



An Exelon Company

# AMI Program Briefing

**Presentation to the Illinois Commerce  
Commission**



August 30, 2013

- Opening Remarks
- Deployment Readiness Actions and Status
- Deployment Outreach and Communications
- Meter Installation Process and Enhancements
- Customer Benefits and Programs
- Data Privacy and Data Security
- Wrap-Up

- The 2013 AMI Deployment builds on four years of working jointly with Stakeholders, the Smart Grid Advisory Council and ICC staff through a variety of forums including:
  - 3 Sets of Workshops and Technical Presentations
  - 4 Formal ICC Proceedings
  - 3 Pilot Evaluation Reports
  - 100+ teleconferences and in-person meetings
- Preparations have been underway throughout 2013 to launch the meter deployment phase of the AMI Program in a safe and efficient manner
- The AMI meter deployment is set to commence on Tuesday, September 3 in North Riverside. Other towns scheduled to receive meters in September include Brookfield, Forest View, Leyden Twp., Northlake, Norwood Park Twp., River Grove and Riverside

## Experience To-Date:

### AMI Pilot (2009 – 2010)

- All objectives achieved on schedule and within budget
- Collaborative approach in working with key Illinois stakeholders
- Operational experience and lessons learned from the Pilot served as important inputs into the AMI Operational Business Case and AMI Deployment Plan

### On-Going AMI Operations (2010 – Present)

- Organizational expertise increasing as demonstrated by improved metrics
- Formalized roles/responsibilities and mature processes

### AMI Test Route (July 2013)

- Demonstrated the effectiveness of new information technology and business process enhancements related to smart meter installation
- All meters communicating with ComEd back-office systems as expected
- ICC field engineer validated new installation procedures

***We are building upon a 4-year track record of successful AMI operations***

# Deployment Readiness Actions and Status



## Outreach

- Enhanced customer communications materials and tactics developed
- ComEd.com website content updated
- Municipal outreach activities underway – ComEd has met with officials from all towns receiving meters in 2013



## Personnel/Training

- Developed and delivered enhanced meter installation training for technicians
- Utilizing internal installation resources in 2013
- Dedicated AMI toll-free number established and staffed with specially trained CSRs
- Installation appointments available with 2-hour window



## Cross Dock/Fleet

- Received initial shipment of 10,080 meters and sample testing complete
- Final Maywood cross dock preparations are complete with required equipment/materials on-hand
- 45 vehicles are received and being inspected



## Meters/Network

- 2013 delivery schedule finalized with GE
- Initial shipment has been UL-tested for consumer safety
- SSN First Article Testing completed for 2013
- Network within 2013 region deployed and operating effectively

