

The 6th Electric Generation Supplier (EGS) Conference

October 7th & 8th, 2015

ArtsQuest – Steel Stacks 101 Founders Way Bethlehem, Pennsylvania 18015

A BIG THANK YOU

To our suppliers that supported our efforts in raising monies for The Habitat for Humanity Woman Build "She nailed it" Competition

We were the top fundraising team for the event!!!





October 7, 2015 Agenda

- 9:30 AM Welcome
- 9:35 AM Customer Service Vision Chris Cardenas
- 10:00 AM Safety Message Jacque Creamer
- 10:30 AM Introduction of the Teams Debbie Keiser
- 10:40 AM Market Overview Cheryl Oehler
- 11:00 AM Regulatory Update Kathy Frazier
- 11:30 AM Overall Load Trends Kim Golden
- 12:00 PM LUNCH
- 1:00 PM PJM/Settlement Overview- Tom Goldschmidt
- 1:30 PM DSP4 Jim Rouland
- 2:00 PM Time of Use (TOU) Jim Rouland
- 2:30 PM Break
- 2:45 PM Look at "Disruptive Technologies" Jim Rouland
- 3:45 PM PPL Electric Utilities Meter Replacement Project Bill Hennegan
- 4:15 PM MDM Replacement Louise Gross
- 4:45 PM Q&A Panel
- 5:15 PM Closing Remarks
- 5:30 PM Networking Event at ArtsQuest- MusikFest Cafe



October 8, 2015 Agenda

- 9:00 AM Welcome Back
- 9:05 AM Unmanned Aircraft Systems (UAS)– Matt Green
- 9:35 AM PPL EU Collections Process Michelle Lawall
- 10:30 AM Supplier Portal Enhancements– Sue Scheetz
- 11:00 AM Contact Center Vision Chris Graham
- 11:30 AM Bill Print Changes Susie Peters
- 12:00 PM Lunch
- 1:00 PM Standard Offer Overview Jenn Ainsworth
- 1:30 PM –Energy Efficiency Programs Pete Cleff
- 2:00 PM Billing Statistics/No Bills/Projects Debbie Keiser
- 2:30 PM Q & A- PPL Panel
- 3:00 PM Closing Remarks



Customer Service Vision

Chris Cardenas Vice President of Customer Service



Questions





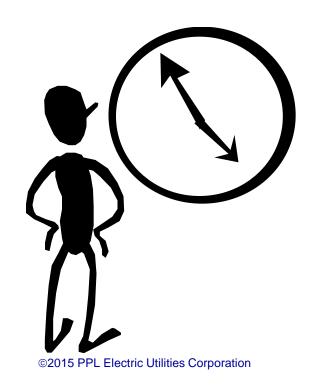
Safety Message

Jacque Creamer
Project Manager – Health and Safety



Your Safety, All Day

Hazards can occur 24 hours a day!!!







Hazards? What Hazards?

- Everyday you are faced with potential for serious injury or death
- Most of the hazards that carry the highest severity do not even cross the average American's mind





Hazards at Night? Not in my house!

The world stops when I go to sleep, nothing bad ever happens

Have you prepared for them? Maybe? Are you sure?

Common Hazards:

- Carbon monoxide
- House fires
- Home break-ins
- Environmental events
- Power outages





Carbon Monoxide

"I don't have gas in my house, therefore I don't worry about CO."-Your Neighbor

Potential Causes:

- Furnaces
- Gas stoves
- Kitchen stove
- Grills
- Car in your garage
- Your neighbor

Alarms:

- Only work if you own one
- Have you tested your alarm lately?
- Is your alarm out of date?





House Fires

Potential Causes:

- Smoking
- Electrical wiring
- Food left on stove
- Car parked in garage
- Ashes from stove
- Faulty heating equipment
- Objects on or to close to heaters

Alarms:

- Only work if you own one
- Have you tested your alarm lately
- Is your alarm out of date
- Does it work if your power goes out
- I need to change the batteries

Fire Extinguishers:

Is it in working order

"Almost two-thirds of home fire deaths resulted from fires in homes with no smoke alarms or no working smoke alarms."- NFPA



Slips, Trips and Falls

"I can't get hurt walking from house to the car"

Possible Causes:

- Wet / frozen surfaces
- Sticks and leaves
- Falls down steps
- Inattentiveness
- Carrying objects

Preventive Measures:

- Put the fancy shoes in the bag
- Slow down
- Eyes on Path
- Use Handrails when available

Rushing
Complacency
Hazard Prone Footwear



Driving to Work

You take a risk everyday you pull out of your drive way

- Do you drive on auto pilot?
- Did you even see that deer?

Common Hazards

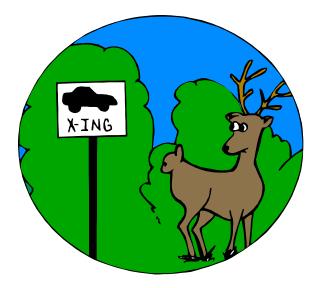
- Deer and other animals
- Other drivers
- Road conditions
- Texting and talking on the phone





Watch out for that Deer

- Deer are most active at dawn and dusk
- Watch for warning signs that indicate heavy deer
- Deer travel in groups and in single file so, if you see one, be prepared for more to follow
- If you see a deer, slow down, the deer may not see you!!!!





Human Performance

- Critical Step
- Self Check
- Peer Check
- Stop / Timeout
- Procedures
- Placekeeping



Safety MUST be a value in all we do!

The **Most** Important
Task We Do Every
Day is to Go Home
Safe

to our Families!





Questions





Introduction of the teams/panel

Debbie Keiser Supervisor – Billing Operations



Introduction

Billing Operations Team

- Debbie Keiser
- Cheryl Oehler
- Sue Scheetz
- Jenn Ainsworth
- Susie Peters

Support Team for Supplier Conference

- Pamela Harris
- Darlene Condict



Introduction - Panel Members

Customer Support and Business Operations

- Deborah Keiser Supervisor of Revenue Operations
- Jim Rouland Supervisor-Energy Procurement
- Nicole Drakely Staff Analyst Scheduling and Settlement
- Tom Goldschmidt Senior Analyst Scheduling and Settlement

IT

- Jim Bowman Supervisor Information Systems
- Ryan Gallagher Supervisor Application Development
- Doug Kirschman
 – Senior Application Developer
- Jack Brunner Senior Application Developer
- Lisett Vazquez Business System Analyst
- Louise Gross AMR Operations Specialist



Questions





Market Overview

Cheryl Oehler Billing Operations



Market Activity – Customer Shopping Trends

- Over the past 12 months, PPL witnessed a slow steady recovery in the growth of shopping customers
- PPL's Peak Shopping 677,660 Feb 2014 48.1% of all PPL customers were with Alternative Supply
 - Polar vortex caused many customers to return to POLR, while they researched EGS offers
- Currently PPL has 661,909 customers 46.6% with Alternative Supply
- PPL implementation of the PUC Standard Offer continues to supplement traditional shopping
 - SOP has contributed 154,932 enrollments since the initiation of the program August 1, 2013
- Accelerated switching was implemented in two phases in the past twelve months:
 - Effective 12/15/14 One (1), three (3) business day off-cycle switch enabled, in addition to the traditional on-cycle switch
 - Effective 8/1/5 Multiple off-cycle switches (up to 21/bill cycle) enabled



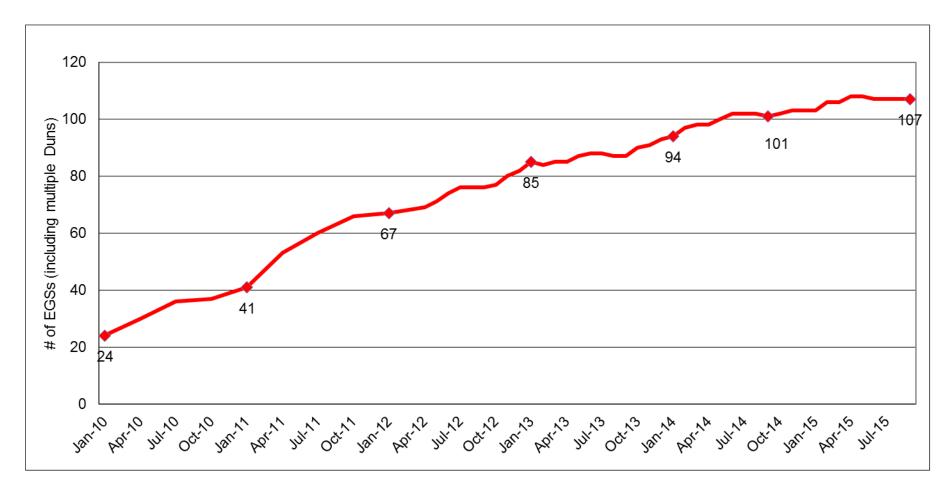
Market Activity

Supplier Certification and Growth Trends

- Suppliers with Active & Pending Customers
 - Market is still active, continuing to see additional supplier EDI certification activity
 - Since Oct 2014
 - 9 additional suppliers (including Duns +4) variants tested
 - 5 pending book of business acquisitions/mergers 10 completed in 2014/2015
 - PPL can suppress EDC switch letter upon request
 - EGS must provide us with a copy of EGS customer notification letter with 30 days notice

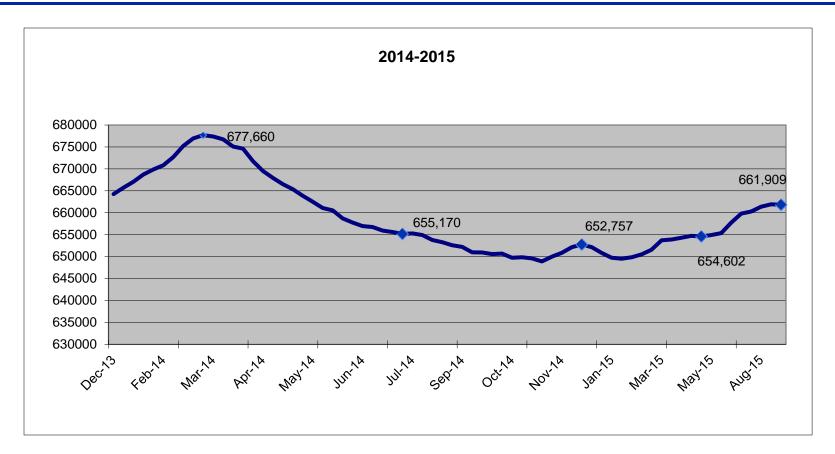


Market Activity – Suppliers w Active & Pending Customers



As of Sept 2015: 107 (including Duns + 4) suppliers with active & pending customers (94 suppliers w/o multiple Duns). 142 EDI Trading partners fully tested

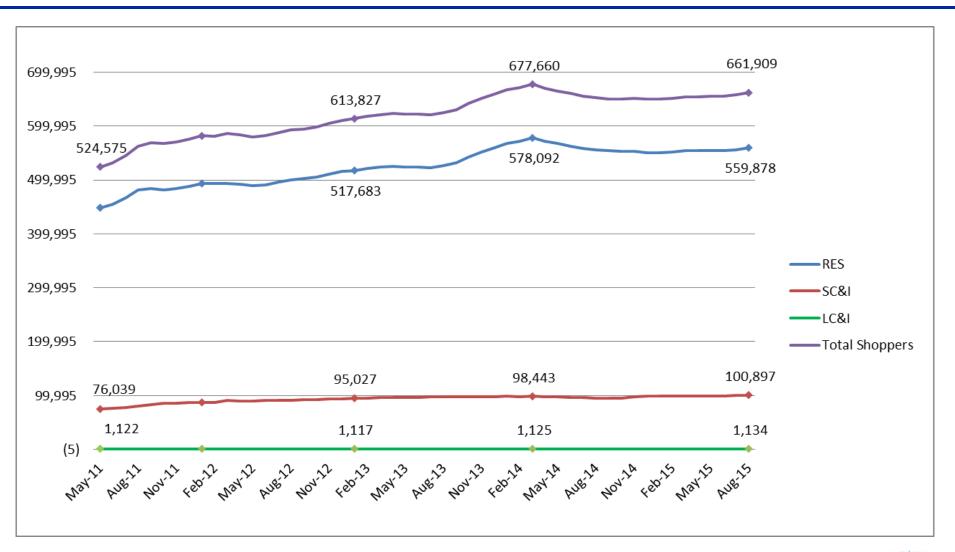
Market Activity – Active & Pending Shopping Accounts



Based on actual billing data, 46.6% of customers in August 2015 were billed as shopping, representing 76.0% of the month's kWh sales



Market Activity – Shopping Customers by Rate



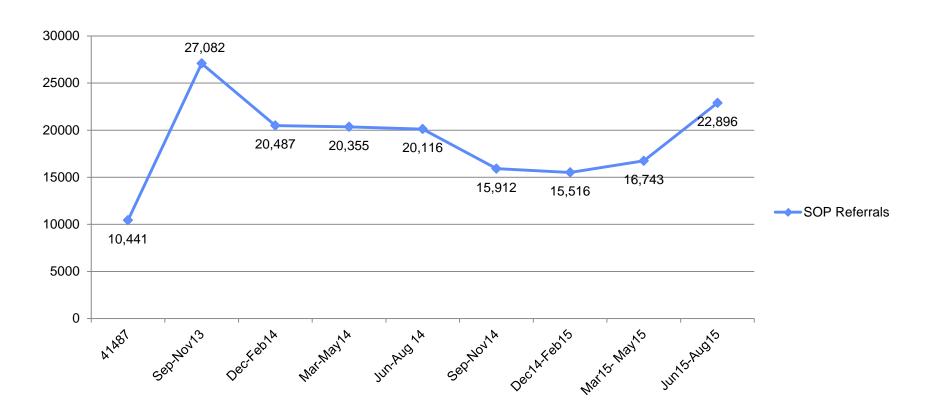


Market Activity – % of Customers Shopping and % of Sales – By Rate

	Total		
	Shopping		
Rate Group	Customers	% Customer	% Sales
RES	559,878	45.18%	48.06%
SC&I	100,897	56.29%	88.08%
LC&I	1,134	82.59%	91.92%
Total Shoppers	661,909	46.62%	76.08%



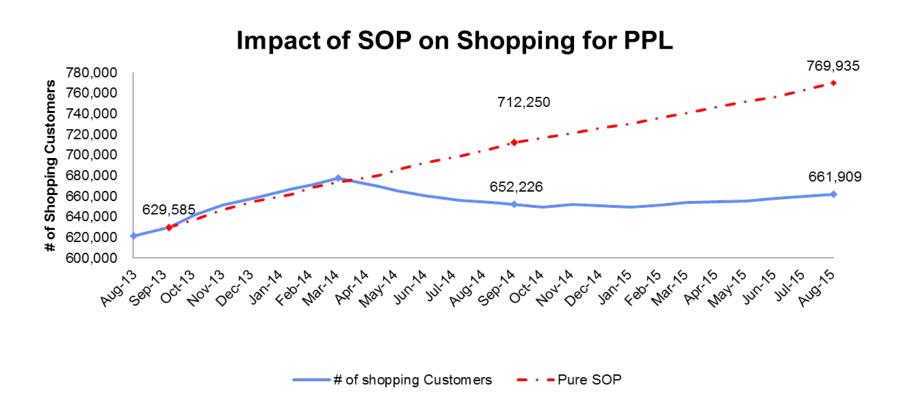
Market Activity- Standard Offer Referrals



 SOP has contributed 169,548 referrals since the initiation of the program August 1, 2013

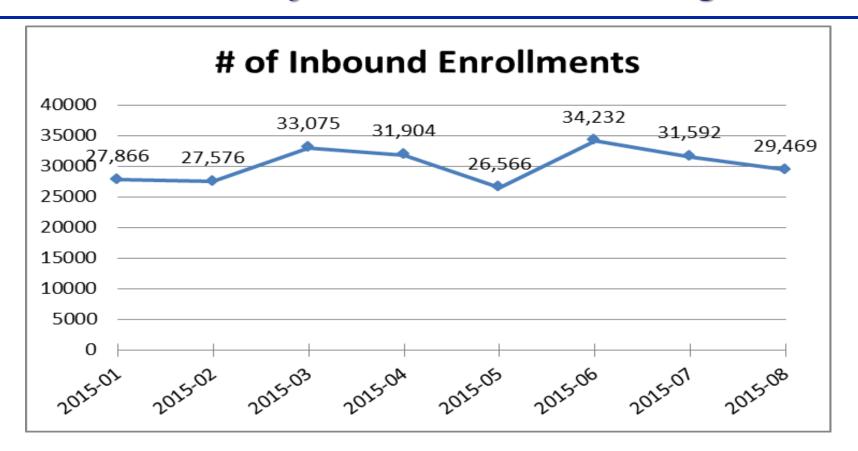


Market Activity- Standard Offer Program (SOP)



 SOP has contributed 169,651 referrals, 154,932 enrollments since the initiation of the program August 1, 2013

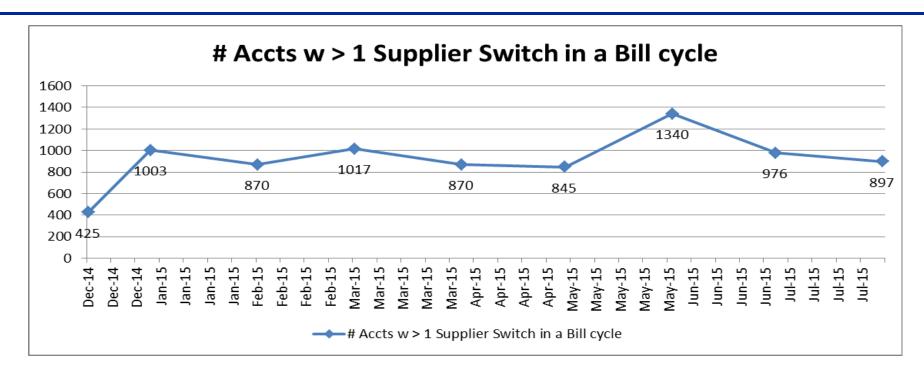
Market Activity – Accelerated Switching Statistics



- No significant change in enrollments/multiple switches within a bill cycle since implementation
 - Since 12/15/15, 276,037 enrollments
 - Accounts with more than 1 enrollment, 34,129

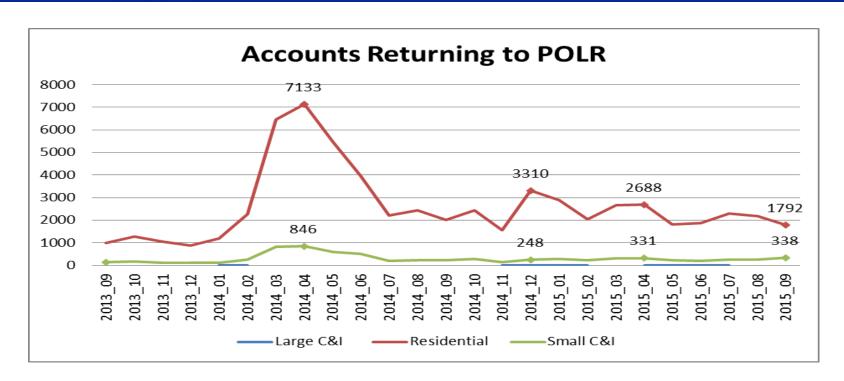


Market Activity- Accelerated Switching Statistics



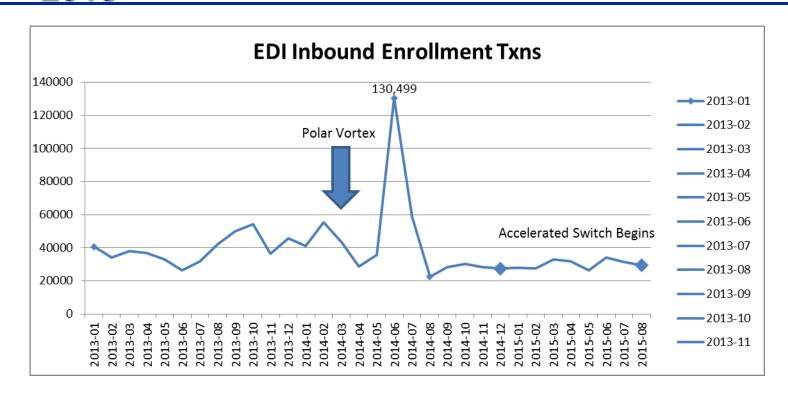
- Accounts with more than 1 enrollment in a bill cycle ~ 977/month
- Actively monitoring a small number of accounts that have switched in excess of 10 times since the Phase 1 implementation 12/15/14
 - Serial switching, is it being triggered by customers or by EGSs trying to re-enroll a dropped account?
 - Account retention policies, power of attorney (POA), no drop/termination without written notice to EGS

Market Activity – Shopping Customers Returning to Default



- In February 2014, we witnessed an large increase in shopping customer accounts returning to POLR – due in large part to the Polar Vortex and high variable pricing by certain EGSs
- Accelerated Switching Phase 1 implemented 12/15/14, includes the ability
 of a customer to request the EDC to drop them back to POLR

