

# The Changing Electricity Marketplace



PPL Electric Utilities

# Changes to Rate Schedule RTS (Residential Thermal Storage)

April 30, 2009



# Purpose

- The purpose of this webinar is to provide you with first hand information about changes to Rate Schedule RTS (Residential Thermal Storage) so that you can answer basic questions from your customers

# Our Communications Objectives

1. Make you aware of the background of Rate Schedule RTS
2. Provide you with the reasons how and why Rate Schedule RTS is changing
3. Give you a schedule of key dates related to customer communications and changes to the rate
4. Provide you with a contact at PPL Electric Utilities should you have questions about the thermal storage systems or Rate Schedule RTS
5. Answer questions you may have

# Purpose of Rate Schedule RTS

In the early 1980's...

- PP&L was a single company that provided generation, transmission and distribution services
- PP&L actively promoted electric heat
- PP&L's peak demand for electricity was around noon during winter months

# Purpose of Rate Schedule RTS

- Because PP&L was a winter peaking company in a summer peaking power pool (PJM) there were economic advantages if winter heating load could be shifted to “off-peak” hours
- Rate Schedule RTS enabled PP&L to shift home heating and water heating load to off-peak hours to take advantage of some of those savings

# Requirements for Rate Schedule RTS

- Meter controlled thermal storage system and domestic hot water heating
- Ability to remain 'off-peak' for ten consecutive hours
- Thermal storage system sized to carry the home heating load on the coldest winter day
- No supplementary water heating or space heating sources; this included a prohibition on fossil fuels

# Specifics of Rate Schedule RTS

- Rate includes both a demand charge and an energy charge
- The demand charge was applied to every KW of demand during on peak hours in excess of 2KW
  - Customer could maximize savings by being diligent in moving electricity use to off-peak hours
  - Created a deterrent for over-riding the system during on-peak hours
- The energy charge was applied to each kilowatt hour (kWh) used and was much lower than the normal residential Rate Schedule RS per kWh

# Marketing Rate Schedule RTS

- To qualify for Rate Schedule RTS, customers had to install a thermal storage system
  - System was more expensive than other electric or fossil fuel heating systems
- PP&L overcame this objection by:
  - Providing grants of \$900 to \$1,200 to offset the initial cost of the system
  - Committing to a \$50 per month credit on electric bills if the rate schedule was removed within ten years of system installation

# Rate Schedule RTS Closed in 1995

- Closed as part of legal settlement
- Approximately 13,500 customers remain on the Rate Schedule RTS
- All commitments made by PPL Electric Utilities to Rate Schedule RTS customers have been met
- Rate Schedule RTS customers have benefited from a lower rate for many years
- The initial investment made by customers in the thermal storage system has been fully recovered as a result of the lower rates

# Changes to Rate Schedule RTS on January 1, 2010

- On January 1, 2010, generation rate caps will expire
- Rate Schedule RTS structure will change from demand (kw) and energy (kwh) to solely energy...the demand charge will be eliminated
- The generation kwh charge will be 1.35¢ lower than Rate Schedule RS (final RS rate is not yet known)
- The estimated average increase for Rate Schedule RTS customer class will be about 43%\*

\* Based on first 5 procurements

# What has driven the changes to Rate Schedule RTS?

- Peak load on PPL EU system has shifted
- Existing thermal storage systems are reaching the end of their life
- More energy efficient technologies are available

# Peak load has shifted

- PP&L's peak load was in the winter
- PPL Electric Utilities' peak is now sometimes in the summer with a strong trend towards summer peak load growth due to air conditioning
- The daily peak load in the winter used to be around noon
- Now the daily peak load is in late afternoon and into early evening, exactly when thermal storage and hot water heaters are charging and contributing to that peak

# Existing thermal storage systems are reaching the end of their life

- All of the thermal storage systems are at least 14 years old and many are approaching 30 years old
- According to the PPL EU tariff, Rate Schedule RTS is applicable only for the original thermal storage system, not replacement systems
- Having said that, commercially available replacement systems and replacement parts are not readily available

# More energy efficient technologies available

- Heat pump efficiency has improved significantly
- Ground source heat pumps may be an application that provide both energy efficiency and competitive operating costs

# PPL EU is conducting pilot tests

- This past winter, PPL EU conducted pilot tests to learn what options may be of assistance to Rate Schedule RTS customers
  - Placing customers on a Time-Of-Use rate schedule
  - Reducing thermal storage and hot water charging times
  - Employing different technologies like high efficiency heat pumps and ground source heat pumps
- The results of those pilots currently are being evaluated and will be communicated to Rate Schedule RTS customers and contractors in early summer 2009

# Transitioning Rate Schedule RTS Customers

- PPL EU recognizes Rate Schedule RTS customers will receive an increase greater than Rate Schedule RS customers when generation rate caps expire
- To help Rate Schedule RTS customers transition to the higher rates, PPL EU will step-in the increase
  - January 1, 2010 – Rate Schedule RTS generation charges will be 1.35¢/kWh lower than Rate Schedule RS
    - The discount is scheduled to end 1/1/11, we have pending before the PUC a settlement agreement that would extend the discount for an additional year at a lesser amount
  - January 1, 2012 – Rate Schedule RTS generation charges will equal Rate Schedule RS generation charges

# Available PPL EU Programs

## Rate Stabilization Plan

- Customers prepay a specific amount prior to Jan 1, 2010
- Prepay amount is applied to bills after Jan 1, 2010
- PPL EU pays 6% interest on the amount paid into the plan

# Available PPL EU Programs

Rate Mitigation Plan*	<ul style="list-style-type: none"><li>■ Customers can defer part of the increase in rates starting Jan 1, 2010</li><li>■ Customers must repay deferred amount plus 6% interest before 2013</li></ul>
Time-Of-Use*	<ul style="list-style-type: none"><li>■ Available to all residential customers on Jan 1, 2010</li><li>■ Customers may save by shifting their electricity from on-peak to off-peak</li><li>■ On-peak hours change from summer to winter</li></ul>

\*Pending PA PUC approval

# What if a customer calls to report their storage system has failed?

- Take action to eliminate any damage to their property, but there is no immediate need to address the failed thermal storage heating system
- Results of the PPL EU pilot will be made available to all Rate Schedule RTS customers in early summer 2009

# Key Dates

- Early Summer 2009:
  - Results of the pilot will be communicated to Rate Schedule RTS customers via mail
  - Webinar with contractors to provide the results of the pilot
  
- January 1, 2010:
  - Changes to Rate Schedule RTS - Demand charge eliminated and all kilowatt hours billed at 1.35¢ below those for Rate Schedule RS
  
- January 1, 2012:
  - Rate Schedule RTS generation charges will equal Rate Schedule RS charges

# PPL EU Guidance About RTS

- For technical questions about thermal storage systems please contact:

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Questions???