# Cross Dock Readiness

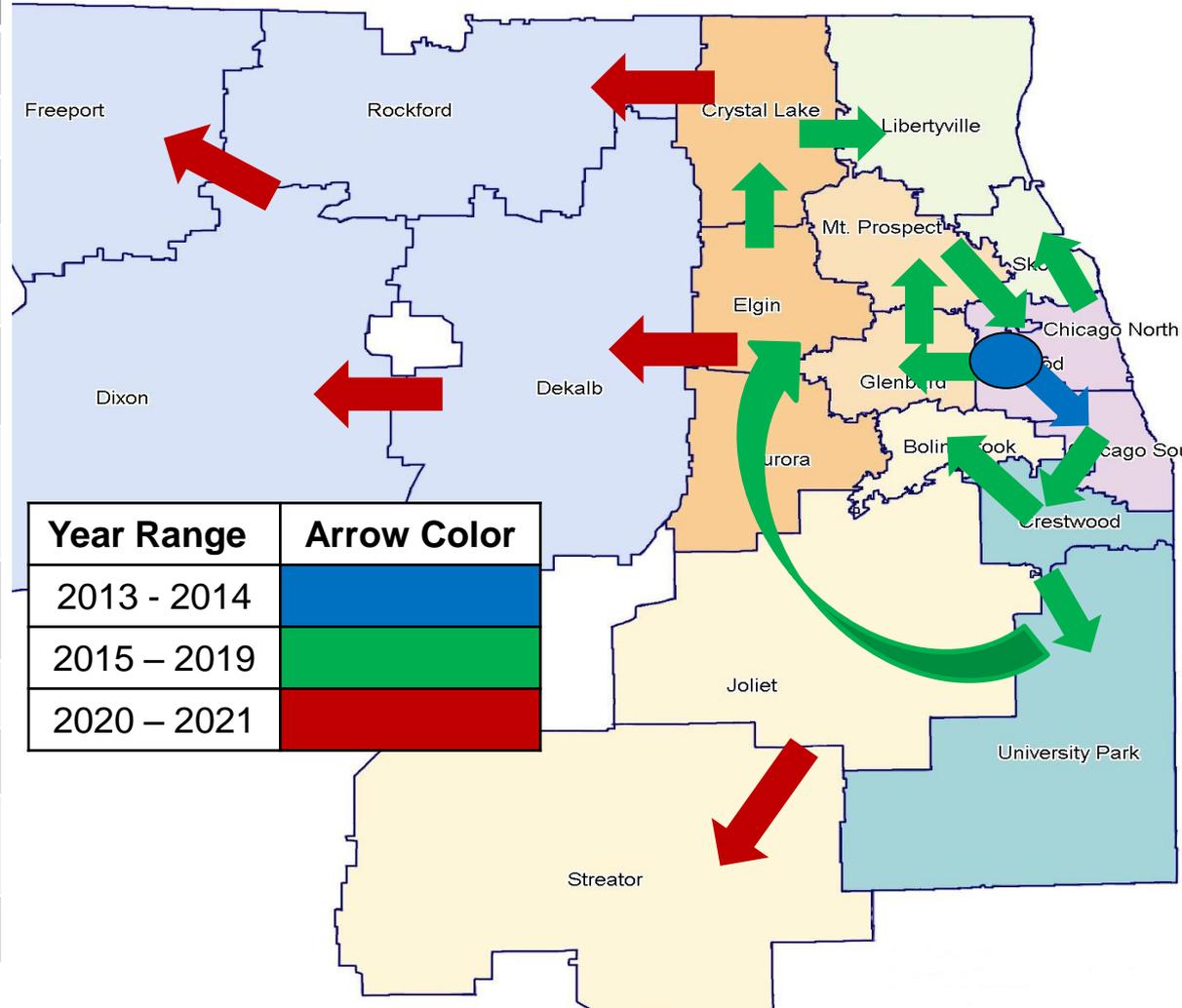


# 2013 Detailed Deployment Plan

CITY	SEPT	OCT	NOV	DEC	TOTAL
BERKELEY	0	0	1,751	0	1,751
BROOKFIELD	2,402	5,219	0	0	7,621
CICERO	0	0	0	6,486	6,486
ELMWOOD PARK	0	0	432	6,041	6,473
FOREST VIEW	234	0	0	0	234
FRANKLIN PARK	0	0	6,233	0	6,233
HARWOOD HEIGHTS	0	343	3,251	0	3,594
LA GRANGE PARK	0	4,699	0	0	4,699
LEYDEN TWP	201	0	1,857	0	2,058
MAYWOOD	0	0	39	0	39
MELROSE PARK	0	0	130	650	780
NORRIDGE	0	0	3,814	892	4,706
NORTH RIVERSIDE	1,320	0	1,464	0	2,784
NORTHLAKE	2,503	1,459	0	0	3,962
NORWOOD PARK TWP	314	0	0	0	314
PROVISO TWP	0	108	0	0	108
RIVER GROVE	303	0	0	4,126	4,429
RIVERSIDE	1,058	0	2,470	0	3,528
ROSEMONT	0	1,940	0	0	1,940
SCHILLER PARK	0	1,411	3,333	0	4,744
STICKNEY	0	2,133	0	0	2,133
<b>TOTAL</b>	<b>8,335</b>	<b>17,312</b>	<b>24,774</b>	<b>18,195</b>	<b>68,616</b>