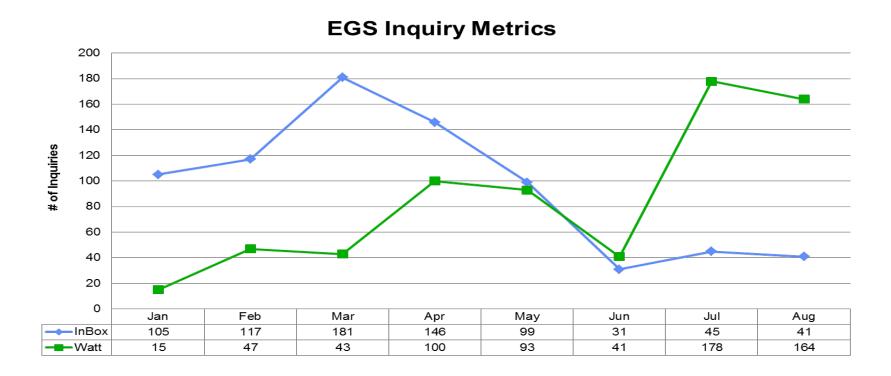
Market Activity – Customer Switching Activity 2013 - 2015



- Number of inbound enrollment transactions received (since Jan 2013): 1,242,558
- Average 38,829/month



Comparison of Web Inquiry vs Inbox Inquiries



- PPL's Supplier Portal and in particular the Web Inquiry capability will be discussed in greater detail as a separate agenda topic on Day 2
- Effective 12/1/15, we will no longer monitor the PPLUtilitiesSupplier@pplweb.com
 mailbox



Ongoing Supplier Support Requested

EDI 814 Enrollment – Contract date will be critical in the evaluation of Not Last In (NLI)

DTM 129 Segment Per EDEWG Standards

- DTM Date/Time Reference (129=Contract Effective Date)
- The date/time the customer agreed to obtain service from the Service Provider. Specifically, the date/time the customer signed the contract or signed up online to begin service with the supplier. This should not be the system timestamp of the EDI 814 enrollment transaction
- With Accelerated Switching, if an EGS gets a drop that they do not believe is valid, they have to re-contact the customer and get a new contract date prior to sending in a new enrollment, to avoid a slamming claim



PPL Supplier Coordination Resources

PPL Supplier Coordination Website:

 https://www.pplelectric.com/at-your-service/for-generation-suppliers/generalsupplier-reference-information.aspx

PPL Supplier Portal:

https://supplier.prod.pplweb.com/EUSupplierPortal/Login.aspx



PPL Supplier Coordination Resources

At Your Service



- General Supplier Reference Information

Getting Started

Standard Offer Program

Pilot Time-of-Use Program

How to Gain Access

Supplier Portal

EDI

Schedules

Applicable PJM Tariffs and Agreements

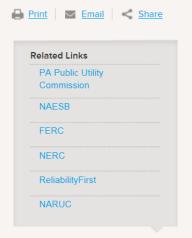
Peak Load Contribution Information

Price to Compare and Shopping Supplier Information

Getting Started

Instructions

- ✓ EGS Credit Application
- Scheduling Coordinator Designation Form
- Vendor Packet Blank
- Supplier Operational Summary
- Become a Licensed EGS
- Individual Coordination Agreement Rider
- Initiating the EDI Test Process
- Trading Partner Specifications Form
- Portal Access Request (.xls)
- Contact List (.xls)



Please send all **Start-Up** and **EDI** paperwork to the following address:

All correspondence for the **Ombudsman** can be directed to Cheryl Oehler via US mail, phone or email at the contact information below:

Susan Scheetz LEHSC

LEHSC

Cheryl Oehler

PPL Electric Utilities 827 Hausman Road Allentown, PA 18104 PPL Electric Utilities 827 Hausman Road Allentown, PA 18104 phone: 484-634-3225

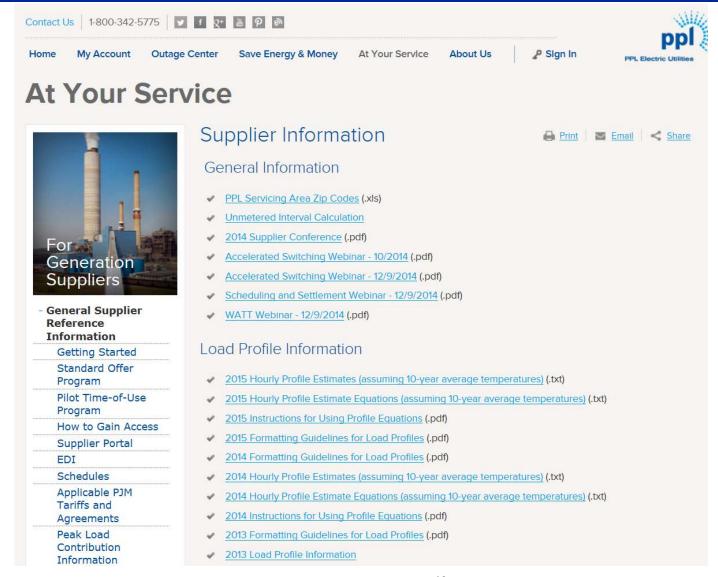
email: ctoehler@pplweb.com

Supplier hotline #: 610-774-6396

Supplier email: pplutilitiessupplier@pplweb.com



PPL Supplier Coordination Resources





Questions





PA Regulatory Update

Kathy Frazier – Regulatory Affairs Manager



Regulatory Update

EGS Account number look-up
Refresh Eligible Customer List EGS Logo, Bill Messaging, Shopping Box
Web Portal Working Group
OCMO EDEWG Order
Accelerated Switch
Metered Accounts
Unmetered Accounts
Seamless Move/Instant Connect
Distribution Rate Case
Meter Replacement Plan
Act 129 Energy Efficiency Phase 3
Net-metering Rulemaking

204.4	2045				0040				0047
2014	2015				2016				2017
X	Χ	X	X	X	Х	Χ	Χ	Χ	Χ
*	X	X	Χ	X	Х	Χ	Χ	Х	Χ
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			*					Х	Χ
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				*	Х	Χ	Х	Χ	X

- * Order/approval anticipated or actual
- X Implementation



Questions





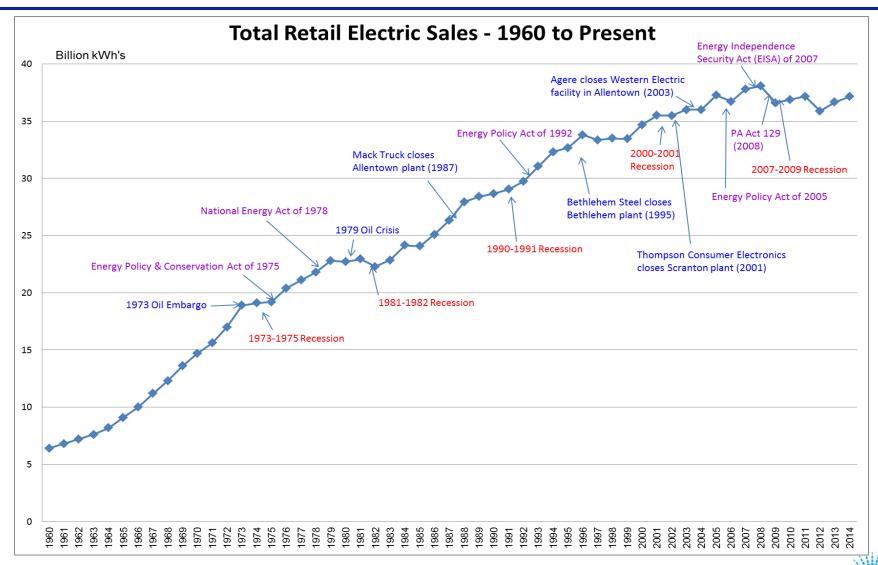
Overall Load Trends

Kim Golden

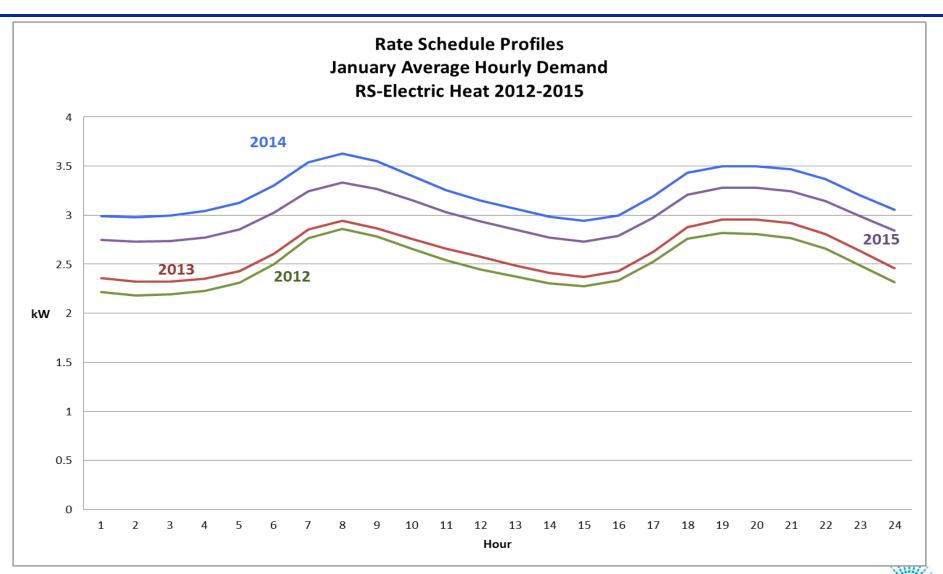
Manager - Load/Data Analytics & Forecast



Total Retail Electric Sales – 1960 to Present



Rate Schedule Profiles



Peak Loads

<u>2015</u>

```
Summer – September 8<sup>th</sup>
6720 MW (4pm – 5pm)
Winter – February 20<sup>th</sup>
7844 MW (8am – 9am)
```

All Time Peak

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Summer – August 1, 2006

7554 MW (4pm – 5pm)

Winter – February 20, 2015

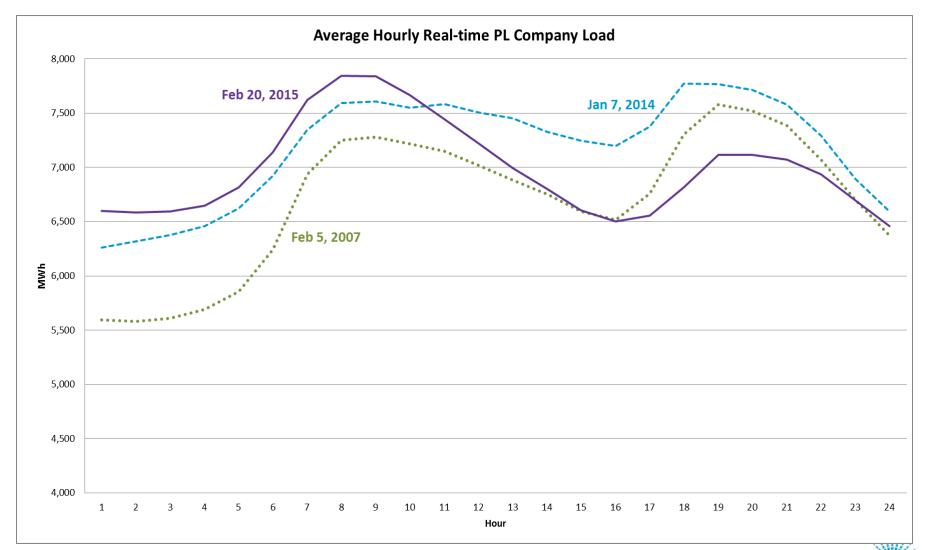
7844 MW (8am – 9am)

Prior Peak: January 7, 2014

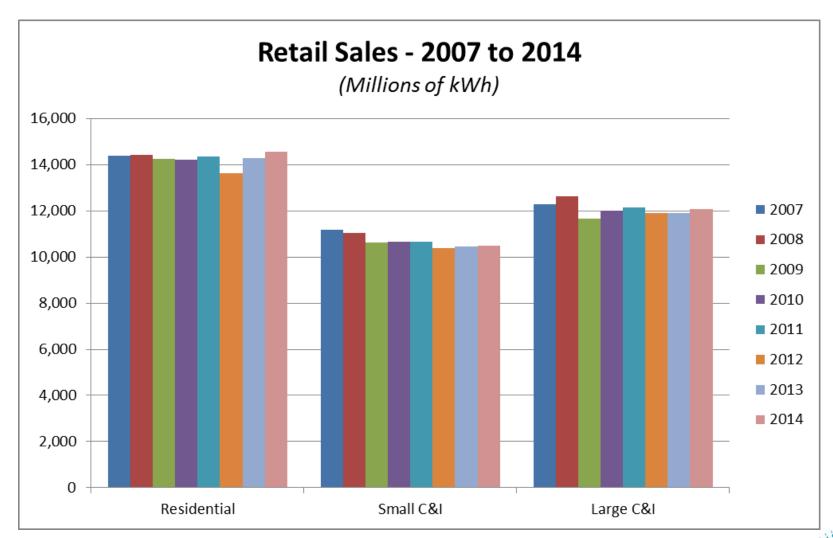
7816 MW (5pm – 6pm)
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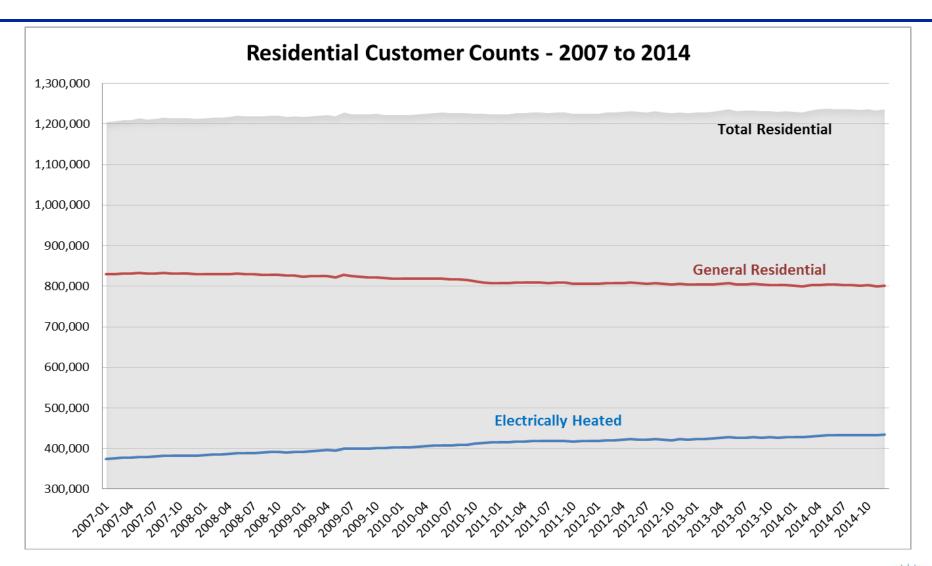
Peak Loads – Past and Present



Load Trends (2007-2014)

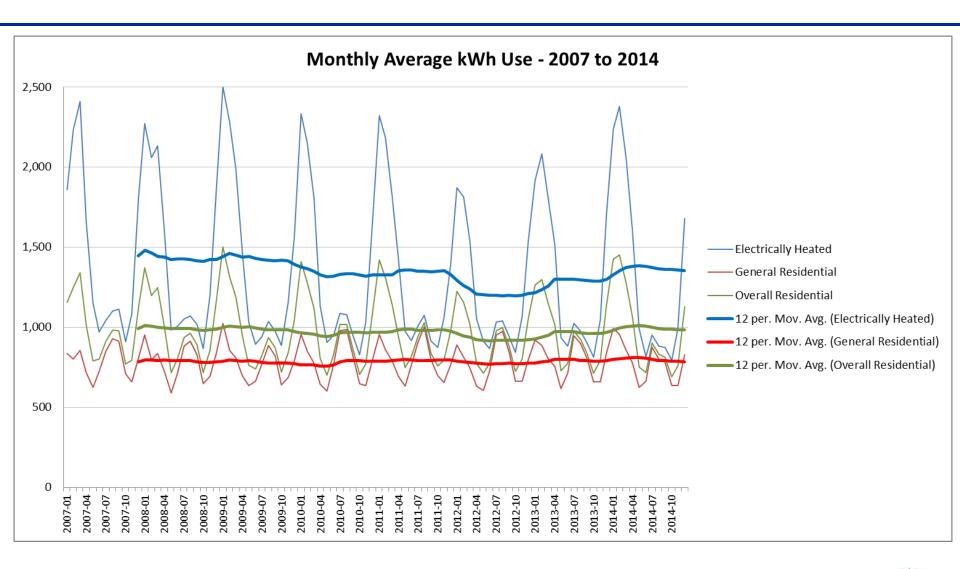


Residential Trends



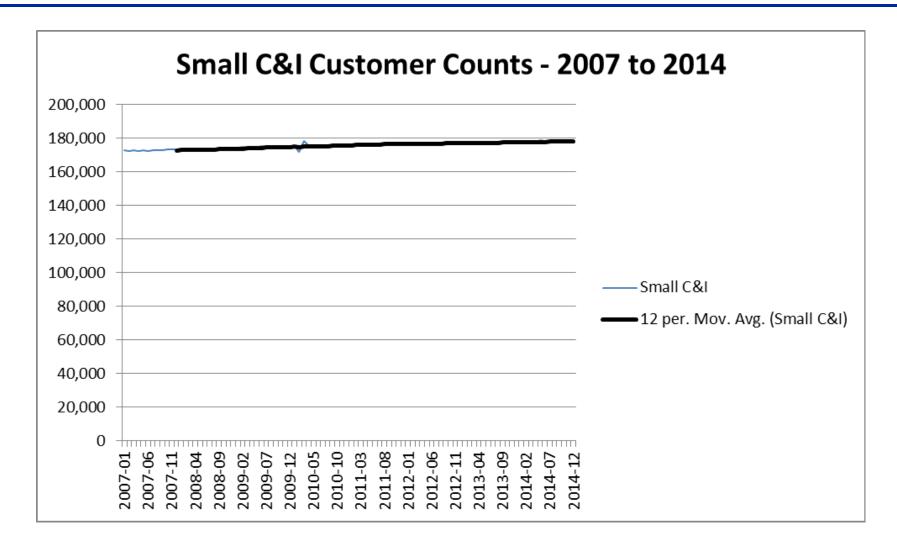


Residential Average Use

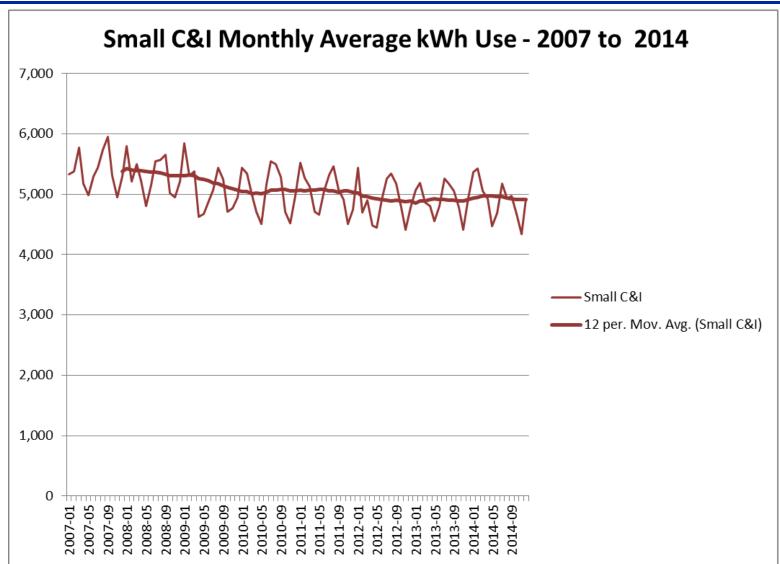




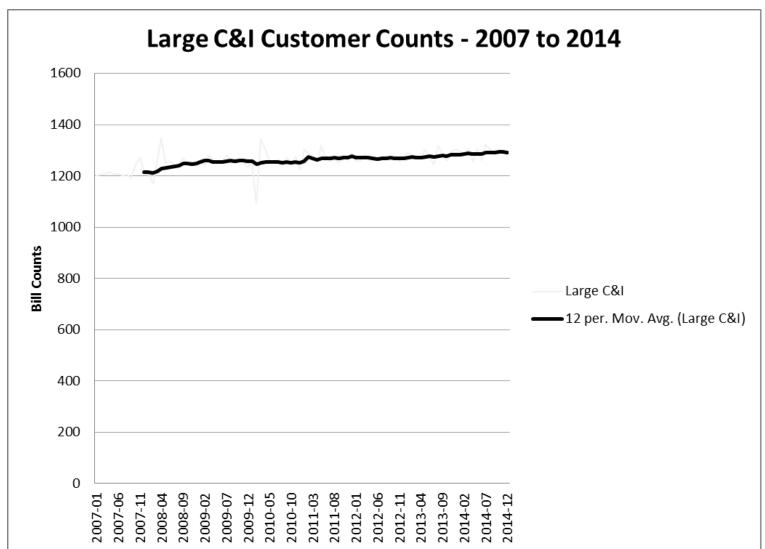
Small Commercial & Industrial Trends



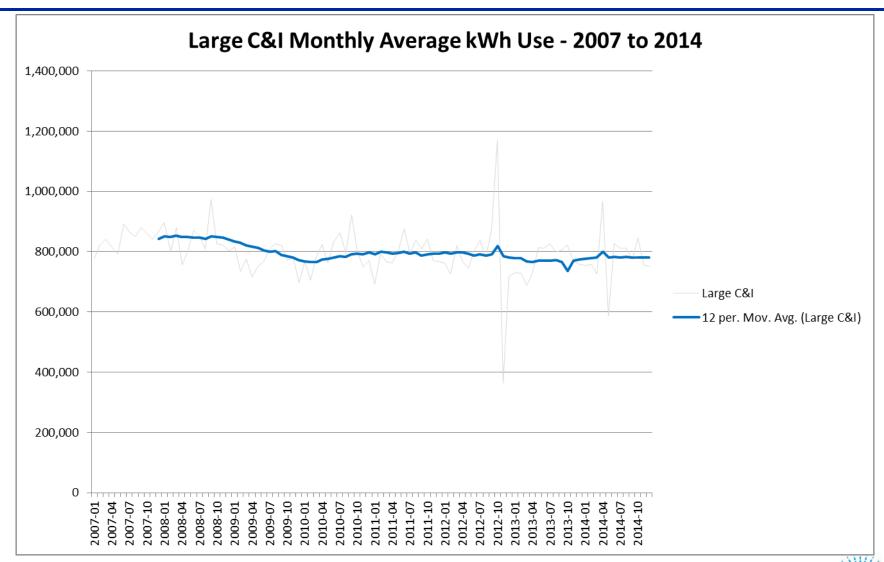
Small Commercial & Industrial Average Use



