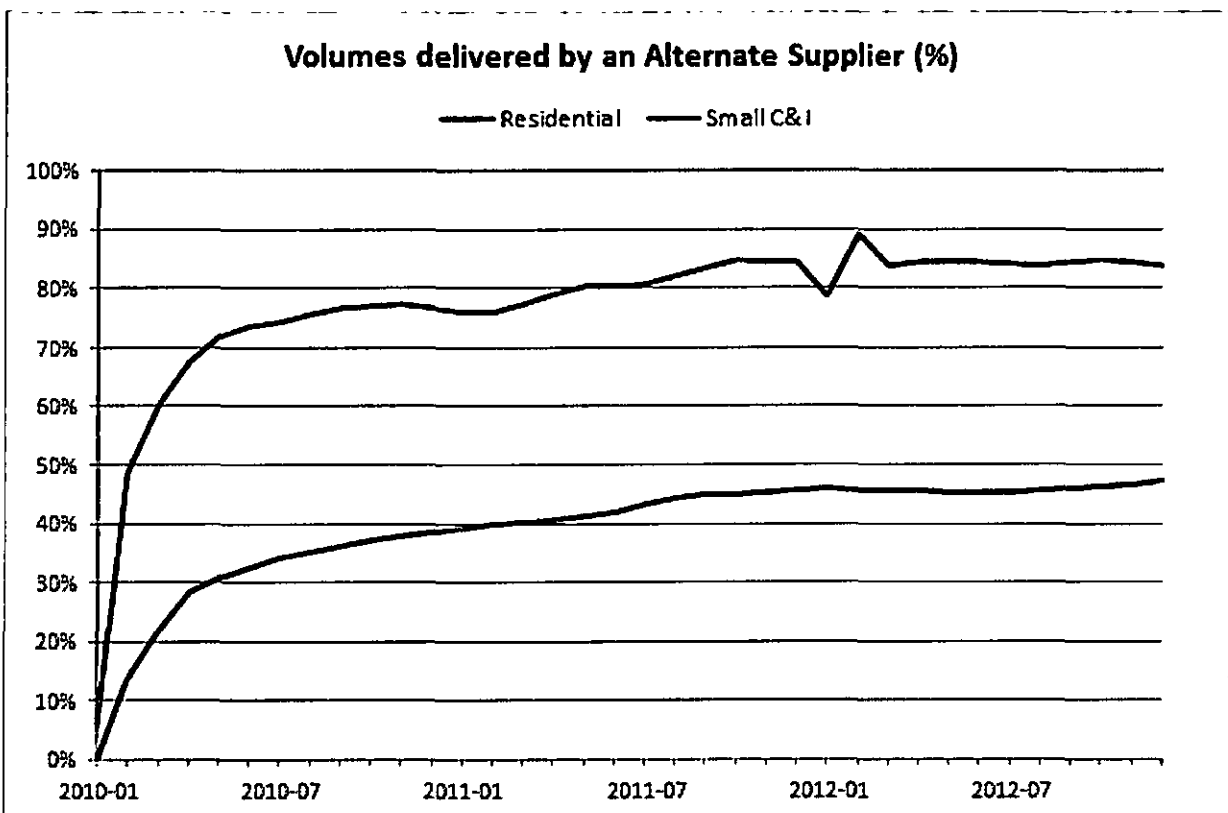
In order to measure any change or shift in consumption between the on-peak and off-peak periods, comparison was made between the control group and their corresponding TOU group. The control groups for each class include all non-TOU customers, including both default service and shopping customers. Monthly aggregations were used to measure the on-peak and off-peak average use.

### **Influence of Shopping on TOU Participation**

Participation in the TOU program is only available to customers who choose PPL Electric as their default supplier instead of an alternate/ competitive supplier. While shopping remained flat, it had little to no effect on TOU participation during 2012. The program did not attract any new customers.

In the prior years, as the rate caps came off beginning 2010, shopping became an attractive option for customers served in PPL Electric's service territory. The chart in Figure 2 below exemplifies the growth in shopping for both residential and small C&I customers. With the increase in shopping fewer customers were left in the TOU eligible pool. However, they were free to participate in the TOU plans offered by alternate suppliers. In fact, alternate suppliers did offer their own TOU programs or other programs, such as a "free Saturday" program offered by one supplier.