# AMI Program Geographic Deployment

Year	Meters Deployed	Operating Center(s)
2012	-	N/A
2013	60,000	Maywood
2014	160,000	Maywood, Chicago South
2015	680,000	Chicago South, Glenbard, Mount Prospect
2016	770,000	Chicago South, Mount Prospect, Chicago North, Crestwood
2017	770,000	Chicago North, Crestwood, Bolingbrook, University Park, Joliet
2018	770,000	Chicago North, Joliet, Aurora, Elgin, Skokie, Crystal Lake
2019	275,000	Skokie, Crystal Lake, Libertyville
2020	275,000	Libertyville, Rockford
2021	269,000	Rockford, Dekalb, Dixon, Freeport, Streator
<b>TOTAL</b>	<b>4,029,000</b>	



# Deployment Outreach and Communications

- AMI Pilot customer research conducted in 2010 related to the meter installation process confirmed good practices and identified opportunities for improvement
  
- ComEd conducted customer surveys in 2013 with residential customers resulting in the following outcomes:
  - Improvements to the content and overall “look and feel” of the communications materials
  - Creation of additional customer touch points
  
- Although not specifically cited in the customer research, ComEd will be utilizing additional tactics to enhance the customer experience
  - AMI Customer Experience group was established to address escalated customer inquiries/complaints and represent the customer during internal process design sessions
  - Implemented a series of tactics to minimize errors that could cause a high bill and to address AMI customer inquires related to high bills

# Pre- and Post-Deployment Communications

- A staged messaging strategy is being utilized to build awareness as well as inform and educate customers
- Customers will receive communications prior to, during and after meters are installed

Timing	Channel	Message
60-120 days prior to smart meter installation	<ul style="list-style-type: none"> <li>•Bill Insert</li> <li>•Direct Mail</li> <li>•Events</li> <li>•Street Teams</li> <li>•Social Media</li> </ul>  	<ul style="list-style-type: none"> <li>•Awareness about smart meters and benefits</li> <li>•Awareness that meters will soon be installed in area</li> <li>•EE and CARE programs are available</li> </ul>
7-45 days prior to smart meter installation	<ul style="list-style-type: none"> <li>•Pre-deployment letter</li> <li>•Phone calls</li> <li>•Events</li> <li>•Street Teams</li> <li>•Social Media</li> </ul> 	<ul style="list-style-type: none"> <li>•Letter informs customer that a smart meter will be installed in the next 30-45 days</li> <li>•Automated call reminds customer of meter installation in one week</li> <li>•EE and CARE programs are available</li> </ul>
Day of installation	<ul style="list-style-type: none"> <li>•Door knock at customer premise</li> <li>•Meter installation door hanger</li> <li>•“Missed you” install door hanger</li> <li>•Social Media</li> </ul>  	<ul style="list-style-type: none"> <li>•Inform customer of meter installation</li> <li>•Inform that meter has been installed or “sorry we missed you” and need to reschedule</li> <li>•Educate about Energy Tools</li> </ul>
30 days after installation	<ul style="list-style-type: none"> <li>•Welcome Direct Mail</li> <li>•Peak Time Savings Direct Mail</li> <li>•Faith-based Events</li> <li>•Community Workshops</li> <li>•Social Media</li> </ul> 	<ul style="list-style-type: none"> <li>•Educate customers about smart meters</li> <li>•Encourage participation in energy management tools and optional pricing programs</li> <li>•Educate customers about available EE and CARE programs</li> </ul>

## Community Events

- Participating in 48 community events in 2013 at locations such as Cuban Festival and Fiesta Boricua
- Activities include My Energy Tools kiosk, Whirlpool smart appliance contest, new games (Fridge Raider and Pedal for Power), smart meter display, iPads with games and give-aways

## Youth Ambassador Program

- ComEd has partnered with After School Matters engaging 100 students during a seven-week program
- Youth will become advocates by learning about smart grid and energy efficiency, work events, deliver educational materials to municipal leaders and participate in ComEd Career Day