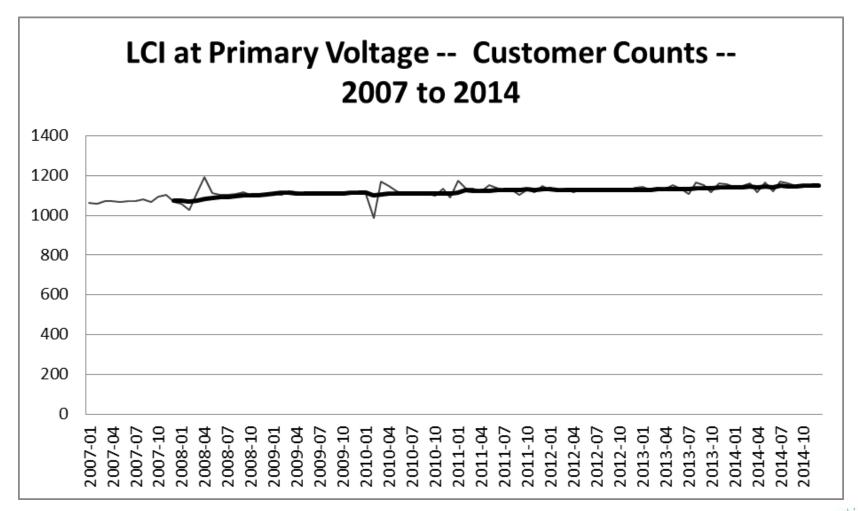
Large Commercial & Industrial Trends



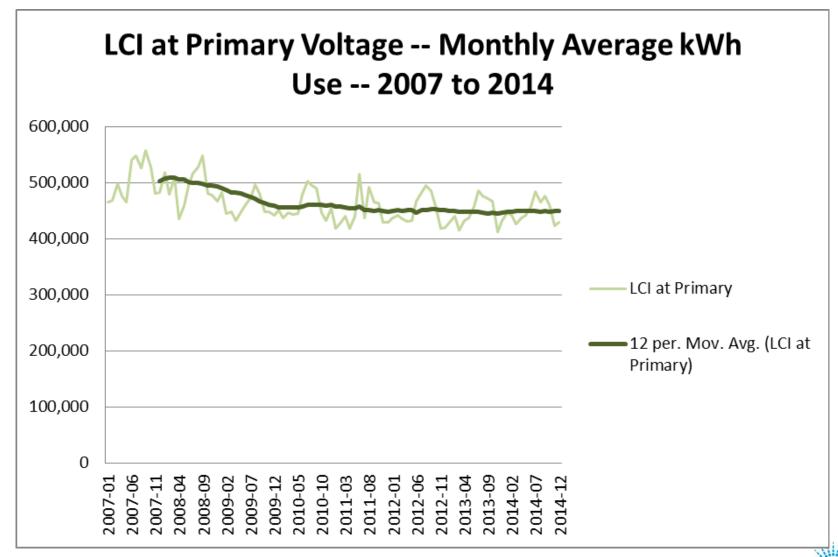
Large Commercial & Industrial Average Use



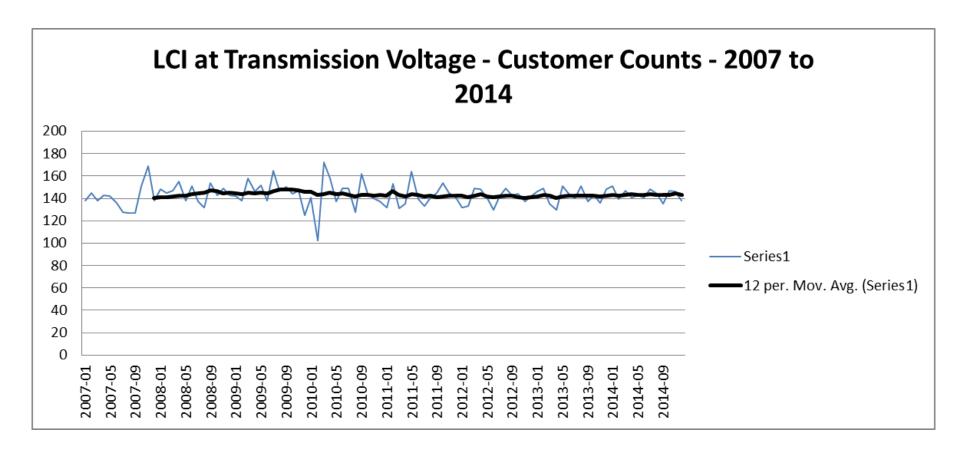
LC&I (Primary Voltage Customers Only) Trends



LC&I (Primary Voltage Customers Only) Average Use

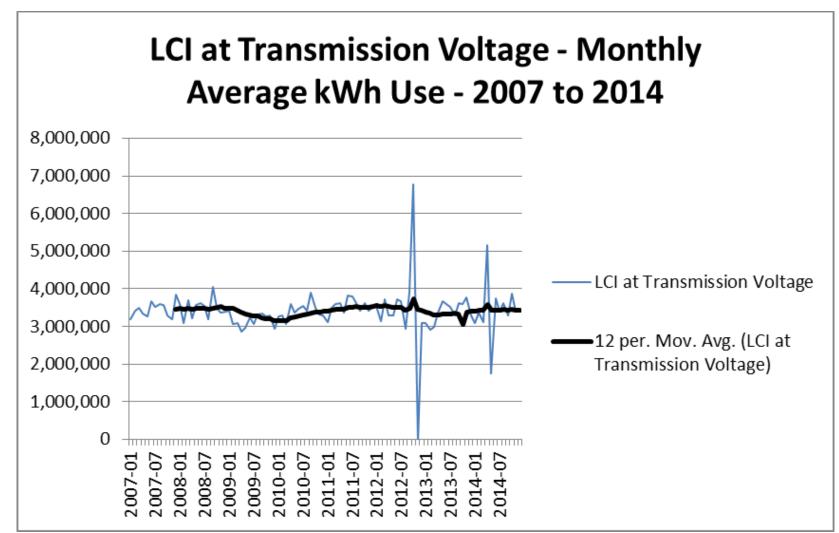


LC&I (Transmission Voltage Customers Only) Trends





LC&I (Transmission Voltage Customers Only)



Questions





LUNCH



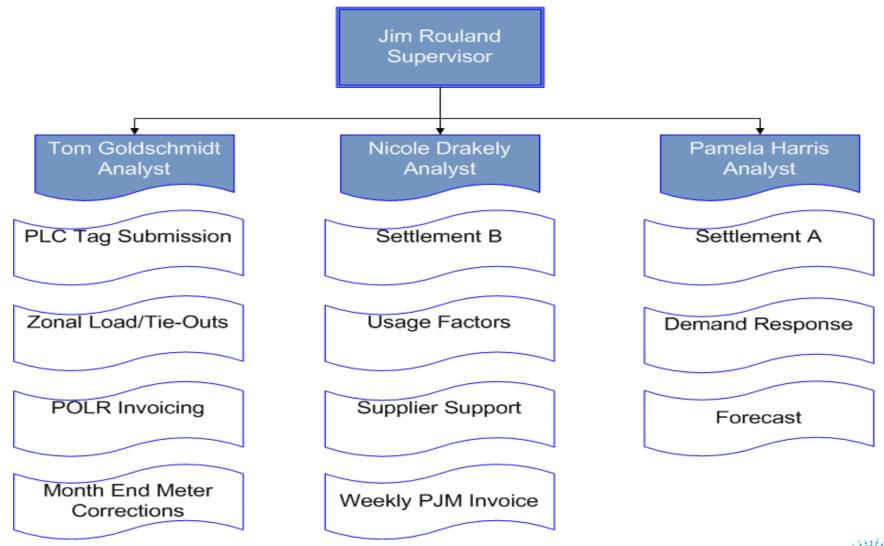


PPL Scheduling & Settlement Processes

Tom Goldschmidt Senior Analyst – Scheduling & Settlement



Settlement Group





Peak Load Contribution (PLC)

There are 2 types of PLC Submissions daily to PJM to identify load share for each Load Serving Entity (LSE)

- ICAP Installed Capacity
 - PJM requires sum of daily PLC values for suppliers equate to zonal target
 - Zonal target is based on 5 peak hours on PJM system
 - Sum can vary day-to-day due to retail customer attrition
 - Used by PJM to recover capacity cost from PJM Reliability Pricing Model (RPM) auction
 - Daily PLC data is scaled by eRPM to achieve a balance with the annual zonal target
 - Annual values applied from June 1st to May 31st of the following year



Transmission PLC

- NITS Network Integrated Transmission Service
 - Based on single largest peak in PPL Zone to establish annual zonal target
 - eRPM does not apply a daily zonal scaling factor
 - PPL is responsible to balance with the zonal target using scaling factor
 - Annual values applied from Jan 1st to Dec 31st

Market Enhancements (ICAP & NITS)

- January 1, 2015
 - The Electric Distributor may submit corrections to the Obligation Peak Load data up to 12:00 p.m. Eastern Prevailing Time of the next business day following the operating day



PLC Impact to Suppliers

USED TO

- Determine network transmission charges to Load Serving Entities (LSEs)
- Allocate network services Financial Transmission Rights (FTRs)/ Auction Revenue Rights (ARRs) to LSEs
- Determine Incremental Capacity Transfer Rights (ICTR) Credits to LSEs for Required Transmission Enhancements
- Determine market charge allocations for:
 - Reactive Supply
 - Black Start
 - Transmission Enhancements
 - Generation Deactivation



Zonal Load/Tie-Outs

- The responsibility for submitting metered data for interconnection points within the zone is shared between PPL Electric Utilities and its counterparties (neighboring utilities and generator within the zone)
- PPL uses their own meters to validate the numbers submitted by counterparties
- All Settlement A & B hourly submissions must equal the corresponding hourly zonal load value

Market Enhancement June 1, 2015

- Daily deadline was changed from 12 p.m. to 4 p.m.
- Month End Corrections Updated deadline to last business day of the following month



Provider Of Last Resort (POLR) Invoicing

- All POLR load is procured through a wholesale action, where suppliers bid on tranches in four retail categories
 - Residential
 - Small Commercial & Industrial
 - Large Commercial & Industrial Fixed Price
 - Large Commercial & Industrial Hourly Price
- Calculation of amount owed to POLR suppliers based on contractual obligation derived from auction results
- Fixed price and hourly spot components calculated
- PPL issues payment based on calculations
- New PPL POLR Invoicing Process
 - PPL Invoice Automation
 - Nearly seamless to Suppliers
 - Invoice format nearly identical to current invoice
 - Implementation with September invoice



Settlement A Backcast

- Each supplier's estimated hourly load responsibility is aggregated and submitted to PJM
 - Hourly load values for each entity serving load within PPL zone
 - Electric Generation Supplier (EGS)
 - Municipalities
 - POLR Suppliers
- Aggregated hourly load is the sum of all the supplier's customers' energy consumed for each hour, plus the associated distribution and transmission losses and allocated UFF
- PJM uses the data to determine the charges or credits for each supplier for that day's transactions related to energy and ancillary services
- Each hour's aggregated load is scaled up or down to match the corresponding hour's zonal load
- The difference is called Unaccounted For Energy (UFE) and is allocated to all supplier loads and POLR groups on a load ratio basis



Settlement B Backcast

- Settlement B submission data covers a full calendar month.
 - Delta values are submitted to PJM
 - Per contract
 - Per hour
 - Period is from calendar month that ended two months prior
 - Delta equals Settlement A submission MW values minus Settlement B aggregated MW values
 - Final aggregation includes nearly all actual meter read data
- PJM uses the data to determine the adjustment to charges or credits for each supplier for that month's transactions related to energy and ancillary services
- Suppliers are able to view their deltas in either the InSchedule application or via the PJM MSRS reporting tool



Unaccounted for Energy (UFE)

Unaccounted For Energy (UFE) is energy that is not captured on an hourly basis through some type of metering device or the absence of a metering device and exists through normal operations of the utilities business

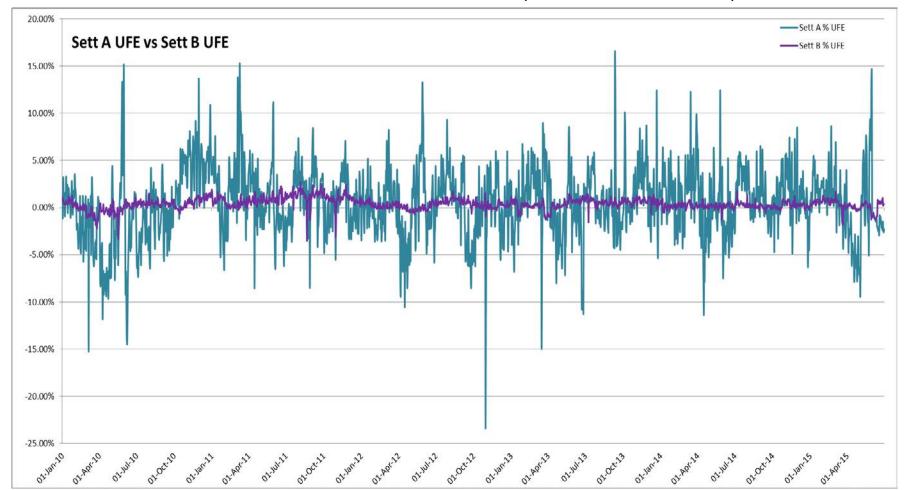
Market Enhancement June 1, 2015

- Inschedule data is now submitted 2 business days after operating day
- Allows for more actual data in initial Inschedule submission data
- Reduces Settlement B adjustments
- Reduces UFE



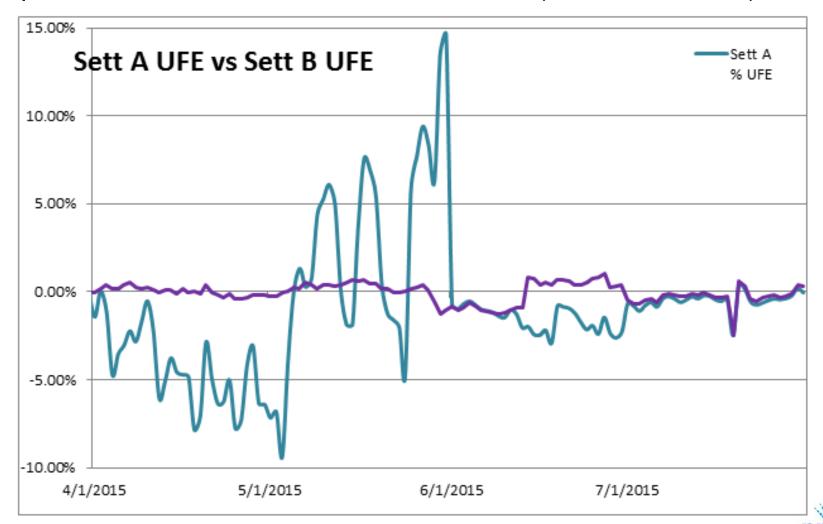
Unaccounted for Energy (UFE)

Pre-Market Enhancement June 1, 2015 (Settlement A & B)



Unaccounted for Energy (UFE)

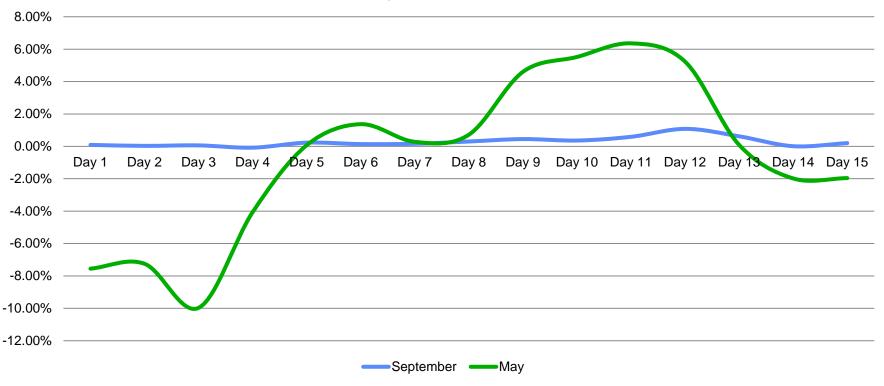
Impact of Market Enhancement June 1, 2015 (Settlement A & B)



Unaccounted for Energy (UFE)

Impact of Market Enhancement June 1, 2015 (Settlement A)

15 Day UFE Example



Questions





PPL Electric's Default Service Procurement Plan IV (DSP 4)

Jim Rouland
Supervisor Energy Procurement, Settlement & Scheduling



DSP 3 – A LOOK BACK

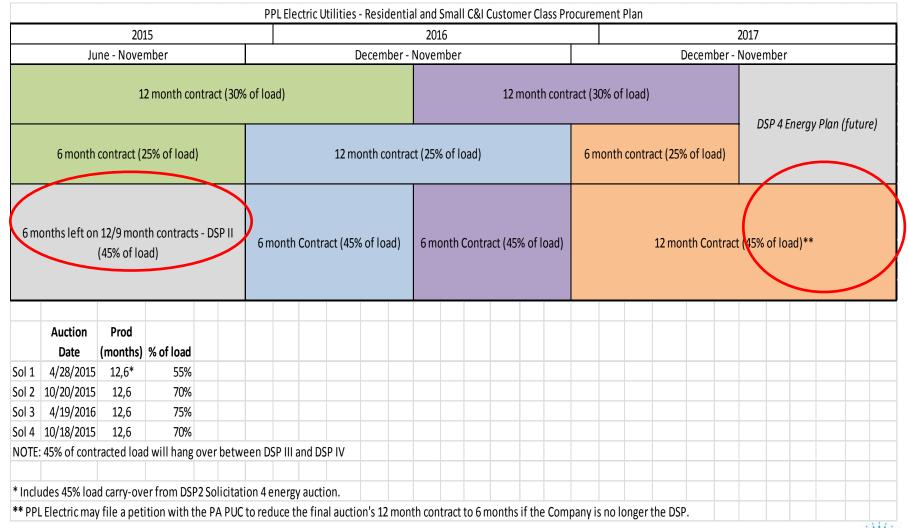


DSP 3 (June 2015 - May 2017*) - Current in effect

- Residential and Small C&I customer classes are procured twice a year (April & October), at the same time, with the same product mix and tranche size (goal is uniformity and consistency)
- The Large C&I customer class is procured once a year (April), in tandem with the Residential and Small C&I procurement
- This plan builds in overlap into DSP 4 (45% of load)
- Residential includes a small amount of block overlap from DSP 1 (50MW of long-term block)



DSP 3 – Product Plan



DSP 4 – A BRIEF OVERVIEW



DSP 4 Objectives

- Maintain balanced price stability & market reflectivity
- Maintain success of DSP 2 & 3:
 - PTC mechanisms implemented in DSP4 (6 month PTC with 6 month reconciliation)
 - Simple product mix (building on success of DSP 2 & 3)
 - Continue to support shopping
 - Continue SOP with implementation elements from DSP3 collaborative
- Comply with various regulations and Orders
- Position to be responsive to potential changes regarding PPL Electric's role as a DSP
- Ensure real and current cost recovery for all programs and plans implemented

General DSP4 Product Mix

Residential and Small C&I:

- Fixed price full requirements contracts (w/ 50MW block contract carryover)
- 6 and 12 months contracts (45/55 load split)

Small C&I:

- Fixed price full requirements contracts
- 6 and 12 months contracts (45/55 load split)
- Maintain 100kW Demand Split (consider expanding to all C&I rate groups)

Large C&I:

- 12 month spot market contracts (100% of load)
- Maintain 100kW Demand Split (consider expanding to all C&I rate groups)



DSP4 – Items for Consideration

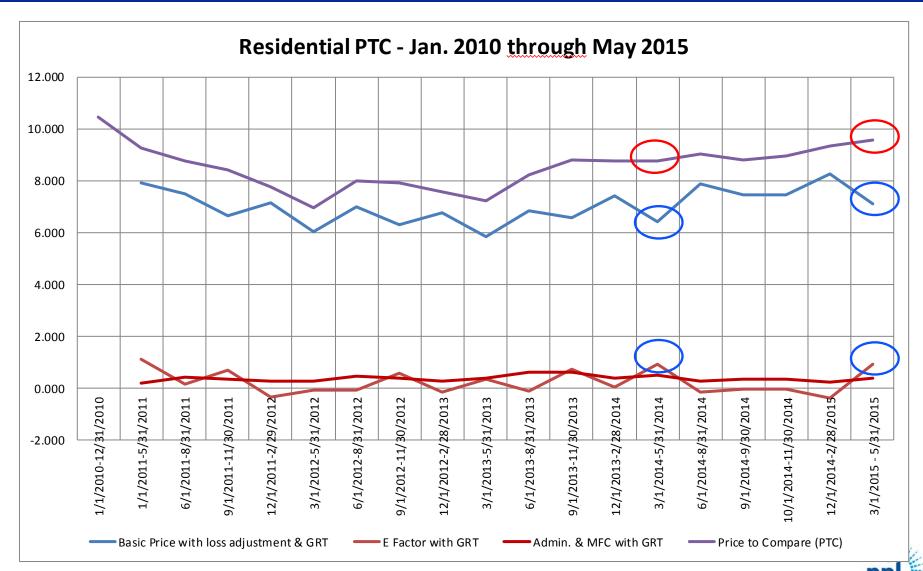
- Procurement for Alternative Energy Credits
 - What to procure?
 - What will it offset?
 - What is the product term?
- Time-of-Use Program
 - What next?
- Non-market-based Transmission Costs ("NMBs")
 - What are others doing and why?
 - What do we want to do?
- Updates to the contract (Supply Master Agreement SMA)



PPL'S PTC

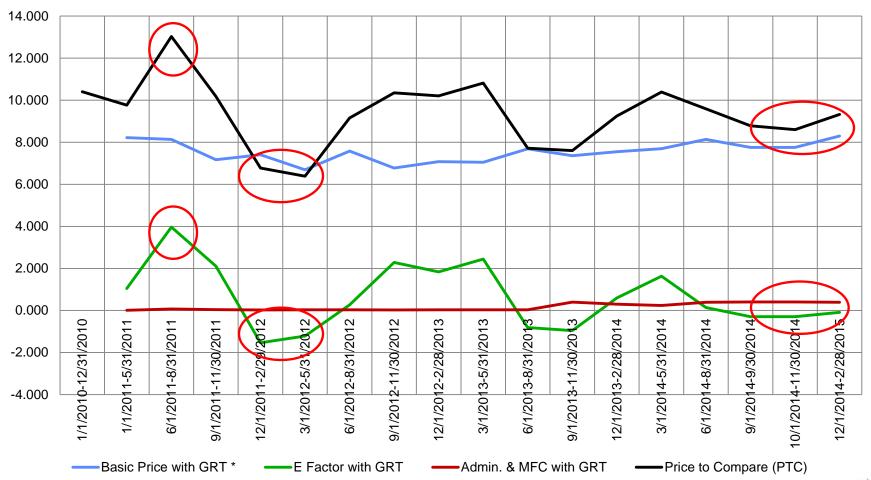


Price to Compare – A brief history



Price to Compare – A brief history (cont'd)

Small C&I PTC - Jan. 2010 through May 2015



Questions





A Review of PPL Electric's Default Time-of-Use Program

Jim Rouland
Supervisor Energy Procurement, Settlement & Scheduling



TOU- A QUICK HISTORY



Default Service TOU Rate Program (History)

PPL's original TOU program was internalized as a component with the Default Service Program (beginning Jan. 2011) per Act 129

- Act 129 mandates TOU service be provided by the Default Service Supplier based upon the availability of Interval Meters (i.e. the EDC in the service territory)
- At this time, PPL was one of the few utilities to have these meters in place – thus we were obligated to provide the service



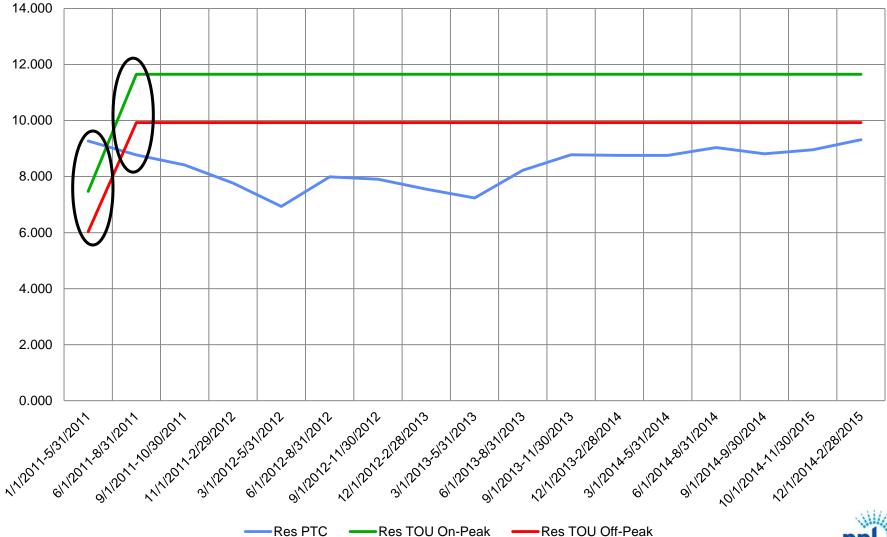
Default Service TOU Rate Program (History)(cont'd)

DSP 1 TOU Rate was based upon the spot market program

- Overview: Rate based upon on- and off-peak rate, ratio'd to include other cost components
- Key Note: Reconciliation of rate spread over TOU customer rate only
- RESIDENTIAL January through May 2011: On-Peak = 7.0470; Off-Peak = 6.034
- SMALL C&I January through May 2011: On-Peak = 6.7400; Off-Peak = 5.580
 Base PTC: Residential: 9.270 c/kWh Small C&I: 9.766 c/kWh
- RESIDENTIAL June through August 2011: On-Peak = 11.651; Off-Peak = 9.928
- SMALL C&I June through August 2011: On-Peak = 15.389; Off-Peak = 11.588
 Base PTC: Residential: 8.774 c/kWh Small C&I: 13.028 c/kWh
- September 2011 through December 2014: Rate frozen at June to August 2011 TOU rate Base PTC: Residential: 8.411 c/kWh Small C&I: 10.184 c/kWh

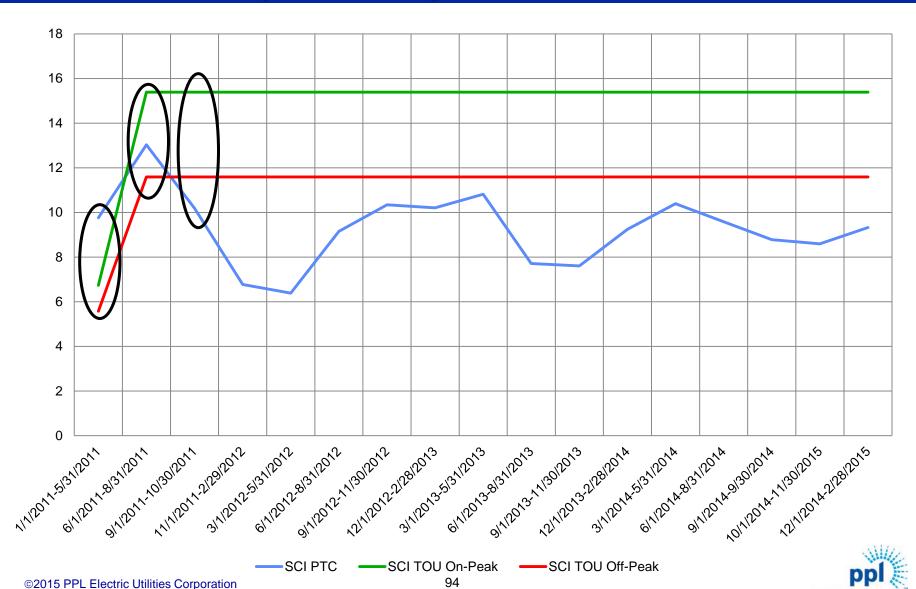


PTC vs TOU (Residential)



93

PTC vs TOU (Small C&I)



TOU Rate Program (History) (cont.)

- When TOU Rate was frozen, PPL drafted and proposed a new TOU Program to the PUC
 - Overview: Based on spot market price, but included as part of default service load (spot market product), with reconciliation included in the Efactor of the entire customer group, not just the TOU customer group
 - Result: Rejected by PUC
- After PUC rejection, PPL drafted and proposed another new TOU Program
 - Overview: Based on PTC in effect with an adder and deduction (price collar). On- and Off-peak hours based upon PJM hours; reconciliation included in entire customer group E-factor. Adder and deduction resulted in price neutrality for customers that took rate but did nothing (based upon average customer load shape)
 - Result: Rejected by PUC recommended bidding out TOU Program to EGS

THE CURRENT TOU PROGRAM



DSP 3 – Pilot TOU Program

PILOT TOU PROGRAM

- Pilot TOU Program Approved by PUC in Sept. 2014
- Pilot offered to EGS's in Oct/Nov. 2014
- Pilot began Dec. 10, 2014 May 31, 2015
 - 1 EGS participated at the start offering a Residential rate and a separate Small C&I rate
 - A second EGS participated in Q2 (March-May 2015) with two additional Residential rate offerings
- Contingency Plan
 - Bid out program to EGS community, but award to a single "winner" per customer group. EGS supply's service for the remainder of Pilot TOU period
 - PPL sets on- and off-peak hours, EGS bids on- and off-peak rate. Lowest cost to customer wins
 - Other minor changes to program, but generally continuation of underlying plan (e.g. supplier contract, customer communication)



DSP 4 – TOU Program

TOU PROGRAM

- Part of DSP4 proposed continuation of Pilot Program
- PUC approved in January 2015 (removed "Pilot" from name)
- Continuation of EGS participation (2 EGSs, with 3 rate offers to Residential customers and 1 rate offer to Small C&I customers)
- Maintained Contingency Plan



Results

- Comparing PPL's program (past or present) to other EDCs, our program is not successful
 - PPL's old program (2011) had between 10-30k participants, but only because on- and off-peak rates were below the effective PTC. The current program has around 30 total customers participating
 - PECO has reported some success with their Pilot Program approximately 4% of customers solicited participated (~4800), 5% average bill savings, and 6% average load shift during summer months (June/July/August); however, the cost of the program was very high and required a lot of hands-on work and use of company branding
- Recent State Circuit Court Ruling adds additional ambiguity to the program



MOVING FORWARD



How Do We Make TOU a Success?

- For All of you ("EGSs")...
 - What have all of you seen conceptually work?
 - Do you have TOU Rates?
 - What have other competitive states done?
- PPL is offering limited requirements to participate...
 - Do you see barriers to entry or constraints?
 - Are there things we can propose to entice support?
- General Program Questions:
 - From a contract standpoint what is a good customer contract length? (6 months, 12 months, 24 months?)
 - Do big adders or deductions work? Why?
 - Do you see value of basing a TOU rate collared around the active PTC?



Questions





BREAK



A Look at "Disruptive Technologies"

Jim Rouland
Supervisor Energy Procurement, Settlement & Scheduling



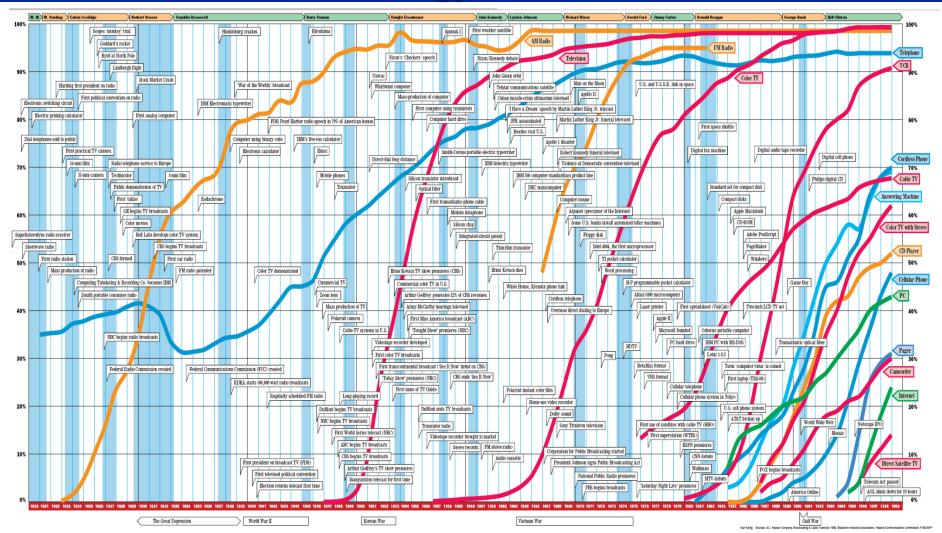
Change in the Electric Sector

The electric sector is poised on the precipice of a new technological "evolution". Still standing as its foundational back-bone are the traditional electric generation, transmission and distribution assets. However, this tried and true technology is being challenged, in part, through the development of new "grassroots" technology – threatening the traditional business model and thrusting it in a new direction. A direction where every customer has the potential to support, at least in part, their own electricity needs, and will in turn help craft the transition of the grid as we know it. This new technology is proven, the economics are ever developing, and consumer adoption is rapidly growing – we, as electric utilities, can either step into the game and help shape its development or be left behind as the target of future "efficiency improvements".

"If GM had kept up with technology like the computer industry has, we would all be driving \$25 cars that got 1,000 mpg." – Bill Gates



Evolution of Technology





So, what is a disruptive technology?

Disruptive technology is defined as one that:

- Displaces an established technology and shakes up the industry, or
- A ground-breaking product that creates a completely new industry

More recent historic examples include:

- Letters, replaced by e-mail, which is now largely displaced by text messaging
- Traditional phones replaced by cell phones/smart phones
- Cloud computing



"Disruptive Technology" in the Electric Sector

- Distributed Generation
 - Customer owned & operated small-scaled renewable generation
- Demand Response
 - Managing customer usage based upon system demand and price indicators
- Electric Vehicles
 - Electric fuel source transportation
- Batteries
 - Short-term electricity storage
- Microgrid
 - Small-scale power grid that can operate independently or in conjunction with the main electric grid

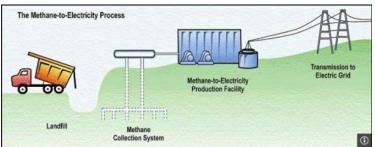


Distributed Generation

- <u>Distributed Generation or "DG"</u> is commonly referred to as "decentralized generation"
- Sub-utility grade renewable energy projects, that are broken into two subsets:
 - Net Metering (end-use customer generation)
 - Merchant Generation











Demand Response

What is Demand Response? Reduce usage at peak times

- Triggers: Price increases or supply shortages (usually in tandem)
- Typically short-term in nature, although brown-out/blackouts or sever weather can extend durations





Electric Vehicles

- EV growth has been slow since its initial "push" in mid 2000's, but has been steadily growing as improvements in battery technology has been made
- Major dilemma: Buyers want readily accessible charging stations (public & work) before they buy a car; charging station owners want more cars on the road before they build out the infrastructure ("Chicken or the Egg")
- EDC's taking small-step active role in localized build-out of public charging stations (limited private sector involvement)





Batteries

Tesla Powerwall Battery

- Estimated Cost: \$3000-\$3500 (+\$1000-\$1500 install cost) (*home-size battery)
- 10 year warranty
- Sizes (7kWh home-size; 10kWh business size; 100kWh utility size)

The math

- Average US elec. price: 12 c/kWh; California peak prices: 28 c/kWh
- Case 1: 1,000 charges 71.5 c/kWh
- Case 2: 10 years w/ 50% charge 39 c/kWh
- Case 3: 10 years w/ 100% charge 19.5 c/kWh





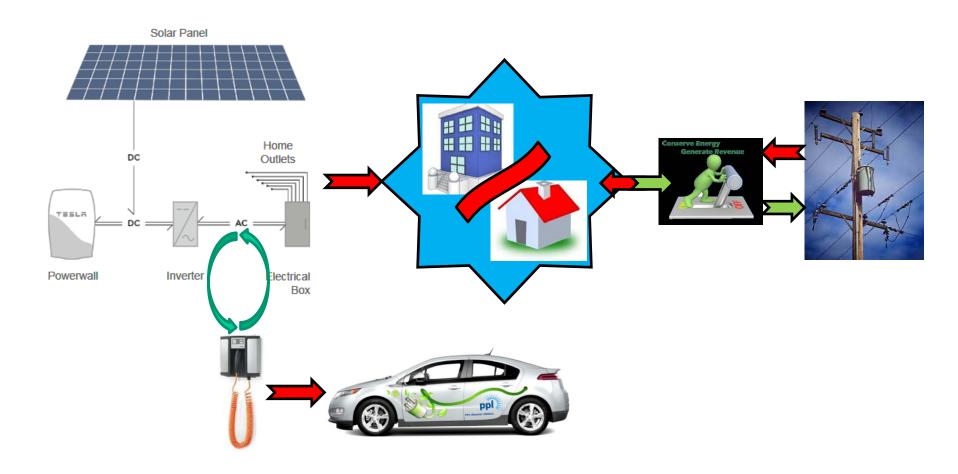
Microgrids

What is a microgrid?

- A small-scale power grid that can operate independently or in conjunction with the area's main grid
- Intended as back-up power or to bolster the main power grid during period of heavy demand
- Often use many different energy sources (usually incorporating some renewable power) and seek to reduce costs and enhance reliability
- Early-adopters: military, hospitals, schools, municipal buildings, movie theaters, etc.