Figure 2



## Price Effect on TOU Participation

There has been a continuous drop in TOU participation during 2012. Program prices have prompted customers to go off the program during this time. Both on-peak and off-peak prices remained not only flat for the year but also higher than the PTC offered to the non-TOU customers.

As Figure 3 through Figure 5 show, enrollments have been falling throughout the year on a steady basis. However, there are still some customers that have remained on TOU rates.

Figure 3

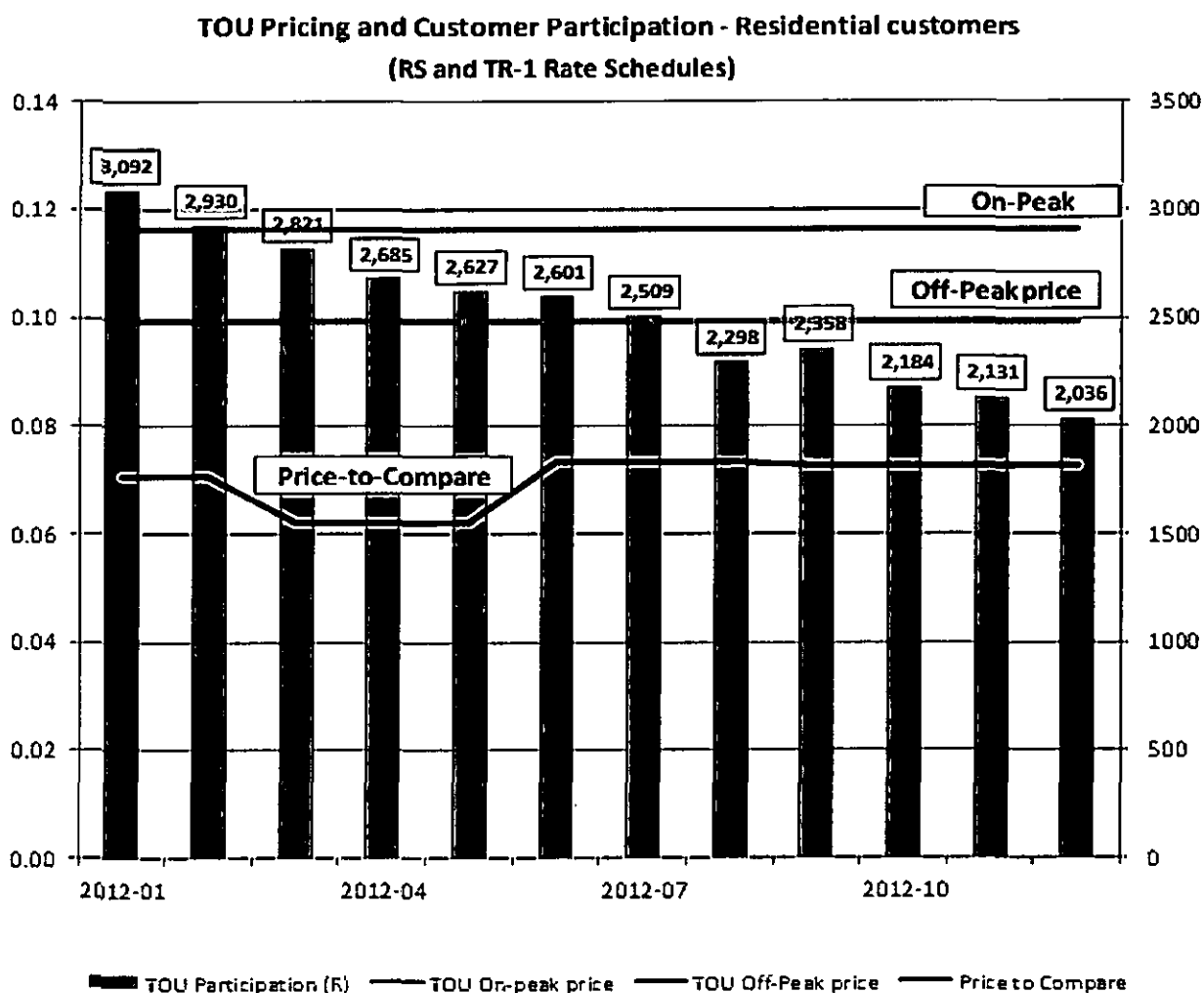
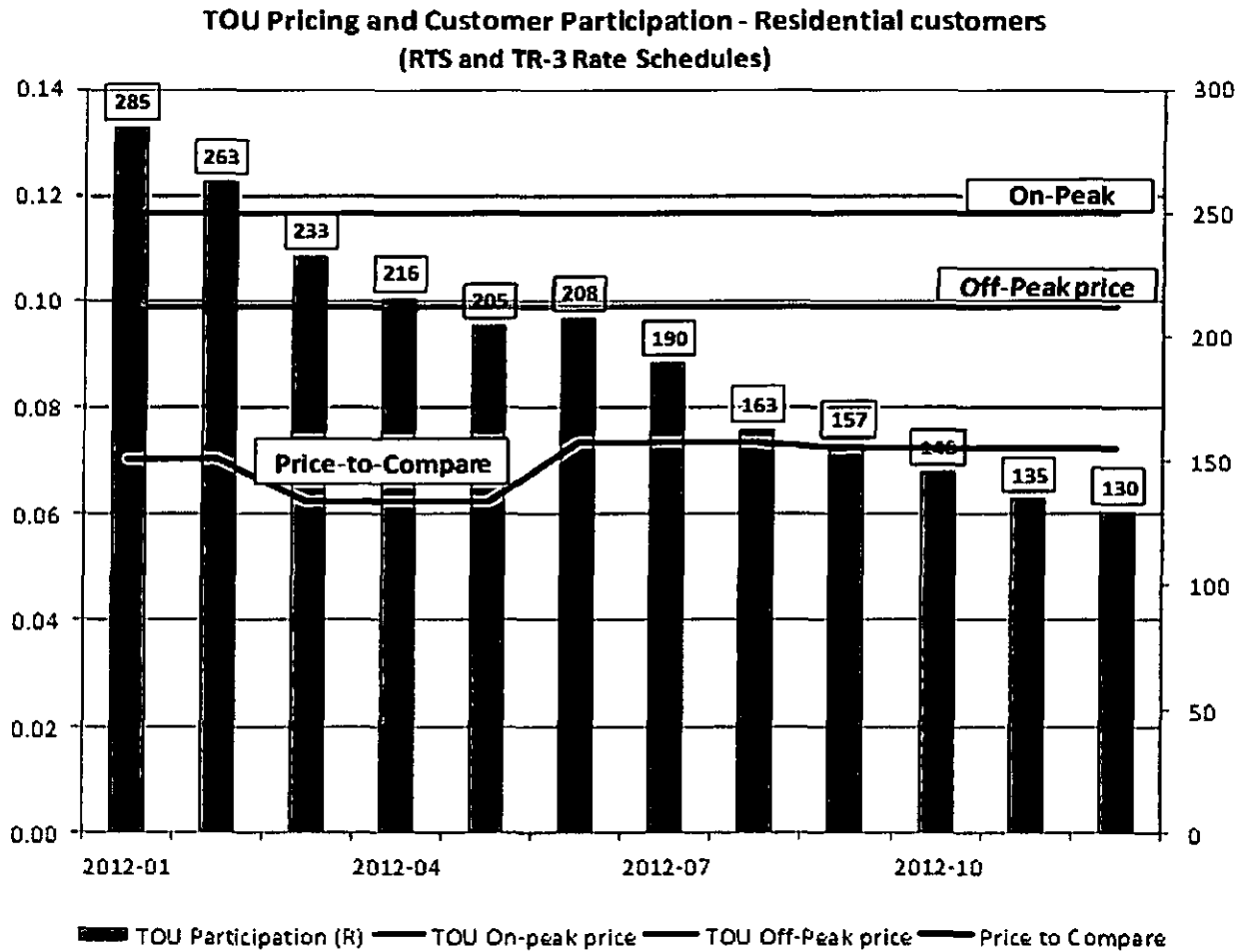
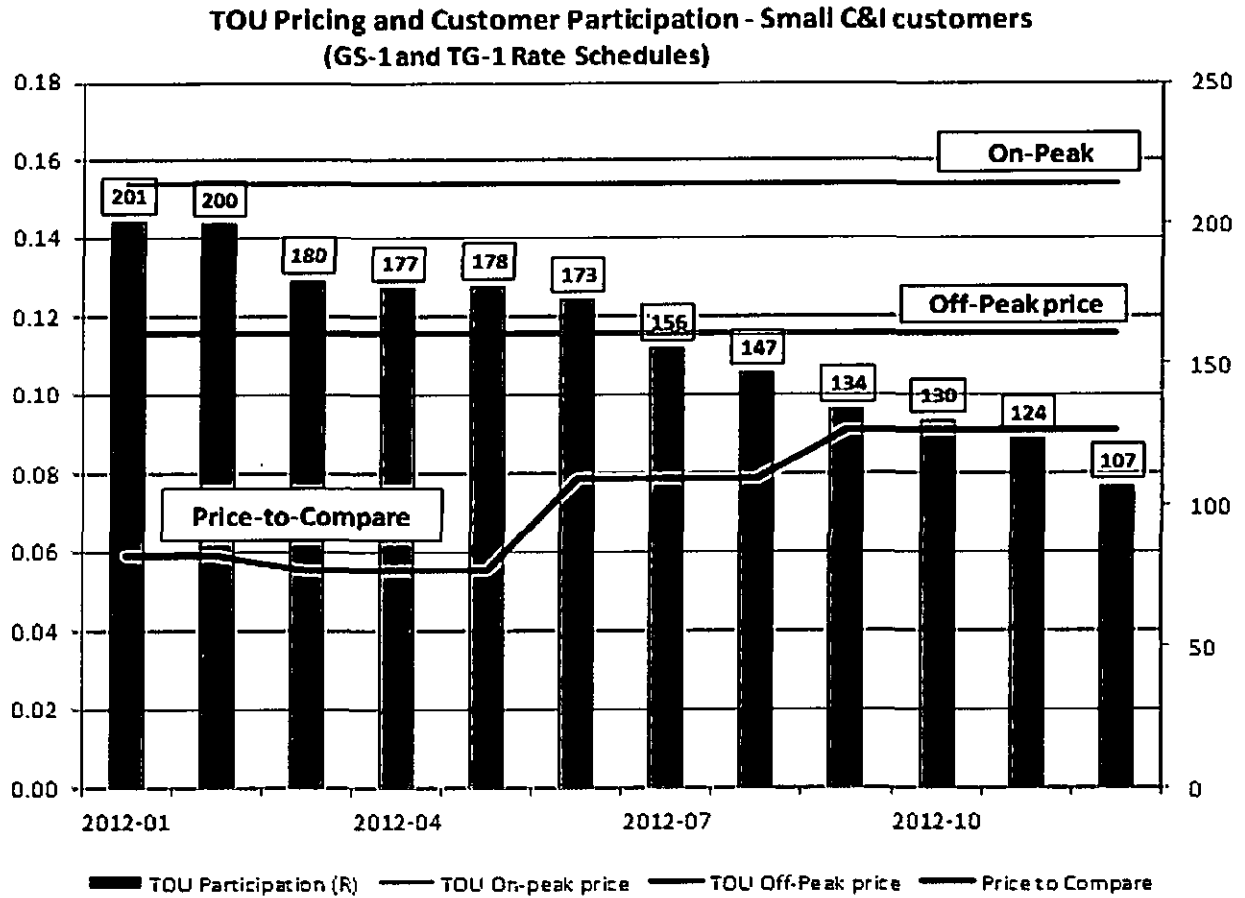