## Street Teams

- Brand Ambassadors will be deployed as part of a pilot program to help create awareness about smart meters at high-traffic areas in deployment areas

## Workshops

- Host workshops at community organizations, churches and senior centers where customers are provided with information about smart grid, energy efficiency and customer assistance programs. Workshops in deployment areas will focus on smart meter, energy tools and optional pricing programs.
- Hosted 55 workshops in 2013 and will continue to hold about 5-10 workshops per month

## Teacher Partnerships

- Conduct field trips for K-8 students at the Customer Education Center located at our training facility in Rockford where students learn about the history and science of electricity and the importance of energy in their lives

## Faith Based Outreach

- Train congregational “green” teams on energy management teams who will in turn host coffee hours at the congregations using training materials.

**Tactics**

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**Messages**

	Pre-deployment -120 to -60	Pre-deployment -30	Deployment 0	Meters enabled +30
<b>Tactics</b>	<ul style="list-style-type: none"> <li>•Meetings with legislators/ mayors/managers in deployment area</li> <li>•Offer to present at public forums</li> <li>•ComEd muni -news article</li> <li>•Identify influential community organizations &amp; advocates</li> <li>•Offer verbiage for municipal newsletter &amp;/or web content</li> </ul>	<ul style="list-style-type: none"> <li>•Ongoing meetings with legislators/ municipalities</li> <li>•Participate in public forums</li> <li>•Meet with influential community organizations</li> </ul>	<ul style="list-style-type: none"> <li>•1st day meter install demo</li> </ul>	<ul style="list-style-type: none"> <li>•Ongoing engagement with Municipal officials (i.e., mayor, manager, trustees) meetings</li> <li>•Community group engagement</li> <li>•Identify &amp; recruit new users &amp;/or advocates</li> </ul>
<b>Messages</b>	<ul style="list-style-type: none"> <li>•Preview installation timeline and communications materials</li> <li>•Inform municipality of schedule and planned customer communications</li> <li>•Seek input on key groups to engage</li> </ul>	<ul style="list-style-type: none"> <li>•Inform municipality of schedule and planned communications</li> <li>•Offer/schedule Day 1 installation demo</li> </ul>	<ul style="list-style-type: none"> <li>•Meters are being installed</li> <li>•Review materials distributed to customers</li> <li>•Reinforce smart meter safety and security</li> <li>•Promote use of energy management tools</li> </ul>	<ul style="list-style-type: none"> <li>•Meter installation updates</li> <li>•Energy management tools overview</li> <li>•Community feedback</li> </ul>



# Outreach and Engagement to Municipalities

City	Meetings Held with City Officials	Detailed Schedule Communicated to City
BERKELEY	Complete	Complete
BROOKFIELD	Complete	Complete
CICERO	Complete	Complete
ELMWOOD PARK	Complete	Complete
FOREST VIEW	Complete	Complete
FRANKLIN PARK	Complete	Complete
HARWOOD HEIGHTS	Complete	Complete
LA GRANGE PARK	Complete	Complete
LEYDEN TWP	Complete	Complete
MELROSE PARK	Complete	Complete
NORRIDGE	Complete	Complete
NORTH RIVERSIDE	Complete	Complete
NORTHLAKE	Complete	Complete
NORWOOD PARK	Complete	Complete
PROVISO TWP	Complete	Complete
RIVER GROVE	Complete	Complete
RIVERSIDE	Complete	Complete
ROSEMONT	Complete	Complete
SCHILLER PARK	Complete	Complete
STICKNEY	Complete	Complete