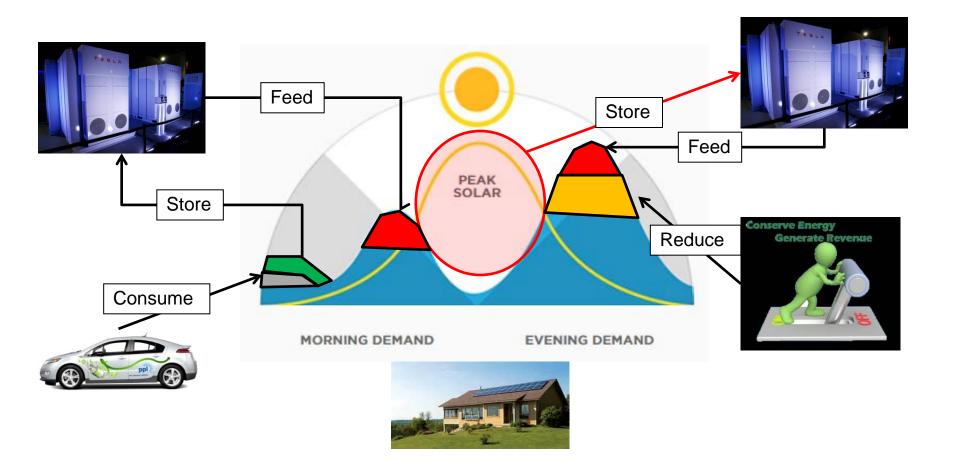


Microgrids (cont'd)





Realized Integration





Bridging the Information Gap

Meter Data & Information

- EDCs (like us) installing better meters, implementing RF networks, for better communication and data/information transfer
- Customer access to more data with more timely information (on verge of near instantaneous data access with 15m intervals using ZigBee chip)
- Secondary companies offering customer access to "data understanding" services (e.g. Opower)

Applications

- Load shedding and demand response (using Zigbee chip and HAN access to real-time data)
- EV transponder and charging stations (customer billing)
- Control renewable systems
- Batteries (microgrid concept)
- Outage management



Data Analytics

- EDC uses data to see customer patterns
 - Locate EV/renewable system
 - Recognize load shape changes (develop more accurate shape representation)
- Load profiling
 - Forecasting
 - Market research
- Develop new rates and rate structures
 - Transition from cent/kWh structure to fixed charge



Communication

Utility, Governmental, and Private Sector:

- Company sponsored websites, mailers, etc. user access to their data through their own profiles
- Government mandated initiatives and communications
- Private companies offering new products and services in the demand response and technology space



Bridging the Financial Gap

- Yield Companies ("Yieldcos")
- Micro-scale investment firms and partnership initiatives (e.g. Solar City/WGL partnership)
- Improved supply chain mechanics
- Public and private R&D (Tesla battery & vehicle; Nissan/Chevy/Toyota – vehicle; military/hospitals – microgrid)



Key Take-Away's

- The market for new energy products and technologies is rapidly growing, but the economics are still at least 5 or more years out
- Utilities are at the center of the transition
- Private sector is helping to develop the base technology, but has limited active market share (requires partnerships)
- All technologies could be integrated, but likely to be limited for next 5 - 10 years – partial integration is more likely (e.g. battery w/ solar, or solar with EVs)



Questions





PPL Electric Utilities Meter Replacement Project

Bill Hennegan Manager- AMI Business Integration



Key areas of PA Act 129

ACT 129

Energy Efficiency & Conservation

"Smart" meter deployment

Default supply procurement of electricity

Amends Alternative Energy Portfolio

Standards (AEPS) Act

Creates carbon sequestration network

Bi-directional

Collects hourly data daily

Direct access to use and price data

Provide hourly data (minimum 48-hour delay)

Enable TOU and RT Pricing

Support direct load control

Remote connect/disconnect

Support 15 minute (or shorter) intervals

On-board meter storage

Open standards and protocols

Support voltage retrieval

Support remote upgrades

Support net metering

Communicate outage and restorations



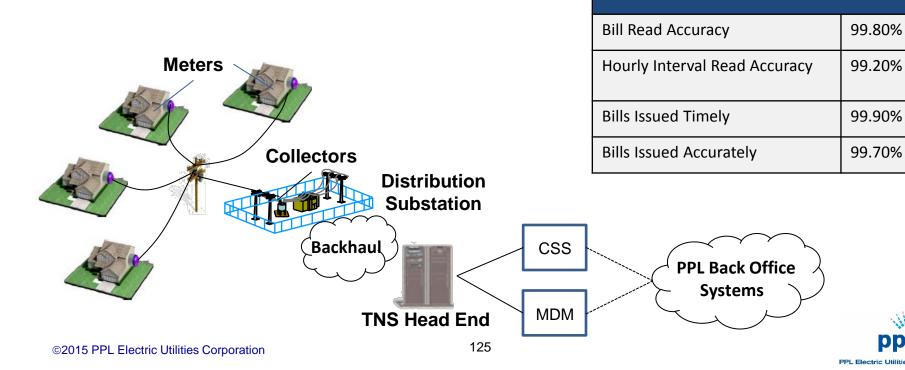
Current and proposed solution Act 129 compliance

		Current PLC Solution		Estara DE Manh
		Electro-mechanical Meters (86% of population)	Solid-State Meters (14% of population)	Future RF Mesh Solution
	PA Act 129 Requirements	To the second se	CANADA SA	- Andread and and and and and and and and and a
Data Collection	Bidirectional Communications	✓	\checkmark	✓
	15 minute or shorter interval data	×	×	✓
	Voltage Data	✓	✓	✓
	Outage and Restoration Data	✓	✓	✓
Remote Commands	Remote Connect / Disconnect	×	✓	✓
	Remote Programming / Firmware Upgrades	×	✓	✓
Programs	Supports TOU Rates and RTP Programs	✓	✓	✓
	Supports Net Metering	×	✓	✓
Customer Access	Access to Hourly Consumption Data	✓	✓	✓
	Direct Access To and Use Of Pricing and Usage Data	×	×	✓

Power Line Carrier (PLC) is our existing AMI system

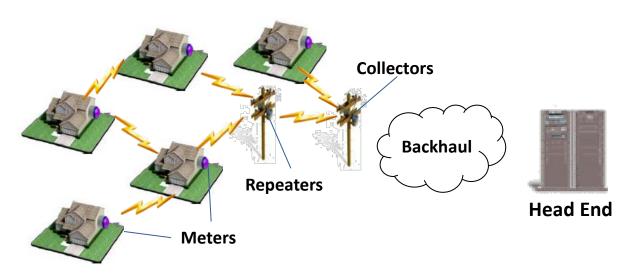
2014 Statistics

- Deployed Aclara PLC solution in 2002-2004 at a cost of \$163M
- Projected operating life of 15 years
- MDM solution added in 2006-2007 at a cost of \$5M
- Strong operating history based on current read levels



RF Mesh is our technology for the future AMI system

- Will enable full compliance with legal and regulatory requirements
- A scalable technology type
- More cost-prudent than upgrading the existing PLC solution
- RF mesh meters account for ~75% of all deployed AMI meters in the US
- This technology will allow PPL Electric to join and learn from peer utilities





Program scope



Meters - Replacing all 1.4 M meters with new electronic solidstate AMI meters with embedded two-way radios



Communications Network – Installing network devices throughout the service territory

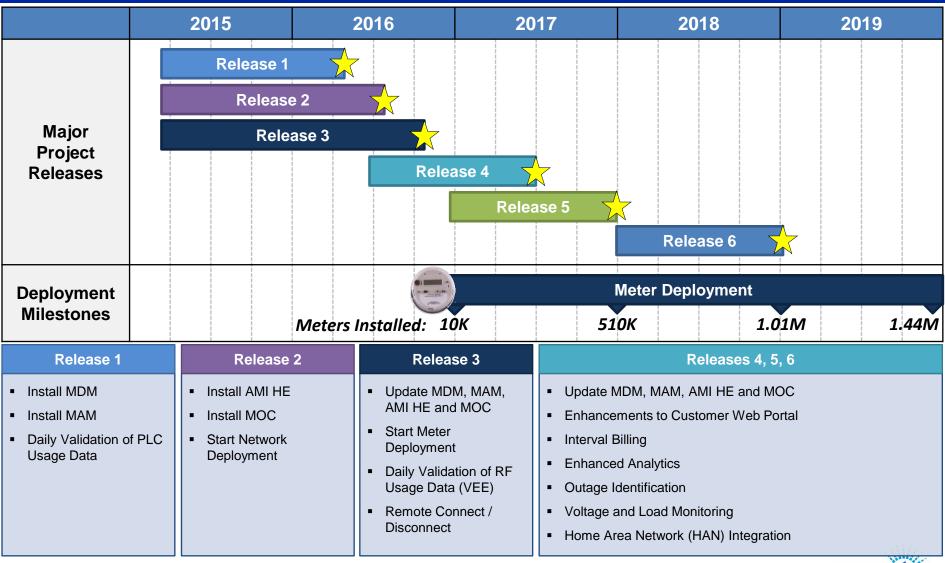


New Systems – Installing five new systems to support the AMI solution:

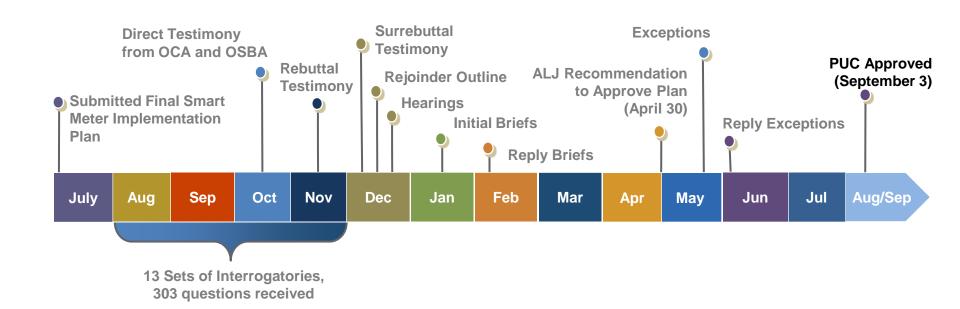
- AMI Head End System
- Meter Data Management System (MDMS)
- Meter Operating Center Application
- Meter Asset Management System (MAM)
- Customer Energy Analytics Application (CEAA)



Stages of rollout



Regulatory milestones



Approved:

- Scope, schedule, and budget
- Cybersecurity plan
- Single SMR charge for all customer classes

Expanded:

- Savings tracking
- Involuntary service termination
- Communications plan
- Customer data privacy
- HAN availability



Program vendors



IBM is providing **project management** and end-to-end **systems integration** services.



Landis + Gyr (L+G) is providing the AMI network devices, AMI RF meters, AMI Head End System and the Meter Data Management System (MDMS).



Grid One Solutions is the **deployment subcontractor** that L+G has hired to install AMI RF meters.



Bit Stew is providing **MIx Director**, the primary system that the new Meter Operating Center (MOC) will use to manage and monitor the AMI network.



WECO is providing the new **Meter Asset Management (MAM)** system and test boards that will be used to test and track meters and network devices.

TBD:



Second Meter Vendor



Future benefits and opportunities



Outage Management

Ability to automatically detect outages and verify service restoration through near real-time outage notifications



Meter Failure Reduction

Significant reduction in meter failures leading to dispatch volume reduction and back office efficiencies



Remote Connect/Disconnect

Ability to remotely connect/disconnect service leading to a reduction in truck rolls and call volume



Advanced Analytics

Wide range of new analytics capabilities to gain insight and add value to multiple areas across the organization



Home Area Networks

Customers will have access to real time pricing and usage information via Home Area Network (HAN) devices



Enhanced Customer Portal

Upgraded customer portal will enhance the ability to analyze energy history, review and compare promotions



Revenue Protection

Ability to identify consumption on inactive accounts, abnormal usage as well as theft and meter tampering



Distribution Automation

Platform for future integration with distribution automation and grid monitoring technologies



Customer communications

Currently refining communications plan for review by internal and external stakeholder groups. Key activities included in the plan:

- Multiple notifications to customers prior to deployment to inform them about meter exchange
- Contact with community leaders and elected officials to inform them about deployment in their area
- New brochure and customer FAQs to educate stakeholders about new meters and address common customer inquiries and concerns
- Website updates to include information about deployment and customer FAQs



Coming up...

- Finalize deployment schedule and RF mesh network design
- Complete IT build and data migration effort for Meter Asset Management system and Meter Data Management System
- Develop standard operating procedures for new and modified business processes for release 1
- Conduct stakeholder meeting to review customer data privacy policy and communications plan in October 2015
- Submit customer data privacy policy and communications plan to PUC in Q1 2016



Questions





MDM Replacement Project

Louise Gross AMR Operations Specialist



Background

- Current Vendor notified PPL that full scale MDM may not be fully supported in future
 - custom application
 - data migration required to move to new product on roadmap
- RFI performed in 2013
 - current and future functionality market availability
- RFP performed in 2014
 - current and future functionality
- Based on RFP responses Landis + Gyr Gridstream MDMS provided out of the box functionality that best met our requirements
 - L+G head end
 - existing relationship with L+G
 - site visits confirmed L+G's commitment to their customers



Benefits of the MDMS – Meter Data

- Seamless processing between MV90, PLC, and RF meters
- Load and VEE historical data
- Store data for non-registered RF meters and apply to the correct service point once CSS processing is completed and updates sent to MDM
 - when VEE occurs estimates will be nulled from "removed" meter
- Estimated register reads for billing
 - allows MDM estimates to be used for billing and off cycle requests (switching, move in/out)
- Meter data available earlier



Benefits of the MDMS - VEE

VEE Processing

- Both RF and PLC daily register read in MDM at 0800 hrs
- RF interval data loaded every 4 hours
- PLC interval data loaded at 0400,0900 and 1700 hrs
- Good reads available when loaded
- Exceptions are created for intervals or registers that fail validations
 - Do not bill
 - Office review
 - Informational
- Estimates for missing data will be filled in once a day



Benefits of the MDMS - VEE

Gridstream Register Checks

- Daily high/low
- Reset rollover
- Usage on inactive account
- Zero consumption
- Minimum usage
- Excessive energy
- Billing high/low

Gridstream Interval Checks

- Spike check
- Sum check



Benefits of the MDMS - Other

- Performs daily and weekly syncs to remain consistently aligned to the data sets stored in CSS
 - exception reporting to identify mismatches faster
- Profiles
 - · flexible input ranges for seasons
 - access to more statistical variation information
- Tags
 - reduce manual work
 - more reporting capabilities
- Settlement
 - accurate sync process
 - improved exception handling
 - active accounts aggregated
- Usage factors
 - calculated every 7 days
 - improved calculation
 - hourly usage factors



What to expect May 2016

- Store 2 years of historical data in MDM and 7 years in our Enterprise Data Warehouse
 - both register and interval read transformation has not been done by any other utility
 - will not re-VEE meter data from old MDM
- All data will be transformed
 - 25 minutes per day to load interval data currently (365 x 7 x 25 = 63875/1440 = 44.36 days)
 - CSS data taking about 1.5 hours to load all accounts for initial sync currently
- PPL will be testing the sync process at multiple intervals using both systematic testing like a sum of columns or rows for a day and user testing
- PPL expects large number of exceptions
- Some data issues could exist to start
- End result is consistent high level of accuracy



Questions





Q&A

PPL PANEL



CLOSING REMARKS



Networking Event at MusikFest Café 5:30 to 7:30



WELCOME BACK October 8, 2015



WI-FI Password AQGue\$t14



October 8, 2015 Agenda

- 9:00 AM Welcome Back
- 9:05 AM Unmanned Aircraft Systems (UAS)– Matt Green
- 9:35 AM PPL EU Collections Process Michelle Lawall
- 10:30 AM Supplier Portal Enhancements– Sue Scheetz
- 11:00 AM Contact Center Vision Chris Graham
- 11:30 AM Bill Print Changes Susie Peters
- 12:00 PM Lunch
- 1:00 PM Standard Offer Overview Jenn Ainsworth
- 1:30 PM –Energy Efficiency Programs Pete Cleff
- 2:00 PM Billing Statistics/No Bills/Projects Debbie Keiser
- 2:30 PM Q & A- PPL Panel
- 3:00 PM Closing Remarks



Unmanned Aircraft Systems (UAS)

Matt Green
Director- Asset Management & Strategy



UPDATE

- Where we are today
- Benefits of UAS
- Development of PPL UAS Plan
- Section 333
- What changed



The Cost to Fly

- Over the last 3 years we spent \$4.5M in Helicopter costs
 - Comprehensive Inspections
 - Annual Inspections
 - Emergency Patrols
 - Risk Mitigation Flights
 - Platform Maintenance
 - Infrared Inspections
 - X-ray services
 - and more...



Where UASs are today

- A UAS flown recreationally is allowed
- A UAS flown for commercial purposes is prohibited
- SDG&E was first with experimental approval of use on 3.3 miles of line
- To date only two utilities have been approved for UAS flights, off-shore and Alaskan pipeline
- Section 333 exemption approval is the feasible option to pursue UAS use



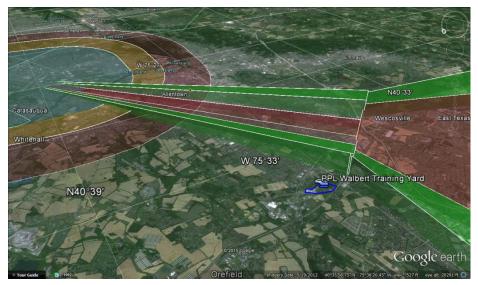
Benefits of UAS

- Greater versatility than conventional aircraft
- Superior safety for personnel participating
- Easy to deploy with 24 hour notification
- Lower impact to surrounding environment
- Has the potential to be more cost effective that helicopters as technology and regulations progress



Development of UAS Plan

- Brought in vendor to provide demonstration for developing business purpose and needs
 - PSI Tactical MkII 320g, stable in 30 mph winds, 55 mph horizontal speed
- Participant in EEI UAS group to work through utility submissions
- Submission of Section 333 in Jan 2015 for PPL



Section 333

 September 25, 2014 – Six aerial photo and production companies are approved

PPL EU officially approved for Section 333 exemption in

April 2015

Three ships defined for

- Comprehensive Inspections
- Infrared Inspections
- Ohm Stick
- Currently working with vendor for system trials to build cost effective strategy



February 15, 2015

FAA Announced Purposed Rulemaking

	PPL Section 333
Small UAS	Under 55 pounds (16; DJI S900)
Micro UAS	
Requirements for Operation	*Visual line of Sight *Must have an observer *Under 250 feet AGL *Must avoid 3 miles radius aroundall airport *Must be 500 ft away from non-participants *Requires COA *Must have sense and avoid features
Requirements for Operator	*Private pilots license required *Annual physicals and screenings *Must be in contact with observer
Requirements for Aircraft	*Must be registered and by FAA *Aircraft must be have a certified airworthiness certificate

Proposed FAA Rules
Under 55 pounds
Under 4.4 pounds
*Visual Line of Sight (VLOS) Only, *Daylight Only, Visibility greater than 3 miles, *less than 500 feet above ground for sUAS, *Observer not required *Not to fly over people *Can fly in B,C,D and E with ATC permission
*Pilot's license not required. *Must pass a skills test at an FAA approved test center with renewal test every 24 months (FAA and TSA approval)
*Must be registered with the FAA and the registration number must be displayed as large as is practicable *Aircraft must be have a certified airworthiness certificate



Questions





PPL Electric Utilities Collection Process

Michelle Lawall
Director- Revenue Operations



Residential Termination

PPL EU's collection process consists of service termination for nonpayment, in accordance with the regulations called Chapter 56 of the PUC Regulations

The main steps in the residential termination process are:

- 10-Day Termination Letter when customer owes \$250 or more
 - Mailed to customer
- 3-Day Termination Notice
 - 2 Valid Phone Calls Attempted; automated phone call OR
 - Serviceperson posts door-hanger at customer's home if no valid phone number is on the system or if call unable to be made
- Service is terminated or collection is stopped for another reason (more on these reasons later, on slide 4)



The 3-day Termination Notice

- 3-Day Notice -- we must make 2 valid attempts to reach the customer at least 3 days before termination. These calls are set up using an automated outbound dialer
- We attempt to call the customer to provide the 3-day notice:
 - One call must be attempted before 6 p.m.
 - One call must be attempted after 6 p.m. on a different day
- If we do NOT have a valid phone number:
 - The serviceperson will post a 3-day notice at the customer's residence



What are the ways to stop termination?

- Full payment
- Payment Agreement
- Dispute
- LIHEAP/ Operation HELP
- Medical Certification (Med Cert)



Full payment or payment agreement

- If, at any time in the process, customer makes a payment that reduces the amount on the shut-off notice to under \$250 collection action is stopped
- Under the regulations, PPL EU is required to negotiate fair repayment terms with the customer. We rely on Chapter 56 guidelines for repayment terms based on income levels:
 - Level 1 up to 150% of poverty level 36 equal installments
 - Level 2 151% to 250% of poverty level 24 equal installments
 - Level 3 251% to 300% of poverty level 12 equal installments
 - Level 2 over 301% of poverty level 6 equal installments
- If customer agrees to this offer, collection stops to allow him 10 days to make the first payment. If they do not agree, they are entitled to a **dispute** (more on this later)
- If customer defaults this agreement, he goes back into collection. We will allow a customer to pay all missed installments and get back on the payment plan – this is called "catch-up". Termination is not stopped until the first installment is made



Disputes

- A payment agreement dispute occurs if the customer cannot agree to our offer
- It is required to allow the customer some time to contact the Public Utility Commission (PUC) to file a mediation complaint, or PAR ('payment agreement review'), which gives the PUC the opportunity to review our offer for fairness, and/or set the customer up on an agreement that is in line with Chapter 56. (Note that our payment agreements are in line with Chapter 56 guidelines.)
- Collection actions stop while an account is in dispute
- Customer is entitled to one payment agreement dispute per collection cycle, up until a service termination order is in the field and assigned to a service technician

LIHEAP/Operation Help

- LIHEAP "low income heating energy assistance program" is a government program that grants funds to qualified customers for energy bills. There are two components:
 - Cash cash grants given to qualified customers regardless of balances
 - Crisis cash grants given to qualified customers who are in a crisis with the utility (having a service termination notice). A CRISIS grant will stop service termination for the customer
 - During the period of time that the program is open, PPL EU representatives make referrals to customers on the phones, through direct mailings, and bill inserts
- OPERATION HELP Grants given to customers based on income levels, administered by our customer assistance offices in the regions
 - PPL EU Representatives make referrals to customers in need during telephone calls for payment agreements. Customers are referred to agencies in their own county areas



Medical Certification

- Chapter 56.113: Certifications initially may be written or oral....and..... whether written or oral, shall include all of the following:
 - Name and address of ratepayer
 - Name and address of afflicted person
 - Nature and anticipated length of the illness
 - Specific reason for which service is required
 - Name, address and telephone number of certifying physician
- Additionally, either a physician or a nurse practitioner can give a valid medical certification
- Medical certificate stops collection activity or restores service to the customer for 30 days

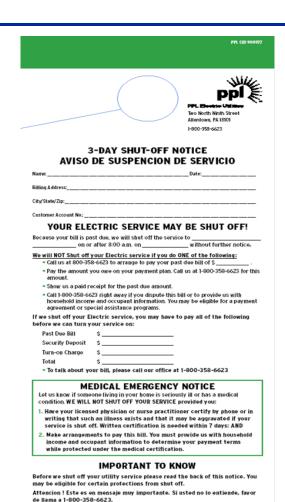


3-day FIELD notices

- If we have not satisfied the 3-day notice requirement by phone call, we must visit the premise to post a notice
- All Pennsylvania utilities are required to use the same standard notices
- On the door hangers, we manually fill in the areas for customer name, address, and amount owed, as well as add the amount of the potential security deposit



Door-hanger for 3-day notice





Two North Ninth Street
Allentown, PA 18101

1-800-358-6623

IMPORTANT TO KNOW -BEFORE WE SHUT OFF YOUR UTILITY SERVICE

- If you have questions or need more information, please call us today at 1600-958-6623. After you
 talk with us, if you are not satisfied, you may file a complaint with the Public Uniting Commission
 (QUC). The PUC may delay the shunchl if you file the complaint before the shut-off date. To contact
 them call (800)-662-7380 or write to: Pennsylvania Public Utility Commission, Box 3265, Harrisburg,
 PA 1705-5266.
- If we shut off your service during the winter months (between Dec.1 Mar. 31) we will
 restore your service within 24 hours of your meeting all requirements/conditions to have service
 reconnected. Where street disgoing is required if may take up to 7 days.
- If you currently have a valid Protection from Abuse order from a court your service cannot be terminated during the winter without PUC permission. There are some additional protections available to you. Call us immediately at 1-800-358-6623. (You will be required to provide us with a copy of the order)
- You may be eligible for a payment agreement or special assistance programs. Call 1-800-358-6623 right away to <u>provide us with household income and occupant information</u>. Documentation of your income may be required, such as pay situds or fax documents.
- If your landlord pays your utility bill: You have certain legal protections. Please call us at 1-000-359-6623
- If you have trouble understanding or speaking English or have a disability please call us at 1-600-358-6623 for free interpretation.
- If your service is shut off, you may be required to pay more than the amount listed on the front of
 this notice to have your service turned back on. You may have to pay any additional bills that have
- All adult occupants of the premise whose names are on the mortgage, deed, or lease are considered
- the customer and are responsible for payment of this bill.