Figure 4



TOU participation for RS and RTS(R) rate schedules has been dropping since the start of the year. Besides, there were no new enrollments in either of the rate schedules. This could be due to the TOU prices offered. Both on-peak and off-peak prices have been higher than the PTC level throughout the year. It is likely that customers moved from TOU rates to non-TOU rates due to higher prices. It appears that the remaining customers are inelastic to price.

Figure 5



Small C&I customers showed a similar response to the change in price as the residential customers. While there was no new enrollment, participation dropped throughout the year as PTC level increased, but remained below the TOU prices.



## Analysis of Load Shift

For this study, hourly average use during the year 2012 was analyzed to measure the consumption pattern between on-peak and off-peak periods. Average use was compared between TOU and the control group for each of the three rate schedules – RS, RTS and GS1.

- **Control group to TOU - Residential**

Tables 2 and 3 compare the on-peak and off-peak usage split for both the residential rate schedules. With higher prices than PTC, it is believed that customers on TOU were price inelastic customers who decided to stay on TOU rate schedule. The results in the tables below reflect that behavior. While RS customers had higher consumption by a small margin of 0.23%, RTS consumption for similar hours was higher by a margin of 1.01%, compared to their corresponding TOU rate.

Additionally, Figure 6 shows the hourly average use for RS and TR1 customers. TR1 customers had higher average use during all the summer hours.

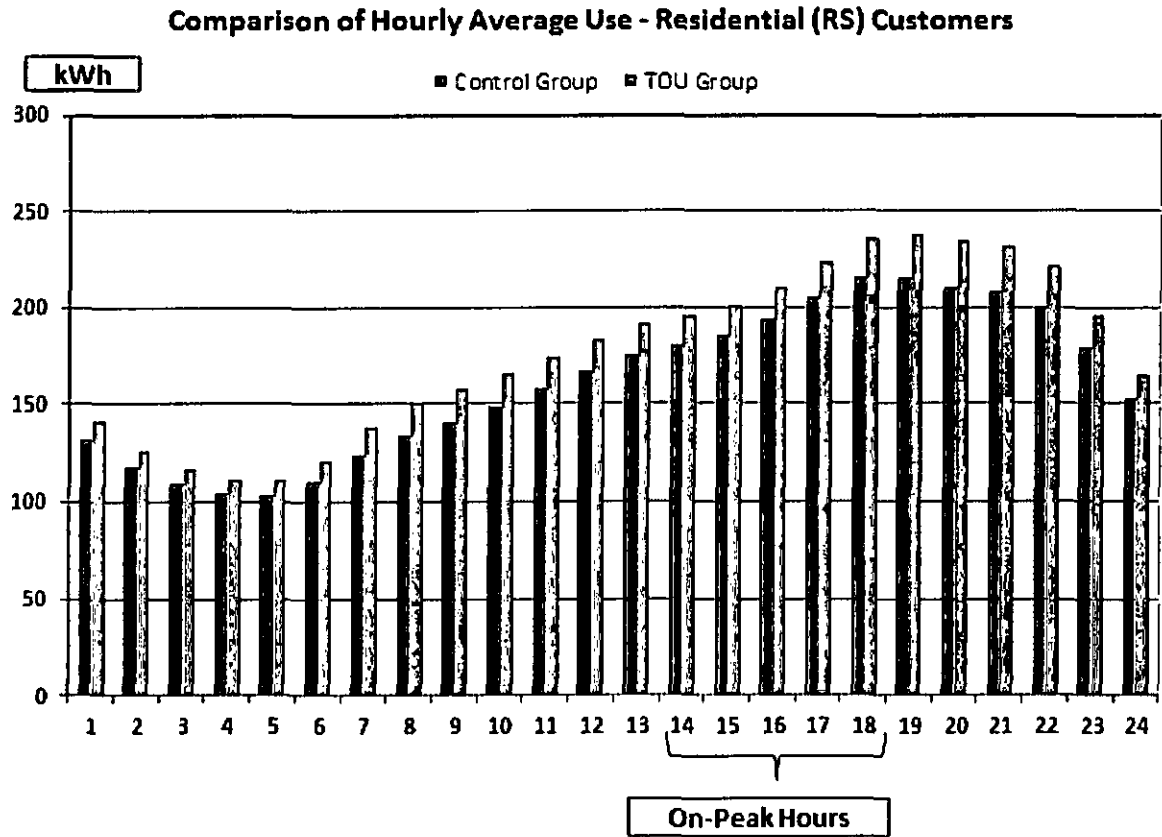
**Table 2: RS rate schedule – Average Use Comparison (%)**

Month	Control Group (RS)		TOU Group (TR1)		Percentage Difference in On-Peak Usage
	On-Peak	Off-Peak	On-peak	Off-Peak	
June	16.96	83.04	16.65	83.35	-0.31
July	17.46	82.54	17.39	82.61	-0.07
August	18.88	81.12	18.63	81.37	-0.25
September	14.08	85.92	13.73	86.27	-0.35
Total	17.04	82.96	16.81	83.19	-0.23