- ComEd has met with Fall Deployment Community officials:
  - Inform municipalities of the meter deployment schedule
  - Review materials residents will received prior to installation
  - Offer to present at Board meetings and/or conduct Town Hall meeting to inform community
  - Offer Day 1 meter demo
- Planned presentations:
  - Aug. 13<sup>th</sup> - Forest View Village Manager presented to Village Board deployment plan Board meeting
  - Sept. 3<sup>rd</sup> - Scheduled presentation to North Riverside Village Board
  - Sept. 5<sup>th</sup> – Scheduled presentation to Riverside Village Board meeting
  - Sept 9<sup>th</sup> – Scheduled presentation to Brookfield Village Board
  - Sept. 10<sup>th</sup> - Scheduled open house at La Grange Park Village Hall meeting
  - Working to schedule meeting with other communities that have expressed interest in holding a public meeting:
    - Villages of Stickney (early October), Schiller Park (waiting for date), Harwood Heights, Franklin Park, Elmwood Park, Cicero and Norridge Park



## Examples of ComEd coordination with municipalities regarding the AMI deployment

Search | Site Map | Privacy and Website Information | Contact | Employee Login

### North Riverside, Illinois

*"A Small Community With A Big Heart"*



Home Residents Business Departments Community Forms FAQ

I Would Like To.....

[Click Here](#) To Join The Rec E-Blast

[Click Here](#) To Sign Up For Nixle

#### IMPORTANT INFORMATION REGARDING COM-ED SMART METER INSTALLATION

ComEd crews plan to be in North Riverside starting in September 2013 to install smart meters at local homes and businesses. This phase of installation is expected to end in November 2013. Smart meters are digital electric meters that provide customers with access to more information on their electricity use. Customers will be able to see how much energy they use and make changes that can save them money on monthly electric bills. ComEd plans to install approximately 4 million smart meters in all homes and businesses across its service territory by 2021. For more information, visit [ComEd.com/SmartMeter](http://ComEd.com/SmartMeter).

**CP&E RED**

*Mayor*  
Hubert Hermanek Jr

*Village Clerk*  
Kathy Ranieri

*Trustees*  
Jason Bianco  
Deborah Czajka  
Matthew J. Decosola  
H. Bob Demopoulos  
Joe Mengoni  
Vera Wilt



#### Brookfield Quick Links

**Residents**

- Beautification Commission
- Forms and Permit Applications
- Police Department
- Online Bill Payments
- Yard Sale Permits
- Zoning Laws
- Conservation Commission
- Audio Recordings

**Businesses**

- Law & Regulations

#### Current Updates

**Garden Contest Winners!**

The Beautification Commission is excited to announce the winners of the 2013 garden contest, find out more by [clicking here](#).

**ComEd Smart Meters are coming to Brookfield...**

Find out more by [clicking here](#). For more information from ComEd go to [www.comed.com/smartmeter](http://www.comed.com/smartmeter).

#### Online Payments

**Brookfield eNews! Sign-up**

Email Address

*If you sign up for eNews! you will receive periodic emails about important events in the Village of Brookfield. We will not share or sell your email, you can unsubscribe at any time.*

# Meter Installation Process and Enhancements

The meter installation process has been enhanced based on the lessons learned from the Pilot, operational experience and by benchmarking other utilities' processes