 If service is shut off, ANY adult occupant who has been living at the premise may have to pay all or
- portions of this bill to have service restored.

 If your service is shut off, you must contact us after your payment has been made to be sure you
- have met all conditions to have the service turned back on and to arrange access to your premises.
- After all conditions have been met to have the service turned back on, it may take up to seven days
 to have your service restored. Please contact us to discuss the details.

WINTER NOTICE PROVISIONS (BETWEEN DECEMBER 1 - MARCH 31)

- Contact us BEFORE the shut off date to give us household income & occupant information to see if you qualify for any assistance programs.
- If your income is at or below 250% of the federal poverty guidelines, we must first ask the PUC for permission to shut off your service. Add together the monthly income of the addits in your household. If that number is the same or less than the amount listed in chart below for your household size, call us immediately at 1-800-358-6623. You may need to provide us with proof of your income.

Monthly Income at 250% of Federal Poverty Loyel: 2005							
Household Size	1	2	3	4			
Monthly Income	\$1,994	\$2,673	\$3,352	\$4,031			
				_			

Add \$679 for each additional household member

ATTENCION! ESTE ES EN MENSAJE MUY IMPORTANTE. SI USTED NO LO ENTIENDE, FAVOR DE LLAMA A 1-800-358-6623.

Page 10

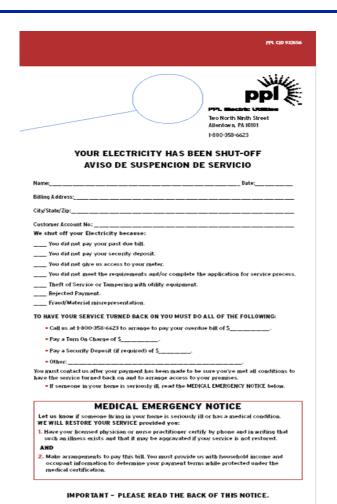


Field Procedures on day of Termination Chapter 56.94

Chapter 56.94 – Procedures immediately prior to termination:

- "Immediately preceding the termination of service, a utility employee who is designated to perform the termination, shall attempt to make personal contact with a responsible person at the residence of the ratepayer and shall attempt to make personal contact with a responsible person at the affected dwelling."
- We are required to attempt to make personal contact before we block. We must knock on the door before proceeding to block the meter

Post-Termination Door-Hanger



ATTENCION! ESTE ES EN MENSAJE MUY IMPORTANTE. SI USTED NO LO ENTIENDE, FAVOR DE LLAMA A 1-800-358-6623.

If you have questions or need more information, please call us today at 1-800-358-6423. After you talk with us if you are not satisfied, you may file a complaint with the Public Utility Commission (PUC). The PUC will attempt to help you with your problem. To contact them call 6900 592-27800 or write to: Pennsythania Public Wildly Commission, Box 2365, Harrisburg, RR 1705-2365.

WINTER NOTICE PROVISIONS (BETWEEN DECEMBER 1 - MARCH 31)

If your income is at or below 250% of the federal poverty quidelines you may qualify
for special protections from termination. Add together the monthly income of the adults in
your household. If that number is the same or less than the amount listed in chart below for
your household size, call us immediately at 1:000:358-6623. You may need to provide us with
proof of your income.

Monthly Income at 250% of Federal Poverty Level: 2005						
Household Size	1	2	3	4		
Honthly Income	\$1,994	\$2.673	\$3.352	\$4.031		

Add \$679 for each additional household member.

If we shut off your service during the winter months (between Dec.1 - Mar. 31) we will
restore your service within 24 hours of your meeting all requirements/conditions to have
service reconnected. Where street dioping is required it may take up to 7 days.

IMPORTANT INFORMATION

- If you currently have a valid Protection From Abuse order from a court your service cannot be terminated during the winter without PIO permission. There are some additional protections available to you. Call us immediately at 1-800-358-6623. (You will be required to provide us with a cours of the order).
- You may be eligible for a payment agreement or special assistance programs. Call 1-800-358-6623 right away to provide us with household income and occupant information.
 Documentation of your income may be required, such as pay stubs or tax documents.
- If your landlord pays your utility bill: You have certain legal protections. Please call us at 1-800-358-6623.
- If you have trouble understanding or speaking English or have a disability please call us at 1-800-358-6623 for free interpretation.
- Termination of service may result in extensive property damage. You are responsible for taking all steps necessary to protect the property and the occupants. You may want to turn off your water so that the pipes do not freeze. If you do not can the property, you are responsible for notifying your landlord that the service is turned off.
- All adult occupants of the premise whose names are on the mortgage, deed, or lease are considered the 'customer' and are responsible for payment to restore service.
- ANY adult occupant who has been living at the premise may have to pay all or portions of the bill to have service restored.

IMPORTANT SAFETY INFORMATION

- For heating purposes use only equipment that is made for home heating. Use all types of heaters carefully and follow all directions for safe use. NEVER use your oven, grill or clothes dryer to heat your home. This could cause a fine or dangerous carbon monoxide gas.
- Please be aware that using candles, portable heaters, or generators may also be descent.

Attencion! Este es en mensaje muy importante. Si usted no lo entiende, favor de llama a 1-800-358-6623.

Page 12



Final Bill Collection

- Accounts may be closed (no longer receiving service) at customer request or terminated for non-payment
- Ten days after final bill is mailed, if payment is not made, a final bill reminder notice is mailed
- Ten days after final bill notice, account is referred to third-party collection agency for collection
 - Agency must send "Miranda" letter and hold for 30 days.
 - After 30 days, account is dunned via phone and letter, as well as credit-reported
- After six months at primary agency, if no agreement, account is sent to secondary agency
- Customers pay either directly to PPL or through the agency. All payments reduce the account balance and write off



Continuous Account Transfer

- If a person applies for service and has a prior balance, he is required to pay the balance in full before his new account will be opened
- Associates can negotiate the down payment to 80%
- Payment is made to prior account, and any remaining balance is transferred to new account
- Customers who have concurrent service service at another premise within 60 days of the date of application – cannot be required to pay any balances as obligation
 - These balances transfer weekly using our "continuous account transfer" functionality

Questions





Supplier Portal Enhancements/Demo

Sue Scheetz
Billing Operations



Supplier Portal Functionality - Comprehensive

- Account Number Lookup Order 2355751 Account Number Access Mechanism for use by suppliers at public venues
- Account Status Lookup provide the current account status for an account they intend to serve
- Account Time of Use eligibility All PPL residential and Small C&I customers, except for customers in the low-income customer assistance program (CAP)
- Request Customer Bill provide the Supplier a customer bill image to view their charges on bill periods in which they served. A bill image will not be available if more than one alternate supplier's charges are present on the bill.
- Request Supplier Charges in lieu of providing a customer bill image when there are multiple suppliers on the bill

Supplier Portal Functionality - Comprehensive

- Request Monthly Usage provide the Supplier the last 24 months of billed KWH. Can be used for unmetered and lighting historical usage
- Request ICAP and NITS provide the Supplier the current and future (when available) capacity and transmission tags
- Request Account and *Meter Level Interval Usage provide the Supplier the last 12 months, up to 48 hours old, customer interval usage
- Current Rates and Rate Code History used by Rate Ready Suppliers to maintain their rate codes
- Standard Offer Referrals and Pending Enrollments used by Suppliers participating in the Standard Offer Program



Supplier Portal Functionality - Comprehensive

- Supplier Contact Information provide the Supplier the ability to selfmaintain their contact information for use with Broadcast Message Communications to Suppliers
- Download Eligible Customer List provide the Supplier the ability to download a current copy of the ECL
- **Download My Current Customer List** Sync list of pending active, active and pending inactive customers they serve. Real time active, no unmetered
- Maintain User Access a required quarterly review by the Supplier of their user accesses to the Portal



Administration and Future Enhancements - WPWG

- PUC Order WPWG-M-2009-2092655 Submission of the Electronic Data Exchange
 - EDEWG Web Portal Working Group enhancements target implementation September, 2016
 - Single User multiple request customer super screen to be implemented within 12 months of order
 - System to system implementation for customer data as well as a rolling 10-days of customer interval usage after VEE within 14 months of order
- Reconvene the Web Portal Working Group, in order to develop standards for a uniform StS functionality
 - Within six months of the Final Order, the WPWG must submit to the Commission, for its review and approval, its recommended standards



Eligible Customer List (ECL)

- As of 9/17, 2015: 16% (224,845 customers) have opted out of PPL's ECL.
- Per Tentative Order dated June 19, 2014, Interim Guidelines for Eligible Customer Lists Docket No. M-2010-2183412, includes triennial company-wide requirement for the EDCs to refresh their ECL
- PPL executed this mailing as requested in 1Q2015
- Prior to the refresh, the opt out rate was relatively flat at ~ 12% (170,322 customers) since the last solicitation in 2010



Supplier Portal Web Inquiry Tool

Subject: Supplier Portal WATT Web Inquiry Tool

Purpose of Communication: Provide instructions for use of the Supplier Portal WATT Web Inquiry Tool

Our Supplier Portal "Submit Web Inquiry" functionality has been in place since 1/1/2015.

Web Inquiry capability allows PPL to more easily research the accounts and therefore respond to inquiries in a more timely manner

It enables better management of the work, and enables us to identify accounts that have recurring issues/inquiries for internal escalation

If you don't have a logon to the Supplier Portal, you may request one or use > No Portal Logon? Unregistered User link.

Contact Supplier Coordination on our Supplier Hotline 610.774.6396 if you have questions

Please note that when you are submitting a web inquiry, please use the **Mandatory account number grid** for inquiries about specific bill account numbers. Bill account number (mandatory) validates, dates are optional and specific bill account comments are also optional. By using the account number grid, the web inquiry tool automatically pre-populates important account information which assists Supplier Coordination in providing timely responses. Use of the account number grid also provide Suppliers with the ability to search for any inquiries by bill account number

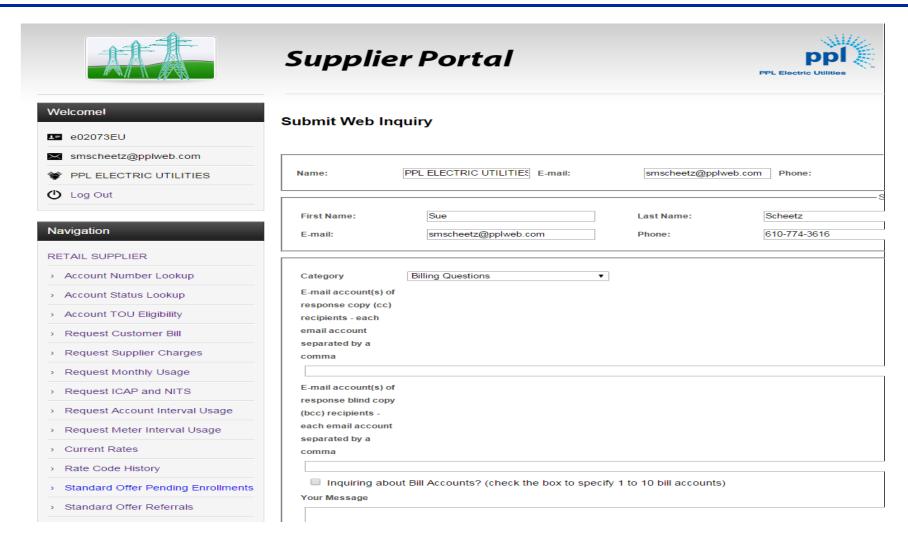
Action Needed: Please contact us using the PPL Supplier Portal instead of the email distribution list below. The PPLUtilitiesSupplier@pplweb.com mail box will be TURNED OFF on December 1, 2015. Supplier Portal WATT – Submit Web Inquiry will be the communication method with PPL EU Supplier Coordination

Supplier Portal WATT Functionality

- Submit Inquiries and view the status of Inquiries submitted to Supplier Coordination on the Supplier Portal
- Work Assignment Tracking Tool (WATT) User Interface Administration
- Submitting an inquiry will pre-populate the user's name, email address and phone number based upon user's logon
- Selecting a contact category will assist in Supplier Coordination work assignments and priorities
- You can add a CC and BCC to your inquiry
- Mandatory account number grid for inquiries about specific bill account numbers. Bill account number (mandatory) validates, dates are optional and specific bill account comments are also optional
- General Overall Comment section
- Upload documents
- Receive confirmation number
- Inquire on status of all of your company's inquiries

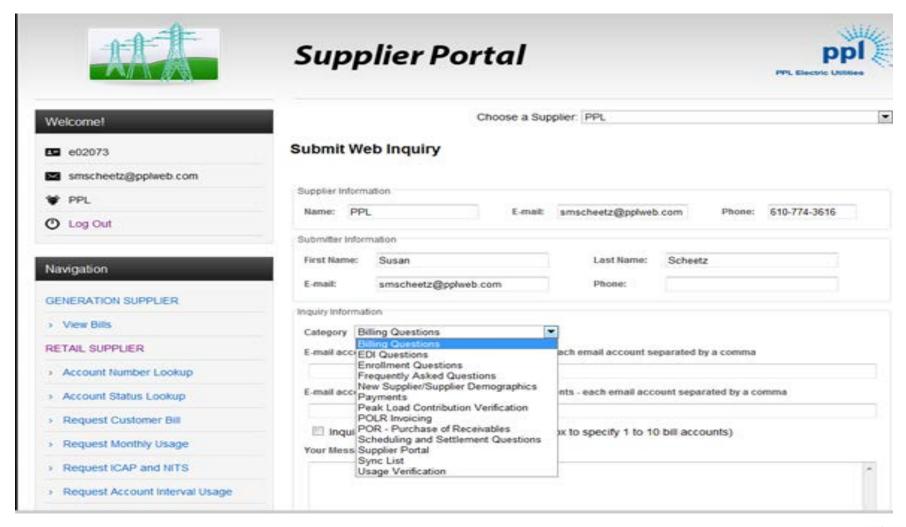


Submit Web Inquiry

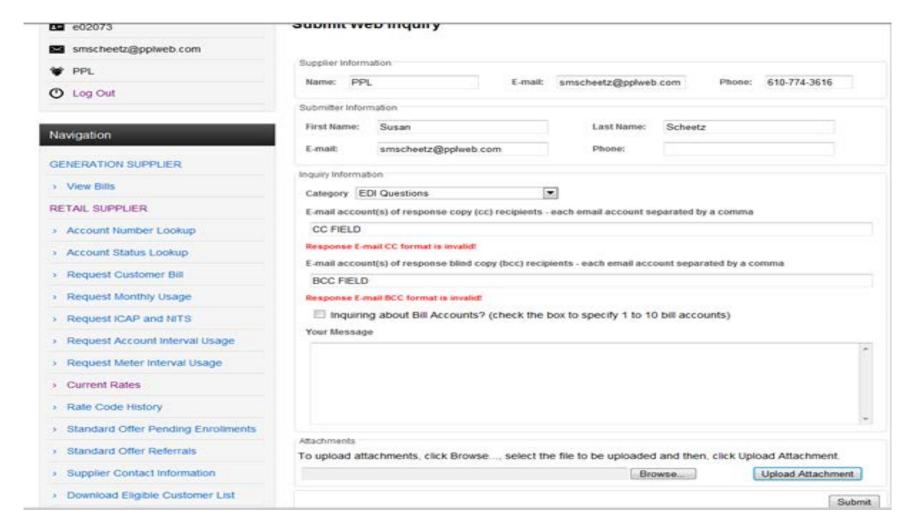




Select Inquiry Category

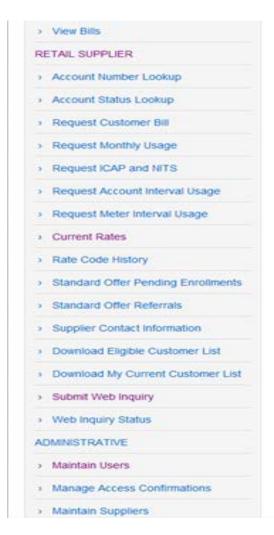


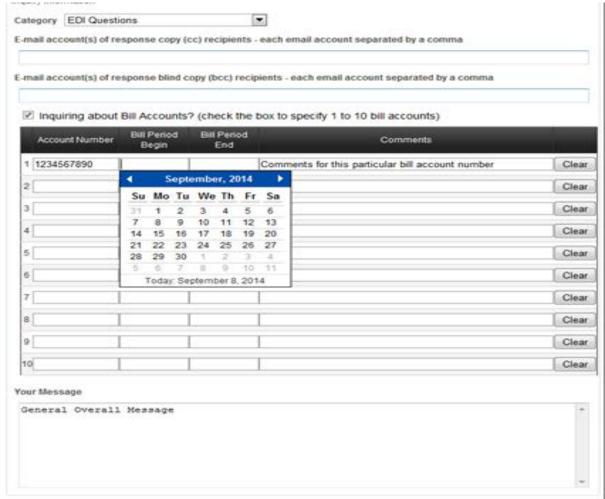
CC and BCC fields





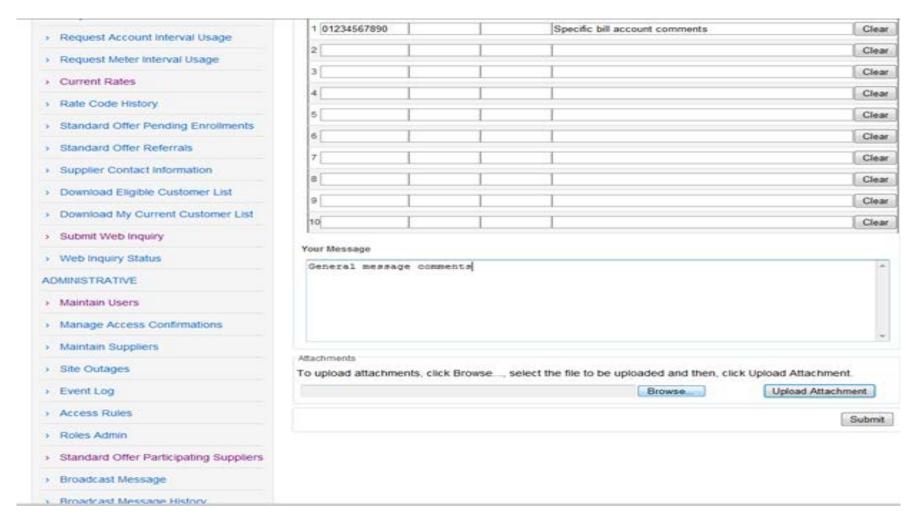
Inquiries for specific bill account numbers - MANDATORY