**Table 3: RTS rate schedule – Average Use Comparison (%)**

Month	Control Group (RTS)		TOU Group (TR3)		Percentage Difference in On-Peak Usage
	On-Peak	Off-Peak	On-peak	Off-Peak	
June	16.91	83.09	15.73	84.27	-1.17
July	17.60	82.40	16.97	83.03	-0.64
August	19.00	81.00	17.94	82.06	-1.06
September	13.86	86.14	12.65	87.35	-1.22
Total	17.01	82.99	16.00	84.00	-1.01

Figure 6



- **Control group to TOU – Small C&I (GS1)**

For customers on rate GS-1, results were slightly different than the residential group. Table 3 below shows mixed results in terms of on-peak consumption between the control and TOU groups.

**Table 4: GS1 rate schedule – Average Use Comparison (%)**

Month	Control Group (GS1)		TOU Group (TG1)		Percentage Difference in On-Peak Usage
	On-Peak	Off-Peak	On-peak	Off-Peak	
June	44.72	55.28	43.03	56.97	-1.69
July	44.16	55.84	43.91	56.09	-0.24
August	47.37	52.63	47.72	52.28	0.35
September	40.45	59.55	40.66	59.34	0.22
Total	44.34	55.66	44.07	55.93	-0.27

## **Impact on Market Prices**

- **Energy**

Prices for energy vary by hour. The Locational Marginal Price (LMP) is determined through the wholesale market at PJM for each zone, and is a function of overall demand (which is highly dependent upon weather), generation availability, and fuel prices. In theory, lower demand during peak hours would result in a lower LMP, as higher priced generation would not be required. However, quantifying the impact on an hourly basis is difficult – there is no way of knowing what the LMP would have been absent the demand reduction. In addition, any load shifted to off-peak hours could result in higher prices in these hours, so the net impact in a TOU rate on energy prices would be the net of 1) the savings in the on-peak hours and 2) the higher cost in the off-peak hours. Moreover, given the small number of TOU customers, it is unlikely that the TOU load shift had any impact on energy prices for 2012.

- **Capacity**

Overall capacity costs are based on the PJM Base Residual Auction, which procures capacity 3 years in advance. Any lower demand in the 5 Coincident Peak (CP) hours of PJM could potentially result in lower bid prices in the auction, but it is not possible to quantify the impact.

From the recent RPM auction, capacity prices for year 2013-2014 went up from \$133.31 per MW-Day to \$232.55 per MW-Day.

## **Conclusion**

Participation in the Company's TOU rates was limited. Not only did the existing enrollment drop, but also there was no new enrollment during the year. While shopping was flat, prices offered to the TOU rate schedule were higher, making it unappealing to the customers. For the summer only, consumption difference between control and TOU groups did not show much difference between on-peak and off-peak hours.

Many customers went on the TOU rates in early 2011, when both the on- and off-peak rates were lower than the PTC. Even after this situation ended, and prices went higher, many customers continued on the rate, but may be considered to be price inelastic customers.

As noted above, PPL Electric is currently participating in a collaborative proceeding regarding its TOU program design and will propose a revised TOU program pursuant to the Commission's Order entered on May 23, 2013 at Docket No. P-2012-2302074.

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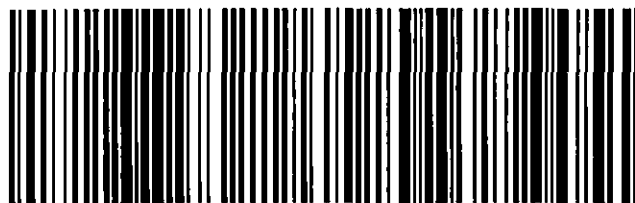
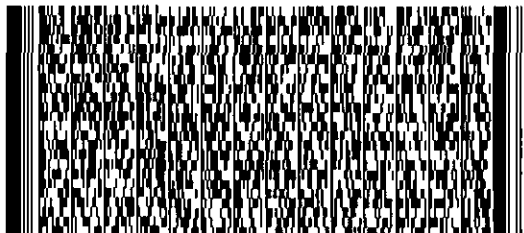
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