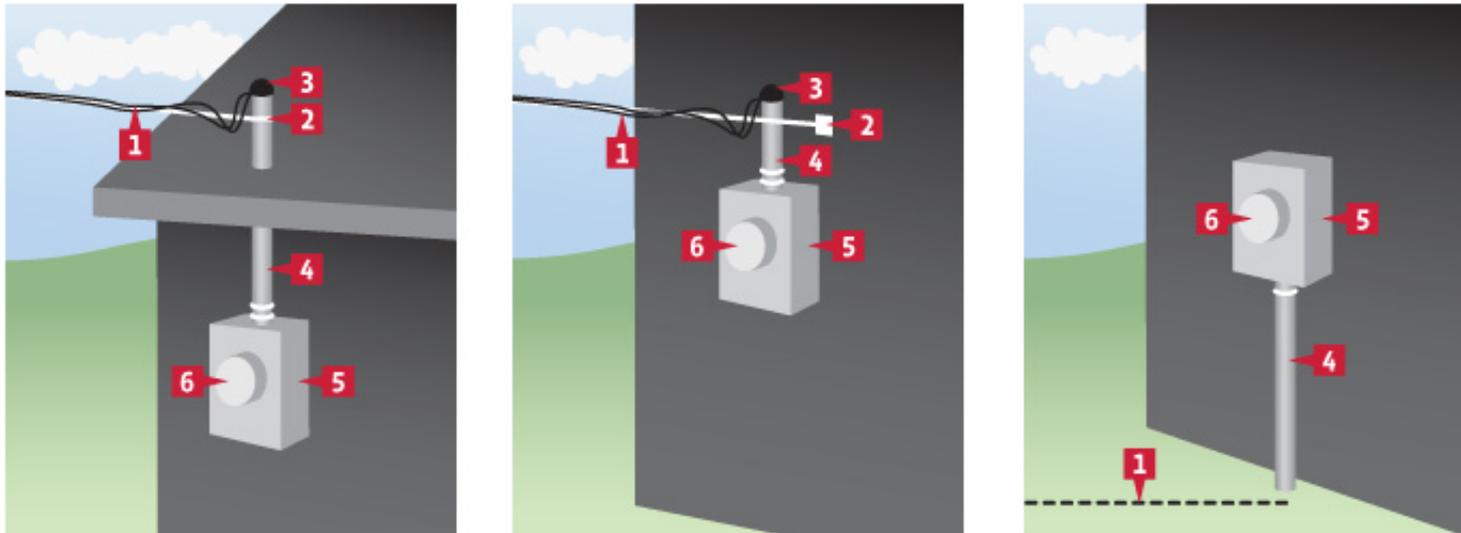
## 1. Pre-Installation Activities

- Complete enhanced meter technician training course
  - Newly developed training material will explain how to identify damaged/defective sockets, how to perform minor repairs and when to contact a supervisor for repairs that require a licensed electrician
  - Developed a field book to provide technicians with pictures of unsafe conditions such as the lack of frost loops and corroded sockets
  - Updated Energy Technician training videos
- Obtain all necessary materials, personal protective equipment, tools, handheld and vehicle
- Obtain list of meter installation orders and attend tailgate session

## 2. During Installation Activities

- Attempt to contact customer on-site
- Initiate meter installation order in handheld and review notes/flags
- Inspect meter exterior and fitting for irregular conditions
- Enter existing meter number into handheld, take digital picture of old meter and enter final read
- Determine if meter fitting can be jumpered and remove meter
  - Most customers will experience a brief outage
- Inspect socket for theft, tampering, heating, corrosion and loose jaws
- Perform minor repairs as provided in ComEd's AMI installation tariff
  - Some minor repairs can be made by trained installers
  - Third-party, licensed electricians are on stand-by to perform more extensive repairs
  - The costs for ComEd-coordinated repairs will be included as part of the overall program costs and not directly billed to the customer
  - If required, more extensive repairs to customer equipment and to equipment “downstream” of the meter fitting are the responsibility of the customer

The below diagram illustrates the ownership responsibilities between the customer and ComEd for three different service connection scenarios



Item	Responsibility	Description
1	ComEd	Electrical Service Wire coming from ComEd's system (overhead or underground)
2	Customer	Attachment (the point where ComEd equipment attaches to customer property)
3	Customer	Weather Head and wire drip loop (the weather resistant entry point for customer wires going to the meter box)
4	Customer	Riser/Raceway (the conduit that physically protects wires going to the meter box)
5	Customer	Meter Enclosure/Box (contains and safely secures the electric meter)
6	ComEd	Meter (measures the amount of electricity used by the customer)

## 2. During Installation Activities (continued)

- Install new AMI meter, ensure proper operation, take digital photo and update hand-held
- Hang “Successful Install” customer door-hanger
  - “Unsuccessful” door hanger utilized if unable to complete (UTCs)
- A specialized team will be utilized for unique/complex installations