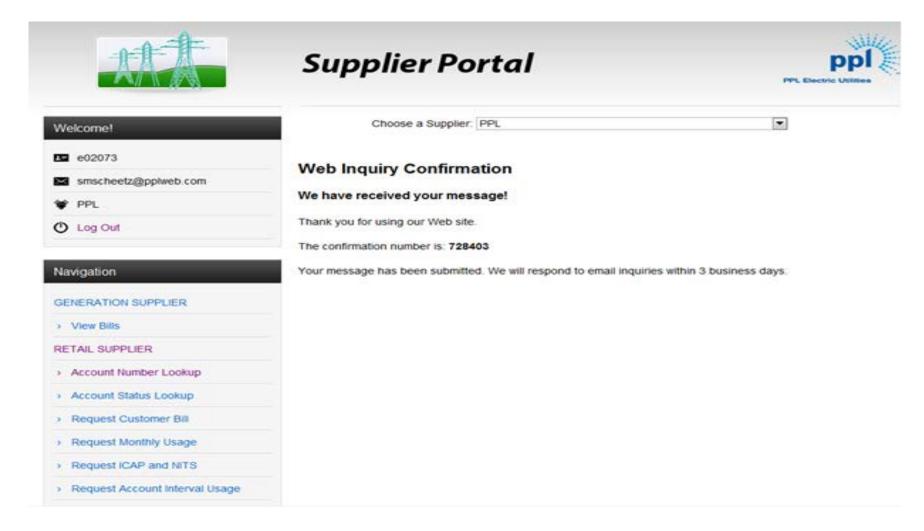


Browse and upload attachments

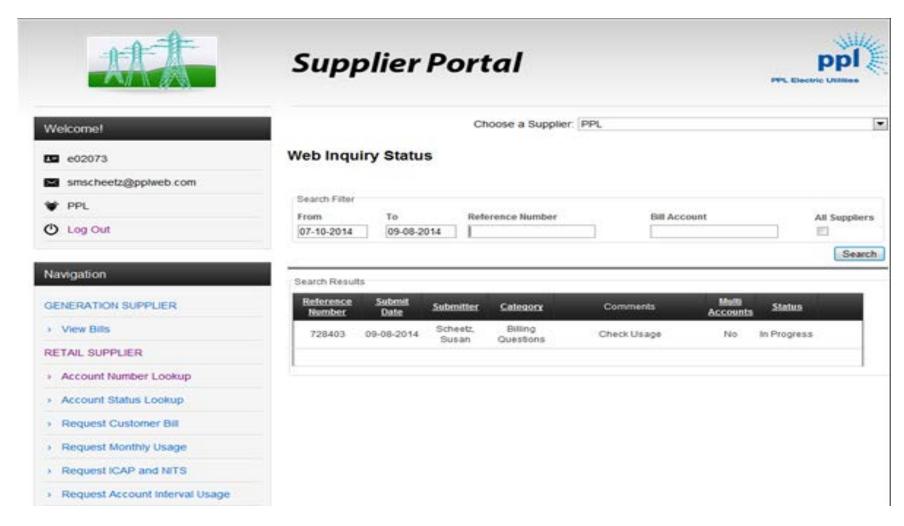




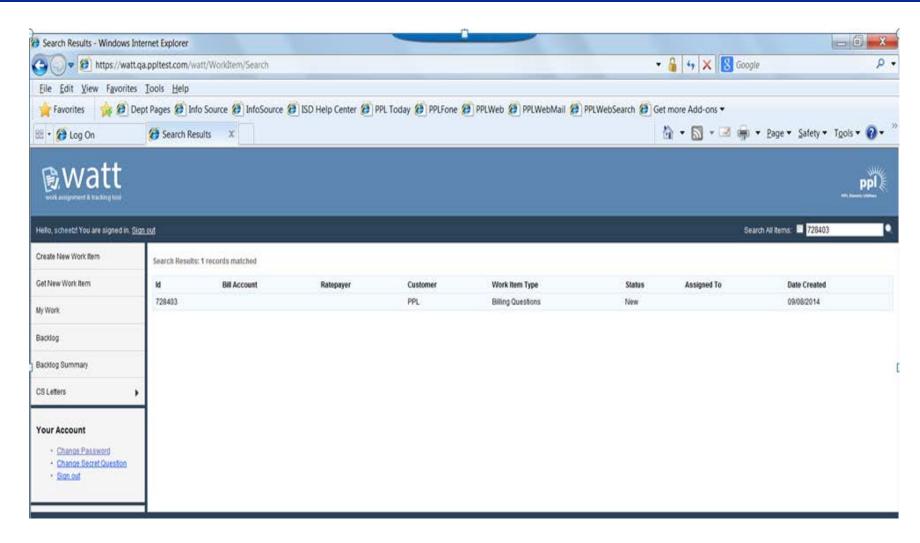
You will receive a confirmation number



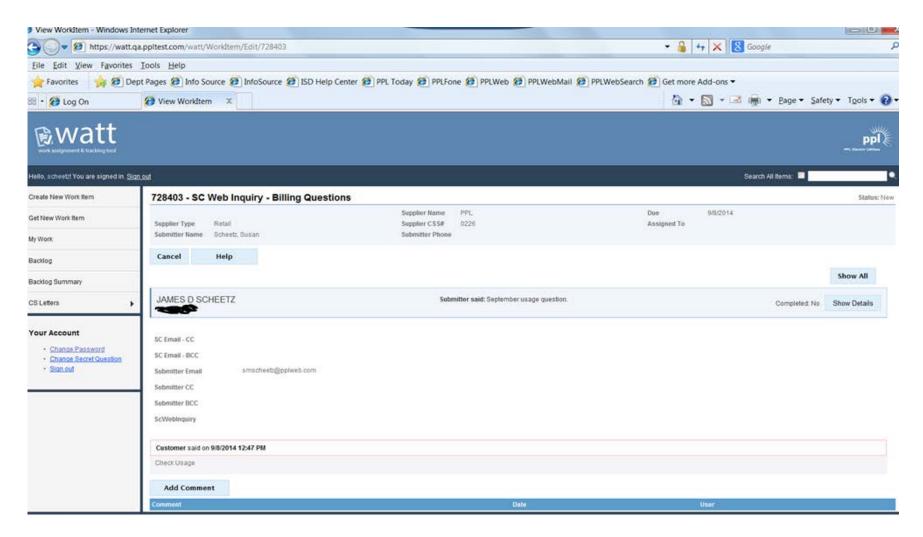
Web Inquiry Status – Search Filter and Sorting



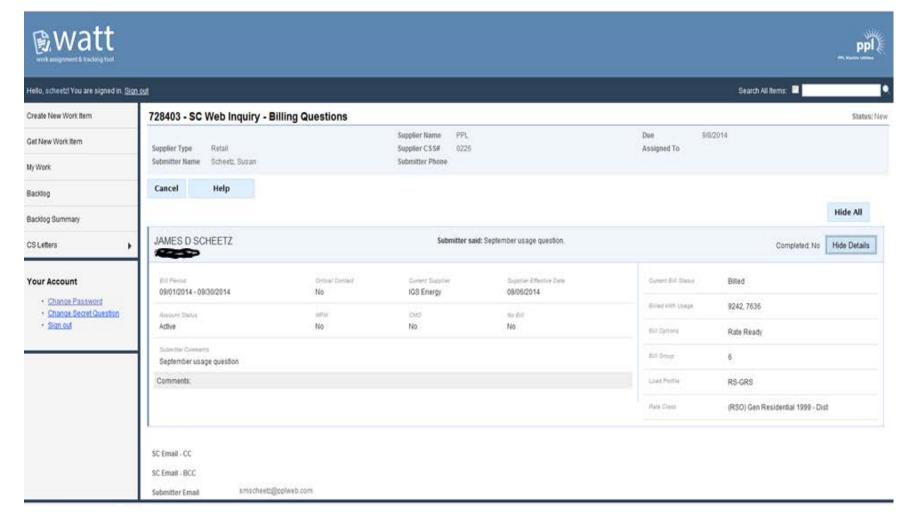
What PPL Supplier Coordination Sees



What PPL Supplier Coordination Sees



What PPL Supplier Coordination Sees



When the Work Item is completed by PPL

From: CustomerService@pplweb.com[mailto:CustomerService@pplweb.com]

Sent: Wednesday, November 27, 2013 2:26 PM

To: ISD, EU Web Self Service

Subject: -=(PT)=- PPL Electric Utilities: Web Contact Inquiry

PPL Electric Utilities Account Activity

Home My Account At Your Service About Us | Sign in



Response to your online inquiry now available

Thank you for contacting PPL Electric Utilities through pplelectric.com. A response to your online inquiry is <u>now available</u>. Should you need additional assistance about this inquiry, please reference to the Response ID number below when contacting us.

Response ID: W695856

If you did not make this request and feel you are receiving this message in error, please contact us at 1-800-DIAL-PPL (1-800-342-5775)___ Customer Service representatives are available from 8 a.m. to 5 p.m., Monday -Friday.

Thank you for using pplelectric.com. We appreciate the opportunity to serve you.

Manage Your Account Online

Sign in to your online profile to manage your PPL Electric Utilities account online.

Please do not reply to this automated email. This mailhoy is not



Supplier

- Click on email link
- The response from Supplier Coordination will be populated
- You can respond that we did not answer your question and we will receive a new WATT work item in our backlog
- You can view the status of all of your inquiries



Next Steps

- Open up Submit Web Inquiries on the Supplier Portal
- Use new WATT tool to communicate with PPL Electric's Supplier Coordination Team
- NOTE: The <u>PPLUtilitiesSupplier@pplweb.com</u> mail box will be TURNED OFF on December 1, 2015. Supplier Portal WATT – Submit Web Inquiry will be the communication method with PPL EU Supplier Coordination



Questions





Contact Center Vision

Chris Graham Director- Customer Service Operations



Introduction

Director Customer Service Operations

Responsibility at PPL EU includes

- Workforce Management
- Vendor Management
- IVR Call Routing
- Reporting / Analytics
- Care Budget



Contact Center Workload

Types of work (annually)

- Call Volume 2.2 Million
- Email 22k, growing channel
- Back office items 191k

Staff

Roughly 260 front line agents completing the work



Contact Center Locations

Current Locations:

- Allentown, PA
- Scranton, PA
- Hazelton, PA (Established Vendor Partner)

Future State:

- Allentown, PA
- Scranton, PA
- Hazelton, PA (Establish Vendor Partner)
- Bethlehem, PA (New Vendor Partner)
- Ft. Lauderdale, FL (New Vendor Partner)
- *Create Disaster Recovery/ Contingency plan



Hours of Support

Be available when Customer want to interact with us vs when we are available for them

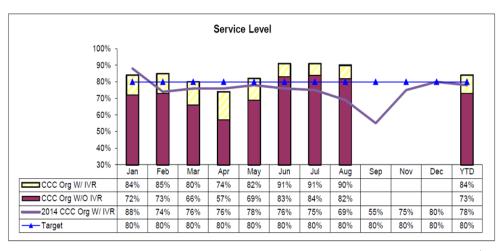
Hours of support:

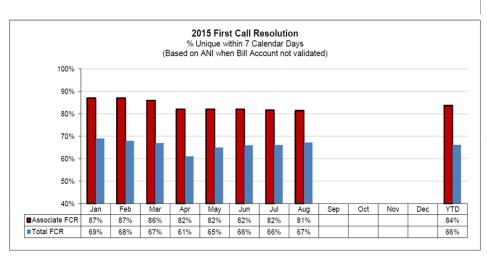
Prior to July 2015 8am – 6pm, Monday – Friday

Current State 7am – 10pm, Monday – Friday

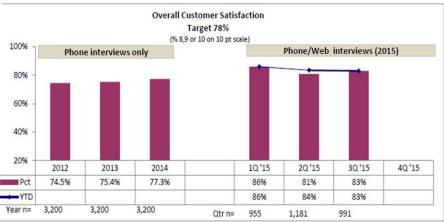
Future Early 2016 24/7/365

Contact Performance





- Service Level
- First Call Resolution
- Customer
 Satisfaction



Proactive Customer Service

Create a very different experience for new customers

- Current State Welcome packet. Only 4% of customers remember even receiving the packet
- Future State Welcome Calls. Call customer around the time of their first bill drops and review with customer and answer any questions. Create opportunity to review: charges on the bill, ebill, autopay, energy efficiency programs, if they qualify low income programs, etc.

Training / Quality Program

- Revamping new hire training program from top to bottom
- Invest in employees
- Re-Train all CC employees regardless of time in position
- Prior, we hired and trained to needs of the time. In some cases did not include all areas
- Establish new Quality Program, with a focus on the Customer Experience



Process Improvement

- Establish team to evaluate all existing Contact Center processes
 - Document all processes and determine points of failure
- Evaluate from a Customer Experience prospective
 - Customer ease of doing business
- Evaluate from an agent ease of use prospective
 - Focus on Agent experience
- Evaluate and make changes in processes that improve efficiency
- Focus of team on eliminating, reducing or removing back office work by 75%



Questions





Bill Print Changes

Susie Peters Billing Operations



Residential Bill Sample prior to Dec, 2014 (front)



Questions? Please contact us by Oct 28. 1-800-DIAL-PPL (1-800-342-5775) M-F: 8am to 5pm



Visit us online at pplelectric.com

Account Balance

\$172.81

Bill Acct. No.	Due Date	Amount Due
00000-00000	Oct 28, 2014	\$172.81

Your Electric Usage Profile

Service to: CUSTOMER 123 MAIN ST ANYTOWN, PA 18062

Meter: 00000000

Your next meter reading is on or about Nov 3, 2014.

This section helps you understand your year-to-year electric use by month. Meter readings are actual unless otherwise noted.



Monthly Comparison	Days Billed	kWh	Average kWh/Day	Average Temp.
Oct 2014	30	1404	47	64F
Oct 2013	30	1405	47	62F

Billing Period	Туре	Reading
Oct 3	Actual	36426
Sep 3	Actual	35022
30 Days	kWh Billed	1404

Yearly Comparison	Total Use	Avg. Monthly
Nov 2013 - Oct 2014	18494	1541

Billing Summary	(Billing details on back	
Balance as of Oct 7, 2014	\$0.00	
Charges:		
Total Electric Supplier 1234 Charges	\$111.34	
Total PPL Electric Utilities Charges	\$61.47	
Total Charges	\$172.81	
Amount Due By Oct 28, 2014	\$172.81	

PPL Electric Utilities' price to compare for your rate is \$0.08956 per kWh. This changes the 1st of Mar, Jun, Sept, and Dec. Visit papowerswitch.com or www.oca.state.pa.us for supplier offers.

Your Message Center

- Information about appliance energy use and tips on saving energy are available through the Energy Library on our Web site, pplelectric.com/e-power
- Before digging around your home or property, you should always call the state's One Call notification system to locate any underground utility lines. You can do this by simply dialing 811, which will connect you to the One Call system. Be safe and call 811 before you dig.
- Keep light bulbs and fixtures clean. Dust and dirt absorb light and can reduce light output by as much as half.

Payment Methods



Online at: pplelectric.com By phone: 1-800-342-5775 or call BillMatrix (service fee applies) at 1-800-672-2413 to pay using Visa, MasterCard, Discover or debit card.



By Mail: 2 North 9th Street CPC-GENN1 Allentown, PA 18101-1175 Correspondence should be sent to: Customer Services 827 Hausman Road Allentown, PA 18104-9392

Other important information on the back of this bill 🔿



Residential Bill Sample prior to Dec, 2014 (back)

Your Supplier Contact Information

For questions regarding the generation and transmission portions of this bill, please contact your supplier at:

Electric Supplier 1234 Customer Services 12 MAIN ST BETHLEHEM, PA 18015

Phone: 1-888-555-2222

Manage Your Account

Visit pplelectric.com for self-service options including:

- -View your bill, payment, and usage history.
- -Make a payment, set up a payment agreement.
- -Start/stop service.
- -Enroll in paperless billing, automatic bill pay, budget billing.
- -Report an outage, check outage status, and more.

View your rate schedule at pplelectric.com/rates or call 1-800-342-5775 to request a copy.

General Information

Generation prices and charges are set by the electric generation supplier you have chosen. The Public Utility Commission regulates distribution rates and services. The Federal Energy Regulatory Commission regulates transmission prices and services.

PPL Electric Utilities uses about \$0.07 of this bill to pay state taxes and about \$3.62 is used to pay the PA Gross Receipts Tax.

Billing Details - (Bill Acct. 00000-00000)

Page 2

•	•	
Previous Balance	\$236.49	
Payment Received Sep 25, 2014 - Thank You!	-\$236.49	
Balance as of Oct 7, 2014		\$0.00
Charges for - Electric Supplier 1234 Generation & Transmission Charges General Service Rate: ESUP for Sep 3 - Oct 3 Electric Supplier Charges GROSS RECEIPTS TAX 56.98	111.34	
Total Electric Supplier 1234 Charges		\$111.34
Charges for - PPL Electric Utilities Residential Rate: RS for Sep 3 - Oct 3 Distribution Charge: Customer Charge 1,404 kWh at 3.24000000¢ per kWh System Improvement Charge at 3.39% PA Tax Adj Surcharge at -0.08500000%	14.01 45.49 2.02 -0.05	
Total PPL Electric Utilities Charges		\$61.47
Amount Due By Oct 28, 2014		\$172.81
Account Balance		\$172.81

Understanding Your Bill

Customer Charge - Monthly basic distribution charge to cover costs for billing, meter reading, equipment, maintenance and advanced metering when in use.

Distribution Charge - Charge for the use of local wires, transformers, substations and other equipment used to deliver electricity to end-use consumers from the high voltage transmission lines.

System Improvement Charge - A charge used to recover costs for repairing, improving, or replacing distribution facilities in order to provide safe, reliable, and efficient service.

kWh (Kilowatt-hour) - The basic unit of electric energy for which most customers are charged. The amount of electricity used by ten 100-watt lights left on for 1 hour. Consumers are usually charged for electricity in cents per kilowatt-hour.

Rate RS - Rate for service to a private home.

State Tax Adjustment Surcharge - Charge or credit on electric rates to reflect changes in various state taxes included in your bill. The surcharge may vary by bill component.

Type(s) of Meter Readings: Actual - Reading by distribution company.



Regulatory Projects Affecting Bill Print

Project

Implementation Date

Accelerated Switch (Phase 1) mid Dec, 2014

Joint EDC/EGS Bill

June 1, 2015

Accelerated Switch (Phase 2) Aug

August 1, 2015



Residential Bill Sample, current (front)



Pay/Manage your account online at pplelectric.com

Questions? Please contact us by Oct 5. 1-800-DIAL-PPL (1-800-342-5775) M-F: 8am to 5pm

Page 1

Bill Acct. No. Due Date		Amount Due
12345-67890	Oct 5, 2015	\$194.67

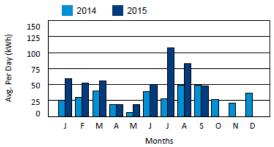
Your Electric Usage Profile

Service to: JOHN SMITH 123 MAIN ST. ANYTOWN, PA 12345

Meter: 99999999

Your next meter reading is on or about Oct 12, 2015.

This section helps you understand your year-to-year electric use by month. Meter readings are actual unless otherwise noted.



Monthly Comparison	Days Billed	kWh	Average kWh/Day	Average Temp.
Sep 2015	20	405	48	74F
Sep 2014	30	1463	49	71F

Billing Period	Туре	Reading	
Sep 11	Actual	89650	
Aug 12	Actual	88207	
20 Days	kWh Billed	405	

Yearly Comparison	Total Use	Avg. Monthly
Oct 2014 - Sep 2015	17750	1479
Oct 2013 - Sep 2014	11453	954

Billing Summary	(Billing details	on back)
Balance as of Sep 14, 2015	\$0.00	
Charges:		
Total Distribution Charges	\$67.24	
Total Generation & Transmission Charges	\$127.43	
Total Current Charges	\$194.67	
Amount Due By Oct 5, 2015		\$194.67
Account Balance		\$194.67

How To Shop For Electricity					
You can choose the company that supplies your electricity. Visit papowerswitch.com or www.oca.state.pa.us for supplier offers. If you are shopping, know your contract expiration date.					
Here's the information you need to shop: Bill Account Number: 12345-67890 Rate Schedule: RS (Residential) Current Supplier: Supplier D					
PPL Electric Utilities price to compare for your rate is \$0.09493 per kWh. This changes the 1st of June and December.					

Manage Your Account

Manage Tour Account							
	Pay Your Bill		Online Options (pplectric.com)				
Online:	Visit pplelectric.com	-	Report an outage/check outage status				
Phone:	Call 1-800-342-5775	-	Make a payment, view your bill and				
Mail:	Use envelope provided		usage history.				
ABP:	Automatic Bill Pay (see	-	Sign up for alerts.				
	back of stub to enroll)	-	Enroll in paperless billing, automatic				
Card:	MasterCard, Discover,		bill pay, budget billing.				
	Visa or debit, call	-	View your rate schedule at: pplelectric.com/rates				
	1-800-672-2413		pplelectric.com/rates				
	(service fee applies)	L					
Correspondence:							
Customer Services, 827 Hausman Road, Allentown, PA 18104-9392							



Residential Bill Sample, current (back)

Your Message Center

- With paperless billing, you can receive and pay your PPL Electric Utilities bills online. The process is free, quick, convenient and secure. To learn more or sign up, visit pplelectric.com.
- Information about appliance energy use and tips on saving energy are available through the Energy Library on our Web site, pplelectric.com/e-power
- Before digging around your home or property, you should always call the state's One Call notification system to locate any underground utility lines. You can do this by simply dialing 811, which will connect you to the One Call system. Be safe and call 811 before you dig.
- Dishwashers use about 13 gallons of hot water per load. That's less than washing dishes by hand. Always use full loads on the shortest cycle. When washing dishes by hand, don't let the hot water run continuously.
- Save postage and late charges sign up for Automated Bill Payment.