A-base meter with the cover removed



## 3. Post Installation Activities

- At the cross-dock, every meter will be independently checked to ensure:
  - The final read was recorded accurately
  - Determine if the meter has heat/arcing damage on the base/terminals
  - If heat/arcing damage is found, the cross dock technician will check the meter order to ensure the notes reflect the condition of the meter and that the appropriate actions were taken in the field. If not, a technician will be dispatched to investigate the situation
- QA/QC process will be implemented to ensure proper installation steps are being followed:
  - Two different types of audits will take place - an audit during the installation for safety/non-compliant conditions and a post installation audit
  - Both audits will each cover 5% of the population
- ComEd will perform daily remote temperature scans of the newly installed meters

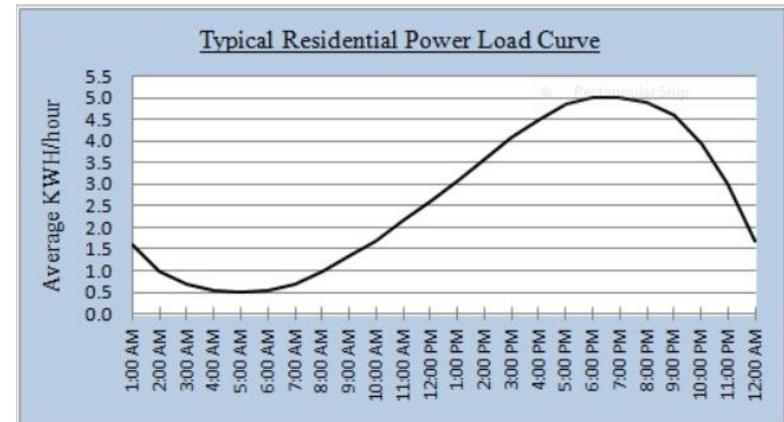
- Installed meters will be inspected during four annual inspection periods:
  - A visual and thermographic inspection will occur
  - The meter and the meter cover will not be removed
- Alarms will be reviewed daily on all AMI meters
- Random sample testing of meters will be performed in accordance with ICC rules
- Meters will be inspected within 120 days after a customer has been disconnected for a move out and there is no new customer of record
- Meters will be inspected within 90 days after a customer has been disconnected for nonpayment

# Customer Benefits and Programs

In addition to the operational benefits detailed within the AMI Business Case, near-term customer benefits and programs include:

- Smart meters will virtually eliminate estimated bills and the need for manual meter reading
- Customers will gain access to their individual energy usage and cost information 24/7, providing them greater control over their monthly bills
- Faster new service connection/disconnection when customers move in and move out
- Customers will be provided with information about In Home Device (IHD) and Home Area Network (HAN) technology and how they can join that technology to the AMI network

Hourly Load Curve Example



## Customer Smart Meter Enabled Programs:

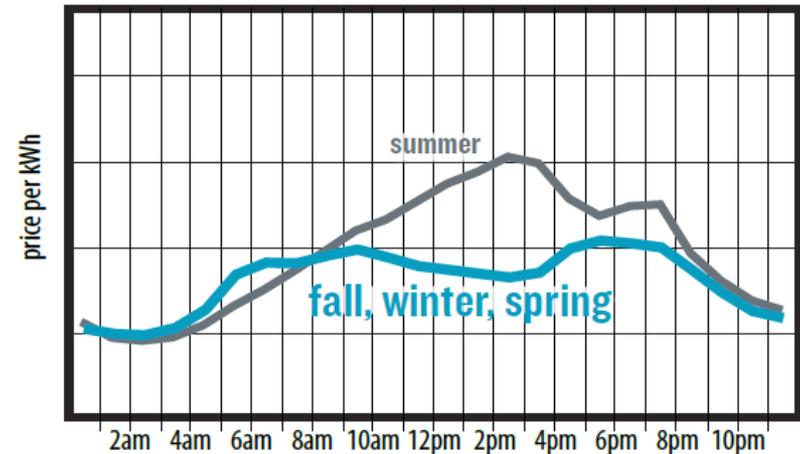
### Peak Time Savings (PTS)

- Optional pricing program that helps customers save by voluntarily reducing electricity use during designated time periods when energy is most in demand
- Once enrolled, customers will receive credits on their electric bills for every kilowatt-hour (kWh) reduced
- Enrollment for PTS begins in the fall of 2014

### Residential Real Time Pricing (RRTP)

- Hourly pricing program for residential customers. This program allows customers to pay the hourly, wholesale market price for electricity
- Participants also receive customer support and services to help manage costs with hourly pricing
- Services include real-time high price alerts, predicted day-ahead high price alerts, an online bill comparison tool, and information to help guide energy decisions

### TYPICAL REAL-TIME PRICING PATTERNS

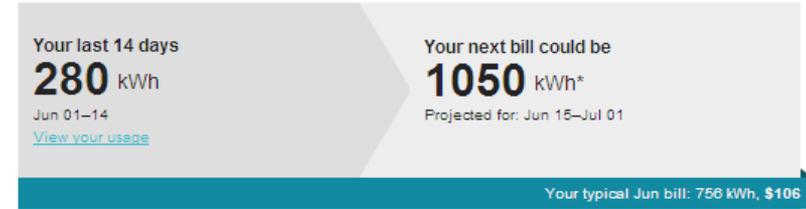


## Customer Smart Meter Enabled Features

### Unusual Usage Alerts:

- Residential customers with smart meters can sign up to receive alerts via email or automated call
- An alert is triggered if the customer is on track to use 30% more than they did during the same time period last year

### Unusual electric usage



Based on your usage since Jun 01, you could be headed toward a bill that is 40% higher than what you normally use this time of year.

🕒 You still have time to minimize your next bill.

### Steps to take

	Impact
Unplug electronic devices	Progress bar (1/5 filled)
Replace your lights with efficient bulbs	Progress bar (3/5 filled)

### Customer Feedback:

“Thanks very much for letting me know. I’ve been having some remodeling work done – I’m sure the unusual usage is due to the contractors’ use of power tools and having lights on all day. It will be over soon!”

-Katheleen Klaus, Oak Park, IL

“My gas furnace is acting up so I’m using the electric heat at the moment, should warm up in a week or two, no biggy, thanx for the heads up!”

-Kevin Mullis, Melrose Park, IL

**In the coming years, additional customer benefits and programs will include:**

- Enable advanced pricing and demand response programs
  
- Direct access to real time data from the meter
  - In Home Device
  - Real time monitoring and control
  - Smart appliances
  - Continue to seek partnerships with vendors to demonstrate new customer-side technologies
  
- Integration with outage management system and process
  - Auto outage notification and restoration messages
  - Ability to “ping” the meter

**In Home Device Example**



**Programmable Communicating Thermostat Example**



# Data Privacy and Data Security

- ComEd is fully committed to maintaining the privacy of customer-related energy usage information, and the security of all electronic information associated with the electric system
- Just like standard meters, smart meters measure the amount of electricity customers use – not how they use it, or what they use it on. They are not surveillance devices.
- ComEd does not disclose customer billing or usage information except:
  - When specifically required by law or
  - When the customer has provided ComEd permission or
  - When the data is anonymized by removal of all identification
- ComEd implements these practices with physical and electronic security, and by training our employees to be sensitive to security and to prevent loss of data

- Cyber-security is embedded in ComEd's smart grid initiative dating back to the inception of its smart meter pilot project in early 2008
- ComEd uses state-of-the-art cryptographic technologies, similar to those used by global financial institutions and the U.S. Department of Defense to protect against unauthorized access to its customers' personal information
- ComEd encrypts all customer-related, energy-use data transmitted by its smart meters using methods similar to those used for online banking and ATM machines
- ComEd regularly tests its information systems to deter hackers, identify potential weaknesses and ensure that the highest standards of cyber-security are maintained
- ComEd, the industry at-large, state regulators and our technology partners continue to monitor security issues and evolve standards and technology innovations that safeguard against potential threats

- ComEd is committed to continuous improvement
- Over the course of the AMI deployment, ComEd expects to continually identify and implement additional improvements
- ComEd will continue to talk with stakeholders, SGAC, and Staff about improvements and new technologies and systems
- ComEd will utilize the annual AMI Plan update to keep the Commission apprised of such improvements