General Information

Generation prices and charges are set by the electric generation supplier you have chosen. The Public Utility Commission regulates distribution rates and services. The Federal Energy Regulatory Commission regulates transmission prices and services.

PPL Electric Utilities uses about \$1.32 of this bill to pay state taxes and about \$5.54 is used to pay the PA Gross Receipts Tax.

Billing Details - (Bill Acct. 12345-67890)	Page 2
Previous Balance Payment Received Aug 18, 2015 - Thank You!	\$786.07 -\$786.07	
Balance as of Sep 14, 2015	-5760.07	\$0.00
Charges for - PPL Electric Utilities Residential Rate: RS for Aug 12 - Sep 11 Distribution Charge: Customer Charge 1,443 kWh at 3.48700000¢ per kWh System Improvement Charge at 4.51% PA Tax Adj Surcharge at -0.13300000%	14.11 50.31 2.91	
Total Generation & Transmission Charges (see Supplier Billing Details page)	-0.09	\$67.24 \$127.43

Understanding Your Bill

Customer Charge - Monthly charge to recover costs of billing, meters and equipment.

Distribution Charge - Monthly charge to recover costs of local equipment used to deliver electricity from high-voltage transmission lines (see Transmission Charge) and safely step down voltage for use in your home or business.

System Improvement Charge - Monthly charge to recover costs for improving, repairing and replacing equipment that delivers electricity to your home or business.

State Tax Adjustment Surcharge - Monthly charge or credit to reflect changes in various state taxes. The surcharge may vary by bill component.

Transmission Charge - Monthly charge to recover the cost of moving electricity over high-voltage transmission lines from generation facilities to PPL Electric Utilities' distribution lines (see Distribution Charge).

Type(s) of Meter Readings:

Amount Due By Oct 5, 2015

Account Balance

'Actual - Measures your monthly electricity use based on an actual



\$194.67

\$194.67

Residential Bill Sample, Supplier Details

Cumplior Billing Details

PPI (Supplier Bill	ing Details	12345-67890	Oct 5, 2015	\$194.67			
These are the generation and transmission charges from your supplier(s). If you have questions, please contact the supplier that served you during that period.								
	For questions on these charges, please contact this supplier at: Phone: 1-888-111-9999 Supplier A Customer Services Supplier Ave. A Town, PA 12345	Charges for - Supplier A Generation & Transmissic GENERATION CHG: 7 I Total Supplier A Charges		12 - Aug 14 0.	53 \$0.63			
	For questions on these charges, please contact this supplier at: Phone: 1-888-222-9999 Supplier B Customer Services Supplier Ave. B Town, PA 12345	Charges for - Supplier B Generation & Transmissic Commodity Charge 75 Gross Receipts Tax 53 Total Supplier B Charges	7 KWH @ 0.085	14 - Aug 21 64.	\$64.35			
ppl	Pro questions on these charges, please contact this supplier at: Phone: 1-888-342-5775 PPL Electric Utilities Customer Services 827 Hausman Rd	Charges for - PPL Electric Generation & Transmissio Transmission Charge: 281 kWh at 1.279000 Generation Charge: Capacity and Energy 281 kWh at 8.2130 Total PPL Electric Utilities	on Charges for Aug 00¢ per kWh 00000¢ per kWh	21 - Aug 24 3.: 				
	Allentown, PA 18104-9392 For questions on these charges, please contact this supplier at: (1) Phone: 1-888-333-9999 Supplier C Customer Services Supplier Ave. C Town, PA 12345	Charges for - Supplier C Generation & Transmissic Generation 398 KWH Total Supplier C Charges		24 - Aug 27 35.	7 <u>8</u> \$35.78			
	For questions on these charges, please contact this supplier at: Phone: 1-888-444-9999 Supplier D Customer Services Supplier Ave. D Town, PA 12345	Charges for - Supplier D Generation & Transmissic QTY 90(KWH) X 0.114 Total Supplier D Charges		27 - Sep 11 10.	3 <u>4</u> \$10.34			
		1	Total Generation 8	k Transmission C	harges: \$127.43			

12345-67890 Oct 5 2015 \$194.67



Logo Specifications

 Currently, we have not received logos from 50% of our suppliers

Logo Requirements

Color: Black & White (do **not** use a color logo and save as b&w)

Size: 300 dpi

File Type: .tif

File properties (right click on .tif file, select Properties, Details tab)

• **Dimensions**: 300 x 166

Width: 300 pixels Height: 166 pixels

Horizontal & Vertical Resolution: 300 dpi

Bit depth: 1

Compression: Uncompressed

Resolution Unit: 2

Color Representation: Uncalibrated



Questions





LUNCH





Standard Offer Overview/ Supplier Transmittal Form(STF)

Jenn Ainsworth
Billing Operations



Standard Offer Program - Background

- The program start date: August 1, 2013
- Offered to any default service residential and small commercial customers
 25kW that contacts PPL Electric's Call Center, other than for termination or emergency calls. This includes CAP customers and any shopping customer that actively requests participation in the program. Specific call types include Choice, Start Service and Moving
- This program offers a 12-month fixed price that will be set at 7 percent below PPL's current Price-To-Compare default service rate at the time of customer call
- The customer can request to be removed from this program at anytime without termination charges



Standard Offer Program – EGS Qualification Requirements

- Must be licensed by the Commission with authority to provide service to Residential and/or Small C&I customers in PPL Electric's service territory
- Must be certified by PPL Electric to exchange data through the EDI process, through EDC consolidated billing. EGS must be certified by PPL Electric as Rate Ready Billing
- All EGSs must meet certification requirements on or before 5 calendar days prior to the start of a PTC quarter to be eligible to participate in the Program
- Must OPT IN or OPT OUT regardless of the PTC only changing semiannually



Standard Offer Program – EGS Obligations

- Accept and enroll all referred customers into the Standard Offer Program
- Send the welcome packet to the customers per PUC regulations
- Utilize a rate ready rate for SOP customers. Suppliers need to use a specific SO rate, (which PPL sets up prior to the SOP quarter) when enrolling customers in this program
- EGS must maintain customers on the rate for 12 billing periods, unless the customer withdraws from the program
- If a customer elects to do SOP after their first 12 months or sooner if the
 rates changes, the EGS must honor their request if they (EGS) are still
 participating in program. When that customer calls in to change or elect to
 do SOP again we will automatically assign them to their current supplier if
 they are still in the program. If you are sent a new referral, you must submit
 a change to update the customer to the correct rate
- Please make sure that we have all updated contacts for proper invoicing



Standard Offer Program – Customer Enrollment Process

- EDI 814 enrollment, following the Accelerated switching guidelines
- Notifications in accordance with the provisions of 52 Pennsylvania Code Chapter 54, prior to the termination of the contract with a customer under this program, the EGS will notify the customer regarding the conclusion of the contract, and its offer concerning the terms and conditions for continuation of service
- If a supplier suspends participation in SOP, it must continue to serve the customers already signed up for the 12 month term
- Every EGS must complete and execute the Standard Offer Program Binding Participation Form
- As part of PPL's SOP controls, we monitor missing or incorrect enrollments. Once EGS is notified, EGS must submit 814 Enrollments within a timely manner

Standard Offer Program – Customer Enrollment Process (cont'd)

- Every EGS must complete and execute the Standard Offer Program Binding Participation Form
- As part of PPL's SOP controls, we monitor missing or incorrect enrollments. Once EGS is notified, EGS must submit 814 Enrollments within a timely manner
- If a book of business is acquired, the new supplier must honor the SOP rate and these accounts must remain on RATE READY until the SOP term is completed

Standard Offer Program – Costs

- EGSs will be charged \$28 per referred customer
- Invoices will be issued by PPL, within 10 business days following the conclusion of the quarter
- EGS is required to pay the invoice within 20 business days to PPL Electric.
 Payment must be made via Electronic Funds Transfer (EFT)
- If EGS does not fulfill financial obligations, PPL has the right to terminate the EGS from further participation in the Program



Standard Offer Program – Reporting Requirements

- EGSs are required to independently maintain their own data and information for all customers enrolled in the program
- PPL Electric will not be responsible for tracking or reporting on the Program for the benefit of the EGS. Any actions taken by PPL Electric to monitor the program will be completed on its own behalf

Standard Offer Statistics Aug 1, 2013 to September 2015

Total referrals for the time period of August 1, 2013 to September 2015

- Residential: 167,866
- Small C & I 3622



Standard Offer – Lessons Learned (1 of 2)

- What happens when SOP accounts are submitted for enrollment, but then rejected by PPL for 'Account Exists but Is Not Active'?
 - This is because the EGS submitted the 814 Enrollment with a non-SOP rate code.
 Resend corrected 814 Enrollment
- When accounts arrive on the 'Pending Enrollment' file, when do they move to the 'Standard Offer Referrals Enrollment' file? What is the logic for how accounts move from one to the other?
 - All accounts are on the Referral Report to begin with. Only pending active accounts are on the Standard Offer Pending Enrollment Report. The account will remain on this report until the account become active or is voided
- Possible 814 Enrollment Rejection Reasons
 - Improper Rate Code on a pending active account
 - Not Last In
 - Voided account
 - Final account



Standard Offer – Lessons Learned (2 of 2)

- What time will the daily Referral file be available
 - Referrals are populated throughout the day in real time (including web referrals)
- Is the Payment \$28 per customer OR "PPL Electrics actual costs per referred customer"?
 - \$ 28 for each customer populated on the Referral Report. If enrollment rejects/voids due to: non-payment of security deposit, customer resigned with another supplier, elected a new supplier in the Referral Program etc. PPL will try and find a new "good " enrollment for replacement
- If new and moving customers are enrolled with PPL-EU for the initial month of service, will their enrollment be accepted?
 - Yes. But they will show up on the Buffer Report # 2 in pending active status. Once they become active, the Supplier will received an 814 Add Accept response
- If a Supplier Opts-Out of participating in either the Residential or Small C&I Referral Program, is a new Standard Offer Program Binding Participation Form and Standard Offer Contract Form required?
 - Yes. It must be resubmitted (received at least 5 calendar days prior to the start of the program quarter



Standard Offer – DSP III Changes

- Implemented 4/28/2015 SOP via Web Self-serve for customers who reach out via PPL's Website vs. via a traditional customer call
- Clarifications to scripting, to ensure that customers better understand the Standard Offer Program
 - PPL Electric agrees to revise its Standard Offer Program ("SOP") scripts within 90 days of the Commission approval of the settlement to provide more explicit disclosures explaining that:
 - The initial discount of 7% is based on the current PTC;
 - The PTC will change semiannually with the next change in [month];
 - The percentage savings a customer will experience will vary as the PTC changes;
 and
 - The SOP rate may be higher or lower than the next PTC
- PTC will change every six months, but EGS will continue to have the option to participate on a quarterly basis



Standard Offer – DSP IV Possible Changes

- Change from Quarterly to Monthly invoicing
- Possible change to EGS participation from quarterly to semi annual to align with the PTC change
- Possible change to binding agreement to flow with the other changes



Standard Offer - Controls & Reports

- On a weekly basis, run statistics that summarize referrals, enrollments, drop for internal distribution
- Run a report to identify missing enrollments for referred accounts. Reach out to EGS to get missing enrollments initiated for the account. (We will reevaluate missing enrollment controls over the next few months)
- At the end of each month, we send a summary of referrals, enrollments and #
 of participating EGSs to PaPUC for publication on SOP website:
 - www.papowerswitch.com
 - Switching Power tab on homepage
 - Scroll down past video to "Find More Information"
 - Last bullet is Learn about the Standard Offer Program
 - Stats are at the "View the latest updates on referrals and enrollments to the Standard Offer Program" link



Supplier Transmittal Form (STF) Process – What is it? Why is it needed?

- Used for Bankruptcy, Disconnect in Error, Meter Mix and other situations where PPL needs to allow the EGS the opportunity to enroll the replacement account
- Manually intensive process includes
 - Validation of the billing on original account (cancel/rebill may be required)
 - Notification of new account to existing EGS
 - EGS has 5 Business days from receipt of email notification to enroll the replacement account
 - If 814 enrollment is not received by PPL in the timeframe required, the replacement stays in PPL's default supply (Supplier may not have the opportunity to be fully recouped for PJM charges)
 - If the 814 is received, the start date will be a future date based upon switching rules (3 business day) however, PPL will manually data repair the start date to the date the issue occurred on the old account
- PUC requires the completion of the process in 30 days or less from the initiation of the customer contact to completion of the data repair
- To be replaced with the implementation of Seamless Move/Account Number Change -TBD

Questions





Act 129 Energy Efficiency Programs

Pete Cleff
Manager- Energy Efficiency



Background

- Act 129 became law in 2008
- All PA Electric Distribution Companies (EDCs) that serve > 100,000 customers are required to implement an Energy Efficiency & Conservation Plan (EE&C Plan)
- EE&C Plan describes the energy efficiency and demand response programs
- EE&C helps customers manage their electric consumption and reduce electric costs
- All EE&C programs are available to customers who shop for electricity or take default supply from PPL Electric Utilities
- All programs are voluntary for customers



Requirements

- Initial compliance targets (energy savings, peak reductions, etc.) were set by legislation
- PaPUC sets subsequent compliance targets
- Cost is recovered from all customers via a rider
 - Total budget is ~ \$61.5 million per year
- EDC makes no profit/ROE
- EE&C portfolio must be cost-effective
- Equitable distribution of programs (savings and costs) across all customer classes
 - Residential, Low-Income, Small C&I, Large C&I, GNI
- Penalty of \$1 million to \$20 million for not meeting targets



Phases of EE&C

- Phase 1: November 2009 May 2013
- Phase 2 (current): June 2013 May 2016
- Phase 3 (planning in progress): June 2016 May 2021

Phase 2 Requirements (current phase)

- 2.1% energy reduction from 6/1/13 5/31/16
 - 821,072 MWh/yr compliance target for PPL EU
- No demand reduction compliance target
- 10% of the required reductions must be from government, education, non-profit ("GNI") customers
 - 82,107 MWh/yr compliance target for PPL EU
- 4.5% of the required reductions must be from low-income customers (< 150% of federal poverty income guidelines)
 - 36,948 MWh/yr compliance target for PPL EU
- PPL EU is on track to meet all compliance targets
- \$185 million budget



Phase 3 Requirements

- 3.8% energy reduction from 6/1/16 5/31/21
 - 1,443,000 MWh/yr compliance target for PPL EU
- 92 MW peak load reduction
- 3.5% of the required reductions must be from government, education, non-profit ("GNI") customers
 - 50,507 MWh/yr compliance target for PPL EU
- 5.5% of the required reductions must be from low-income customers (< 150% of federal poverty income guidelines)
 - 79,367 MWh/yr compliance target for PPL EU
- \$308 million budget



Phase 3 Schedule

- June 2015: PaPUC issued Phase 3 targets and rules
- July November 2015: Stakeholder input
- November 2015: File the EE&C Plan with PaPUC
- March 2016: PaPUC approves the EE&C Plan (marketing can begin)
- June 2016: Phase 3 programs launch
- May 2021: Phase 3 programs end



Phase 3-- Why we're so excited

- Phase 3 targets are more challenging than Phase 2,
 - Cost per annual kWh saved is more than 30% less than Phase 2
 - Savings target for low-income customers is much more challenging
- Phase 3 is the longest phase so far-- 5 years starting June 2016
- But... challenging targets + long phase = great opportunity to enhance the customer experience in Phase 3
 - Sustained marketing, communications, and customer engagement
 - New and improved website & mobile site, customer portal, "energy analyzer," single point of contact for each customer sector, online applications
 - Evolve from a widget-based to a more holistic, whole home approach
- We're ready to step on the gas and help our customers!



Phase 3-- Why we're so excited

- Opportunity for programs to evolve from individual "widgets" to a more holistic and comprehensive approach
- New products are likely to evolve
- Gadgets, gadgets, and more gadgets that are fun, socially relevant, interconnected, and accessible from mobile devices
 - The thermostat is suddenly one of the coolest, trendiest products in the home
 - Home energy management systems
 - Remote control lighting
 - Your home knows when you are not there
 - Seemingly unrelated devices talk to each other (thermostat, garage door, door lock, windows, water heaters, security systems)
- Energy efficiency behavior and education will likely play a more significant role



Possible Phase 3 Programs- Residential

- Appliance recycling (refrigerators, freezers, window air conditioners, and possibly dehumidifiers)
- LEDs discounted at the point of sale
- Home comfort and efficient products (heat pump water heaters, insulation, air sealing, air source heat pumps, ductless heat pumps, smart thermostats, refrigerators)
- Student-Parent education for grades K-12
- Personalized home energy reports, energy surveys and energy analyzer, easy to use customer portal for information on rebates and energy savings

Possible Phase 3 Programs- Low-Income

Direct-install

- Single homes, multi-family homes, and manufactured homes
- Audit and education
- Weatherization, heat pump water heaters, LEDs, air sealing, ductless heat pumps, air source heat pumps, low-flow aerators and shower heads, water heater temperature setback, safety measures, appliances, air conditioners, appliance recycling, smart strips
- Installed by PPL at no cost to the customer

Energy Efficiency Kits

 LEDs, smart strips, LED night lights, low-flow aerators and shower heads, energy education



Possible Phase 3 Programs- Non-Residential

- Efficient equipment
 - Lighting retrofits and new construction
 - HVAC
 - Refrigeration
 - Water heating
- Custom, including Combined Heat and Power



Possible Phase 3 Programs- Demand Response

- Load curtailment for non-residential customers
 - 92 MW target
 - Average over the last 4 program years
 - DR events are required when the PJM RTO day-ahead load forecast is
 - > 96% of forecasted peak load
 - Each event must be 4 consecutive hours
 - Maximum of 6 events per program year
 - Each event must be >= 85% of compliance target
 - Customers enrolled in PJM emergency load control program are eligible to participate in Act 129 DR but the total cost to acquire these customers, including incentives, must be no more than 50% of single enrolled customers (Act 129 DR only)

How far has energy efficiency come in 6 years?

- 6 years ago... "What is a CFL, why is it so squiggly, and why does it cost \$35 for a stinkin' light bulb?"
- 3 years ago... "What is an LED and why does it cost \$35?"
- 2 years ago... "Why is it so hard to choose a simple light bulb?
 What is a lumen? Why are bulbs different colors?"
- Now... "These LEDs are amazing and cost only \$4"
- How many energy efficiency program managers does it take to change an LED light bulb?
 - None. They last for up to 20 years
- In 2 years... "What was a CFL?"



How far has energy efficiency come in 6 years?

- PPL's customers bought more than 10 million CFLs between 2010 and 2013
- More than 1 million LEDs since mid-2014. We believe we are the first utility program to reach that milestone
- More than 300,000 of PPL's 1.2 million customers have participated in at least one energy efficiency program since late 2009
 - Much more if we include light bulbs (discounted at the point of sale and PPL does not know the customer's name)
- More than 2 billion kWh per year saved
 - Equivalent to taking 295,000 cars off the road
 - Equivalent to the annual usage of approximately 160,000 homes
 - Reduces customers' annual electric bills by approximately \$228 million

Our programs are making an impact

6 years ago:

- Most stores did not stock many CFLs or LEDs
- Most HVAC contractors did not stock efficient equipment...
 it was a special order
- No one heard of a heat pump water heater
- Did anyone recycle their old, energy hog refrigerator?
- Did students talk about energy efficiency in school? At home?
- A thermostat was a thermostat, and it wasn't cool



Questions





Billing/No Bills/ Project Work

Debbie Keiser Supervisor- Billing Operations



- 1.4M customers (August, 2015)
 - 1,226,398 Residential
 - 184,081 Non-Residential (179,954 Commercial & 4,127 Industrial)
- On average, 70,000 accounts go through billing nightly
- Most meter readings for billing are received on the first day available of our 4 day billing window.
- Customer Service System (CSS)
 - Controls monitor readings, usage and calculated dollars



No Bills

- An account that is not billed up to their current bill date. Includes accounts being cancel/rebilled.
- Challenging year
- ~3,000 no bill accounts
 - IT Support
 - Call Center Support
- Strive to issue accurate and timely bills 99.8%



- Programs
 - Budget Billing, EFT, Paperless billing, OnTrack
- Bill Options
 - Bill Ready PPLEU sends usage (867) to Supplier, waits 3 days for Supplier to return charges (810) and then bills customer
 - Dual Bill PPL sends usage (867) to Supplier. Supplier issues separate bill from PPLEU
 - Rate Ready PPL houses Supplier prices and calculates bill within 1 day from receipt of readings



Future Projects

- Seamless Move (June, 2016)
- Unmetered Accelerated Switching (December, 2016)
- Backoffice Automation
 - Parameter changes
 - Customer Due Date Changes
 - Cancel/rebill processes
- Supplier Transmittal Form (STF)



Friendly Reminder – Acceptable Billing Charges for printing on PPL bill

- Commodity charges only
- Do not send us:
 - Termination charges
 - Customer charges



Questions





Q&A

PPL PANEL



CLOSING REMARKS



SAFE TRAVELS

